

THE INFLUENCE OF ROI AND EPS INDICATORS ON THE INVESTMENT STRATEGY OF INDIVIDUALS (BVB)

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Abstract: *The current global economic crisis caused by the SARS-COV-19 pandemic, mobilizes society to protect personal assets, implicitly, through safe investments with favorable returns. One of the solutions for individuals remains to be the money investments in the share capital of the entities listed on a regulated stock market. Individual investment strategies are becoming increasingly diversified due to the current volatile environment. In the same year 2020, within the Bucharest Stock Exchange, there was a massive withdrawal of investments followed by reaching a historical maximum number of active investors, which contributed to the recovery of the loss of the previous stock market capitalization until the end of the year. This paper aims to determine a link between ROI and EPS factors and change the investment strategy of individuals active on the Romanian stock market (BVB). To demonstrate that there is a link between these variables, the study starts from the financial information extracted from the annual reports of the companies together with the data on the shareholding structure provided by the Bucharest Stock Exchange. The starting point consists of a factorial analysis of the investment strategy (codified by changing the structure of the shareholding of individuals) based on the evolution of ROI and EPS indicators during the time period studied 2016-2019.*

Keywords: ROI, EPS, Investments, BVB, financial audit

Jel Classification: G10, G11, M42

Introduction

One of the most common tools used worldwide to reduce the financial risk of a crisis as well as enrichment is investments in a regulated stock market. Financial returns above the inflation rate or the interest rate related to bank deposits and the increase in the value of long-term investments, make the stock market more and more attractive for individuals and companies.

In addition to the aspects listed above, the attractiveness of stock exchanges is determined by the degree of security offered by the control performed by the financial supervisors, including the independent audit missions performed on the entities listed on a regulated market.

In the current context, due to the increase of the financial education of the Romanian society, it becomes more and more important to determine the decisive factors that contribute to the modeling of the investment strategies. The COVID-19 pandemic contributed significantly to the increase in the number of investors on the Bucharest Stock Exchange, reaching a value of over 70,000. Thus, the fears about the spread of the virus to investors have been eliminated by increasing the financial attractiveness offered by the listed companies. Therefore, in order to confirm the existence of a link between the

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indicators of value created for shareholders (ROI, EPS) and the investment strategy of individuals, at the level of BVB, this study was elaborated.

Development of research hypotheses

In a concise, selective way, the current stage of knowledge, in a national and international context, will be highlighted in the following.

Hassanzadeh and Bigdeli (2019) consider that ROI and EPS indicators are useful because they allow you to examine options and make more informed choices. They are also an essential component of an investment strategy, as they become "proof" that investing money in a project is a right business decision.

Hirji and Geddes (2020) found that with the possibility of showing a positive ROI and EPS in a period of one or two years will guide the investor to allocate some of the financial resources in the company's share capital.

Vasilescu (2011) highlighted the importance of using indicators such as value added (EVA), return on capital employed (ROCE), return on investment (ROI), earnings per share (EPS) and market value added (MVA) that could influence the decision-making process and reshape the investment plan.

Badruzaman (2020) is of the opinion that a high EPS reflect the level of effectiveness and efficiency of the company's operations in managing the company, thereby affecting investors to invest in the company. Investments made by an actor in the form of purchases of company shares, but on the contrary if EPS are low, investors will not be interested in the company.

Hendra (2017) based on the study conducted in the Indonesian stock market found that with the increase of EPS and ROI of a company, more and more investors are interested in investing, thus contributing to the increase in the price per share

Adzim (2021) concludes that a high or rising earnings per share can lead to attracting investments from the stock market. Conversely, a decrease in earnings per share may result in the mass withdrawal of private placements made by investors.

Author Wet (2013) in his paper "EPS as a measure of financial performance: does it obscure more than it reveals?" supports the idea that EPS and return on investment are the pillars that support strategic decision-making, such as stock assessments, management performance schemes and merger and acquisition negotiations.

