

QUALITATIVE ASPECTS OF PERFORMANCE EVALUATION USING THE EXAMPLE OF ROMANIAN ECONOMY SECTORS

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Abstract:

Company's performance is an essential objective pursued by investors and stakeholders, both for investments decision making and for verifying the way their interests are fulfilled. Calculation of different performance indicators can lead to conflicting results. The current paper aims to analyze the way in which performance of various Romanian economical sector is reflected by different profitability ratios. The results of the research highlights both advantages and limits of several absolute and relative indicators which express performance and offers an image of the hierarchy of the economical sectors subject to analysis.

Key words: *profitability, economic performance, EBITDA, return on assets*

JEL Classification: *L21, L25*

1. Introduction

Information about the performance of an economic entity, especially about profitability are useful for assessing potential changes of economic resources that it could control in the future and for anticipating the ability to generate cash-flows. Also, based on performance evaluation, one can formulate judgments regarding the efficiency with which new resources can be used. (Burtescu C., 2010).

Profitability is the essential component of economic performance, the ultimate goal of economic activity and the primary condition of existence and maintenance on the market in a competitive economy. It is one of the forms of expression of economic efficiency, with an enlightening power of synthesis. Because profitability includes the main economic and financial aspects of the companies, it represents a benchmark for decision making and stakeholder orientation behaviour.

National economy as a whole is positively influenced by increased profitability of companies in all economic sectors (Eslava M., et al., 2004). The link between foreign direct investment, productivity and country growth is evident (Contessa, S. and A. Weinberger, 2009). Therefore, it seems useful to have studies that reflect the profitability of the main branches of the national economy.

Profitability analysis models are numerous and some of them can be used both at microeconomic and macroeconomic level. In absolute value, the profitability appears as the difference between the two main components that determine it: income and expenses. Problems arise, however, when defining the content of the two elements, especially at delimitation of expenses. From this perspective, the result of economical activity can be referred to as gross profit, net profit, Earning before Interest, Taxes, Depreciation and Amortization (EBITDA) and so on.

EBITDA started to be used in the 80s by investors in acquisitions guaranteed with the assets of the acquired companies (the so called LBOs – Leverage Buy-Out Companies). LBO transactions are characterized by the pronounced discrepancy between the equity invested (low) and amounts borrowed usually from banks and guaranteed with the assets subject to the transaction (high). By the use of EBITDA, those investors had a handy tool for quick calculation of the restructured companies' ability to support the interest costs incurred by the loans. Since then, the use of EBITDA has widely extended in various areas of business, even if the net profit remains the standard indicator for measuring the company's profitability, under Generally Accepted Accounting Principles (GAAP).

Even though, in accordance with International Accounting Standards (IAS) and GAAP, EIBTDA is not a mandatory indicator to be calculated on reported financial statements, all necessary date for its calculation are included in the Profit and Loss Statement. The EBITDA is calculated by adding to the net income (F20 – position 67 for profit /

position 68 for loss) of interest expenses (F20, position 49), income tax (F20, position 65) and depreciation expenses (F20, position 47).

Supporters of EBITDA argue its use especially in determining the ability of companies to service debt, with the fact that the calculation does not take into account expenses that would distort the performance evaluation. As mentioned earlier, interest expense, subject of management's appetite for credit, is eliminated from the calculation. Income tax is also ignored, as it varies depending on many factors, often non-recurring: acquisition of assets, losses from previous years etc. Elimination of depreciation is also considered natural, as it is not a way of spending cash, but a form of sharing costs of assets within multiple financial exercises, according to their life period, by gradually transferred to expenditure. The facts that different businesses use different depreciation methods (linear, digressive or accelerated), that regulated life time of assets vary widely and that there may be differences and residual values made the ignoring of these amounts in EBITDA calculation more agreeable. By eliminating all these items, EBITDA makes easier to compare the financial health of various companies in the market. The indicator provides information for evaluating companies with different capital structures, different taxes and different depreciation policies. At the same time, it gives investors an idea about how much money a new or restructured company can generate, before being forced to make payments to creditors or state. It is also true that „the popularity of EBITDA is mainly due to the fact that it will always show a higher than the net profit, hence its consecration as a profitability indicator preferred by highly leveraged companies, operating in capital intensive sectors, such as telecommunications or cable companies, where bona fide profits are hard to indentify” (McClure, B., 2010).

