ASSESSING FINANCIAL PERFORMANCE OF COMPANIES MANUFACTURING INDUSTRIAL GOODS. EVIDENCE ON PERFORMANCE DYNAMICS IN THE PERIOD BEFORE AND AFTER THE CRISIS

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Abstract

With a purpose of bringing bring back into discussion the usefulness of financial analyses using financial ratios, the study has three aims: to assess the financial performance of a sample of companies manufacturing industrial goods; to make financial performance forecasts; to identify various measures consolidating liquidity and profitability. The study suggests a reinterpretation of traditional approach to financial performance assessment and discusses the relevance of criticism towards traditional assessment methods (dealing mainly with the consequences and not the causes, lack of strategic orientation). The empirical research showed that insufficient liquidity and low level of return on equity were the main causes for the worsening of financial performance of studied companies. Although the analysis of profits and sales shows an increase in cascade, profitability ratios of equity and sales remain affected by too high operational costs The results indicate that the decisions adopted as a result of new circumstances (specific to periods before and after crisis) have impacted business sustainability.

Keywords: financial performance, liquidity, return on equity, return on sales

Introduction

Company performance is influenced by a set of internal and external factors. The main objective of company management is to deal with this influence (in order to eliminate factors having a negative influence and take advantage of positive ones). Therefore, managers should monitor performance and critical factors for achieving success in companies they run. It is not only managers, who are directly interested in company's performance, but also its shareholders, creditors, trade

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partners, employees, the state, etc. (Table 1). This is the reason why performance assessment has been highly researched (Salem *et al.,* 2012).

Table 1. Company performance stakeholders

Stakeholders	Aims
Managers	Company financial performance
Shareholders	Company market value
Investors	Size of dividend collections
Creditors	Recovery and remuneration of funds
Suppliers, intermediaries	Business solvency and sustainability
Clients	Satisfaction (value creation)
Employees	Stable workplace and better remuneration
State	Proper tax behaviour

Source: own processing

As most goals of stakeholders enable a monetary quantification, the assessment of financial performance has been the main starting point in research studies. Higher financial performance could be reached and become sustainable only when financial function is correlated with other functions of the company (production, marketing, research-development, human resources).

Financial performance, defined as the degree to which company resources are managed with efficacy and efficiency, is essential for ensuring sustainable development. Theoretical and empirical management studies enabled the design and development of adequate methods for assessing performance. First methods were based on using mainly the financial and accounting information. Later, studies focused on developing multi-criteria models incorporating also non-financial indicators. For each of these methods, a set of advantages and disadvantages were identified (Narkunienė and Ulbinaitė, 2018) stressing out the fact that there is no generally valid method that would enable us to assess and monitor the performance of any company.

In order to bring back into discussion the usefulness of financial analyses based on financial ratios, the study has three aims: to assess the financial performance of a sample of companies manufacturing industrial goods for a period exceeding a cycle of ten years (the data playing the role of underlining the efficiency of traditional methods for assessing performance); to make financial performance forecasts in order to identify the vulnerability of financial performance; to identify various measures consolidating liquidity and profitability so that the goal of ensuring any company's sustainability be reached. Even though performance assessment has been seen as one of the most difficult tasks for company management, it has remained to be one of the main requirements for a company to reach its undertaken goals.

One of the requirements of academic research refers to the fact that the researcher must contribute to the development of "valid knowledge to support

solving organizational problems" (Huff *et al.*, 2006). To respect this, the study proposes an original model of multidimensional analysis of financial performance that will be useful to both researchers and practitioners. Therefore, the study begins with presenting the state of the art in the field of financial performance assessment (providing support for identifying new research directions). To support practitioners, the study analyses the information that describes the performance path for a sample of companies (during the pre- and post-crisis period) and identifies a number of measures that can contribute to consolidating the financial performance of companies.

1. Measuring financial performance - state of the art

Several authors (Ayako *et al.*, 2015) state that although there is rich literature on financial performance of listed companies, the results of studies remain inconclusive both in terms of measuring instruments and the determining factors. That is why the debates on performance assessment are still a priority for practitioners and theorists.

As it has already been mentioned, the first assessment methods (called *traditional methods)* were based on using mainly financial and accounting information (such a ratio analysis, Du Pont analysis). Later, research oriented towards new methods (called *modern methods)* based on (Narkunienė and Ulbinaitė, 2018):

a) accounting data (economic value added, activity-based costing, market or shareholder value added);

b) quality management (ISO standards model, European foundation quality management model, service quality model and six sigma model);

c) causal relations theory (critical success factor model; results and factors model);

d) assessment of business processes (business process model, supply-chain operations reference model and the performance pyramid);

e) system balancing (Balance scorecard, the performance prism and dynamic multidimensional performance model);

f) performance assessment multi-criteria methods (geometric mean, simple additive weighting, TOPSIS, ELECTRA, PROMETHEE, VIKOR, COPRAS).

Financial performance assessment systems developed in two stages (Rajnoha *et al.,* 2016). In the first phase (1880-1980), financial indicators that laid at the basis of assessment were profit, return on investment (ROI) and productivity. These were grouped on three levels: liquidity indicators, profitability indicators, equity structure indicators and market value indicators. In the second stage, due to changes on the world market, performance assessment put at its core strategic priorities associated with product/service quality and flexibility of companies for ensuring the maintenance of a competitive advantage. Table 2 shows the stages in the development of financial indicators used in performance assessment.

