

THE PERFORMANCE OF “BLUE CHIP” COMPANIES TRADED ON THE BUCHAREST STOCK EXCHANGE AND THE ROTX INDEX

Diana Elena VASIU¹, Livia ILIE²

Lucian Blaga University of Sibiu, Romania

Abstract

The Bucharest Stock Exchange calculates and distributes in real-time 9 indices that track the price changes of the most traded companies listed on BVB. Expanding older research, this paper analyzes the evolution of ROTX index and how its value depends on the financial performance of the companies composing this index.

Keywords: *Stock Exchange, ROTX Index, correlation analysis*

JEL classification: *G10, G23*

1. Introduction

The Bucharest Stock Exchange (BVB) calculates and distributes in real-time indices that track the price changes of the most traded companies listed on BVB or of representative sectors, such as energy or financial. This indices are BET, BET-TR, BET-XT, BET-XT-TR, BET-BK, BET-FI, BET-NG, BET Plus – and one index developed together with Vienna Stock Exchange – ROTX index.

Considering that these indices reflect the performance of the most traded companies on BVB’s regulated market, the analysis of how the evolution of the main indices depends on the financial performance of the companies on which they are built can provide a lot of useful information and further basis for decision makers.

¹ *Teaching Assistant, Ph.D, Lucian Blaga University of Sibiu, Romania, diana.vasiu@ulbsibiu.ro*

² *Professor, Ph.D., Lucian Blaga University of Sibiu, Romania, livia.ilie@ulbsibiu.ro*

Given these considerations, previous analyzes aim to analyze the evolution of the relationship of correlation between the main indicators of financial performance of the companies participating in the BET index in the period 2011-2015 and for companies with core activity in the energy sector and related industries, traded on Bucharest Stock Exchange (Vasiu, 2016), and the BET-NG index during 2012-2016 (Vasiu, Ilie 2018). These studies showed a strong correlation is recorded between EPS and BET Index, BET variation being explained in a proportion of 75 % of the independent variable EPS. Between ROA, and ROE and BET index, the link is weaker and reverse. Considering the BET-NG index, the majority of the cases the links are inverse and only in 25% of the cases they are strong, so we can affirm that the evolution of BET-NG index is determined by other factors, different than the financial performance of the component companies.

Expanding those older researches, this paper analyzes the evolution of ROTX and how its value depends on the financial performance of the companies composing this index.

2. ROTX Index

ROTX is a capitalization-weighted price index, developed by BVB (www.bvb.ro) together with Vienna Stock Exchange (Wiener Borse AG) and is made up of 15 Romanian blue chip stocks traded at Bucharest Stock Exchange (Wiener Borse AG)

Currently, the BET index includes the following companies (www.bvb.ro), presented in (Table no. 1)

Table 1: The structure of ROTX indices

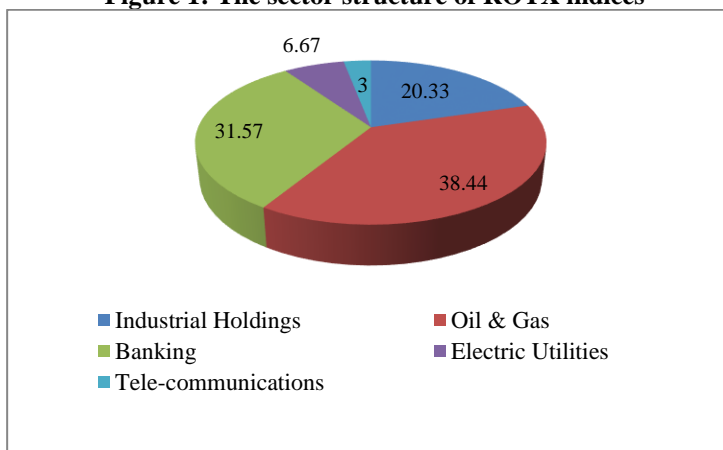
Company	Shares	Weight (%)	Sector
FONDUL PROPRIETATEA	9101963266	20,33	Industrial Holdings
OMV PETROM S.A.	56644108335	20,17	Oil & Gas
BANCA TRANSILVANIA S.A.	4815083342	19,77	Banking
BRD - GROUPE SOCIETE GENERALE S.A.	696901518	11,8	Banking
S.N.G.N. ROMGAZ S.A.	385422400	11,79	Oil & Gas
S.N.T.G.N. TRANSGAZ S.A.	11773844	6,48	Oil & Gas
SOCIETATEA ENERGETICA ELECTRICA S.A.	345939929	4,81	Electric Utilities

Digi Communications N.V.	100000000	3	Tele-communications
C.N.T.E.E. TRANSELECTRICA	73303142	1,86	Electric Utilities

Source: www.bvb.ro

The 9 companies whose shares are part of the ROTX index are active in different fields and presented in figure1.

