

# CEE Companies: Economic vs. Market Performance

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## ABSTRACT

Emerging markets are considered to be the providers of great investment opportunities due to their continually improving economic and political conditions. However, high risks aligned with high potential return make investors' approach towards stock investing more careful and the analysis of the publicly available market information more thorough. The question about the best proxy of the market performance of the listed companies is one of the most important for the fundamental analysis followers.

The goal of the current paper is to analyze the relationship between the market and economic performance of a company in order to test whether Central and Eastern European (CEE) companies' economic performance is reflected in their market return.

Correlation and quartile analysis were used to discover if any economic performance ratio can be used as a proxy to TSR (total shareholder return). Analysis was made based on the sample data of CEE 117 companies.

**Keywords:** CEE equity markets, TSR, regression analysis, market performance, economic performance

## 1. INTRODUCTION

In the last decade, the issues around shareholder value (SHV) and its drivers became the most frequently debated questions in an academic literature, among financial markets professionals and in the financial reports of international consulting firms. The most successful organizations choose a value-creation strategy as a bottom line for doing business in a highly competitive modern environment. Despite the criticism of shareholder value by the proponents of stakeholder theory [23], it is proved that value creating companies better serves all their stakeholders [17].

Based on the viewpoint of experts from Boston Consulting Group (BCG), it is important to establish an appropriate quantitative target to create sustainable, long-term shareholder value. Since 1980, when the concept of shareholder value was introduced, traditional accounting

measures have been criticized for not capturing firm's true economic position. A number of new metrics were developed to support the concept of SHV [18, 20].

However, there is still no consistent viewpoint about what performance measures better reflect a company's current position and its potential to creation shareholder value in long term. Jeff Kotzen, BCG regional sector leader in Americas [11], states that many companies today want to know what moves they can make to align their share price with fundamentals. Thus, the research questions are: (1) what are the most appropriate economic performance indicators equity investors have to rely on? and (2) whether the high economic performance is reflected in the share price?

The goal of the research is to explore whether an economic performance of a company is aligned with its market performance / (to specify the relationship between a company's economic return and its market return). The authors' stated hypothesis is, as follows:

*There is a strong relationship between company's economic and market performance in the CEE equity markets.*

This paper reflects the authors' attempt discover which economic performance measure can become the best proxy for the firms' market development. Information about the relationship between market data and economic performance allows making a reliable forecast of SHV growth, based on company's fundamentals. Besides, the research results can help investors to make informed decisions, avoiding investment mistakes related to the expectations premiums.

## 2. LITERATURE REVIEW

Focusing on the shareholder value creation led to the development of a number of ratios to measure it. However, there are ongoing debates regarding which ratio is the best in measuring shareholder value creation and, therefore, has a strong relationship with the companies' market performance.

According to Damodaran [7], the stock price is an observable and real measure of stockholder wealth in a

publicly traded company. In turn, other experts consider total shareholder return (TSR) is the best measure of corporate value creation [1, 10]. However, this approach has its limitations, because „over short periods TSR embodies changes in expectations about the future performance of a company more than its actual underlying performance and health” [8]. To overcome these problems, other measures should be introduced to interpret TSR quality [3]. It is possible to use market value added (MVA) as a complementary measure of stock market performance. MVA reflects the difference between the value of equity capital and net debt, and their book value; it is expressed in monetary units. TSR is expressed as a percentage and is the sum of dividend yield (dividend/share price) and the capital gain (capital gain during the period/initial share price) [22].

Market performance of a company is a function of two components: fundamental business performance and investor expectations [19]. The role of fundamentals as drivers of market performance is frequently discussed topic in both academic and professional environment [9, 24].

Traditional measures that represent an economic performance of a company are: return on equity (ROE), return on assets (ROA), earnings per share (EPS), return on capital employed (ROCE), return on invested capital (ROIC), dividends per share (DPS). The list can be complemented with a set of more sophisticated metrics—for instance, economic value added (EVA) or cash flow return on investment (CFROI).