Table 2. Stages in the development of financial indicators used in performance assessment

Stages and indicators			
First generation **Profit margin**	Second generation Profit growth	Third generation Return on equity (ROA, ROE, ROI)	Fourth generation Value for owners (EVA, CFROI, FCF)

Source: Pavelkova and Knápková, 2005

The limitations of traditional measurement systems (based on profit margin and profit growth) triggered a revolution in measuring company performance (Kennerley and Neely, 2002). Studies dropped the concern for maximizing profit and oriented towards company value growth (Kiseľáková *et al.*, 2016).

The main aspects attributed to traditional methods of financial performance assessment were promotion of short-term decision and lack of strategic orientation (Bourne *et al.*, 2003), and dealing mainly with consequences and not the causes determining a specific performance. (Kiseľáková *et al.*, 2016).

Consequently, new methods extend the scope of performance assessment by moving it towards assessment of company management quality, and establishment of company value for clients and other stakeholders, respectively (Moullin, 2007). In this context, the concept of corporate sustainability developed and increased the number of stakeholders interested in company performance (Lozano, 2015). So, performance assessment systems took into account three dimensions (financial, social and environmental) and provided to companies support needed in short and term-long management (Searcy, 2012).

The new approach to performance management systems does not abandon financial analysis. Conversely, these favour the achievement of higher financial performance (increasing the overall performance of companies) and intensify the positive influence of companies on society and the environment (Belás and Gabčová, 2015).

The option for a specific method of performance assessment depends on the set goal, specific features of assessed companies and the means used for assessment. In the wide range of options, there is a common feature: an efficient method of performance assessment should not exclude the aspects related to financial management of resources. Financial resources, like any other resources (materials, human resources, etc.), should be managed efficiently for ensuring successful operation of any company. Irrespective of company's structure, type of ownership, area of business or size, managers should make sure that its financial functions (especially planning and control) are efficiently put into practice and correlated with company's other functions. Hey should monitor a series of financial ratios viewed as instruments for financial performance analysis.

We support the view that "company performance is the measurement of what had been achieved by a company which shows good conditions for certain period of time" (Batchimeg, 2017, p. 23). Financial performance assessment

processes highlight the efficiency and efficacy of management. Performance assessment has been defined as a process of calculating the efficiency and efficacy of actions based on a set of indicators (Neely *et al.,* 1995). As performance was accepted as a barometer presenting the current business situation and trends in its development, performance assessment also incorporated the identification of future development trends of a company. The review of the main aspects that revitalised the research on the line of performance assessment (respectively of financial performance) emphasise that the researchers' efforts were based on the positive heuristic. The proof is that the new methods of performance assessment have not abandoned the financial analysis, but have integrated it in a wider context to highlight the efficiency and effectiveness of management from the perspective of many categories of stakeholders.

2. Methodology

Financial performance studies (March and Sutton, 1997; Lee, 2009; Hamann *et al*., 2013) point out that research is exposed to risks related to: measuring instruments, sample representativeness and choice of data sources. Regarding the measuring instruments, we have noticed that for the assessment of the financial performance two methods of analysis are frequently used: the analysis based on the financial rates (which allows the diagnosis of the financial health of the companies) and the analysis of the cash flow (which allows the managers to manage the liquidity - for operational, financial and investment activities - so as to ensure the sustainability of the business). In this study we focused on rates' analysis rate analysis.

In order to avoid the risks associated with the lack of homogeneity of the sample, we focused the analysis on the following steps: out of total companies listed on Bucharest Stock Exchange during 2006-2017, only non-financial companies were selected (90 companies); then, after eliminating end-use goods and service-providing companies, we have selected only the company's manufacturing industrial goods (31 companies); out of these, we have selected only the companies having recorded profit in all 12 studied years (10 companies). To increase the level of homogeneity of the final sample, the companies were grouped by type of business: group A (two companies manufacturing car parts and accessories); group B (two companies manufacturing rubber goods and abrasives); group C (two companies, airplane manufacturer and a company manufacturing motors and turbines); group D (two companies manufacturing measuring, checking and control instruments and devices); group E (rolling stock manufacturer); group F (a company manufacturing plastic boards, foil, tubes and profiles).

The study analysed the period between 2006 and 2017. This period was selected due to our concern to describe a performance profile for cycle of ten years so that financial performance could be assessed for a period before and after the crisis.

The research regarding the data sources revealed that secondary sources are frequently used (primary sources - based on observation - are criticized because they are not relevant for longer periods of time). Therefore, the data panel needed for analysis was built using secondary sources (annual financial statements and audit reports). To identify the meaning and significance of collected data (current assets - stocks, receivables, cash, short-term liabilities, sales, own equity, profit and number of shares), the first step of financial analysis included the calculation of compound annual growth (CAGR - *Compound Annual Growth Rate*). To formulate consistent conclusions regarding management efficiency, strengths and weaknesses of companies, future development indexes, etc., we have used a set of ratios (profitability, sales and liquidity) and statistical methods (trends, correlations, tables and charts). To build the assessment model, we considered the indicators describing past, current and results. So, we obtained an extension of the traditional model assessing financial performance. Making use of information from annual financial statements (for 2006-2017), we made the performance profile that includes: return on capital employed (ROCE), earnings per share (EPS) and liquidity ratios (LR) (table 3). This profile reflects only the consequences of financial decisions.

