

ANALYSIS OF PERFORMANCE RATES IN THE IT INDUSTRY

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Abstract. *In the paper the authors show a modality of performance analysis based on ratios which are useful tools of analysis that synthesize large amounts of data in a form easier to understand, to interpret and compare. They underline in the same time certain limits to be analyzed for each case. When comparing rates from different periods should be considered the operating conditions of the economic entity and the impact of certain changes to the financial statements such as: changes in economic conditions, the production process, the various product lines or geographic markets served.*

Key words: *liquidity, leverage, assets, equity*

JEL Classification: *D22*

1. Introduction

Analysis based on ratios constructed by analysts, from financial statements, should be combined with the investigation of other factors, before they draw relevant conclusions and make recommendations for measures to be adopted by the economic entity's management.

Assessment of the fact that an index is too high, too low or appropriate depends on the interpretation of results by the analyst who is considering on one hand, the type of activity of the economic entity and economic entity's position within the sector and on the other hand, the strategy adopted by the economic entity on a particular market.

The objective of the ratios variation analysis is to determine causes and effects that rates have on the company's ability to repay debt.

2. Method and Results

In the research conducted I've selected from 2178 Romanian IT companies, a sample of 778 companies that were active uninterrupted between 2007 and 2011, companies that I afterwards re-grouped into four sub-areas of activity, namely: Software; Consultancy activities in information technology; Trade activities with IT products; Other activities.

The global crisis was par excellence in its first phase, a crisis of liquidity, which is why it is interesting to see its impact in the IT sector in Romania. The analyzed indicator is current liquidity, whose evolution can be found on the four sub-domains.

Over the period analyzed, on the extremes is the trade specialization - with the least favorable evolution and other activities specialization - with the best evolution and also with the highest values of current liquidity. However, despite these fluctuations, the current liquidity of the companies analyzed fits in the range of financial security around the entire period, except for companies that specialize in trade which beginning with 2009, recorded a significant drop in liquidity.

Another aspect analyzed in this study refers to the most representative statistical values for 10 indicators in the four areas of activity from which a number of issues arise (Table no.1).

Table no1. Evolution of the values of the representative indicators in consulting firms - 645 companies

	2007	2008	2009	2010	2011		2007	2008	2009	2010	2011
	Average	Average	Average	Average	Average		Median	Median	Median	Median	Median
LC	916,81	664,79	510,85	926,01	427,26		170,15	171,37	157,80	158,96	165,68
GI1	172,73	84,93	94,48	101,17	104,74		67,83	71,27	70,37	71,69	70,45
SP	-72,73	15,07	5,52	-1,17	-4,74		32,17	28,73	29,63	28,31	29,55
PR	18,97	26,07	23,53	21,47	22,98		9,56	15,45	14,03	10,47	8,80
SOLV	210,90	87,42	93,57	379,30	179,97		44,35	34,70	36,84	41,42	44,49
LI	887,37	604,17	476,84	894,46	398,01		143,63	137,51	121,13	126,14	138,21
ROE	192,17	801,24	977,14	521,01	100,52		25,01	77,96	71,88	43,18	26,88
ROA	23,00	36,67	31,32	27,76	22,51		10,19	24,53	21,05	14,73	10,11
RRG	53,45	241,14	84,52	82,84	89,72		8,75	15,31	12,77	9,14	7,47
GI2	663,46	1380,67	2270,27	1090,65	926,00		55,06	64,76	85,16	72,99	66,07

Source: Personal Processing

Values recorded by the two indicators of the central tendency, mean (average) and median, confirm the lack of importance of the mean value compared with the median value. Basically, the existence of some extreme values leads to significant displacement of the mean value. The negative impact of the global crisis on the consulting company's sub-domain is obvious in the case of performance indicators ROE, ROA and RRG, their median values recording significant decreases in 2010 and 2011 compared with 2007-2009. In the same time liquidity indicators (LC - current liquidity and LI - immediate liquidity) tend not to differ significantly from one year to another, a fact confirmed by the application of some statistical tests for equality of their median value. Degree of Leverage as a measure of exposure of companies, although doesn't vary significantly from one year to another records high levels.

A similar behavior of these indicators can be found if the software companies sub-domain, according to Table no.2.