Studies conducted by Tarore W. & Pontoh W. (2010), Agnatia V. & Amalia D. (2018) find that with "the registration of a favorable EPS increases the value of shares based on a large number of stock market transactions made by investors to make financial investments in the share capital of the company."

Research methods

Therefore, for conducting this study, a sample of 43 companies, listed on the Bucharest Stock Exchange, was used. The financial information used was collected from the BVB website and covers a time interval of 4 financial years (2016-2019). Thus, the structure by fields of activity of the companies analyzed in this study is presented in table no.1. There is a significant share held by companies operating in the financial services and production sectors, representing a percentage of 52% of the total companies identified in the study.

Table no.1 The structure of sample by fields of activity

Industry	No. of companies	% Weight
Production & Materials	11	26%
Financial	11	26%
Energy	6	14%
Utilities & Services	6	14%
Heavy industry	5	12%
Medical	4	9%
Total	43	100%

Source: Own projection

The first stage of the research study was based on the identification and extraction of financial information from the annual reports for the financial years: 2016, 2017, 2018 and 2019 to determine the following indicators:

- EPS - a traditional measure of value created, widely used by investors and companies
 $EPS = (Net\ Profit - Preferred\ Dividends) / Average\ number\ of\ shares\ in\ the\ market$
- ROI - one of the main measures of the permanence of a company's departments, reflecting the return on investment

$$ROI = Net\ profit / Total\ investment$$

Based on personal reasoning, the indicator attesting the investment strategy was selected the evolution of the share of individuals in the shareholding structure, found on the BVB website, Financial Instruments category, Issuer section.

Results and discussions. The influence of ROI and EPS indicators on the investment strategy of individuals (BVB)

The determination of the existence of the hypothesis regarding the influence of these two indicators on the investment strategy of individuals at the level of the local regulatory market BVB, was made based on the calculation of an average ROI and EPS per sector of activity.

Table no.2 The Average ROI by fields of activity

Industry	Average ROI (2016)	Average ROI (2017)	Average ROI (2018)	Average ROI (2019)
Production & Materials	4,13%	6,84%	5,39%	5,01%
Medical	3,50%	3,31%	2,28%	3,67%
Financial	2,38%	3,79%	4,05%	3,92%
Heavy industry	2,17%	0,61%	1,77%	1,16%
Energy	8,49%	6,24%	4,55%	5,88%
Utilities & Services	5,90%	6,57%	6,98%	5,81%

Source: Own projection

According to the results obtained (table no.2), there is a fluctuation of the leading business sector from one financial year to another regarding the highest financial profitability offered to a shareholder. Thus, the financial year 2016, for the holders of shares within the companies that are part of the energy sector, proved to be the most profitable for the analyzed period 2016-2019. The change of the “remuneration” leader of the shareholder is a normal situation, being largely determined by the demand/supply, the price of the mineral resources regulated by the international organizations, etc.

Table no.3 The Average EPS by fields of activity

Industry	Average EPS (2016)	Average EPS (2017)	Average EPS (2018)	Average EPS (2019)
Production & Materials	0,189	0,286	0,309	0,338
Medical	-0,077	-0,007	0,074	0,093
Financial	0,262	0,423	0,379	0,425
Heavy industry	0,042	0,029	0,026	0,041
Energy	2,446	2,308	1,963	1,823
Utilities & Services	8,946	8,718	7,824	5,798

Source: Own projection

During the four financial years, companies in the utilities & services sector recorded the highest profits per share. Maintaining a top position in the analyzed ranking is directly influenced by the stable demand of Romanian society on primary services, such as: provision of communal services, tourism, food supply and compulsory insurance services.

The next stage of the research was based on correlating the volatility of ROI and EPS indicators, from one financial year to another, with the number of cases regarding the withdrawal or investment of money capital by investors - individuals.