Table 3. System of indicators used in the analysis

Indicators	Ratios	
Return on capital employed	Return on equity = (Net profit / Own equity) *100,	$ROE = NP / OE *100$
	Net profit margin ratio = Net profit / Total sales,	$MR = NP / TS * 100$
	Chas to sale ratio = Cash / Total sales,	$Cs = C/TS$
Earnings per share	Profit per share = Net profit / Number of shares,	$Ps = NP / Sh$
Liquidity ratios	Current ratio = Current assets / Current liabilities,	$Cr = CA /CL$
	Quick ratio = Liquid assets / Current liabilities,	$Qr = LA / CL$
	Cash ratio = Cash / Current liabilities,	$Chr = C / CL$

Source: Own processing

To overcome the first disadvantage of classical assessment methods (dealing mainly with the consequences and not the causes), we used updating instruments (compound annual growth rate) assessing the dynamics (growth/decrease) of indicators for the analysed period, as long as the variables may explain the results, these will be viewed as causes. To overcome the second limitation attributable to traditional models (lack of strategic orientation), we made forecasts for designing the future profile of performance. For the same purpose, we analysed the dynamics of indicators in the phases of economic growth and decrease. Data processing was made using the package "Data analyse" of Excel. Going by these methodological benchmarks, the research began with data analysis and interpretation. Based on the results obtained, a series of suggestions and conclusions regarding the dynamics of the financial performance of the selected companies were formulated.

3. Data analysis and interpretation

3.1. Return on equity

Return on equity (ROE) is an autonomous and complete criterion of economic efficiency (Tudose, 2008, p. 190) showing "the size of company financial performance during one period" (Simatupang *et al.*, 2019, p. 86). To assess the dynamics, ROE could be compared to average interest rate of loans on the banking market (compared to which it should be higher.

Table 4 shows that some companies recorded a worsening of financial performance during the 12 years (that is why the compound annual growth rates were negative for profit and equity). As annual average compound growth rate of net profits ($\overline{CAGR\_NP}$ = 2.3%) is lower than annual average growth rate of equity ($\overline{CAGR\_OE}$=3.5%), ROE is the negative average compound growth rate ($\overline{CAGR\_ROE}$= -5.6%).

Overall, weak performance of analysed companies may be explained by the fact that:
- before 2006, analysed companies had low levels of net profits (compared to size of used equity);
- during 2007-2013, *average return on equity* for the 10 companies was lower to annual interest rate; the highest gap was in 2009, the year when national economy had an abrupt economic contraction (the year when crisis began in Romania).

The highest levels of average return on equity (24.5% and 14.1%) were observed in category "C" companies (manufacturers of high value goods - airplanes, motors and turbines). The lowest level had the company manufacturing rolling stock (category "E"), for which, the average ROE is 2.7%. Data from Table 4 show that only two of the ten companies recorded an average return on equity higher than 10%. For these companies (category "C"), 6 of 12 annual values of ROE are higher than 14.1% and 25.8%, respectively.

The highest spread of values was recorded for last category (manufacturer of plastic material, for which, STDEVP = 8.8), and the lowest was recorded by the manufacturer of rolling stock (for which, STDEVP = 1.9).

Table 4. Return on equity

Firm`s group	CAGR (%)			ROE				
	NP	OE	ROE	Min	Max	Average	Median	STDEVP
A	40.0	7.6	30.2	0.03	13.2	3.7	2.9	3.8
	13.4	3.5	2.3	0.2	14.1	6.3	7.1	3.9
B	-21.7	-3.2	-22.2	0.2	27.8	3.8	1.6	7.3
	2.6	-1.0	1.4	0.8	16.4	7.3	6.2	4.6
C	12.2	5.2	0.4	11.2	28.8	16.8	14.1	5.7
	10.9	14.3	2.6	3.8	34.6	24.5	25.8	8.2
D	-0.7	2.9	-8.1	1.0	18.7	7.4	5.4	5.5
	4.7	-2.5	-9.1	1.3	15.2	7.4	6.8	3.7
E	-38.3	-7.7	-39.1	0.01	6.0	2.7	2.6	1.9
F	0.0	16.0	-14.2	0.1	28.8	6.7	3.6	8.8
Average	2.3	3.5	-5.6	1.9	20.4	8.7	7.6	5.3

Average	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
ROE *(%)*	14.0	9.1	4.5	5.6	5.8	6.8	8.0	7.4	11.5	12.3	9.9	9.2
Source: Own processing												
Interest rate (%)[a]	11.6	10.4	15.3	14.8	14.1	12.1	11.3	10.5	8.4	6.7	5.7	5.5
Growth rate [b]	7.7	6.9	8.3	-5.9	-2.8	2.0	1.2	3.5	3.9	4.8	6.9	2.5
Inflation [c]	6.6	4.8	7.9	5.6	6.1	5.8	3.3	4.0	1.1	-0.6	-1.5	1.3

Source: [a] http://www.bancherul.ro; [b] https://ec.europa.eu/eurostat, [c] http://www.insse.ro

This first step of the financial analysis enables the identification of several significant causes of moderate performance of Romanian companies: type and profitability of operations; value and profitability of goods; length of production cycles; degree of responsibility of managers (in compliance with agency theory); efficiency and degree of competition of markets for company products; the degree of their visibility on these markets (reflected in the intensity of promotion activities). The analysis of the nature of these causes reveals that the financial performance does not depend exclusively on financial aspects.

