

EXPLORATORY STUDY OF THE ANALYSIS OF THE PERFORMANCE OF STOCK EXCHANGE QUOTED COMPANIES, PER ACTIVITY FIELDS

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Abstract

In order to support strategic decisions, current and potential investors as well as managers need pertinent information that would reflect a faithful image concerning the financial position and performance of the companies. In their analysis and evaluation, besides financial factors, it is necessary to consider non-financial factors as well. Therefore, the specificity of the activity fields of the companies influence a series of financial indicators, determining different results concerning their performance. The present study aims to analyze the financial performance according to the activity field (agriculture, industry, commerce, and services), quantified by criteria based on traditional financial indicators, respectively stock exchange criteria for the acknowledgement of the global performance by the participants to the capital market. The study also aims identify a performance profile of the companies, according to their activity field and to the performance criteria considered. The target population is represented by companies quoted in the Bucharest Stock Exchange (BSE). From it, a random sample was extracted of 100 quoted companies, activating in the field of agriculture, industry, commerce, and services, for the fiscal year 2011. The results of the research were obtained after applying the univariate analysis and the multiple correspondences factor analysis, using the SPSS 19.0 statistic software. The results show the existence of differences in what concerns the indicators of financial performance on activity fields. The characteristics of each activity field, as well as the risks corresponding to each of them, influence the traditional indicators, as well as the stock exchange indicators. Each field is characterized by certain performance indicators. Based on the results obtained through the performance profile of the companies according to their activity field, actual and potential investors, as well as the other categories of stakeholders, can make decisions without a complete fundamental analysis. Although the results are a useful means for the stakeholders, they must also take into account the limitations of the current study, which are determined by the degree of representativeness of the sample, respectively by the small number of companies in each of the four activity fields, quoted on the Romanian capital market. As a result of these limitations, future research directions concern the increase of the number of studied companies, by extending the analyzed period and taking into consideration other performance criteria as well, such as those focused on value creation, or related to the cash flow.

Key words: financial performance, financial analysis, financial and non-financial criteria, multiple correspondences factor analysis

According to the stakeholder's theory, companies are responsible towards all the "actors" who participate directly and indirectly to their activity: shareholders, financial and commercial creditors, customers, providers, employees etc. (Hubbard G., 2009). The theory of financial markets considers shareholders as the most important group that managers should be concerned with (Stieb J. A., 2009).

As a result of the risk they take, actual and potential shareholders need the most pertinent information concerning the financial position and performance (Order of the Minister of Public Finances no. 3055 of November 10, 2009) provided both by the financial statements and by the financial market, through the daily quotations of the shares.

Although the performance of companies is the focal point of the investors, there is no common denominator in what concerns the way of measuring performance and the best method to analyze it (Devinney T. M. *et al.*, 2010).

Specialized literature (Richard P. *et al.*, 2009; Devinney T. M., Yip G. S., Johnson G., 2010) divides the criteria for performance measurement into three categories: *accounting criteria* (profit before interests and tax, the net or gross result, the net margin ratio, commercial profitability, economic profitability, financial profitability, etc.), *criteria of the financial market* (the beta coefficient, the result per share, market capitalization, the market capitalization coefficient, the global efficiency of a placement, etc.), *mixed criteria* (balanced scorecard,

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economic added value, market added value, the net asset capitalization coefficient, the free cash flow, the net present value, the cash flow profitability ratio, etc.) and *survival criteria*.

The performance analysis criteria facilitate knowing the causes or factors that explain the formation of performance. At the end of the 1970's, *Industrial Organization Economics* developed the basic theory concerning the determining factors of a company's performance, considering that the activity field is the first factor that should be taken into account in performance analysis (Hawawini G. *et al.*, 2003). The characteristics of the activity field as qualitative factors external to the companies are also taken into consideration by Porter M. E. (1980) in performance analysis.

Also, Feroz E. H. *et al.* (2008) consider that the performance of the financial market is the result both of the performance of company management and of external factors, such as the conditions of each activity field (Feroz E. H. *et al.*, 2008).

Considering these theoretical statements, it is important to explain the performance differences between the various activity fields, such as agriculture, industry, commerce, and services; these differences must take into account the actual and the potential investors.

In order to analyze performance, the activity field is considered to be a non-financial (qualitative) factor. This factor determines performance differences, as a result of the distinctive elements existent in the legislation specific to each field, of the a specificity of the working cycle, of the peculiarities of the products life cycles, etc. The totality of the existing differences is captured by managers and investors through the structures of the financial statements, as well as through the economic and financial indicators obtained based on them. Therefore, the values of the indicators considered as benchmarks per activity field, taken into the performance analysis, are different (Smith M. and Liou D.-K., 2007).