Detractors of EBITDA, not few, are attacking, one by one, the choice of removing from the calculation of company's profitability of each of the three types of expenses: interest (I) Income tax (T) and amortization (DA). We here mention that, although in the accounting practiced in Romania after the French model, depreciation and amortization refers to the same process of allocating the cost of fixed expenses for the life period of the assets, in the Anglo-Saxon approach there is a distinction between intangible assets, to which amortization applies and tangible assets to which depreciation applies.

Thereby, at first, the excluding of interest costs and income tax generates multiple controversies, as they are real expenses, not to be ignored in determining the health of the company and its attractiveness to investors. Not taking into account the interest, EBITDA is not affected by the capital structure, ie it doesn't take into account the replacement of equity with borrowed capital, replacement which, if executed massively, should raise questions to any investor or lender. Moreover, it is well known that the state and creditors have a more powerful influence and more leverage to put pressure on a company than the potential investors, from applying high penalties and fines, to the garnishment on bank accounts, asset seizure or even default enforcement. All these in the context in which, as regards EBITDA calculation, the company is appearing to be healthy in terms of fiscal behavior and debt service.

On the other hand, by eliminating depreciation from calculation of EBITDA, the intention was that EBITDA to be used as a substitute for measuring the company's cash flow. But the elimination of amortization is also a mistake, critics say, because costs implied by the purchase of new equipment or the replacement of old ones are ignored. However, most voices were raised against this very interpretation of EBITDA as operating cash flow.

As shown, two important cash expenses are eliminated from the calculation of EBITDA; a company can not last long without paying its interest and taxes. Beyond this, another key element in the cash flow statement is ignored in the calculation of the so controversial indicator, namely the changes in working capital (receivables, inventories, etc.). Under IAS, the cash flow statement is part of the full annual report required for any economic entity, in addition to the balance sheet, the profit and loss statement, the statement of changes in equity and the explanatory notes. EBITDA is calculated using only information contained in the profit and loss statement, but the two reports are prepared differently and serve different purposes. Profit and loss statement gives us the measure of company's results in a financial year, while the cash flow statement shows how cash was generated during that period and for what it was used. Cash flow statement completes and doesn't replace the information contained in the balance sheet and in the profit and loss statement, in order to give a broader picture of the business activity. A clear distinction is thus made between accrual accounting and cash accounting. In the first case the income and expenses are recognized when they are generated, ie they generate or consume the economic benefits, providing information not only on the completed transactions, but also on future payment obligations or rights of collection. In cash accounting, income and expenses are recognized only when they are settled (received paid), showing the exact amount of cash that company can rely on at the end of the period. Accrual accounting is currently practiced by all accounting systems, being considered as a better information provider to users, and even if there are many controversies in this regard, the objective of this work is different. To be noted, however, that in EBITDA calculation earnings are calculated following the principles of accrual accounting, therefore it can not be considered as a measure of cash flow. As it follows, it remains to be seen if EBITDA and especially the EBITDA margin are not still providers of valuable, even though not complete information on the health and economic development of companies, groups of companies and even industries.

Profitability analysis is not limited to absolute indicators but also includes relative indicators in order to generate a complete picture of the company's efficiency, expressed as the ratio effect/effort (Burja C. and Burja V., 2009). Obviously, the most used indicators are those expressing stakeholders' interests and the objectives of financial

analysis. Their interpretation must be done in conjunction with other knowledge of the company's management and economic circumstance, in order to have a real picture of the company's performance (Lesáková, L., 2007).

The performance of a company pursues, of course, complex issues related to its financial balance, the management of resources, the profitability and so on. In this paper we will focus strictly on profitability analysis. The purpose of research is to highlight how different rates of profitability calculation affect the profitability ranking of the main sectors of the Romanian economy. In this way we provide information about the usefulness and limitations of various indicators expressing profitability and at the same time achieve a diagnosis of the profitability of different sectors of Romania.

2. Data and methodology

Profitability analysis is based primarily on economic calculation and evaluation. The starting point is the calculation of profit. This economic indicator expresses the company's positive financial performance in doing business over production costs and other deductions (Dynko, I, 2013). Economic legislation of each country can show particularities in defining elements that determine the size of the profit.

The economic legislation in Romania stipulates that companies should prepare annual profit and loss statements, in which economic results are recorded, in summary, for the current year. In our analysis we used both gross profit and net profit, according to the needs of users of accounting information.

