

CORRELATION ANALYSIS OF THE COMPANY'S LIQUIDITY, PATRIMONY STRUCTURE AND EFFICIENCY INDICATORS

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Abstract: : A problem more common in Romanian companies, and not only in the near future economic and financial crisis proved to be lack of cash, or in other words their lack of ability to cope with short-term debt. The problem became even more acute in the next period, the period specified triggering nationwide economic crisis and beyond. The lack of liquidity has become more persistent as these firms, the more likelihood of insolvency and bankruptcy risk becoming even more probable. The present work aimed to analyze the evolution of liquidity at several Romanian companies taken as reference elements and representativeness, and the correlation between liquidity ratios and other indicators that define the heritage structure and the efficiency with which the company is working within these companies. This study while pursuing economic structure and evolution through the bank debt, both short term and long term.

JEL classification: G10, G33

Key words: critical; liquidity, asset structure, leverage, leverage, financial autonomy correlation

1. INTRODUCTION

This paper aims at analyzing the evolution of liquidity of companies listed on the Bucharest Stock Exchange (BVB) for the hotels and restaurants sector and capital structure and efficiency indicators of the activity, the analyzed period of 4 years, the period between the years 2010 - 2013.

Structure of the research paper is presented in three distinct parts: the first part the authors establish and define terms and concepts used; the second part of the main objectives of the paper are presented and applied research paper methodology to achieve the objectives, methodology consisting in the presentation by the authors were analyzed how the indicators used software research and how which was followed correlation between indicators. Determine and analyze indicators are: rotation speed of current assets, inventory rate structure, high production values exercise, degree of processing of starting material and consumables, the relationship between exercise and production of value added and value-added and expenses from third parties, production year funding of short-term debt, indebtedness, financial autonomy and economic rate of return.

The third part which the authors move from theory to practice, the theory presented in the first part of the paper based on the methodology of the second part being implemented at several companies in the field of activity hotels and restaurants, companies that are listed BVB.

The companies analyzed are: Casa de Bucovina symbol found on BSE that the BCM, Turism Felix SA, Baile Felix (bushes), and Travel, Hotels, Restaurants, Black Sea SA (EFO). Corresponding period in structure analysis indicators meet the paper is 4 years period between 2010 - 2013.

The paper ends with some conclusions detachment that are based on firms chosen research methodology used in the case study of the work, conclusions that are based both on the evolution of indicators and analysis of economic-mathematical correlation that exists between them.

2. CONCEPTS AND TERMS USED

In order to achieve the research paper on "Analysis of the correlation between the company's liquidity, heritage structure and efficiency indicators" is necessary clarification and concretization economic terms used. So starting with the title of the work we proposed the establishment of the first term liquidity.

A first definition of liquidity addressed in this paper is the date by IFRS "Liquidity refers to the availability of cash in the near future, after taking into account the financial obligations for this period" (IFRS 2011 "Conceptual Framework").

Another definition of liquidity is the date Batrincea Larisa and collaborators' financial liquidity is a state of financial balance expressing ability to pay short term by synchronizing during the financial year the cash inflows and outflows. "(Batrincea Larisa- Margaret financial analysis methods and techniques, 2012: 113).

Erich A. Helfert defines a business as a liquidity indicator which estimates that business creditors protection. Helfert's opinion "liquidity is a way to test the degree of protection against credit risk and assume that lenders when financing a business decide" (Erich A. Helfert, financial analysis techniques, 2006: 140).

In this paper addressed two forms of liquidity: general liquidity and current liquidity.

General liquidity will be determined by reference case study of current assets (short-term assets) to current liabilities of the company (current liabilities).

Current liquidity is determined similar to the overall liquidity of current assets are low but stocks are considered elements of current assets with the lowest liquidity.

Another series of indicators are those related to economic structure of the company. The first concept is the rate seen stock structure in current assets. This rate reflects the share they hold stocks in current assets. Usually this percentage depends on the type of activity the company, such as a firm trading activity has a higher share of stocks in current assets compared to a production company. Determining the level of this rate is by comparing stocks in total current assets.