Table no. 2.Evolution of the values of the representative indicators in software companies - 49 companies

	2007	2008	2009	2010	2011		2007	2008	2009	2010	2011
	Average	Average	Average	Average	Average		Median	Median	Median	Median	Median
LC	1049,86	492,94	1129,76	1057,75	726,67		143,57	152,83	168,65	150,29	161,89
GI1	89,72	89,81	87,00	82,65	91,62		68,04	64,07	63,05	65,56	60,04
SP	10,28	10,19	13,00	17,35	8,38		31,96	35,93	36,95	34,44	39,96
PR	25,49	25,89	23,83	20,44	20,54		15,96	18,24	15,83	9,30	12,14
SOLV	148,14	114,97	174,41	375,83	516,20		36,71	52,36	44,80	43,38	32,39
LI	1008,89	466,71	1122,68	1049,96	717,33		137,33	149,91	168,65	132,46	157,32
ROE	573,57	569,20	1409,52	708,37	45,96		77,23	71,36	48,24	31,09	27,56
ROA	37,86	35,07	27,53	22,18	24,45		40,92	26,86	14,19	19,10	12,31
RRG	54,35	72,73	54,25	45,09	37,13		14,26	18,63	12,88	8,13	10,35
GI2	3275,75	1161,35	2251,97	1522,45	161,83		83,80	44,87	66,31	57,63	54,69

Source: Personal Processing

The performance of software companies is high in pre-crisis period, 2007-2009, but had the same downward trend during the crisis. Indebtedness is also high, but does not reach the levels of consulting companies, while liquidity is kept about the same levels.

Commerce sub-domain performance is higher during the crisis than the first two sub-domains analyzed, according to data in Table no.3. At the same time, perhaps due to the specific of the sub-domain, liquidity indicators recorded lower values. Indebtedness is maintained in this case also at high levels of over 60%.

Table no.3. Evolution of the values of the representative indicators in trade companies -11 companies

	2007	2008	2009	2010	2011		2007	2008	2009	2010	2011
	Average	Average	Average	Average	Average		Median	Median	Median	Median	Median
LC	2052,16	291,99	316,84	1767,34	756,88		205,3	167,36	165,19	130,41	105,77
GI1	57,45	67,69	81,17	63,12	65,97		69,79	71,02	49,68	66,03	68,35
SP	42,55	32,31	18,83	36,88	34,03		30,21	28,98	50,32	33,97	31,65
PR	22,08	20,38	29,19	21,37	24,48		11,24	8,95	21,84	11,46	12,23
SOLV	24,31	45,03	55,8	159,87	80,03		19,99	34,04	31,3	39,45	33,24
LI	1791,63	227,72	292,51	1425,2	623,22		135,57	115,79	156,54	101,41	79,96
ROE	631,63	564,75	60,14	42,36	42,97		96,46	71,12	78,56	42,49	25,09
ROA	35,69	21,66	34,22	21,51	20,85		29,99	8,06	40,35	16,29	16,46
RRG	181,15	153,92	150,98	43,05	35,65		10,97	6,78	23,44	9,56	11,12
GI2	3083,06	1504,11	185,02	228,32	487,85		230,96	245,07	95,92	130,66	124,91

Source: Personal Processing

From the sample of over 700 companies only two were declared to be in the Manufacturing equipment sub-domain and their analysis is unnecessary because both recorded loss in all five years examined.

In the category *other activities* can be found 66 businesses whose performance, according to Table no.4 is located in the average of the IT sector. High levels of liquidity indicators and a lower level of leverage are recorded.

Table no 4. Evolution of the values of the representative indicators in other activities companies - 66 companies

	2007	2008	2009	2010	2011		2007	2008	2009	2010	2011
	Average	Average	Average	Average	Average		Median	Median	Median	Median	Median
LC	803,62	620,62	568,47	695,85	707,80		173,80	181,45	197,75	173,40	212,00
GI1	80,84	87,87	90,89	97,00	131,20		76,05	73,95	62,70	69,55	51,05
SP	19,16	12,13	9,11	3,00	-31,20		23,95	26,05	37,30	30,45	48,95
PR	34,75	26,99	25,38	19,74	22,84		28,60	14,50	14,90	9,70	17,75
SOL	64,25	79,28	196,68	186,02	496,40		37,35	54,95	42,75	51,55	34,65
LI	751,78	485,89	532,67	652,84	682,46		170,50	157,65	166,45	154,10	169,90
ROE	4182,86	1995,90	1150,83	44,65	85,28		98,95	68,20	42,60	32,50	21,25
ROA	44,61	28,56	28,73	23,47	26,94		41,85	22,45	18,95	11,85	17,60
RRG	124,25	167,14	83,46	36,17	57,00		37,05	13,95	14,50	8,85	17,10
GI2	13817,15	3744,86	4076,29	1308,76	-7,74		164,10	86,10	50,55	47,25	30,20

