IMPACT OF FINANCIAL INDICATORS ON THE VEKTOR SCORE BY CATEGORIES OF LISTED COMPANIES

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Abstract

This paper aims to expose the evolution of investor relations among companies listed on the main market of the Bucharest Stock Exchange through the VEKTOR qualitative indicator. For this purpose, both economic and financial analysis tools were used, such as the dynamic analysis of the VEKTOR score between 2019 and 2021, by using multiple grouping criteria, namely share type, field of activity and structure of majority shareholding, but also econometric tools, respectively a regression model that aims to correlate the evolution of the VEKTOR indicator obtained by the companies in the sample analyzed with three of the most relevant stock market and financial indicators, in this case market capitalization, stock price and return on equity. Thus, significant increases of the average value of the researched indicator were observed in the period 2020-2021, as well as a strong, direct link between the independent variables and the dependent variable, the analyzed phenomenon being explained in a proportion of 30,05% by the dynamics of the indicators used in the analysis.

Keywords
VEKTOR; corporate governance; transparency; communication; stock market; investor relationships; return on equity.

JEL Classification
A23, G30

Introduction

The way a company communicates with its own shareholders, but also with potential investors is an increasingly important aspect in a constantly changing business environment. These relationships allow a good knowledge of the business and how it does operate. At the same time, proper communication is an advantage for both parties, as a company with a high degree of transparency is viewed with less skepticism by investors, which leads to a realistic rating and a better understanding of the risk taken.

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The VEKTOR indicator was developed as a response to the need to assess the level of transparency of the companies listed on the Bucharest Stock Exchange, supporting investors by establishing a clear methodology on the best practices referring to the implementation degree of corporate governance standards and openness to existing and potential shareholders.

The scope of this paper is to identify the evolution and characteristics of the VEKTOR barometer, from its establishment to the last available reporting period as well as to correlate the indicator with other significant elements of economic and financial nature.

The paper is structured as follows: the first section is related to the introspection of the literature in the field, followed by the methodology for determining the VEKTOR score. The results and discussion of the dynamic and econometric analysis are presented next, the study ending with conclusions and references.

1. Review of the scientific literature

The VEKTOR score is a barometer used to determine the level of transparency of the activities within the companies listed on the main segment of the Bucharest Stock Exchange ("BVB"), for the purpose of accurately informing shareholders and potential investors. This is a qualitative indicator, being calculated for the first time in 2019 by ARIR for a number of 78 companies. ARIR represents the acronym for the Association for Investor Relations on the Romanian Stock Exchange, a non-governmental and non-profit organization, founded by listed companies, companies with listing potential, fund managers, and investor relations professionals. Its scope is to develop a platform for the development of investor relations professionals for current and potential issuers, at the same time supporting the implementation of the best practices in corporate governance and investor communication.

Similar indicators used to measure the transparency of listed companies have also been identified in Australia and Singapore.
The Australian Corporate Governance Transparency Index (ACGTI) is determined by taking into consideration 28 individual issues for each company, equally weighted in the areas of policy, board, remuneration, and sustainability. Emphasis is placed on the transparency of corporate governance and the prioritization of specific governance information relevant to shareholder decision-making.

Table no. 1. ACGTI index scoring criteria

POLICTY	BOARD
● Diversity	● Renewal
● Risk management	● Alignment
● Culture	● Evaluations
●Social licence	● Responsiveness
● Related parties	● Annual general meeting

● Whistleblowing	● Board skills matrix
● Workforce	● Board skills matrix+
REMMUNERATION	**ENVIRONMENTAL & SOCIAL (SUSTAINABILITY)**
● Framework assessment	● Materiality
● Strategic alignment	● Impact
● Reporting	● Management
● Benchmarking	● Metrics and measurement
● Pay for performance	● Climate change
● Provisions	● Modern slavery
● Shareholder alignment	● Health & safety

Source: Chandler, M., 2020.

As a result of the analysis of the scores obtained by the companies on the Australian capital market, a certain correlation was found between the size and complexity of the business (as indicated by the market capitalization) and the ACGTI ranking. Gaps in the publication of information on social and environmental impact have also been identified.

The Singapore Governance and Transparency Index (SGTI) aims to assess the degree of compliance of corporate governance practices by companies, as well as the timeliness, accessibility, and transparency of financial results.

The SGTI score has two components: the base score and the adjustment for bonuses and penalties. The base score contains 5 domains:
- board responsibilities (35 points);
- rights of shareholders (20 points);
- engagement of stakeholders (10 points);
- accountability and audit (10 points);
- disclosure and transparency (25 points).