The second is the concept met indebtedness. A definition of indebtedness, among other definitions, we find authors Sorin Achim Monica and Borlea "global debt ratio measures the debt-equity firm" (Achim Monica, Borlea Sorin, financial analysis of the economic entity, 2012: 219). As a way of interpreting this indicator we can say that, as shown in the work of authors as a ratio between debt and equity, to have a

favorable situation at the company must have registered a decrease in this rate. In the calculation methodology of work but that rate is highlighted to those presented by the authors, apportioned as the ratio between equity and debt. The ratio of equity and debt to have a good situation to be up in this situation.

Rate financial autonomy, the third indicator used is presented by Erich A. Helfert as "indicator reflecting the relative proportions of all claims of creditors from those of shareholders, is an indicator used for leveraged exposure to the company".

Another group of indicators is found in the analysis of indicators expressing the efficiency with which it operates FIME. So here we meet indicators: leverage, degree of processing raw material and materials, the production ratio of exercise and value added economic rate of return and rotation speed of current assets.

Leverage reflects a company's ability to capitalize on the market that achieves production or markets, or the ability to capitalize on market services that it provides. It is calculated as the ratio between turnover and production year.

The degree of processing of raw materials and materials is a specific indicator of production activity and reflects how the company manages to process and include in the production process everything it takes from suppliers. The relationship of calculation is given by the ratio between consumption and production from third parties exercise.

Another indicator is met rotation speed of current assets, this indicator is defined: "efficiency in the use of current assets in the current activity of the company" (L Buse et al, Economic and Financial Analysis, 2007: 36). The rotation speed is determined as the ratio between the active and turnover.

Economic rate of return is defined by Lucian Buse et al: "The activity indicator expressing the effectiveness of a global companies" (Lucian Buse et al, Economic and Financial Analysis, 2012: 176). Rate of return found in the structure of the case study will be specific and enteritis capital ratio between gross profit and the permanent capital of the company.

3. METHODOLOGY

Works by authors aims to achieve at least three objectives: first analysis of the level of liquidity in companies with activities in tourism (hotels, restaurants, hostels) and evolution heritage structure; A second objective would be to analyze the efficiency of which it carries; and the last most important objective correlation between this starting from the analysis model developed using Du Pont System.

The period of analysis is 2010-2013, the period marked by economic crisis triggered in the second half of 2008, companies chosen for the research being listed on the Bucharest Stock Exchange, having as object of type service-oriented tourism: hotels, restaurants, pensions.

Relationship calculation that goes from the realization of analysis for overall liquidity is:

$$Lg = Ac/Dts = Ac/CA * CA/Qe * Qe/VA * VA/Cm * Cm/Qe * Qe/Dts$$

$$Lg = V_{Ac} * Gv * Rs * R_{SVA/Cm} * Gm * F_{Qe/Dts}$$

where: V_{Ac} - rotation speed of current assets

Gv - leverage

Rs - static exercise ratio of production and value added

RsVA/Cm - static ratio of VAT and expenses from third parties

Gm - leverage of raw materials and materials

F_{Qe/Dts} - production financing exercise of short-term debt

For current liquidity relationship calculation used is:

$$Lc = (Ac - St)/Dts = Ac/Dts - St/Dts =$$

$$= \frac{Ac}{CA} * \frac{CA}{Qe} * \frac{Qe}{VA} * \frac{VA}{Cm} * \frac{Cm}{Qe} * \frac{Qe}{Dts}$$

$$Kpr/Dts * Kper/Kpr * Pb/Kper * Ac/Pb * St/Ac$$

$$= V_{Ac} * Gv * Rs * R_{sVA/Cm} * Gm * F_{Qe/Dts} - Gi * Af * Re * E_{Ac} * Rst$$

Unde: Gi - indebtedness

Af - financial autonomy

Re - rata economic profitability of capital

E_{Ac} - efficient use of current assets

Rst - rate structure stocks in current assets

The data used in order to make the analysis of indicators at the three companies were taken over by the BSE's website and are presented in the following table:

Table 1 Data used in the analysis of liquidity, patrimonial structure and efficiency of business

indicators	2010	2011	2012	2013
Casa de Bucovina (BCM)				
current assets (AC)	12.871.294	13.955.300	13.969.500	14.549.400
turnover (CA)	4.805.673	5.379.360	5.931.286	4.929.292
stocks (St)	134.147	180.829	152.608	146.908
production year (Qe)	2.343.299	2.942.693	3.085.889	2.441.255
- production sales (Qv)	2.343.299	2.942.693	3.085.889	2.441.255
expenses from third parties (Cm)	1.240.647	1.331.537	1.138.378	976.101
- energy and water	363.705	372.302	474.697	441.703
- external services	876.942	959.235	663.681	534.398
value added (VA)	1.102.652	1.611.156	1.947.511	1.465.154
Short-term debt (STD)	517.423	492.398	629.672	454.432
own capital (Kpr)	40.396.649	41.188.707	36.709.103	37.317.876
long-term debt (Dtml)	0	0	2.266.904	2.273.938
permanent capital (Kper)	40.396.649	41.188.707	38.976.007	39.591.814
gross profit (Pb)	134.147	180.829	152.608	146.908

Turism, Hoteluri, Restaurante Marea Neagra (EFO)				
current assets (AC)	22.535.856	21.485.057	14.450.167	24.417.176
turnover (CA)	21.154.175	26.430.368	30.367.947	28.157.726
stocks (St)	1.661.114	2.708.150	1.753.461	12.676.242
production year (Oe)	14.793.629	16.852.722	19.970.280	19.981.320
- production sales (Qv)	14.793.629	16.852.722	19.970.280	19.981.320
expenses from third parties (Cm)	6.247.606	7.268.217	9.308.290	9.373.620
- energy and water	2.362.767	2.489.311	3.086.335	3.120.500
- external services	3.884.839	4.778.906	6.221.955	6.253.120
value added (VA)	8.546.023	9.584.505	10.661.990	10.607.700
Short-term debt (STD)	17.734.243	15.716.221	5.929.128	7.924.882
own capital (Kpr)	330.326.324	232.964.488	220.875.056	220.674.128
long-term debt (Dtml)	3.405.690	1.137.324	11.562.704	154.527
permanent capital (Kper)	333.732.014	234.101.812	232.437.760	220.828.655
gross profit (Pb)	3.341.660	266.377	4.229.397	970.782
Turism Felix (TUFE)				
current assets (AC)	11.277.082	15.767.135	25.990.712	23.271.161
turnover (CA)	48.499.100	48.437.997	48.923.348	47.296.770
stocks (St)	753.115	909.212	1.014.613	961.106
production year (Oe)	32.301.487	31.973.610	32.349.841	30.855.715
- production sales (Qv)	32.301.487	31.973.610	32.349.841	30.855.715
expenses from third parties (Cm)	8.754.878	8.266.373	10.623.970	10.616.003
- energy and water	5.938.745	5.769.129	6.514.057	6.523.528
- external services	2.816.133	2.497.244	4.109.913	4.092.475
value added (VA)	23.546.609	23.707.237	21.725.871	20.239.712
Short-term debt (STD)	4.317.833	3.740.372	4.229.944	5.425.830
own capital (Kpr)	185.903.831	173.052.703	175.626.966	178.123.612
long-term debt (Dtml)	21.094.332	17.119.011	12.150.941	9.288.142
permanent capital (Kper)	206.998.163	190.171.714	187.777.907	187.411.754
gross profit (Pb)	6.080.682	8.001.769	4.529.667	4.707.501

Source: Based on data table reflected in financial accounting documents of companies

Analysis of correlations between indicators will be performed using the statistical program SPSS index is the index used Pearson correlation.

4. CASE STUDY

Theoretical aspects previously captured in the structure and content of the research work are highlighted with this practical case study in the tourism sector, the sector represented by the three companies Casa de Bucovina, Tourism, Hotels and Tourism Felix Black Sea.