BCG experts assert that top value creators owe their success to an improvement in the key fundamental drivers of value creation: cash flow return on investment (CFROI) and profitable investment growth [2]. BCG estimated that from two-thirds to three-fourths of a company’s TSR over the long term is due to the profitable growth [16]. Based on Stewart, the true drivers of shareholder returns are earnings and increasing EVA [21]. High correlation between EVA and MVA was confirmed also by other researchers [14, 15].

However, other studies do not support the idea that EVA is the best measure of shareholder value [12]. Biddle found that the market is more focused on accounting earnings [5]. Findings of Dodd and Chen showed that market performance is largely driven by ROA. Correlation between share returns and other measures – EPS and ROE, was low [6].

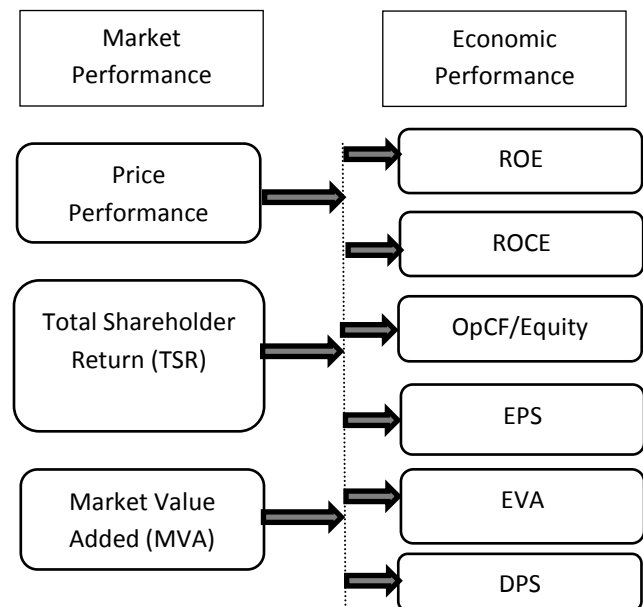
Bhunia examined the relationship between TSR, MVA and a range of financial variables [4]. The results demonstrated positive correlation between MVA and such measures, as EVA, ROCE, RONA (return on net assets) and EPS. In turn, TSR is linked to ROCE and EPS. In a study conducted by Lehn and Makhija relationship between share returns and such measures as ROA, ROE and EVA was found [13].

### 3. RESEARCH DESIGN

The authors of the present research analyzed 117 companies, which are included in the main lists of the CEE (Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Romania, Poland, Slovakia, Slovenia) stock exchanges to discover if there is a robust relationship between the firms’ market performance and their economic performance. The authors selected the following analysis period: January 2005 to December 2012 as the quality of earlier periods’ data is questionable, which might lead to the incorrect results. Quantitative and financial data for the present research needs were extracted from the annual reports of the analyzed companies. The stock prices were compiled using the historical data provided by the local stock exchanges.

To determine the relationship between the companies market and economic performance within the CEE market the authors correlated the ratios, which describe the market performance with the ones, which describe the corporate financial (economic) performance as indicated in the figure 1.

Every market performance indicator was correlated with each economic performance indicator and the statistical significance was calculated for each correlation ratio. The correlation was calculated in MS Excel in two ways: a) for bulk market; b) correlation was calculated for each company and then the mean of all correlation indicators was calculated. In the latter case, the company was deleted from the calculation sample in case there were less than 4 observation years. The correlation was done with a 1 year lag: market performance in 2005 was correlated with ROE the company had in 2004.



**Figure 1** Market Performance and Economic Performance Measures (correlation methodology)

In addition, the authors applied more practical for investor method to determine the possible influence of the financial performance indicators on the company's market performance. The quartile analysis was used for this purpose. The companies analyzed were divided into 4 equal groups (quartiles) according to the certain economic performance ratios: ROE, ROCE, OpCf/Equity, EPS growth, EVA growth, DPS growth. The conclusions are made based on the quartile analysis, where the first quartile is comprised of the companies having the weakest financial indicator and the fourth quartile is comprised of the companies having the strongest financial indicator. Therefore, each group was rebalanced every year when the new financial results were published. The performance for each quartile was calculated and compared.