Total bonuses and penalties are added to the base score to reach the company's overall SGTI score.

In Romania, the determination of VEKTOR scores is done by assessing the observance of best practices in terms of investor relations, and the Governance Code adopted by BVB makes recommendations regarding the importance of their efficiency.

The establishment of the VEKTOR score is based on a set of principles, which:
- granting a period of at least 6 months to allow listed companies to comply with the current year's methodology;
- the final score is contained between 0-10, where 0 represents defective communication with the investors, while 10 reflects excellent communication. It can

be found on the page of each company on the bvb.ro website and also on the ir-romania.ro website by the end of the first month of the following year at the latest;

• obtaining the maximum score by more than one-third of the listed companies leads to the revision of the imposed criteria, in order to establish a new level of complexity of the requirements;

• during the entire process ARIR together with BVB provide support in order to meet the scoring criteria.

The VEKTOR indicator methodology is published annually by ARIR in line with the best international practices in investor relations and updated to include the feedback of listed companies and the expectations of institutional and individual investors. Its calculation was based, in 2019, on the following criteria:

Table no. 2. VEKTOR evaluation criteria in 2019

VEKTOR EVALUATION CRITERIA		MAXIMUM SCORE
A. INVESTOR RELATIONS OFFICE GOVERNANCE	1. DEDICATED IR CONTACT PERSON/TEAM	1
	2. IR CONTACT DETAILS	0,5
B. CORPORATE GOVERNANCE DISCLOSURE	3. CORPORATE GOVERNANCE SECTION	0,5
	4. BOARD OF DIRECTORS AND MANAGEMENT DISCLOSURE	0,5
	5. KEY POLICY	0,5
C. ENGAGING IR APPROACH	6. FINANCIAL RESULTS CONFERENCE	1
	7. INVESTOR PRESENTATION	1
	8. FINANCIAL RESULTS PRESS RELEASES	0,5
	9. INVESTOR CONFERENCES	0,5
D. INTERACTIVE IR TOOLS	10. HISTORICAL FINANCIAL RESULTS IN AN EASY TO PROCESS FORMAT	1
	11. CONFERENCE CALL	1
	12. STOCK PRICE INFORMATION	0,5
	13. USE OF SOCIAL MEDIA OR OTHER CHANNELS FOR IR NEWS	0,5
E. ANALYST COVERAGE	14. LIST OF COVERING ANALYSTS	0,5
F. NON-FINANCIAL REPORTING	15. NON-FINANCIAL REPORTING	0,5

Source: https://www.ir-romania.ro/vektor-2020/#vektor-2019/

The first changes in the evaluation system of the VEKTOR indicator occurred starting in 2020, which resulted in changes in the structure and scores given in various categories. These changes were maintained in 2021:

Table no. 3. VEKTOR evaluation criteria in 2020 and 2021

VEKTOR EVALUATION CRITERIA		MAXIMUM SCORE
A. INVESTOR RELATIONS	1. IR CONTACT DETAILS	1
	2. INVESTOR PRESENTATION	1
	3. FINANCIAL RESULTS CONFERENCE CALLS	0,5
	4. FINANCIAL RESULTS PRESS RELEASES	0,5
	5. STOCK PRICE INFORMATION	0,5
B. ENGAGING IR APPROACH	6. INVESTORS CONFERENCES	0,5
	7. CONFERENCE CALL REPLAY OR TRANSCRIPT	1
	8. LIST OF COVERING ANALYSTS	0,5
C. INTERACTIVE IR TOOLS	9. HISTORICAL FINANCIAL RESULTS IN AN EASY TO PROCESS FORMAT	1
	10. USE OF SOCIAL MEDIA OR OTHER CHANNELS FOR IR NEWS	0,5
D. CORPORATE GOVERNANCE DISCLOSURE	11. CORPORATE GOVERNANCE SECTION	0,5
	12. ADVISORY' COMMITTEES	0,5
	13. BOARD OF DIRECTORS AND MANAGEMENT DISCLOSURE	0,5
	14. REMUNERATION POLICY	0,5
E. NON-FINANCIAL	15. NON-FINANCIAL REPORTING	1

Source: https://www.ir-romania.ro/vektor-2021/

The VEKTOR methodology for 2022 brings significant changes, such as limiting the number of criteria from 15 to 12, a process started after extensive consultation with all stakeholders within the capital market leading to establishing best practices in the field. The purpose of these changes is to meet the needs and wants of all typologies of investors.