In order to evaluate the performance of various sectors of the Romanian economy, we calculated several profitability ratios: EBITDA margin, Gross Profit Ratio, Net Profit Ratio, Return on Assets (ROA), Return on Equity (ROE). The sources for accounting data were financial reports of companies, which are available on the websites of Ministry of Finance and of Bucharest Stock Exchange.

EBITDA margin as a quantitative measure of operational profitability is calculated as a ratio between EBITDA and total net revenues.

$$EBITDA \text{ margin} = \frac{EBITDA}{Net \text{ Sales}} \times 100 \quad (1)$$

The reason of reporting to the total income level is obvious, the margin giving us a measure of the profitability of the company, regardless of its size. EBITDA margin calculation is considered by its supporters more relevant to investors than the net profit margin, as non-operational effects, unique to each company, are minimized. Thus, investors can focus on operational profitability as a singular performance measure. This interpretation can be successfully applied when comparing similar companies in the same sector or for companies which are applying different tax rates. As limitations, EBITDA margin can generate misleading results if we are dealing with companies that highly indebted companies or companies which are constantly and heavily upgrade/renew their equipments. Not being regulated by GAAP, EBITDA allows each company to decide what to include in the margin calculation and it is also possible for a company to choose to include different elements at different times.

The starting point in determining the gross profit margin is also the profit and loss statement and it represents the percentage of gross profit (which appears in some calculations formulated as income - COGS1) in total revenue:

$$Gross \text{ profit margin} = \frac{Gross \text{ Profit}}{Net \text{ Sales}} \times 100 \quad (2)$$

or

$$Gross \text{ profit margin} = \frac{Net \text{ Sales} - COGS}{Net \text{ Sales}} \times 100 \quad (3)$$

The gross margin of profit is also considered an important indicator of profitability, because it determines the amount of profit per each monetary unit obtains as income, being thus a measure of the ability of the company to cover the non-productive costs. Once more the limits of the indicator should also be considered, namely that it may have very different meanings for different business areas: for a manufacturing company it may express the efficiency of the production process, while in retailing it gives us an overview of the pricing strategy.

The most applied and studied measure of company's profitability is the net profit margin, calculated using the formula:

$$Net\ profit\ margin = \frac{Net\ Profit}{Net\ Sales} \times 100 \quad (4)$$

The reason for its popularity is that it gives information to investors about the company's ability to turn revenue into profit available for the stakeholders. Similar to EBITDA, neither net profit nor net profit margin do not give information about how the company generated cash in a given period and that is because the Profit and Loss statement includes many non-cash items and net profit is calculated by taking into account only the information contained in the Profit and Loss Statement. The measure of the cash flow is given by the cash flow statement.

ROA (Return on Assets) is a measure of the profitability of the company relative to its total assets. ROA gives an idea of how effective the asset management is, in order to obtain maximum gain (Erickson, KW et al, 2004). Calculated by reporting the net profit of the company to total assets, ROA is usually shown as a percentage.

$$ROA = \frac{Net\ Profit}{Total\ Assets} \times 100 \quad (5)$$

Some analysts add back interest expense in calculating net income when applying this formula, because they want to know the return on assets before financing cost. Sometimes the term "ROI" is used, referring to the same indicator as giving information about the revenue generated by invested capital.

ROE (Return on Equity - ROE) is the net income returned by a certain amount of invested capital:

$$ROE = \frac{Net\ Profit}{Total\ invested\ capital} \times 100 \quad (6)$$

Net income refers to an entire fiscal year, but before distribution of dividends for the current financial year. ROE is a particularly relevant indicator of a company's attractiveness to investors (Cârciumaru D. et al, 2010).

To serve the purpose of this paper, namely revealing the profitability indicators role in assessing the performance of the company, we made a quantitative analysis, based on accounting data included in the profit and loss statement for the fiscal year 2012 of 67 companies operating in eight sectors/groups of sectors chosen as representative for the Romanian macroeconomic environment. We selected representative, popular companies from each sector/group of sectors with a turnover of over RON10m (around EUR225tsd) and which are well performing, with a proper fiscal behavior and not highly indebted.