#### 4. RESEARCH RESULTS

##### A. Market and Economic Performance Correlation

Table 1 provides an overview of the correlation results explaining the relationship between the market performance and the economic performance as indicated by the financial ratios.

Traditional economic performance measures such as ROCE and DPS do not demonstrate a meaningful correlation with the price performance and TSR. Statistically significant correlation is seen with one of the most favourite investors' financial performance measures, ROE, which, however, is negative.

Negative and statistically significant correlation is also with the EPS. The only positive and moderate correlation is seen with relatively novel financial performance indicator, EVA. It is worth noticing that the correlation results are statistically significant only in case of the average correlation calculation method.

Table 1

##### Correlation Table of Market Performance vs. Economic Performance

(Areas marked in grey indicate statistically significant correlation at 95% confidence level; critical t-value is 1.96)

Economic Performance Indicators	Price Return		Total Shareholders Return		MVA	
	bulk	average	bulk	average	bulk	average
ROE	-4%	-12%	-5%	-11%	2%	10%
T-stat	-1.02	-3.27	-1.41	-3.13	0.57	2.84
ROCE	3%	0%	-1%	0%	1%	2%
T-stat	0.85	0.00	-0.28	0.00	0.28	0.57
OpCF/Equity	-2%	-1%	0%	1%	1%	0%
T-stat	-0.57	-0.28	0.00	0.28	0.28	0.00
EPS	-2%	-16%	-1%	-17%	-2%	-13%
T-stat	-0.57	-4.58	-0.28	-4.87	-0.57	-3.70
EVA	-1%	17%	1%	19%	50%	11%
T-stat	-0.28	4.87	0.28	5.47	16.31	3.13
DPS	-6%	-4%	-5%	0%	19%	-10%
T-stat	-1.70	-1.13	-1.41	0.00	5.47	-2.84

The correlation of the economic indicators with MVA, which is calculated as the difference between the current firm's market value and the capital contributed by the shareholders and bondholders, provides more statistically meaningful results. EVA ratio rather closely correlates with MVA as proved by the 50% correlation result. Statistically significant relationship between EVA and MVA is seen with the both calculation methods.

ROCE and operating cash return similarly as in the cases with price return and shareholder return do not demonstrate any relationship. ROE positively correlates with the MVA ratio, while the net earnings show negative correlation with MVA. Correlation result for the dividends cannot be interpreted straightforward and might create rather ambiguous picture as the results are positive or negative depending on the calculation method.

To sum up, the traditional financial measures obviously cannot be of good proxy of the shareholder value creation ability of the company due to their poor correlation with a number of the market performance measures. The strongest correlation with all market performance ratios (price return, TSR, MVA) demonstrates Economic Value Added (EVA), economic profit of the company.

##### B. Economic Performance as a Leading Indicator of Market Performance

In the second part of the present article the authors review the practical application of the economic performance measures and propose which ratios have the highest power in delivering superior returns.

The values of TSR indices based on ROE quartiles in December 2012 follow the logical pattern – the more profitable the company the better performance it can deliver (Figure 2). However, the performance quality is not consistent during the first five observation years (2005-2009) the best performing was 2<sup>nd</sup> ROE quartile, while in 2010 the best performance over the period was delivered by the 1<sup>st</sup> ROE quartile (companies with the lowest profits), which were the fastest to recover after the crisis.

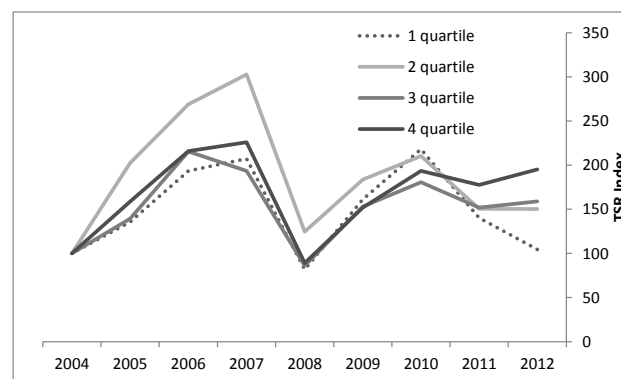
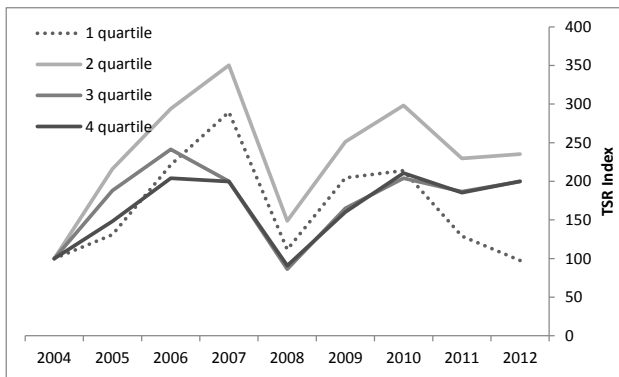