Table no. 4. VEKTOR evaluation criteria in 2022

EVALUATION CRITERIA VEKTOR	MAXIMUM SCORE
1. INVESTOR PRESENTATION	1
2. FINANCIAL RESULTS CONFERENCE CALLS	0,5
3. FINANCIAL RESULTS PRESS RELEASES	0,5
4. CONFERENCE CALL REPLAY OR TRANSCRIPT	1
5. AVAILABILITY OF THE FINANCIAL RESULTS IN AN EASY TO PROCESS FORMAT	1
6. EVENTS DEDICATED TO INVESTORS	1
7. INVESTORS AND ANALYSTS' CONFERENCES	0,5
8. LIST OF COVERING ANALYSTS	0,5
9. CORPORATE GOVERNANCE SECTION	1
10. BOARD OF DIRECTORS AND MANAGEMENT DISCLOSURE	1
11. DIVIDEND POLICY	1
12. NON-FINANCIAL REPORTING	1

Source: https://www.ir-romania.ro/vektor-2022/

2. Research methodology

In order to analyze the evolution of the VEKTOR indicator, information was collected for the companies listed on BVB.

Dynamic analysis is the study of moving economic phenomena, highlighting their position at certain points in time. The change of the management attitude regarding investor relations is the main factor that determines the evolution of the studied indicator for the analyzed period, respectively 2019-2021.

The research was conducted from the perspective of three criteria, namely share type, field of activity, and majority shareholding.

a) Share type:
- Standard – companies with a minimum share capital of 1 million euros and free-float level of at least 25%;
- Premium - companies with a free-float value of at least 40 million euros;
- International - companies from other member and non-members states of the European Union that meet the criteria of admission to the Premium category.

b) Field of activity:

The companies selected for research were divided into eight areas of activity, namely:

Table no. 5. Description of the fields of activity used in the analysis

Field of activity	Description
Industrial activities	includes productive companies from various economic branches (textiles, alcoholic beverages, construction materials, etc.)
Real estate development	includes real estate and related services companies
Hospitality industry	includes companies operating in the hotel industry, restaurants, bars and cafes
Energy sector	includes companies operating in the field of electricity, oil and gas, including extraction and transportation
Financial and consulting services	includes financial-banking companies, such as credit institutions, investment funds, companies with brokerage activities
Medical services	includes both pharmaceutical and healthcare companies
Telecomunications	includes companies offering cable, internet, telephony services (on BVB only one company with this field of activity has been identified - DIGI COMMUNICATIONS N.V.)
Transport	includes companies in the field of freight transport and related activities

Source: authors' conception

c) Majority shareholders:
- State - includes companies whose majority shareholding is represented by various public entities, such as ministries;
- Private - includes companies whose majority shareholding is represented by individuals or legal entities, other than state institutions;
- Investment funds - a category specially allocated to companies in the field of capital management.

An econometric linear regression model was used to analyze the correlation between the VEKTOR score, the stock market indicators and the return on equity.

Usually, an econometric model is used to represent the dependence of a complex set of variables on factors that act in the same or different directions. Therefore, the regression analysis was used to describe and evaluate the relationship between a dependent variable, namely the VEKTOR score and several independent variables, in this case stock market capitalization, stock price and return on equity, in order to determine the extent to which the total variation of the dependent variable is explained by the variation of the independent variables.

The sample researched consists of 68 companies, excluding those that recorded loss and negative equity for at least one year of the analyzed period (2019-2021). The study was performed using the values of the independent variables calculated at the end of each period of the analyzed interval, the hypothesis consisting in exposing the influence of the independent variables on the dynamics of the VEKTOR score.

3. Results and discussion

Dynamic analysis of the VEKTOR indicator

A specific set of tools was used for the dynamic analysis, namely the absolute and relative variation calculated for the arithmetic means of the VEKTOR indicator.