Table 1. **Analysis Database**

Sector	No of analyzed co's	Total revenues as per 31.12.2012
Constructions (including construction materials) and wood industry	21	1.913.630.204
Food and beverages industry	13	1.003.843.422
Agriculture	9	748.904.441
Consumer goods industry	7	397.717.263
Automotive industry	6	702.397.210
Manufacture of machinery and equipments	4	182.354.495
Telecom/IT/Media sector	4	376.954.300
Metallurgy	3	221.315.382
TOTAL	67	5.547.116.717

Source: Own selection of companies from 8 sectors and their total turnover, according to the Ministry of Finance public data

In Table 1 it can be observed a classification of companies from the 8 sectors/groups of sectors selected for analysis, the number of companies in each sector analyzed and their total turnover, as per 31.12.2012.

3. Results and discussion

In determining EBITDA margins by sector, we used, as mentioned before, financial information from the profit and loss statements of 67 companies. For each sector we extracted a representative range of EBITDA margin, as follows:

- In case of the industry of constructions and wood and for the machinery industry: companies with EBITDA margin between 0 and 20%;
- In case of the other industries: companies with EBITDA margin between 0 and 15%.

Thus we narrowed the number to 59 companies with EBITDA margins located in the ranges representative for the 8 sectors.

In the table 2 we observe a different hierarchy of the sectors analyzed, according to the value of each calculated ratio of profitability. This shows the different informational content of profitability indicators and the need for a global assessment method of the performance. The overall analysis is also useful for substantiating decisions on investment opportunities in these sectors. The decision, however, is facilitated by the fact that all the criteria are best if maximum, i.e. the right decision involves investment in sectors with maximum rates of return.

Table 2. Profitability margins by sector

Sectors	EBITDA margin		NPR		GPR		ROA		ROE		Equity Ratio	
	(%)	P*	%	P*	%	P*	%	*P	%	P*	%	P*
Constructions (including construction materials) and wood industry	8,72	2	3,50	3	28,54	3	4,74	4	9,20	6	41,59	4
Food and beverages industry	5,75	6	0,85	8	21,19	6	2,11	8	3,62	8	34,40	7
Agriculture	5,59	7	2,89	5	14,40	8	4,24	6	13,16	3	39,24	5
Consumer goods industry	6,11	4	1,81	7	23,37	5	3,79	7	7,30	7	37,12	6
Automotive industry	7,59	3	3,20	4	29,80	2	5,33	2	10,19	5	42,08	3
Manufacture of machinery and equipments	9,37	1	6,44	1	35,54	1	4,51	5	12,22	4	51,67	1
Telecom/IT/Media sector	5,33	8	2,67	6	24,78	4	5,38	1	22,23	1	20,75	8
Metallurgy	5,90	6	4,39	2	17,47	7	4,84	3	15,85	2	43,51	2
Average of sectors:	6,79	-	3,22	-	24,38	-	4,37	-	11,72	-	38,79	-

P*-position

Source: Own calculation based at financial indicators, according to Ministry of Finance public data

Next, we considered interesting to draw a general hierarchy of the sectors analyzed, using a weighted average based on scores given to each rank and observe the deviation of every indicator's rank from the sector's weighted rank.

We used the following parameters: rank 1 = score 8, ... , rank 8 = score 1, and obtained the results of Table 3.

Table 3. Weighted hierarchy of the sectors and deviation of each indicator's rank

Sectors	Total score	Rank	Deviation of					
			EBITDA margin	NPR	GPR	ROA	ROE	Equity ratio
Constructions (including construction materials) and wood industry	33	3	-1	0	0	+1	+3	+1
Food and beverages industry	11	8	-2	0	-2	0	0	-1
Agriculture	20	6	+1	-1	+2	0	-3	-1
Consumer goods industry	18	7	-3	0	-2	0	0	-1
Automotive industry	35	2	+1	+2	0	0	+3	+1
Manufacture of machinery and equipments	41	1	0	0	0	+4	+3	0
Telecom/IT/Media sector	26	5	+3	+1	-1	-4	-4	+3
Metallurgy	32	4	+2	-2	+3	-1	-2	-2

Source: own calculation based on research results

Given this result, which show significant deviations of every indicator from the rank we determined for each sector, we preceded to what we thought as a more accurate classification, which consisted in giving points to each

sector according to the value of each indicator, points calculated as a pro-rata from the best performing sector's value (which was given 100 points).

In table 4 find our results and final hierarchy, on which we based our conclusions.