Other authors (Fairfird P. M *et al.*, 2009) consider that the effects of belonging to a certain activity field are negligible and that the performance of a company depends on its characteristics, such as size, stage in its life cycle, or the market share owned. Moreover, the study made by these authors, taking into account a series of profitability indicators (profitability of the equity, profitability of the operating assets, increase in sales, increase of the company value, etc.) revealed that the belonging to a specific activity field may play an important part in

explaining the performance of the activity field considered, and less in explaining the performance of a company in that field.

Hawawini G. *et al.* (2003) researched the influence of the activity field on the performance expressed through economic profitability, taking into account three previous studies of: Schmalensee (1985), Rumelt (1991), McGahan and Porter (1997). Therefore, from the total variance of economic profitability, the activity field explains 19.6% according to Schmalensee, 8.3% according to Rumelt, and 18.7% according to McGahan and Porter.

In order to argue with the importance of the activity field, MacKay P. and Phillips G. M. (2005) made an empirical study, stressing the fact that companies in the same activity field have various capital structures and report different performance in their financial statements.

Performance is simpler to analyze at the level of a field or activity sector, since the activity homogeneity criterion is met. The peculiarities of the activity fields are reflected in a different manner on the size of some structures in the financial statements and lead to computing specific indicators, such as: the higher level of incomes and expenses from selling goods, respectively the commercial margin indicator in companies with a commercial activity; the higher weight of corporeal assets in the structure of total assets, higher commercial liabilities and debts and determining the production of the fiscal year in the case of companies working in production; the predominance of staff expenses in the structure of operational expenses and low commercial liabilities in the case of service companies, etc. (Mironiuc M., 2006).

Therefore, the present study aims to analyze performance on activity fields (agriculture, industry, commerce, and services), performance quantified through criteria based on accounting (traditional) indicators, respectively stock exchange criteria for the acknowledgement of global performance by the participants to the capital market (criteria specific to the financial market). This study also aims to identify a performance profile of the companies, according to their activity field and the performance criteria considered.

MATERIAL AND METHOD

The theoretical grounds presented, concerning the influence of the activity field on performance, are the starting point for the present study, which aims to stress the existence of performance differences according to the activity field, a performance expressed through traditional

and stock exchange indicators. In order to meet this objective, the following work hypothesis is suggested:

Hypothesis: *Belonging to an activity field determines the occurrence and presentation of different performance, and there is a significant association between the activity field to which a company belongs and its performance level, an association that can be represented based on a performance profile.*

In order to test and validate the suggested hypothesis, the methodological approach aims to study the Bucharest Stock Exchange (BSE) quoted companies for the fiscal year 2011. Of this population, structured per activity field (processing industry, agriculture, services, and commerce), a sample of 64 companies has been extracted, using both the rational choice principle and the random choice principle (Jaba E., 2002). Initially, from the four activity fields, the selected

companies were those for which a value of the share price could be identified at the end of the fiscal year 2011, and for which the financial statements are published on www.bvb.ro or on the companies' Web sites. As a result of the low number of companies for certain activity fields, sub-samples have been selected randomly for the rest of the activity fields, so that the total number of all the sub-samples was equal. The final sample is made up of 64 BSE quoted companies, of the following activity fields: processing industry, agriculture, commerce, and services (transport).

In the study, in order to obtain the results of the research, a series of variables have been used, synthesized in Table 1. Meeting the purpose of the research implies creating category variables according to the reference values in specialized literature and to the values recorded in the database. They are also presented in table 1.

Table 1

Meaning of the analyzed variables

Variable	Computing method	Interval values	Meaning	Symbol
Accounting (traditional) performance criteria				
<i>Return on equity (ROE)</i>	Net result/Equity (R_{net}/E_q)	$(-\infty; 0)$	ROE - negative	ROEneg
		$[0; 0,05)$	ROE - medium	RORgood
		$[0,05; +\infty)$	ROE - excellent	ROExc
<i>Return on investment (ROI)</i>	Economic result/Total Asset (R_{ec}/A_t)	$(-\infty; 0)$	ROI - negative	ROIneg
		$[0; 0,05)$	ROI - medium	ROIgood
		$[0,05; +\infty)$	ROI - excellent	ROIexc
<i>Return on sales (ROS)</i>	Commercial margin/Income from sales (M_c/V_{mf})	$(-\infty; 0)$	ROS - negative	ROSneg
		$[0; 0,05)$	ROS - medium	ROSgood
		$[0,05; +\infty)$	ROS - excellent	ROSexc
Stock exchange performance indicators				
<i>Price per share (P)</i>	-	0	Non-existent share price	Pzero
		$(0; 10)$	Medium share price	P<10
		$[10; +\infty)$	Excellent share price	P>10
<i>Earnings per share (EPS)</i>	Net result/Number of shares ($R_{net}/N_{r_{act}}$)	$(-\infty; 0)$	Insufficient EPS	EPSins
		$[0; 1)$	EPS good	EPSgood
		$[1; +\infty)$	EPS excellent	EPSexc
<i>Price to Earnings ratio (PER)</i>	Share price/Earnings per share (P/EPS)	$(-\infty; 10)$	Underestimated shares	Sunder
		$[10; 15)$	Medium estimated shares	Smedium
		$[15; +\infty)$	Overestimated shares	Sover
<i>Price to Book value ratio (PBR)</i>	Market capitalization/Net accounting result (MC/NAR)	$(-\infty; 1)$	Underestimated shares	PBRunder
		$[1; +\infty)$	Overestimated shares	PBRover
Non-financial factors				
<i>Activity field</i>	-	-	Processing industry	Processing_ind
			Agriculture	Agriculture
			Commerce	Commerce
			Services	Services