Testing the hypothesis regarding the connection between ROI and EPS indicators on the modification of the investment strategy by activity sectors presented the following results:

1. Sector of activity - Production & Materials

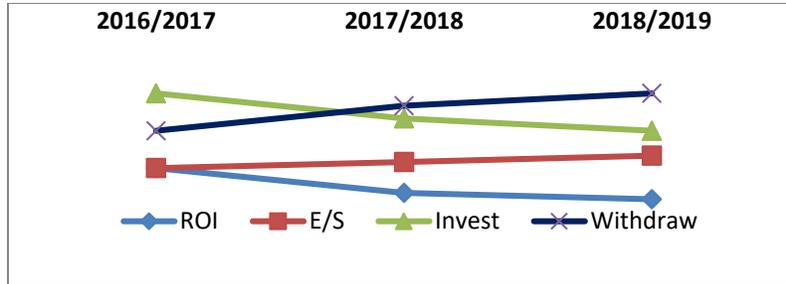
In accordance with table no. 4, there is a positive trend of the EPS indicator during the three financial years analyzed. The increase of both indicators, respectively of a favorable remuneration degree, influenced the increase of the capital invested by individuals in the companies listed on the local stock market BVB.

Table no.4 ROI and EPS correlation versus investment strategy (sector of activity-production & materials sector)

Production & Materials	2016/2017	2017/2018	2018/2019
ROI	Increase	Reduction	Reduction
EPS	Increase	Increase	Increase
Invest (no.of cases)	7	5	4
Withdraw (no.of cases)	4	6	7

Source: Own projection

In the case of the financial years 2018 and 2019, the positive growth trend of the EPS indicator failed to maintain an advantageous sector image for investments. This is explained by the reduction in the value of dividends granted to shareholders and the reorientation of profit towards other reserves or investments.



Graph no.1 Indicator evolutions - ROI, EPS and investment strategies (sector of activity-production & materials)

Source: Own projection

2. Sector of activity - Medical and pharmaceutical services

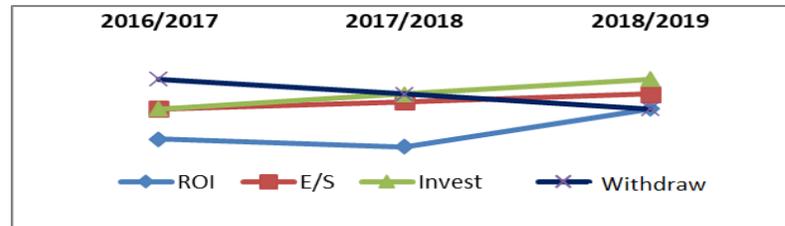
A situation identical to the investment strategy in the production sector is found in the trading process in the medical and pharmaceutical services sector. Therefore, regardless of the consecutive recording during the three financial years of the increase of the EPS indicator, however, individuals tend to be largely influenced by the degree of return on investment and do not assess the future benefits that can be obtained from the development of the company based on profit orientation from the distribution of dividends to the execution of an investment plan.

Table no. 5 Correlation of ROI and EPS versus investment strategy (sector of activity-medical and pharmaceutical services)

Medical	2016/2017	2017/2018	2018/2019
ROI	Reduction	Reduction	Increase
EPS	Increase	Increase	Increase
Invest (no.of cases)	1	2	3
Withdrawal (no.of cases)	3	2	1

Source: Own projection

For the last financial year analyzed 2019, the hypothesis is confirmed that following the registration of a positive evolution of both financial rates, the category of investors - individuals tend to make investments in the analyzed companies.