3.2. Net profit margin ratio

The ratio between net profit and total sales (known as *net profit margin*) shows the efficiency in company's use of resources (materials, human, financial, informational, time) for manufacturing and selling products at profit.

Average compound annual growth rate of net profit ($\overline{CAGR\_NP}$ = 2.3%) is lower than average compound annual growth rate of total sales ($\overline{CAGR\_TS}$ = 6.5%). Therefore, *average net profit margin* is a negative average compound annual growth rate ($\overline{CAGR\_NP/TS}$= -3.6%). It shows that the efficiency of operations of sample companies decreased. At group level, Table 5 shows that companies in

group "C" had, for each 100 RON of sales, 9.4 and 20.0 RON profit, respectively. Other companies had, an average, between 2.4 and 7.5 RON profit for each 100 RON of sales.

Table 5. Net profit margin

Firm`s group	CAGR (%)			Net profit margin ratio, MR = NP/TS*100				
	NP	TS	NP/TS	Min	Max	Average	Median	STDEVP
A	40.0	3.6	35.1	0.02	7.6	2.4	1.8	2.3
	13.4	9.3	3.7	0.2	8.1	3.9	4.1	2.3
B	-21.7	-0.1	-21.7	0.3	51.5	7.5	3.1	13.5
	2.6	-2.5	5.2	0.3	7.4	3.5	3.5	2.0
C	12.2	7.6	4.2	6.2	15.8	9.4	7.4	3.7
	10.9	15.3	-3.9	3.3	28.6	20.0	20.4	5.8
D	-0.7	4.7	-5.2	0.4	8.2	2.6	2.1	2.1
	4.7	0.8	3.9	1.7	7.1	4.5	4.7	1.7
E	-38.3	13.6	-45.7	0.01	20.6	7.5	5.4	7.4
F	0.0	13.0	-11.5	0.0	22.6	5.5	2.8	6.2
Average	2.3	6.5	-3.6	1.2	17.8	6.7	5.5	4.7

Average	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MR *(%)*	12.3	7.0	4.0	6.3	5.4	6.8	5.5	4.8	7.7	8.0	6.3	6.1

Source: own processing

Table 5 shows sporadic improvement that could not allow going back to levels before the crisis. Small gap between average and median values (correlated with the values of standard deviations - STDEVP) explain the sporadic improvements (without major variations).

Difficulties in ensuring satisfactory profit margins may be associated with financial and non-financial causes: low profitability of products (due to high operational costs), low competitiveness of companies (compared to competing companies), low quality or "too expensive" quality of products, weakening of relations with clients (attracted by offers of competition), lack of visibility on the market (in the absence of intense promotion, local products – sometimes having higher quality – these do not attract the interest of clients making manufacturing companies promote low price policies). Identifying and reviewing these issues is a precondition for improving overall performance, as well as financial performance.

3.3. The cash to sale ratio

This ratio compares the cash balance at the end of the year with the income from sales, it indicates the efficacy of current funding policies; a low value showing not only the insufficient cash stock but also the absence of buffer funds ensuring liquidity in case of delayed collections.

Table 6. Cash to sale ratio

Firm`s group	CAGR (%)			Cash to sale ratio Cs = C / TS				
	Cash	TS	C/TS	Min	Max	Average	Median	STDEVP
A	17.7	3.6	13.6	0.001	0.27	0.07	0.04	0.08
	-10.3	9.3	-17.9	0.001	0.03	0.01	0.005	0.01
B	-17.5	-0.1	-17.4	0.0003	0.12	0.02	0.005	0.03
	4.9	-2.5	7.6	0.012	0.05	0.03	0.02	0.01
C	-15.4	7.6	-21.4	0.002	0.34	0.08	0.02	0.11
	6.5	15.3	-7.7	0.122	0.36	0.17	0.15	0.07
D	13.2	4.7	8.1	0.012	0.08	0.04	0.03	0.02
	8.8	0.8	8.0	0.005	0.08	0.05	0.04	0.02
E	8.4	13.6	-4.5	0.010	0.35	0.13	0.07	0.13
F	-4.2	13.0	-15.3	0.013	0.19	0.08	0.07	0.05
Average	1.2	6.5	-4.6	0.02	0.19	0.07	0.04	0.05

Average	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
C/TS	0.09	0.06	0.06	0.11	0.07	0.07	0.09	0.05	0.05	0.06	0.07	0.04

Source: own processing

Although the volume of sales had been growing in the analysed period (average compound annual rate of 6.5%), cash stocks of sample companies were moderate (Table 6). Only five companies in the sample had a higher pace of growth of liquidity compared to pace of revenue collection from sales. Negative state of other companies generates a negative compound annual growth rate for this indicator. This is the consequence of the fact that collections from sales are immediately used for making current payments (invoices, salaries, instalments).