The research results were obtained using the *multiple correspondences factor analysis*, a multidimensional analysis method whose purpose is to study the associations between at least three nominal or category variables (Mironiuc M., Robu I.-B., 2011).

The data were processed using the SPSS 19.0 statistic tool.

RESULTS AND DISCUSSIONS

The results of the empirical research lead to identifying the existence of a significant association between the category variables corresponding to traditional and stock exchange performance indicators and the companies' belonging to a certain activity field. Although the stock exchange performance criteria are considered very volatile, suffering variations on every economic, political or social event/rumor considered by investors as responsible for the

modification of the financial assets outputs the intermediary and annual financial statements influence, in their turn, stock exchange criteria. As a result of the periodic publication of the intermediate financial statements, annual reports cannot determine significant variations of them. Moreover, Romania is considered to be a country with a very new stock exchange. As a result, the connection between the traditional and the stock exchange performance criteria is also analyzed using the multiple correspondences factor analysis, taking into account the activity field, through the two performance profiles (accounting-traditional and stock exchange).

The diagram in Figure 1 presents the graphical distribution of the performance profile according to the indicators of the traditional

criteria and to the activity field. Therefore, it reveals that the companies in agriculture and processing industry have a similar performance profile, with average profitability ratio values (for equity, economic, and commercial performance). The commercial profitability category that characterizes these activity fields proves that companies are not strictly limited to the production activity, but also to commerce, having their own shops. The average value of this indicator reflects, however, as their main economic activity, production, and less selling goods. For a more detailed analysis of the commercial profitability ratio, it is necessary to study it in time in order to know what kind of price policy is applied by the analyzed companies.

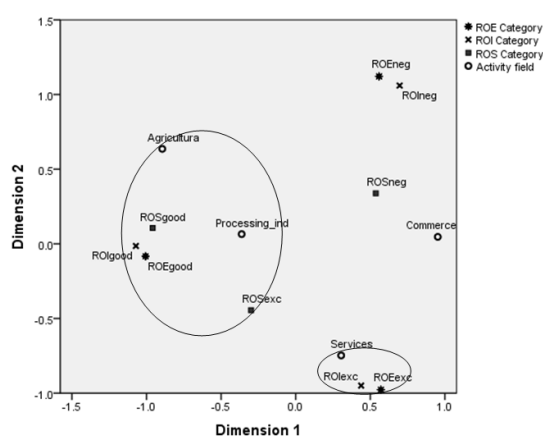


Figure 1 Graphical distribution of the performance profile of the companies, according to the indicators of traditional criteria and to the activity field

An average value of economic profitability, in the agriculture and industry activity field, reflect the favorable situation of the companies, through the funding of the necessary floating and fixed assets used in the operational activity, from the economic result. Moreover, for the companies in industry and agriculture, this situation is favorable as a result of the high values of the fixed assets (tools, machines, technological equipments, means of transport, etc.) and of the floating assets, especially stocks. Also, it is considered that the companies in these activity fields have no problems in capitalizing on their products. The products obtained in agriculture, if they are not sold in own stores, are included in other products, for instance in the food or textile industry. The average values of the profitability indicators can be influenced by the current economic situation determined by the financial crisis, when the possibility to capitalize upon the obtained products diminished at the same time as the reduction of the

markets and the purchase power of the customers. At the same time, this situation leads to not using the owned fixed assets to maximum capacity or to not involving all the assets in the operational activity. The average profitability corresponding to the processing industry and agriculture is explained through the high production costs, which contributed to the drop in the net result. From the performed analysis, taking into account the traditional performance criteria, there results that agriculture and processing industry may be attractive fields for the investors. According to the analysis, a favorable situation characterizes the field of services (the transport of goods, passengers, and through pipes). According to Figure 1, the field of services is characterized by excellent economic and equity profitability. The result is also determined by the characteristics of the field, because it does not imply high values of the assets used in the operational activity. The importance of transport, especially goods and