Figure 1: The sector structure of ROTX indices



Source: authorial calculation

3. Case study

Hypothesis of the Research

As in the previous study, the research hypothesis is that *there is a strong and direct correlation between the evolution of the ROTX index and the financial performance ratios of the component companies.*

Methodology

Due to the specificity of each field of activity, financial performance indicators can record different values and typology. For homogeneity reasons, we chose to analyze the correlation between evolution of *ROTX index and the financial performance indicators* Return on Assets (ROA), Return on Equity (ROE) and Earnings per Share (EPS) The decision to consider these financial performance indicators took into account, on the one hand, the need of ensuring comparability with previous studies and on the other hand the calculation mode that shouldn't be significantly influenced by the specificities of the industry.

Return on Total Assets (ROA) measures the performance of the total assets of the company, highlighting the contribution of property items to obtain the result. Return on equity (ROE) points out the ability of a company to create a surplus, after the compensation of borrowed capitals that will allow paying shareholders' capitals and self-financing the company (Petrescu, 2008). It measures the profitability of the investment made by shareholders (Halpern, 1994) both in operating activities and in the financial activity. The high level EPS may outline high confidence of investors in the management of the company while low level, the investors' lack of confidence (Ciuhureanu 2012).

Although previous studies have considered the periods 2011-2015 and 2012-2016, for present for this analysis was considered the period 2014-2018, to provide up to date results. The indices were computed based on following relations (Stancu, 2007), using the financial statements for each company, available on www.bvb.ro.

$$ROE = \frac{Net\ profit}{Equity} \times 100 \quad (1)$$

$$ROA = \frac{Net\ profit}{Total\ assets} \times 100 \quad (2)$$

$$EPS = \frac{Net\ profit}{Number\ of\ shares\ on\ the\ market} \quad (3)$$

Analysis of Data and Presentation of Results

Based on individual performances indices, for each company and each financial ratio, the average annual values have been computed, using the arithmetic mean. Starting from each daily values of the ROTX index, ROTX average annual values were computed, using the arithmetic mean. The results are presented in Table no. 2.

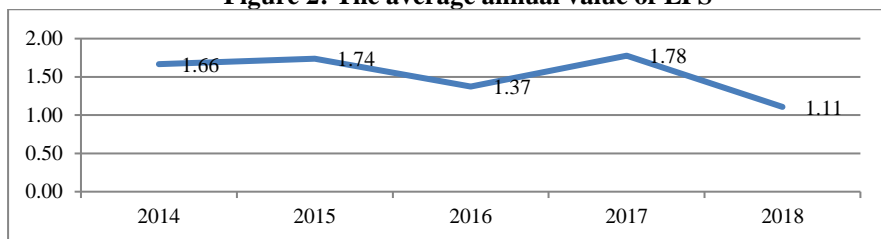
Table 2: The average annual value of Financial Performance Ratio and ROTX

Year	2014	2015	2016	2017	2018
The average annual value of EPS	1,66	1,74	1,37	1,78	1,11

The average annual value of ROA	7,15%	4,82%	5,08%	6,92%	6,65%
The average annual value of ROE	9,96%	10,89%	12,24%	15,75%	12,36%
The average annual value of ROTX	12.956,84	13.896,52	13.188,86	16.85,53	17.258,15

Source: authorial calculation

Figure 2: The average annual value of EPS



Source: authorial calculation.

The average values of EPS decrease during 2014-2018, from the value of 1.66 registered in 2014, to the level of 1.11 in 2018, representing an average decrease of 7% from one year to another. Despite this, increases have been recorded, in 2015 and 2017.

For each company have been determinate the correlation coefficients between and each average annual values financial performance ratio and the average annual value of ROTX. The results are presented in Table no. 3.

Table 3: The Correlation coefficient of financial performance ratio ROTX index

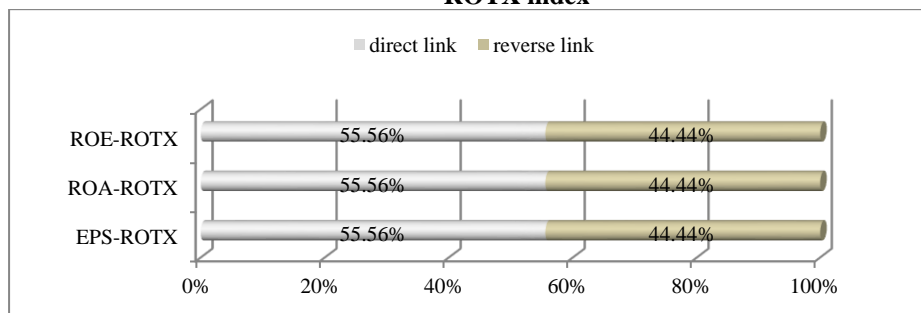
Company	Correlation coefficient EPS-ROTX	Correlation coefficient ROA-ROTX	Correlation coefficient ROE-ROTX
FONDUL PROPRIETATEA	55,18%	38,43%	38,48%
OMV PETROM S.A.	74,72%	71,45%	69,02%

BANCA TRANSILVANIA S.A.	-20,85%	-22,93%	-17,85%
BRD - GROUPE SOCIETE GENERALE S.A.	92,59%	91,00%	89,02%
S.N.G.N. ROMGAZ S.A.	-35,50%	77,36%	83,90%
S.N.T.G.N. TRANSGAZ S.A.	59,74%	-62,32%	-34,55%
SOCIETATEA ENERGETICA ELECTRICA S.A.	-62,99%	-95,07%	-94,12%
DIGI COMMUNICATIONS N.V.	41,53%	100,00%	100,00%
C.N.T.E.E. TRANSELECTRICA	-88,07%	-86,56%	-87,27%

Source: authorial calculation.