In the period before the crisis (2006), the average cash to sales ratio was 100:9 (showing the fact that of 100 collected RON only 9 RON remain at company's disposal for a long period of time), decreasing to 100:4 at the end of the period. Considering the low level of this ratio (cash to sales ratio), we could infer that the issue of liquidity is associated with that of business profitability (consistent growth of sales is burdened by high operational costs making liquidity from sales be distributed immediately after paying invoices, salaries, taxes, etc.). It could be also linked to set of other reasons (financial and non-financial), such as too high operational costs, lack of agreements with suppliers/business partners (allowing more relaxed payment of invoices), long periods for collecting payments from clients (for this sample, receivables amount to 57.4% of total current assets), high volume of stocks exceeding current production needs (for this sample, it amounts to 31.3% of total current assets, and liquidity is 11.2%).

3.4. Profit per share

This ratio reflects the actual profitability of company shares. Table 6 shows that four of the ten companies maintained the same number of shares for the entire

analysed period (those whose CAGR_Sh is zero); five increased share capital by issuing new shares (due to incorporating new reserves from revaluations or conversion of other debts; only one company issued shares to attract new sources of funding); one company decreased its share capital by cancelling 4% of its own shares. Therefore, overall during this period, there have not been identified consolidations of cash flows.

Table 7. Profit per share

Firm`s group	CAGR (%)			Profit per share, Ps = NP / Sh				
	NP	Sh	NP/Sh	Min	Max	Average	Median	STDEVP
A	40.0	3.9	34.9	0.000	0.24	0.07	0.04	0.08
	13.4	0.0	13.4	0.002	0.24	0.09	0.088	0.07
B	-21.7	2.1	-23.4	0.0263	4.50	0.62	0.250	1.19
	2.6	0.0	2.6	0.061	1.26	0.59	0.52	0.38
C	12.2	2.2	9.7	0.081	0.37	0.17	0.12	0.11
	10.9	2.0	8.7	0.121	3.21	2.10	2.52	1.00
D	-0.7	-0.4	-0.4	0.013	0.60	0.17	0.15	0.16
	4.7	0.0	4.7	0.006	0.04	0.02	0.02	0.01
E	-38.3	0.0	-38.3	0.000	0.30	0.13	0.12	0.09
F	0.0	3.0	-2.9	0.000	0.14	0.03	0.02	0.04
Average	2.3	1.3	0.9	0.03	1.09	0.40	0.39	0.31

Average NP/Ns	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	0.66	0.26	0.08	0.24	0.28	0.39	0.48	0.38	0.50	0.56	0.48	0.48

Source: Own processing

For this sample, average annual profit per share ratio (from 2006 to 2017) was decreased from 0.66 to 0.48 without taking into account profit distribution for dividends (table 7). The most favourable situation is a profit of 2.10 RON per share. The analysis of standard deviation for the companies does not show major variation for *profit per share ratio*. Main causes that led to low profit per share are: dividend policy, share degree of concentration (ownership dispersion and lack of majority representation in general meetings of shareholders), degree of involvement of shareholders in company decisions, degree of share remuneration on the national financial market, functionality of financial markets, costs and profitability of the monetary market. The analysis of the nature of these causes reveals that the financial performance depends on both internal and external factors.

3.5. The liquidity ratio

Current ratio. Table 8 shows the ratio between current assets and current liabilities for 2006-2017. Generic reference interval for this indicator is [1-2].

Financial theory states that sub-unit values of the indicator indicate that the company does not have enough liquid assets to cover its current debts. In contrast, it is accepted in practice that current liquidity lower than 0.8 is a negative sign (especially for companies funded through operation credits).

Table 8. Current ratio

Firm`s group	CAGR (%)			Current ratio, Cr = CA / CL				
	CA	CL	Cr	Min	Max	Average	Median	STDEVP
A	8.0	-0.2	8.2	0.7	1.8	1.2	1.2	0.4
	8.8	3.5	5.1	0.9	2.5	1.6	1.8	0.5
B	1.9	-3.2	5.2	1.2	2.8	2.0	2.0	0.5
	4.1	-1.0	5.1	0.9	1.7	1.3	1.3	0.2
C	12.2	5.2	6.6	1.7	6.5	3.5	3.4	1.5
	12.4	14.3	-1.6	2.2	4.6	3.2	3.1	0.8
D	4.6	2.9	1.7	0.7	1.1	1.0	1.0	0.1
	10.6	-2.5	13.4	0.7	3.0	1.8	1.9	0.7
E	-5.1	-7.7	2.8	1.3	5.0	3.4	3.7	1.3
F	2.5	16.0	-11.7	0.5	5.1	1.3	0.7	1.4
Average	6.0	2.7	3.5	1.1	3.4	2.0	2.0	0.7

Average	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
CA/CL	1.7	2.2	1.6	2.0	2.0	2.4	1.9	1.8	1.9	1.9	2.6	2.4

Source: own processing

If the indicator exceeds the upper limit of the specified interval, the company has an excess of liquidity (for which there is no alternative with higher profitability). In this case practice also showed that sectors with high asset turnover need higher current liquidity to operate efficiently.

Table 8 shows that companies in the sample mainly have average current liquidity ratios exceeding the upper limit of the reference interval (especially at the end of the analysed period). This seems to indicate an excess of current assets compared to current liabilities. Section 3.3. has already provided evidence on the structure of current assets. An overall picture will be made after the analysis of the other two liquidity ratios (quick ratio and cash ratio).

As the average annual compound growth rate of current assets ($\overline{CAGR\_CA}$ = 6.0%) is higher than the average annual compound growth rate of current liabilities ($\overline{CAGR\_CL}$ = 2.7%), current ratio shows a positive average compound growth rate ($\overline{CAGR\_Cr}$ = 3.5%). Except a few exceptions, the average and the median have close values so the standard deviations are low (showing a homogeneity of current ratio values).