Graph no.2 Indicator evolutions - ROI, EPS and investment strategies (sector of activity- medical and pharmaceutical services)

Source: Own projection

3. Sector of activity - Financial services

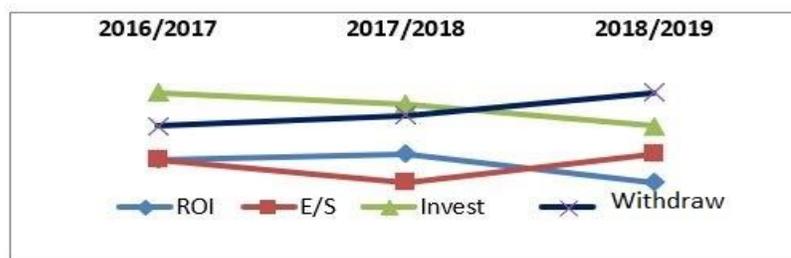
A positive evolution of both indicators in the first financial year presents information on the increase of the capital invested by individuals in this sector. The number of investment cases exceeded the number of capital withdrawals in 2018, despite a decrease in profits made by companies

Table no. 6 Correlation of ROI and EPS versus investment strategy (sector of activity-financial services)

Financial	2016/2017	2017/2018	2018/2019
ROI	Increase	Increase	Reduction
EPS	Increase	Reduction	Increase
Invest (no.of cases)	9	6	4
Withdrawal (no.of cases)	2	5	7

Source: Own projection

During the financial years 2018 and 2019, we can identify the portrait of the Romanian investor (individuals) being a short-term investor, pursuing the goal of temporary enrichment and not obtaining long-term benefits based on a sustainable development of the companies in which he performed placements.



Graph no.3 Indicator evolutions - ROI, EPS and investment strategies (sector of activity-financial services)

Source: Own projection

4. Sector of activity –Heavy industry

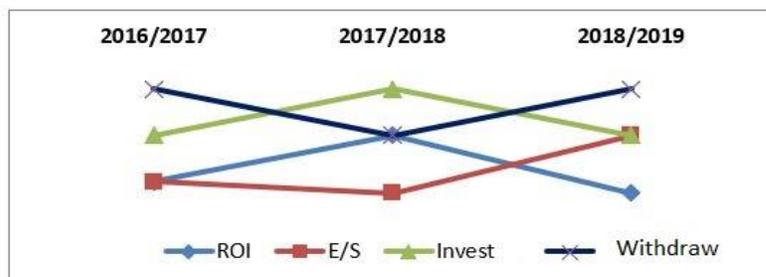
The decrease in both ROI and EPS indicators in the financial year 2017 was a signal for investors to withdraw cash investments. With the registration of a positive evolution of ROI, in 2018, individuals made several investments in order to obtain a favorable remuneration of established investment strategies.

Table no.7 Correlation of ROI and EPS versus investment strategy (sector of activity-heavy industry)

Heavy industry	2016/2017	2017/2018	2018/2019
ROI	Reduction	Increase	Reduction
E/S	Reduction	Reduction	Increase
Invest (no.of cases)	1	3	1
Withdrawal (no.of cases)	3	1	3

Source: Own projection

The last financial year presents the same situation identical to the sectors of activity analyzed previously. As ROI increases, the flow of investment from individuals intensifies and as the value of this indicator decreases, capital shifts to other more profitable sectors.



Graph no. 4 Indicator evolutions - ROI, EPS and investment strategies (sector of activity- heavy industry)

Source: Own projection

5. Sector of activity –Energy Sector

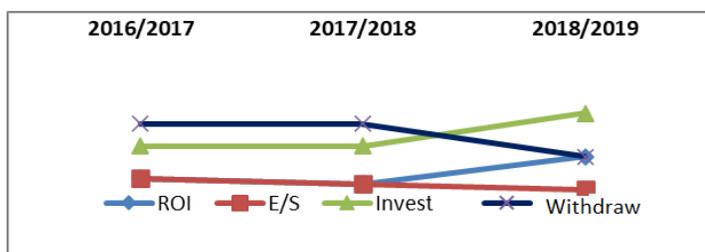
During the two consecutive financial years 2017 and 2018, the negative evolution of these two financial indicators influenced the investors' decision to withdraw the invested capital.