Table 4. Sectors hierarchy based on points granted for each indicator's value

Sectors	EBITDA margin	NPR	GPR	ROA	ROE	Equity Ratio	Total points	Rank
Constructions (including construction materials) and wood industry	93	55	80	88	41	80	437	3
Food and beverages industry	61	13	60	39	16	67	256	8
Agriculture	60	45	41	79	59	76	360	6
Consumer goods industry	65	28	66	70	33	72	334	7
Automotive industry	81	50	84	99	46	81	441	2
Manufacture of machinery and equipments	100	100	100	84	55	100	539	1
Telecom/IT/Media sector	57	41	70	100	100	40	408	5
Metallurgy	63	68	49	90	71	84	425	4

Source: own calculation based on research results

4. Conclusions

This paper pursued multiple purposes: to establish a hierarchy between several relevant sectors at a crucial, post recession moment and also to identify both usefulness and limits for the most used profitability indicators, based on financial situations available to authors from 8 different areas of business. We consider the hierarchy based on points (Table 4) most relevant, as it focuses strictly on what we considered most important indicators, determined after a detailed selection process. According to this hierarchy, here are some conclusions:

The industry of machinery and equipment ranked 1st out of the 8 sectors analyzed, quite distant from the followers, according to version 2 of the weighted hierarchy, also confirmed by version 1. From the narrowed number of 6 indicators considered 4 confirmed this position, only ROA placing it in the 5th position, the reason being, obviously, the important size of assets owned by the players in this field, and not the low level of profitability. The practice confirms that manufacture, in general and manufacture of machinery and equipments, in particular was and continues to be a profitable area of business, even though the patrimonial investments are rather significant.

The automotive industry ranked the 2nd in our hierarchy, this rank being confirmed by GPR and ROA, which also came 2nd in our classification of indicators per sector (Table 2). It is interesting that this rank is also confirmed by BMI results, which declared the sector the second best performing industrial sector in Romania, for the year 2012.

The last profitable sector in 2012 was, according to our classification, the agriculture. Here, only GPR confirmed the ranking. The EBITDA margin registered in 2012 was better than the EBITDA margin registered by the Telecom, IT and Media sector, which compensated with high rates of ROA and ROE. In terms of ROE, the sector ranked 3rd from the 8 sectors, but this is more a result of a low level of equity rather than given by sector's profitability.

An interesting observation is that the detailed and more accurate hierarchy, made by calculating points according to the value of each indicator per each sector has the same results as the previous hierarchy determined, made by giving each indicator's rank a score and cumulating each scores in order to obtain each sector's rank, even though there were deviations from average in every case. This is a confirmation that our classification is most likely the real one and helps us to continue with some conclusions related to the every indicator's importance and relevance in this hierarchy.

EBITDA margin's position was confirmed by our research results for the 1st ranked sector, the Manufacture of machinery and equipments. But the correspondences stop here, in some of the cases the results being significantly different. EBITDA margin ranks Telecom, IT and Media the last sector in Romanian's economy, in reality the last place being taken by Agriculture, while Tel/IT & Media is ranking 5th. EBITDA margin places the Consumer goods industry in the 4th position, while this is the second worst performing sector (position 7th) etc.

Net profit ratio is actually the indicator having the best correspondence in our research final results: 4 of the 8 sectors are ranked the same by this indicator and by our hierarchy, namely: Constructions, Food & Beverages, Consumer goods and our champion: Machinery & Equipments. There are some deviations for the other sectors, but not exceeding 2 positions.

GPR's ranking is also correspondent to our ranking for 3 of the sectors: Constructions, Automotive and Machinery & Equipments. Even so, it registers a significant 3 positions deviation for the Metals industry, which it ranks the 7th, instead of 4th.

The profitability ratios: ROA & ROE respect our hierarchy for some of the sectors, but the deviations are high for the sectors which are not in this situation. The same applies to the Equity ratio. Most significant deviations are registered by the ROE indicator.

All of these calculations and comparisons complete the theoretical approach treated in the first part of the paper and lead to the same finding: the Net profit ratio remains the most relevant profitability indicator, surpassing EBITDA margin, Gross profit margin or other ratios calculated. Still, we consider that an aggregated calculation, considering all these indicators, similar to the calculation made in the current paper would give any shareholder, investor, creditor or whoever interested a more complete image of a company, group of companies or even industry's position amongst the competitors and in the market. Looking ahead, the authors' intention is to continue this research and also study the dynamics of the indicators, throughout several years and to also include other relevant performance indicators such as indicators related to debt and solvability, indicators related to the production cycle, indicators of liquidity.

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