Analysis of the indicators presented both theoretical concepts and methodology work was performed during 2010 - 2013, data used are presented in the methodology, being extracted from the financial statements of each company.

Based on these data we performed the calculation of indicators including correlation analysis will follow in the tourism sector in Romania.

Level indicators used is reflected in the following table:

Tabel 2 – Indicators used for correlation analysis of the tourism sector in Romania

Indicators	2010	2011	2012	2013
Casa de Bucovina				
Lg	24,87577	28,3415	22,18536	32,01667
V Ac	2,678354	2,594231	2,355223	2,951621
Gv	2,050815	1,82804	1,922067	2,019163
RsQe/VA	2,125148	1,826448	1,58453	1,666211
RsVA/Cm	0,888772	1,209997	1,710777	1,501027
Gm	0,529445	0,452489	0,368898	0,399836
FQe	4,528788	5,976249	4,900788	5,372102
Lc	24,61651	27,97426	21,943	31,69339
Gi	78,07277	83,64922	58,29877	82,11982
Af	1	1	1,061753	1,060934
Re	0,003321	0,00439	0,003915	0,003711
Eac	95,94918	77,17402	91,53845	99,03749
Rst	0,010422	0,012958	0,010924	0,010097
Turism, Hoteluri, Restaurante Marea Neagră				
Lg	1,270754	1,367063	2,437149	3,081078
V Ac	1,065315	0,812893	0,475836	0,867157
Gv	1,429952	1,568314	1,520657	1,409202
RsQe/VA	1,731054	1,75833	1,873035	1,883662

RsVA/Cm	1,367888	1,318687	1,14543	1,131655
Gm	0,422317	0,431279	0,466107	0,469119
FQe	0,834184	1,072314	3,368165	2,52134
Lc	1,177087	1,194747	2,141412	1,481528
Gi	18,62647	14,82319	37,25254	27,84573
Af	1,01031	1,004882	1,05235	1,0007
Re	0,010013	0,001138	0,018196	0,004396
Eac	6,743911	80,65658	3,416602	25,15207
Rst	0,07371	0,126048	0,121345	0,519153
Turism Felix				
Lg	2,611746	4,215392	6,144458	4,288959
V Ac	0,232521	0,325512	0,531254	0,492024
Gv	1,501451	1,514937	1,512321	1,532837
RsQe/VA	1,371811	1,348686	1,489001	1,524514
RsVA/Cm	2,689542	2,867913	2,044986	1,906528
Gm	0,271036	0,258537	0,328409	0,344053
FQe	7,480949	8,548243	7,647818	5,686819
Lc	2,437326	3,972312	5,904593	4,111823
Gi	43,05489	46,26617	41,51993	32,82882
Af	1,113469	1,098924	1,069186	1,052144
Re	0,029376	0,042077	0,024122	0,025118
Eac	1,854575	1,970456	5,737886	4,943421
Rst	0,066783	0,057665	0,039038	0,0413

Source: Table developed by the authors based on data extracted from financial accounting documents

From the resulting data we can see a general high level of liquidity for the company Casa de Bucovina, this reflects a deficiency in financial and material resource company. For the other two companies the liquidity is considered a normal, except Tourism Felix the past two years under review the liquidity general register very high values. The same can be said in the current liquidity, where the indicator I reflect an unfavorable situation in the first companies analyzed.

Rotation speed presents a favorable level best being located in this regard Felix Tourism Society. In terms of efficiency in the use of current assets, the efficiency ratio calculated effort / effect, we can say that this indicator further strengthens the interpretation made in the case of the three companies liquidity. Making a parallel between these indicators we can say that the situation is similar, the effort / effect

reflecting an inefficient management of current assets of enterprises in this sector. Even in this favorable situation being presented by Tourism Hotels and Tourism Felix Black Sea.