Table no. 8 Correlation of ROI and EPS versus investment strategy (sector of activity-energy)

Energy	2016/2017	2017/2018	2018/2019
ROI	Reduction	Reduction	Increase
EPS	Reduction	Reduction	Reduction
Invest (no.of cases)	2	2	5
Withdrawal (no.of cases)	4	4	1

Source: Own projection

With the increase in shareholders' remuneration, as in the case of other sectors, regardless of the consecutive three-year trend of a negative evolution of the EPS indicator, it favored attracting more capital from individuals.



Graph no. 5 Indicator evolutions - ROI, EPS and investment strategies (sector of activity- energy)

Source: Own projection

6. Sector of activity –Energy Sector

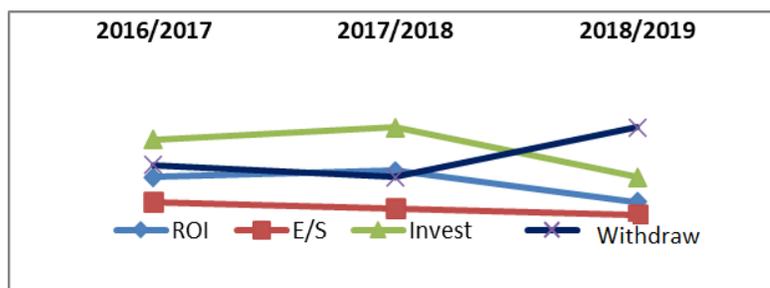
For investors on the local BVB stock market, the ROI indicator is the most important in the decision-making process regarding the investment strategy.

Table no.9 Correlation of ROI and EPS versus investment strategy (sector of activity-utilities)

Utilities & Services	2016/2017	2017/2018	2018/2019
ROI	Increase	Increase	Reduction
EPS	Reduction	Reduction	Reduction
Invest (no.of cases)	4	5	1
Withdrawal (no.of cases)	2	1	5

Source:Own projection

The last financial year analyzed 2019, reconfirms the fact that the decrease in the value of both financial indicators is an alarm signal for individuals that will involve the withdrawal of cash.



Graph no. 5 Indicator evolutions - ROI, EPS and investment strategies (sector of activity- utilities)

Source:Own projection

Conclusion

Based on the correlation of the evolution situations of the ROI and EPS indicators with the total number of specific decisions identified at the level of the studied sample, we reached the following conclusions:

Table no.10 The influence of ROI and ESP on the investor's decision

The evolution of indicators	Investor's decision (individuals)	
	Invest the capital (probability)	Withdraw the capital (probability)
1. ↗ ROI și ↗ EPS	73%	27%
2. ↗ ROI și ↘ EPS	70%	30%
3. ↘ ROI și ↗ EPS	37%	63%
4. ↘ ROI și ↘ EPS	27%	73%

Source:Own projection

1. 73% of the cases analyzed confirm that with the concomitant recording of a positive evolution of the ROI and EPS indicators, as in the study conducted by Hirji and Geddes (2020), it influenced the decision of the majority of individual investors to invest in a particular company;
2. An almost identical situation is also found if the ROI indicator increases and the EPS indicator decreases. Therefore, 70% of the analyzed cases showed that investors were willing to invest in the analyzed companies regardless of the decrease of the EPS indicator;
3. Of the total decisions made by investors related to a negative evolution of the ROI and the increase of EPS, 63% were related to the actions of withdrawal of the invested capital from the share capital of the companies;

4. The decrease of both indicators amplifies the desire of individual investors to transfer the shares held to companies, a fact proven by the registration of a percentage of 73% of the studied cases.

Taking into account the aspects listed above, it is confirmed that the evolutions of the ROI and EPS indicators have a major importance for the structuring of the investment strategy of the individuals on the Bucharest Stock Exchange. Therefore, such a result shows the tendency of individuals in Romania to correlate the execution of a financial investment with the rate of return on investment over time and the financial remuneration they will receive.

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