Table no. 6. Dynamic analysis of the VEKTOR indicator

Average VEKTOR indicator									
Criteria	2019	2020	2021	Δ 2020/2019	Δ 2021/2020	I 2020/2019	I 2021/2020	% 2020/2019	% 2021/2020
a) Share type									
Standard	1,85	1,77	2,65	-0,08	0,88	95,42%	149,88%	-4,58%	49,88%
Premium	7,06	7,40	8,65	0,35	1,24	104,90%	116,81%	4,90%	16,81%
International	7,75	8,50	9,25	0,75	0,75	109,68%	108,82%	9,68%	8,82%
b) Field of activity									
Industrial activities	2,18	2,17	2,79	0,00	0,62	1,00	1,29	-0,20%	28,68%
Real estate development	2,13	1,88	5,00	-0,25	3,13	0,88	2,67	-11,76%	166,67%
Hospitality industry	1,60	1,70	4,50	0,10	2,80	1,06	2,65	6,25%	164,71%
Energy sector	5,88	6,13	6,46	0,25	0,33	1,04	1,05	4,26%	5,44%
Financial and consulting services	6,63	6,50	8,08	-0,13	1,58	0,98	1,24	-1,89%	24,26%
Medical services	5,83	6,25	6,58	0,42	0,33	1,07	1,05	7,14%	5,33%
Telecomunications	8,00	7,00	8,50	-1,00	1,50	0,88	1,21	-12,50%	21,43%
Transport	1,50	1,50	5,50	0,00	4,00	1,00	3,67	0,00%	266,67%
c) Majority shareholders									
State	7,06	7,33	7,44	0,28	0,11	1,04	1,02	3,94%	1,52%
Private	3,13	3,23	4,29	0,10	1,06	103,22%	132,96%	3,22%	32,96%
Investment funds	3,85	3,85	5,56	0,0	1,71	100,00%	144,37%	0,00%	44,37%

Source: authors' conception

The analysis of the collected data reveals that:

- The average of the VEKTOR indicator is 3,84 in 2020, which presents an increase of 0,11 points, respectively 2,86%, compared to the previous year. Regards 2021, there

is a significant growth of 1,08, more precisely 28,04%, for all companies where the indicator was calculated.

•   Depending on the "share type" criterion, the companies in the standard category registered a decrease in the average of the VEKTOR indicator in the period 2019-2020 by 0,08 points, respectively 4,58%, followed by an increase of 0,88 points in the next year. For companies in the premium and international category, there are successive positive dynamics of 0,35 and 1,24 points, more specifically 4,90% and 16,81%, namely 0,75 and 0,75 points, in this case, 9,68% and 8,82%.

•   Regarding the dynamic analysis from the point of view of the field of activity, the most important growth is noticed in the medical services companies, respectively with 0,42 points in the period 2019-2020, while in the telecommunications sector (represented only by DIGI COMMUNICATIONS NV) the VEKTOR indicator dropped by 1 point, namely 21,43%. In 2021 there are favorable changes for companies in all fields of activity, the most significant increase being in the transport sector, of 4 points, which means a relative change of 266,67%.

•   From the perspective of the majority shareholders, the companies controlled by the state register growths of the analyzed indicator both in 2020, by 0,28 points, and in 2021, by 0,11 points. The situation is also favorable for the companies with a majority of private shareholders, where there is an increase of 0,10 points, exactly 3,22% compared to the first period of analysis, and 1.06 points, in this case, 32.96% compared to the second. For companies controlled by investment funds, the year 2020 does not bring changes, while in 2021 there is a significant increase in the average VEKTOR, by 1,71 points, a relative change of 44,37%.

•   Thus, the highest values of the VEKTOR indicator are found in the companies from the category of premium share type, in the field of telecommunications activity, and those with majority state shareholders.
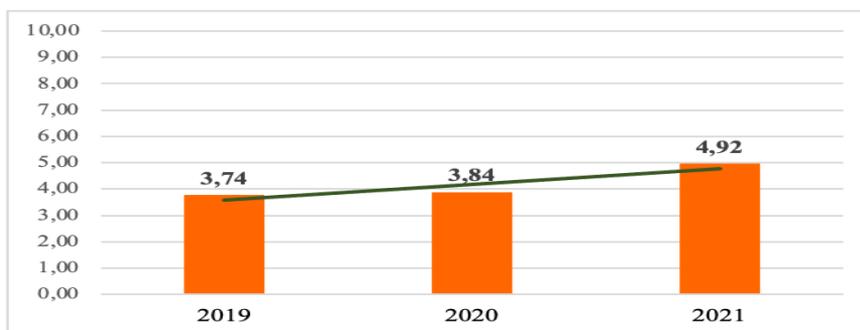

Figure no. 1: Average VEKTOR indicator between 2019 and 2021
Source: authors' contribution

The regression equation

The main objective of an investor is to put money into high-performing companies, which ensures the desired return. In this regard, the existing and potential shareholders take into consideration a series of financial indicators, of which can be mentioned: stock market price, market capitalization, and return on equity. The evolution of those indicators tends to have an impact on the manner and the quality in which a company approaches the topic of communication with investors, namely transparency and corporate governance. Thus, it is reasonable to say that its modification directly influences the dynamics of the VEKTOR score for the companies listed on the main market of BVB.