pipeline transport is given by the interdependency between the various production levels through the supply or distribution process. Moreover, in order to diminish the transport cost, many companies resort to railway transport, especially in the case of a significant amount of merchandise. In the field of services, we cannot speak of commercial profitability, which is also proven by the diagram in Figure 1, through the relatively large distance between the category concerning the field of services and the category concerning the excellent commercial profitability ratio. Another activity field involved into the analysis is commerce, which suffered in the last period as a result of the financial crisis, which made the purchase power of

the customers drop. Moreover, commerce depends on the production process of other activity fields, so that the negative effects upon them also reflect in commerce, through an increase in the prices of the sold goods. Performance analysis through accounting (traditional) criteria is mainly used by all the stakeholders of a company; however, investors often resort to the stock exchange analysis as well, especially in the case of stock exchange quoted companies. The diagram in Figure 2 presents a graphical distribution of the performance profile according to the stock exchange criteria indicators and to the activity field.

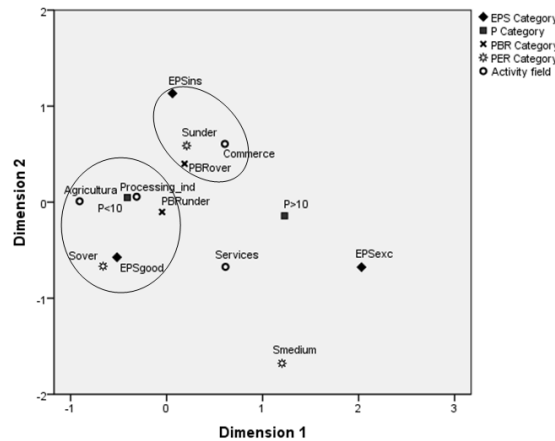


Figure 2 Graphical distribution of the performance profile of the companies, according to the indicators of stock exchange criteria and to the activity field

According to this diagram, the agriculture and commerce activity fields are similar from the perspective of the stock exchange indicators as well: the share price, the earnings per share, the price to earnings ratio, or the price to book value ratio. Although the price offered for the shares in this field is not very high, the financial market still over-evaluated the shares of companies, and the investors are willing to pay a lot for the profit per share, expecting an increase in it, in the future.

Also, the price to book value coefficient is sub-unitary, meaning that the company is worth less than its accounting value. This is caused by the low value of the share price, and proves a certain prudence of the investors.

While companies in the field of services are characterized by a favorable stock exchange situation, being relatively close to the field of processing industries, commerce is characterized by an unfavorable situation, with negative earnings per share, and shares under-evaluated on the financial market. Therefore, the statement concerning the effects of the financial crisis, especially on commerce, can be included in the stock exchange analysis. Unfavorable results per share, which do not provide the possibility to distribute dividends or to reinvest them, determine

the investors to sanction the companies in commerce.

Based on the results obtained concerning the performance profile of the companies according to their activity field, the current and potential investors, as well as the other stakeholder categories, can thus make decisions without a complete fundamental analysis.

CONCLUSIONS

The performance of a company must be evaluated using appropriate criteria to measure the performance objectives followed by the stakeholders. Of them, investors resort not just to accounting or traditional performance criteria, but also to stock exchange criteria specific to the companies whose shares are dealt on the financial market.

Although the Romanian stock exchange is still considered to be at an incipient stage, the results of the research have validated the suggested hypothesis concerning the existence of performance differences according to the activity field. Also, the results of the research have proven the existence of significant associations between the activity field to which a company belongs and

its performance level, an association represented through a performance profile. The validation of the hypothesis has also determined meeting the objective set in the beginning of this article.

Therefore, the elements specific to each activity field determined the existence of differences between them. However, agriculture and the processing industry are similar from the point of view of the profitability and stock exchange indicators, in comparison to services and commerce. The resemblances are determined by the fact that the two fields are generally focused on production.

Also, the concordance between the two performance profiles (traditional and stock exchange) proves again the significant influence of the financial statements (quarterly or annual) on the share price.

Future research directions related to the influence of the activity field on performance concern a dynamic analysis, reflecting an evolution in time of the analyzed indicators, a trend over a period of time. Besides the extension of the analyzed period, future research may consider taking into account other performance criteria (such as the cash flow, or focused on value creation), as well as of other activity fields.

One of the limitations that have affected the results of the research was the low number of companies involved into the analysis, because of the relatively young age of the Romanian Stock Exchange.

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