Corelatiiei analysis of these indicators was performed using SPSS statistical program, the results are reflected in the following table:

Tabel 3 – Correlation analysis indicators index using Pearson

		Lg	VAC	GV	RSQe /VA	RsVA /Cm	Gm	FQe	Lc	Gi	Af	Re	Eac	Rst
Pearson Correlation	Lg	1,000	,917	,675	,349	-,442	.	,176	,998	,928	.	,518	,812	-,404
	VAC	,917	1,000	,605	,408	-,571	.	-,086	,923	,789	.	,363	,798	-,254
	GV	,675	,605	1,000	,674	-,539	.	,048	,687	,652	.	,200	,612	-,264
	RSQe /VA	,349	,408	,674	1,000	-,636	.	-,032	,370	,413	.	,135	,398	-,178
	RsVA /CM	-,442	-,571	-,539	-,636	1,000	.	,610	-,459	-,271	.	,000	-,619	,514
	Gm	.	.	.	.	.	1,000	.	.	.	.	.	.	.
	Fqe	,176	-,086	,048	-,032	,610	.	1,000	,168	,446	.	,428	-,204	,263
	Lc	,998	,923	,687	,370	-,459	.	,168	1,000	,928	.	,482	,815	-,391
	Gi	,928	,789	,652	,413	-,271	.	,446	,928	1,000	.	,590	,613	-,280
	Af	.	.	.	.	.	.	.	.	.	1,000	.	.	.
	Re	,518	,363	,200	,135	,000	.	,428	,482	,590	.	1,000	,287	-,202
	Eac	,812	,798	,612	,398	-,619	.	-,204	,815	,613	.	,287	1,000	-,617
Rst	-,404	-,254	-,264	-,178	,514	.	,263	-,391	-,280	.	-,202	-,617	1,000	
Sig. (1-tailed)	Lg	.	,000	,008	,133	,075	,000	,292	,000	,000	,000	,042	,001	,096
N	Lg	12	12	12	12	12	12	12	12	12	12	12	12	12

Source: Table performed using SPSS statistical program

As a result of correlation analysis in general liquidity as a dependent variable and all other indicators as independent variables, we see that only correlations were established in six of the eleven indicators analyzed. Thus were established strong correlations between direct and general liquidity indicators rotation speed of current assets, leverage, current liquidity, leverage, profitability rate of economic and efficient use of current assets.

On the other indicators observed weak correlations, except for leverage raw materials and materials and financial autonomy time where no correlation could be established in any way.

5. CONCLUSIONS

The research paper ends with some significant conclusions detachment, striking the theme proposed for research, resulting considering they both methodological and theoretical part of the practice. In the tourism sector represented by three companies we can say that overall liquidity, ie its level of this indicator reflected the bad times for the sector in the period 2010-2013.

Based on the indicators could be detached idea that, current assets in such a sector, are often managed in an inefficient way. Not only we had a very high overall liquidity indicator but I noticed a negative level indicator and efficient use of current assets.

In terms of correlations we observed that they exist only between certain indicators. Thus the overall liquidity between companies and rotation speed of current assets to establish a direct correlation level and puetnic as meaning. It is clear that as the assets are used and managed efficiently as we and increased general liquidity of the company.

Another strong direct correlation was obtained in leverage. As the company manages to build production obtained, or more specifically as the company manages to sell more on the market which produces or provides the service, the more liquidity will be better.

Regarding the indebtedness of the company, we can say that here we got a strong direct correlation.

Also we obtained a strong correlation in the case of direct use efficiency of current assets, efficiency calculated as the ratio between current assets and gross profit resulting indicator. Although in terms of significance was more accurate indicator reporting operating profit value, thus aiming at efficient activity, considering the fact that operating income is the most significant share in gross profit, we can say so that it is effective at tracking and exploitation activities as part of this result.

A weaker correlation was obtained when the economic rate of return of capital and meaningless correlations were recorded in the two reports in the static and financial autonomy.

Taken as a whole so we can say that between liquidity ratios, the patrimonial structure and those that reflect effective enterprise activity in the tourism sector, there are direct correlations often, with few exceptions for certain indicators.

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„This paper is supported by the Sectorial Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number SOP HRD/159/1.5/S/136077”