Source: Personal Processing

Table no.5 Distribution of the degree of leverage in 2011

	GI Variation Interval			Total cases
	[0 – 30%)	[30% – 60%)	≥ 60%	
Software				
No. of cases	10 (20.41%)	14 (28.57%)	25 (51.02%)	49 (100%)
Median ROE	33.53%	65.91%	0	
Median ROA	31.67%	36.31%	1.81%	
Consultancy				
No. of cases	133 (20.62%)	129 (20.00%)	383 (59.38%)	645 (100%)
Median ROE	56.11%	43.88%	2.40%	
Median ROA	47.12%	23.43%	2.66%	
Trade				
No. of cases	3 (27.27%)	2 (18.18%)	6 (54.55%)	11 (100%)
Median ROE	21.41%	89.35%	17.55%	
Median ROA	21.19%	42.35%	3.02%	
Others				
No. of cases	20 (30.30%)	16 (24.24%)	30 (45.46%)	66 (100%)
Median ROE	53.89%	56.90%	0	
Median ROA	48.23%	32.86%	0	

Source: Personal Processing

The analysis undertaken revealed the distribution of the median value for ROA and ROE, in the four areas based on "three areas" named: green area (0-30%), brown area (30 -60%) and red area (over 60%). Thus, for Software Median ROE for the green area has a value of 33.53%, for the brown area the recorded value is 65.91% and for the red area the value of the indicator is 0%. Median ROA for the green area has a value of 31.67%, the value recorded for the brown area is 36.31% and for the red area the indicator value is 1.81%.

For consultancy median ROE for the green area has a value of 56.11%, for the brown area the recorded value is 43.88% and for the red area the value of the indicator is 2.40%. Median ROA for the green area has a value of 47.12%, the value recorded for the brown area is 23.43% and for the red area the indicator value is 2.66%.

For trade median ROE for the green area has a value of 21.41%, for the brown area the recorded value is 89.35% and for the red area the value of the indicator is 17.55%. Median ROA for the green area has a value of 21.19%, the value recorded for the brown area is 42.35% and for the red area the indicator value is 3.02%.

For Other Activities median ROE for the green area has a value of 53.89%, for the brown area the recorded value is 56.90% and for the red area the value of the indicator is 0%. Median ROA for the green area has a value of 48.23%, the value recorded for the brown area is 32.86% and for the red area the indicator value is 0%.

3. Conclusions

The analysis undertaken revealed the distribution of the median value of ROA and ROE, on the four domains based on "three areas" named: green area (0-30%), brown area (30-60%) and red area (over 60 %).

From the analysis of the main statistical indicators of central and variation tendency of the rate of return on assets and rate of return it can be seen that over 50% of firms that are engaged in consulting activities are in the green area not having continuous problems of financial difficulties.

For this reason we believe that it is required in the financial theory and practice of the companies to find more and more often the rating models that can prevent a collapse of economic entities.

Bibliography

1. Beaver, W.H."Financial Ratios and Predictors of Failure, Empirical Research of Accounting: Selected Studies." *Supplement to Journal of Accounting Research*, No.4. (1988).
2. Brown, L.D. and Pinello, A.S. "To What Extent Does the Financial Reporting Process Curb Earnings Surprise Games?" *Journal of Accounting Research*, 00218456, Dec 2009, Vol. 45, Issue 5 (2009).
3. Figlewicz, R.E. and Zeller, T.L. "An Analysis of Performance, Liquidity, Coverage and Capital Ratios from the Statement of Cash Flow". *ABER*, Vol. 22, No.1 (1991).
4. Mead, D.M. 2010. "SEA Performance Reporting". *CPA Journal*, 07328435, Jan 2010, Vol. 78, Issue 1.
5. Tribunella, H.T. "Questions on International Financial Reporting Standards." *CPA Journal*, 07328435, Mar 2011, Vol. 79, Issue 3;
6. Zavgren, C.V. "Assessing the Vulnerability of Failure of American Industrial Firms. A Logistic Analysis." *Journal of Business Finance and Accounting*, No.12,(1985).
7. Zeller, T.L. and Stanko, B.B. "Operating Cash Flow Ratios Measure a Retail Firm's Ability to Pay.", *Journal of Applied Business Research*, Vol. 10, No.4 (1994);