The quick ratio reflects the degree to which a company holds enough liquid assets (receivables and cash) to pay its short-term debts. Reference values for this

indicator are [0.65-1]. In practice, lower values are accepted for this ratio only if stocks have a higher share in total current assets.

Table 9 shows the state of liquidity without the influence of stocks (stocks were eliminated from total current assets). For the entire analysed period, there was a major excess of current assets compared to current liabilities. It indicates a too high volume of liquidity or a too high volume of receivables (amounts to be collected); although the explanation may be inferred using the details related to the structure of current assets (mentioned above), final conclusion will be made after the analysis of cash ratio - Table 10.

Table 9. Quick ratio

Firm`s group	CAGR (%)			Quick ratio, Qr = LA / CL				
	LA	CL	Qr	Min	Max	Average	Median	STDEVP
A	8.6	-0.2	8.8	0.3	1.5	0.7	0.7	0.4
	6.7	3.5	3.2	0.6	1.7	1.0	1.1	0.3
B	1.9	-3.2	5.3	0.5	1.1	0.8	0.8	0.2
	6.3	-1.0	7.3	0.3	0.8	0.6	0.6	0.2
C	11.4	5.2	5.9	1.3	5.2	2.8	2.6	1.2
	13.4	14.3	-0.8	0.8	2.5	1.6	1.7	0.4
D	10.2	2.9	7.1	0.4	1.0	0.7	0.7	0.2
	10.6	-2.5	13.4	0.5	2.5	1.5	1.5	0.6
E	-3.3	-7.7	4.8	1.1	4.3	2.6	2.7	1.0
F	-0.5	16.0	-14.3	0.3	3.8	0.9	0.4	1.1
Average	6.5	2.7	4.1	0.6	2.4	1.3	1.3	0.6

Average	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
LA/CL	1.15	1.28	0.88	1.24	1.41	1.67	1.21	1.20	1.26	1.24	1.78	1.66

Source: own processing

Huge gaps between the two dynamics become more evident if we analyse the average *compound annual growth rate.* The gap between $\overline{CAGR\_LA}$ (6.5%) and $\overline{CAGR\_CL}$ (2.7%) is positive (in the sense that the liquid assets grow by a higher compound annual rate than current liabilities) but not necessarily favourably (as they position the rates outside the reference interval. As in the case of current ratio, the average and median have close values therefore the standard deviations are also low.

The evolution of quick ratio matches the dynamics of economic growth. The highest value (within the reference interval) was recorded in 2008 (the year when the effects of crisis started to be felt in the Romanian economy).

The cash ratio reflects the ability of companies to pay their short-term debts using the most liquid assets (liquidity/cash). Reference values for this indicator are [0.35-0.65].

Table 10. Cash ratio

Firm`s group	CAGR (%)			Cash ratio, Chr = C / CL				
	C	CL	Chr	Min	Max	Average	Median	STDEVP
A	17.7	-0.2	18.0	0.001	0.76	0.19	0.07	0.23
	-10.3	3.5	-13.3	0.00	0.12	0.04	0.02	0.04
B	-17.5	-3.2	-14.7	0.00	0.40	0.06	0.01	0.12
	4.9	-1.0	5.9	0.03	0.16	0.07	0.07	0.04
C	-15.4	5.2	-19.5	0.01	1.63	0.44	0.10	0.54
	6.5	14.3	-6.8	0.30	1.29	0.73	0.58	0.33
D	13.2	2.9	10.0	0.02	0.17	0.09	0.09	0.04
	8.8	-2.5	11.6	0.03	0.90	0.42	0.39	0.26
E	8.4	-7.7	17.5	0.25	1.96	1.08	1.06	0.63
F	-4.2	16.0	-17.5	0.03	1.72	0.25	0.11	0.45
Average	1.2	2.7	-0.9	0.1	0.9	0.3	0.3	0.3

Average	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
C/CL	0.37	0.38	0.30	0.58	0.32	0.37	0.35	0.21	0.22	0.22	0.39	0.35

Source: own processing

Table 10 shows that lack of cash stocks is the most serious problem in the analysed companies. For five of ten companies, the *compound annual growth rate* of liquidity was much higher than the *compound annual growth rate* of current liabilities; companies had liquidity in the entire period, sporadic improvements not allowing a favourable interpretation of the dynamics.

The analysis from the perspective of average annual rates of compound growth show a big gap between liquidity and current liabilities, this aspect (normally favourable) should be interpreted with prudence when annual series appear with extremely low values. The years after the crisis (2008 - 2012) were unfavourable (in terms of liquidity stocks) and companies managed to recover but only for short periods of time (2009-2012 and 2016-2017, respectively).

4. Findings and suggestions

To formulate relevant conclusions, starting from the descriptive statistics, we determined the statistical dependence of the analysed variables. Table 11 shows details on the degree of correlation of return on equity (ROE) with factors analysed as determinants of performance. Correlation coefficients (calculated as pairs) show that the analysed indicators have similar variations (of different intensity). The most intense correlation is between ROE and net profit margin ratio and cash to sale ratio. Considering the area of analysis, statistics recognises the minimum value of correlation of 0.3. So, only profit per share and quick ratio remain outside the area of interest.