Figure 2 TSR index based on ROE quartiles

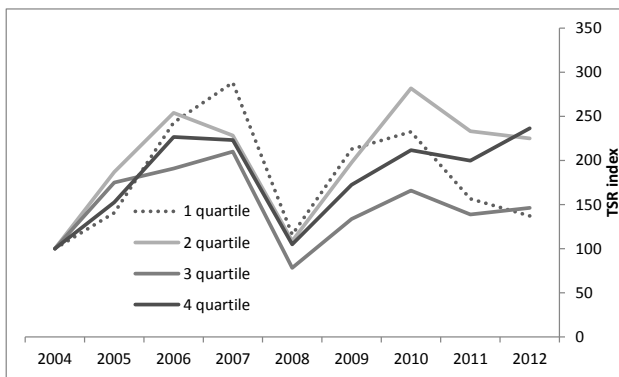
In case with the ROCE quartiles, 2<sup>nd</sup> ROCE quartile is the clear outperformer throughout the whole observation period (Figure 3).



**Figure 3** TSR index based on ROCE quartiles

The companies with the worst profitability managed to outperform the companies with high capital employed profitability with the exception of the last two years (2011-2012).

Operating cash over equity capital ratio does not provide a logical pattern of TSR dependence on the operating cash return as well (Figure 4). However, the 4<sup>th</sup> quartile shows the steady growth after the crisis beating the 1<sup>st</sup> and 2<sup>nd</sup> quartiles, which represent the companies with the relatively weak operating cash generation ability.

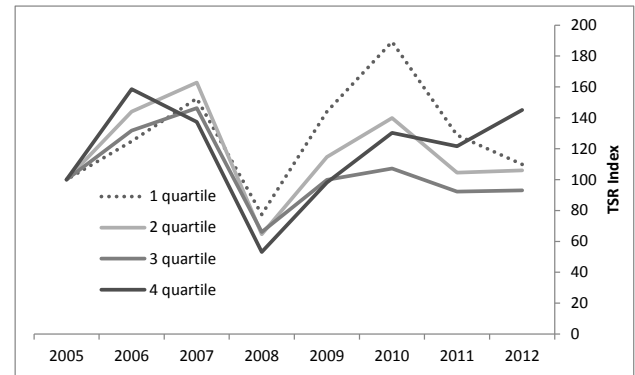


**Figure 4** TSR index based on OpCF/Equity quartiles

The companies posting the highest growth in EPS (4<sup>th</sup> quartile) appear to suffer the worst during the financial crisis, but managed to recover to beat all the rest EPS growth quartiles (Figure 5). It needs to be mentioned that the companies posting the lowest growth in net earnings did were not affected by the decline in 2008 as much as other companies and were the fastest to recover after the liquidity crunch.

The possible explanation for the mentioned phenomenon can be the following: large stable companies usually cannot boast of the high sales or earnings growth but they

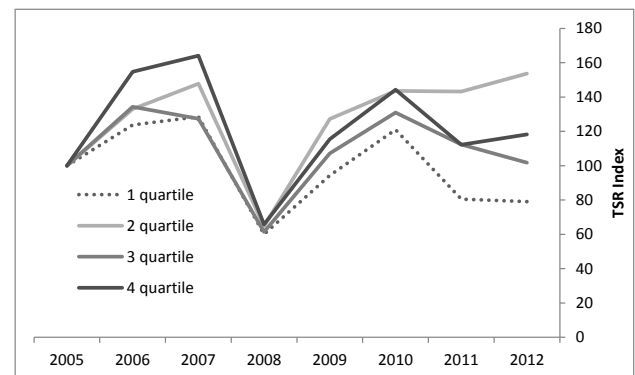
often become safe harbors during the massive sell off on the financial markets.