For each correlation coefficient, there are 5 direct links and (55.56% of all cases) and 4 indirect links (55.56% of all cases)

Figure 3: Direct and reverse links between financial ratios and ROTX index



Source: authorial calculation.

The analysis of correlation relations between the financial performance indicators ROA, ROE and EPS, as independent variables and ROTX index, as a dependent variable, using the average annual value of each indicator, was made using SPSS software. The results are shown in Table no. 4.

Table 4: The analysis of correlation between the indicators ROA, ROE and EPS, and ROTX Index

	ROTX	EPS	ROA	ROE
ROTX Pearson Correlation	1	-,418	,396	,613
Sig. (2-tailed)		,484	,509	,272

	N	5	5	5	5
EPS	Pearson Correlation	-,418	1	,005	,091
	Sig. (2-tailed)	,484		,994	,884
	N	5	5	5	5
ROA	Pearson Correlation	,396	,005	1	,236
	Sig. (2-tailed)	,509	,994		,702
	N	5	5	5	5
ROE	Pearson Correlation	,613	,091	,236	1
	Sig. (2-tailed)	,272	,884	,702	
	N	5	5	5	5

Source: authorial calculation.

According to the results of the correlation analysis, the following are noted

- between *The average annual value of ROE* and *The average annual value of ROTX Index* there is a medium, direct link, of 61.3% this representing the strongest correlation,
- between *The average annual value of ROA* and *The average annual value of ROTX Index* there is a medium, direct link, of 39.6%,
- between *The average annual value of EPS* and *The average annual value of ROTX Index* there is a medium reverse link, of -41.8%.

Considering these results, we cannot identify a strong correlation between ROTX and the financial performance indicators, so finding a regression relationship has no relevance. These results also contradict the hypothesis of the study, namely that *there is a strong and direct correlation between the evolution of the ROTX index and the financial performance ratios of the component companies.*

Comparing to previous researches, the following situations, presented in Table No.5, was identified:

Table 5: The Correlation coefficient of financial performance ratio BVB index

Indices	ROA	ROE	EPS
BET	-39,6%	-35,3%	87%
BET-NG	46.7%,	44.8%;	-12.4%
ROTX	39,6%	61,3%	-41,8%

Source: authorial calculation.

These results indicate a strong correlation between BVB indices and the financial performance indicators only in case of BET indices and only about EPS. All other relations can be considering moderate, further researches are needed, to identify the factors that determine the evolution of BVB indices.

4. Conclusions

Analyzing the evolution of ROTX and how its value depends on the financial performance of the companies composing this index, we find only medium, direct or reverse links, no stronger than 61%. Considering these aspects, it makes no sense to build a regression model. Furthermore, a more detailed analysis is necessary in order to identify the factors that determine the evolution of ROTX.

5. References

- Balteș, N.; Ciuhureanu, A. (2012) Financial Performance Indicators For Evaluation Of Listed Companies, *Revista Economică*, Supplement No. 4, p. 9
- Ciuhureanu, A. T., (2009) Management financiar, Editura Universității „Lucian Blaga” din Sibiu
- Halpern P., Weston J.F., Brigham E.F. (1998) Finanțe manageriale, Editura Economică, București
- Petrescu, S. (2008) Analiză și diagnostic financiar – contabil – ghid teoretico – aplicativ, Ediția a II-a, revizuită și adăugită, Editura CECCAR, București
- Stancu, I. (2007): Finanțe, ediția a patra, Editura Economică, București
- VasIU, D.E., (2016) Case Study Regarding the Correlation Between the Main Indicators of Financial Performance and The Bet Index, For the Companies Participating in The Bet Index, in The Period 2011-2015, *Revista Academiei Fortelor Terestre*, No.4, pp. 357-364
- VasIU, D.E., Ilie, L. (2018) Correlations Between Financial Performance Indicators of Companies with Core Activity in the Energy Sector and Related Industries, Traded on Bucharest Stock Exchange, and the Bet-NG Index. *Bulletin of Taras Shevchenko National University of Kyiv. Economics*. Bulletin of Taras Shevchenko National University of Kyiv. Economics, 2018; 3(198): 95-100 УДК 336.717.18, pp 95-100
- www.bvb.ro
- www.wienerborse.at
- www.tradeville.eu