Table 11. Analysis of relationships between variables

Correlation								
	ROE	MR	NP/Sh	C/TS	Cr	Qr	Chr	Gr
ROE	*1*							
MR	*0.91*	*1*						
C/TS	*0.72*	*0.87*	*1*					
NP/Sh	*0.15*	*0.09*	*-0.17*	*1*				
Cr	*0.39*	*0.55*	*0.83*	*-0.28*	*1*			
Qr	*0.47*	*0.59*	*0.86*	*-0.23*	*0.98*	*1*		
Chr	*0.23*	*0.21*	*0.09*	*0.90*	*0.07*	*0.14*	*1*	
Gr	*0.43*	*0.30*	*0.25*	*-0.37*	*-0.08*	*-0.04*	*-0.48*	*... 1*

Covariance								
	ROE	MR	NP/Sh	C/TS	Cr	Qr	Chr	Gr
ROE	*5.93*							
MR	*0.03*	*0.00*						
C/TS	*0.04*	*0.00*	*0.00*					
NP/Sh	*0.01*	*0.00*	*0.00*	*0.00*				
Cr	*0.28*	*0.00*	*0.01*	*0.00*	*0.08*			
Qr	*0.28*	*0.00*	*0.01*	*0.00*	*0.07*	*0.06*		
Chr	*0.03*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	
Gr	*4.35*	*0.02*	*0.03*	*-0.02*	*-0.10*	*-0.05*	*-0.08*	*16.79*

Source: own processing

As two measurement variables were used (percentage and index), covariance was also analysed. It confirms the relation between ROE and the economic growth dynamics (Figure 1).

Figure 1. ROE and economic growth rate (evolutions and trends)
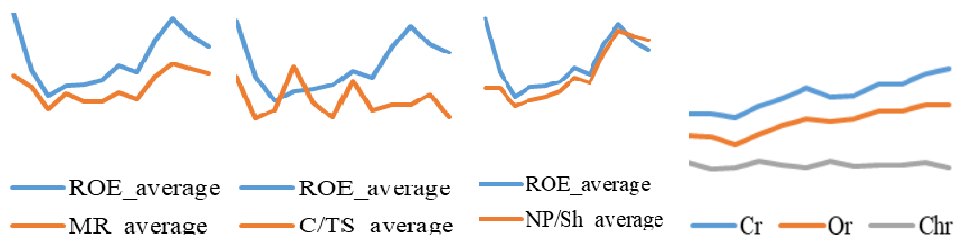
Source: own representation

Using the information that had been collected earlier, we built the performance profiles of companies in the analysed sample. Figure 2 presents in detail the performance path (retrospectively and prospectively) of each company. The thick line (black) shows the evolution of economic growth during 2006-2017. Except two companies, (category "C"), all other companies show a dynamic that harmonizes with the economic growth dynamics.

The first description of the performance profile of companies enables us to observe the following:
- During the period before the crisis, 7 of 10 companies recorded financial profitability (ROE) higher than 10%;
- During 2008-2009, financial performance worsened (in the context of economy affected by crisis);
- starting with 2010, financial performance improved but at the end of 2017 it was lower than in the period before the crisis;

- In terms of forecasts (for the period 2018-2020), the situation remains unfavourable; 7 of 10 f companies having a financial profitability below 10%.

Figure 2. ROE and economic growth rate (evolutions and trends)
a) ROE (for all firms) and growth rate, b) average ROE and growth rate

a)   b)
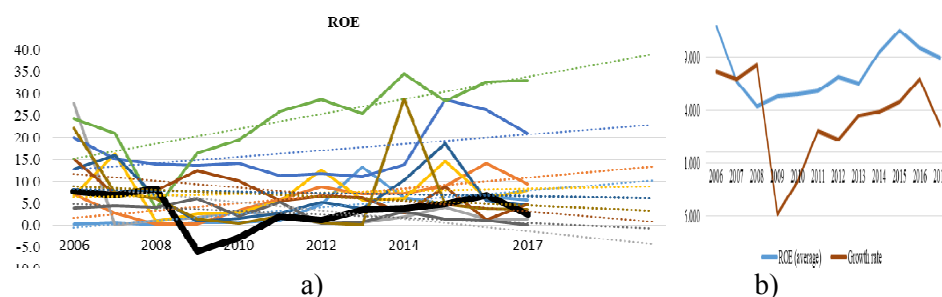
Source: own representation

During 2006-2017, current ratio and quick ratio contributed to the consolidation of financial performance. In contrast, the trend indicates higher values than the accepted limits, therefore, financial managers should focus on monitoring the size of stocks and receivables. Measures may include: a) limitation of stocks only to the ones ensuring the continuity of production processes; b) adoption of more restrictive payment policies for clients (payment at the time of delivery). These measures will generate additional cash flow and the *cash ratio*.

Financial performance of the two companies affected by insufficient liquidity (cash stocks) even at the end of the 3 years of forecast. Therefore, financial managers should design strategies adequate for cash flow management with the view not only of ensuring compliance with financial rules but also to establish buffer stocks minimizing the liquidity risk. Although data show that a company may survive without enough cash, it should be noted that financial performance consolidation may be seriously affected. To avoid under/over sizing of cash stocks, it is vital that budgets of payment and receipts be made.