The regression equation will take the form:

$$y = a + bx_1 + cx_2 + dx_3 + \varepsilon$$

(1)

where:
y – dependent variable (VEKTOR score obtained by a company)
x_1 – independent variable (market capitalization)
x_2 – independent variable (stock price)
x_3 – independent variable (return on equity)
a, b, c, d – unknown parameters of the regression function
ε – error term (residue) - random variable

The first step is to determine if the regression is a regular regression or is a panel type model. For this purpose, the Redundant Fixed Effects test was used.

Table no. 7. The Redundant Fixed Effects test

Redundant Fixed Effects Tests
Test cross-section fixed effects

Effects Test	Statistic	Prob.
Cross-section F	21,141144	0,0000
Cross-section Chi-square	500,883340	0,0000

Source: authors' contribution using EViews software

The probabilities related with the two tests assessing the common significance of cross-section effects (both cross-section F and Chi-square) are 0.0000, therefore a null hypothesis that individual effects are redundant should be rejected, which means it is acceptable to include individual effects.
The Hausman test is used next to decide between fixed and random effects.

Table no. 8. The Hausman test

Correlated Random Effects - Hausman Test
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob
Cross-section random	22,987327	3	0,0000

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
MARKET_CAPITALIZATION	0,000000	0,000000	0,000000	0,0213
STOCK PRICE	-0,008859	0,003600	0,000060	0,1071
ROE	-0,468514	0,147385	0,063733	0,0147

Source: authors' contribution using EViews software

The Hausman test was used to determine the decision on the type of effects analyzed. Performing this test showed a probability associated with the chi-square less than 0,05 (0,000).

Table no. 9. VEKTOR score ~ Stock price ~ Market capitalization ~ ROE

Dependent Variable: VEKTOR_SCORE
Method: Panel Least Squares
Cross-sections included: 68
Total panel (balanced) observations: 204

Variable	Coefficient	Prob.
MARKET CAPITALIZATION	3,60E-10	0,0000
STOCK PRICE	0,016686	0,0040
ROE	4,977806	0,0002
R-squared	0,300492	
Adjusted R-squared	0,289999	

Source: authors' contribution using EViews software

After replacing the parameters, the regression equation becomes:

$$y = 3{,}257789 + 0{,}016686x_1 + 0{,}00000000036x_2 + 4{,}977806x_3 \qquad (2)$$

The free term a has no economic interpretation because the stock price, the market capitalization, and the return on equity cannot be equal to 0. There is a direct connection between the VEKTOR score and the market capitalization, the stock price, the return on equity, as evidenced by the positive values recorded by the coefficients of variables b, c, d.

The stock market and market capitalization are indicators of high volatility, the market being a pendulum that constantly oscillates between unfounded optimism (which makes stocks too expensive) and unwarranted pessimism (which makes them too cheap) (Graham, 1949). However, a company whose stock price and market capitalization have a positive dynamic will tend to pay more attention to transparency, investor communication, and corporate governance. Thus, the increase in market capitalization

has an insignificant influence on the grade obtained. The rising of the stock price has a moderate impact on the analyzed indicator, leading to its increase by 0,016686.

The significant impact on the evolution of the VEKTOR score is given by the values recorded by the return of equity (ROE). This is one of the most important indicators for investors, as it reveals the way and the efficiency that shareholders have invested their money with. Taking this into account, the increase in ROE improves the VEKTOR score by 4,977806.

The coefficient of multiple determination (R^2) has a value of 0,300492, which reveals that return on equity, market capitalization and stock price explain the VEKTOR score obtained by the analyzed companies in proportion of 30,05%.

The correlation ratio (R) is a relative indicator used to measure the intensity of the connection between variables and the validation validation of regression models.

$$R = \sqrt{R^2}$$

In the present case, R = 0,48172, which is a strong connection between the independent variables and the dependent variable.

Conclusions

Following the analysis, there was an upward trend in the average VEKTOR score, which indicates an increase in the interest of companies regarding the perception of stakeholders on transparency and good communication with investors.

The regression analysis reveals a moderate influence of the market capitalization, the stock price, and the rate of financial return on the evolution of the obtained grade.

Taking into account the fact that the indicator was introduced relatively recently in the reporting environment of the Bucharest Stock Exchange, its evolution is worth following closely, especially since a new scoring methodology was published for the AeRO market, the results will be published in early 2023.

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