**Figure 5** TSR index based on EPS growth quartiles

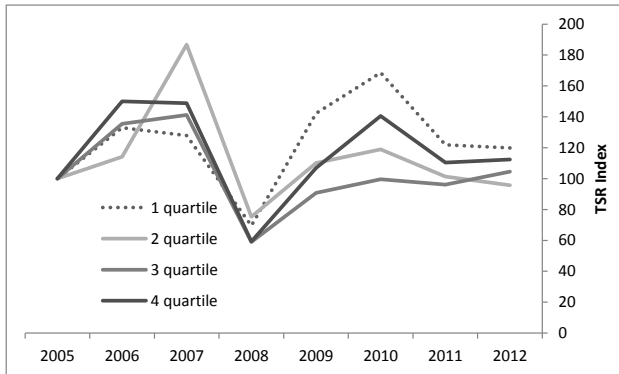
The correlation research provided in the first part of the paper proved the highest correlation of EVA indicator with the market performance.

The quartile analysis supports the results obtained in the correlation analysis: high EVA growth companies appear to be the best performers prior to the financial crisis and are also among the leader in the recovery phase (Figure 6). While the enterprises with the weakest EVA growth (1<sup>st</sup> quartile) are, indeed, the worst performers throughout the whole observation period.



**Figure 6** TSR index based on EVA growth quartiles

In the dividend growth case the companies delivering the highest performance over the analyzed period are the ones with the highest and the lowest dividend growth (Figure 7). Safe harbor in the financial crisis time were the companies scarcely increasing the dividends, which is often typical for the large stable companies. It should be noted though that the difference in the end values of all quartiles is relatively small.



**Figure 7** TSR index based on DPS growth quartiles

To sum up, selecting fundamentally the best companies according to just one economic performance measure would hardly deliver a consistent outperformance for the equity investor. Investors should consider the group of the indicators as well as pay attention to the relevance of the fundamental analysis, which seems to gain the importance in CEE equity markets right after the crisis as proved by the performance of the 4<sup>th</sup> quartile in almost every financial measure case.

## 5. CONCLUSIONS

The research results refute the hypothesis stated by the authors prior to conducting a study. It was discovered that there does not exist strong relationship between company's economic and market performance in CEE equity markets.

The first part of the research was dedicated to the correlation analysis to find out if various economic performance measures (ROE, ROCE, OpCF/Equity, EPS, EVA, EPS) have significant relationship with the market performance measures such as: price return, total shareholder return and MVA. In the majority of cases correlation was insignificant or even negative. EVA turned out to be the best proxy among the selected economic performance indicator – its correlation with MVA reached 50%. It was found out that MVA correlates also with ROE (average calculation method) and with the DPS (bulk market calculation method) ratios.

The second part of the research was dedicated to the quartile analysis with a purpose to understand if the economic performance measure can become a stock selection criterion to be able to reach consistent outperformance. Selecting the best stocks according to the ROE, EVA growth and operating cash return (OpCF/Equity), would deliver the highest TSR for the equity investors. However, the delivered performance is not consistent throughout the period and the 4<sup>th</sup> quartile (the best) index beat the other quartile TSR indices only in the post-crisis period, when, obviously, CEE market investors started to consider the fundamentals when

building equity portfolios. Rather often the best-performing companies were classified in 2<sup>nd</sup> or even 1<sup>st</sup> quartile (the worst quartiles according to the fundamental ratios).

The authors assume that the obtained results can be a reflection of the development stage of the stock investing in the emerging markets, where the relevant education level of the investors is not yet too high. Thus, the fundamental analysis is not yet employed at its full potential. Therefore, the economic performance of the company in CEE is not the best proxy of its market performance, but the trend towards employing fundamental analysis is well-seen.

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