Studies (Sen, 2010) showed that liquidity is less important than solvency in relatively quiet times as a solvent company is able to find funding to cover its eventual problems of liquidity. In the period before the crisis, there is a general tendency of the system to become more and more indebted (Iancu, 2010) leading to increase in the degree of vulnerability. During crisis, *liquidity may become more important* than solvability (Bernanke *et al.*, 1988).

Considering the fact that crisis had been felt later in emerging economies, the highest rate of economic growth was recorded in Romania in 2008 (8.3%). The crisis started to have an influence in 2009, the year when economy had a decrease of 5.9%. In this scenario, we may explain the liquidity issues faced by the ten

analysed companies. Sudden passage from a normal state to crisis did not give time to companies to take measures for liquidity consolidation (2009-2011), changes in funding behaviour (diminishing the dependence on debts) brought back the vulnerability towards funders and also increased the risk of insufficient assets with high liquidity.

During 2006-2017, company performance was affected by low levels of liquidity stocks compared to sales. The solution is evident: by solving the problem of insufficient liquidity stocks, *cash/total sales* ratio will increase the efficacy of current funding policies. To improve this situation, financial managers should achieve a balance between profitability and liquidity. The difficulty of this strategy is fuelled by the fact that more liquid assets have a lower profitability (and less liquid assets have higher profitability). To identify the best use of liquidity, financial managers should make periodical forecasts regarding receipts and payments in cash so that they could take measures for maintaining optimal balance of liquidity without affecting profitability and liquidity.

Moreover, efficient management of liquidity - sustaining development not only for ensuring company survival but also its development - is a pre-requisite for growing profitability, and it also provides strategic advantages in economically difficult periods (Veronika *et al.,* 2014).

Conclusions

In this study, we started from the premise that financial performance provision is a pre-requisite for grounding a strategy for improving the overall performance of a company. Therefore, the study suggests a reinterpretation of a traditional approach to assessing financial performance and brings evidence on the usefulness of financial analyses. Without exaggerating the qualities of traditional methods or performance assessment, we agree with the views of earlier authors stating that financial ratios "are no substitute for a crystal ball. They are just a convenient way to summarize large quantities of financial data and to compare firms' performance" (Brealy *et al.*, 2017, p. 704). The significant financial ratios are utilized to reveal changes in the company financial position and performance and to illustrate the trends and nature of the changes. This approach is justified as modern methods do not deny the usefulness of traditional methods and only extend the scope of the assessed aspects; to increase the relevance of assessment, modern methods of performance assessment compete the financial analysis with analyses of non-financial indicators. The argument is pertinent as long as it is accepted that performance covers several areas.

Also, the study provides evidence on lack of relevance of two criticisms brought to traditional methods of financial performance assessment based on ratios: promotion of short-term decisions (lack of strategic orientation) and dealing mainly with consequences and not the causes determining a specific performance. To argue against the first criticism, we included in our research the analysis of trends

(based on retrospective analysis of a period characterised by expansion, crisis, recession and recovery). The analysis of the state and predictions is the guarantee for adequate grounding of decisions ensuring not only company survival but also its balanced development. Empirical research has shown that identifying the causes that determine a certain level of financial performance allows to find out some details that exceed the area of financial analysis. This expanded view of business, reinforced by trend analysis, is the foundation for strategic business orientation.

Concerning the second criticism, we did not deny the fact that financial analysis (using information from supporting documents of companies) mainly deals with consequences. This is only a partial reality. In a systematic approach to companies, a financial analysis (making use of not only of knowledge but also experience and intuition) indicates a set of internal and external causes of performance (of financial and non-financial nature). Therefore, we proved (based on logical deduction) that financial performance of analysed companies depends on a set of financial (company profitability and liquidity, product profitability, volume of sales, dividend policy, turnover speed of clients/suppliers, etc.) and non-financial factors (product quality, length of production cycles, degree of responsibility of managers and degree of involvement of shareholders in company decisions, product visibility on the market, efficiency and degree of competitiveness on distribution markets of company products). Empirical research has shown that when historical data is used for forecasting, financial analysis is no longer limited to evaluating consequences. In this context, financial analysis provides information that explains the dynamics of targeted performance indicators.

Finally, performance depends both on internal and external factors. Only if all efforts converge towards the same goal (sustainable company development), performance assessment indicators may have balanced growth trends. This study shows that:

- Determinant factors of financial performance belong both to internal (volume and dynamics of assets, debts, sales, profits, behaviour and degree of exposure to risks assumed by financial managers) and external environment of the company (crisis, financial market, distribution market, etc.);
- Depending on the state of economy and its internal health, companies develop their own strategies for adapting to the socio-economic context in which they operate; the companies in the analysed sample prove that a company may go through a period of crisis/post-crisis at the expense of liquidity and profitability;
- Decisions adopted after unforeseen new events based only on ensuring survival affect company sustainability.

In the context of the research, we considered performance as an artefact according to which we assess the success of a business in the context of a free, competitive and globalized market. For the evaluation of the performance we used financial indicators and we only capitalised the financial-accounting information

(which allowed us to focus the research only on the financial performance). The statement of the results was based on logical deductions that exceed the area of financial analysis. This is the reason for which in future research we intend to extend the analysis on other performance determinants, especially of non-financial nature. The final goal of the efforts will be to highlight the usefulness of financial analysis in the context of multi-criteria performance assessment.

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