

## **THE IMPACT OF FINANCIAL STRUCTURE ON THE RETURN ON EQUITY OF ROMANIAN COMPANIES**

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**Abstract:** This paper aims to outline the financial situation of the return on equity of Romanian companies according to the decision of external financing in the period 2007 - 2008, namely the period of occurrence of the economic crisis. There are 32 companies which were surveyed, which are in different fields, and are listed on Bucharest Stock Exchange. This paper's conclusions show that they are going through difficult times, and following the study their activities proved to be inefficient in economic and financial terms.

**JEL classification: G32, G39**

**Key words: return on capital employed, return on equity, financial leverage, debts, interest rate**

### **1. INTRODUCTION**

Under current conditions, a prerequisite for the functioning of any enterprise, in the market economy, regardless of the type of ownership, profile or size, is the provision of financial resources, which enable it to procure the means to achieve its object of activity. Many researchers of the microeconomic phenomenon have debated the issue of the enterprise's financial structure in theories with greater or less degree of generality, out of the desire to seize the configuration of this concept, which has evolved over time and is a major concern of financial management.

In order to outline the impact of the financial structure on the rate of financial return of Romanian companies, which actually is the main objective of this research, we have conducted a study on a group of 32 companies listed on the Bucharest Stock Exchange, in the period between 2007 and 2008.

The paper ends with some conclusions drawn by me as a result of the research on the impact of financial structure on the rate of financial return of Romanian companies.

### **2. RESEARCH METHODOLOGY AND PURPOSE OF THE WORK**

For the research work to be as representative as possible, I decided to choose 32 large companies in various fields of activity, listed on the Bucharest Stock Exchange, and I would do the research study in the period 2007-2008, a time which reflects both the situation prior to the financial crisis, as well as the period after the occurrence of this phenomenon.

### 3. DATA ANALYSIS AND RESULTS OF RESEARCH WORK

Assessing the impact of financial structure on the rate of financial return is achieved through the financial leverage effect. It has the following expression:

$$ROE = [ROCE + (ROCE - IR) \times \frac{D}{E}] \times (1 - T),$$

where:

$$ROE = \frac{Np}{E} \times 100 \text{ - return on equity;}$$

E – equity;

Np –net profit;

$$ROCE = \frac{Op}{CE} \times 100 \text{ –return on capital employed;}$$

CE –capital employed;

IR – interest rate;

SFL = ROCE - IR – spread of financial leverage;

$$FL = \frac{D}{E} \text{ - financial leverage;}$$

D – debts;

EFL = SFL × FL - effect of financial leverage;

T – profit tax rate.

Next, we shall calculate the size for the effect of financial leverage of the 32 companies surveyed.

To determine the return on capital employed and the return on equity, we have used the calculation relations shown above. Based on data from the financial statements, the two rates of return have been calculated. The values obtained are shown in the table below.

**Table no. 1**

Company	2007		2008	
	ROCE	ROE	ROCE	ROE
1. ALBZ	7,53%	3,56%	5,41%	0,66%
2. ATB	13,67%	12,76%	7,79%	4,16%
3. ARM	-10,32%	-22,88%	1,85%	-6,24%
4. ARTE	17,46%	16,72%	6,72%	1,20%
5. AZO	3,84%	16,83%	22,63%	13,90%
6. AZUR	3,64%	0,98%	1,50%	-3,74%
7. ARMT	7,35%	6,09%	5,57%	5,28%
8. BRM	12,31%	12,80%	5,48%	4,52%
9. SNO	11,57%	10,52%	26,91%	14,81%
10. COMI	9,21%	6,75%	16,49%	11,38%
11. DAFR	12,60%	11,33%	9,78%	0,63%
12. ELGS	17,70%	18,11%	30,13%	26,87%
13. EPT	-11,13%	-12,30%	25,90%	16,68%
14. TBM	7,71%	7,56%	-14,23%	-37,77%

Company	2007		2008	
	ROCE	ROE	ROCE	ROE
15. FOSB	19,91%	17,81%	25,92%	19,71%
16. ALU	33,14%	25,83%	22,59%	17,83%
17. MACO	4,62%	2,53%	4,83%	4,18%
18. ART	12,99%	9,81%	12,34%	-39,05%
19. MOIB	9,80%	5,42%	4,06%	0,48%
20. NAPO	2,51%	0,17%	4,73%	0,89%
21. NTEX	5,03%	4,14%	4,36%	3,68%
22. SNP	14,82%	13,41%	8,47%	7,47%
23. RRC	-1,35%	-15,22%	0,69%	-29,76%
24. SCTB	10,76%	5,17%	5,99%	5,85%
25. SEOL	3,09%	2,55%	2,20%	0,06%
26. EFO	5,54%	5,01%	3,20%	3,45%
27. TEL	0,18%	0,18%	0,22%	0,22%
28. TGN	14,59%	13,47%	11,30%	10,32%
29. COTR	19,97%	23,07%	6,04%	4,44%
30. UMTT	7,06%	0,62%	5,15%	-3,92%
31. TUFÉ	3,00%	4,01%	6,59%	5,68%
32. VNC	8,73%	7,86%	8,00%	7,00%

*Source: author's calculations*

In 2007, three negative rates of return on equity are recorded (ARM, EPT, RRC). The minimum value obtained is -11.13% (EPT) and the maximum is 33.14% (ALU). A similar situation is encountered in the case of return on equity, respectively three companies of the 32 surveyed recorded negative values (same as for ROCE). The minimum value is recorded by RMA, and the maximum by ALU.

In 2008, only one company had a negative ROCE (TBM) with a value of -14.23%. The maximum of this rate is achieved by ELGS (30.13%). The situation is worse for ROE, as six of the companies have a negative level (ARM, AZUR, TBM, ART, RRC, UMTT). The maximum is recorded for ELGS (26.87%). It is obvious from what was stated above, that there is a strong dependence between ROCE and ROE.

Although, apparently, it seems simple enough, determining the interest rate on loans poses quite difficult problems. This is not due to methodological considerations, but to lack of necessary information. To determine the loan interest rate, we should use a weighted average of the interest rate paid for all loans (bank loans and bonds) in the national economy, depending on each type of loan balance. Given the above limitations, we have chosen, instead of using unrealistic values of interest rate, to determine an average interest rate for loans to businesses throughout the national economy for the calendar years under review. To this end, data published by the National Bank of Romania were used regarding the interest rates, differentiated according to several criteria. The data obtained are shown in the table below.

**Table no. 2**

Loans	Weight	Interest rate	Average interest rate
<b>2007</b>			
Loans in lei	46,02%	12,22%	9,61%
Loans in euro	53,98%	7,38%	

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Loans	Weight	Interest rate	Average interest rate
2008			
Loans in lei	43,61%	14,92%	10,82%
<b>Loans in euro</b>	<b>56,39%</b>	<b>7,65%</b>	

Source: [www.bnr.ro](http://www.bnr.ro) and author's calculations

The analysis of the financial leverage effect is an important step in studying ways of optimizing the financial structure. The use of equity or borrowed capital influences economic and financial performance, in terms of cost of the employed capital used. Equity is more expensive, but there is no legal payment obligation. Borrowed capital is cheaper, but it has a fix cost, determined by the credit agreement and it can sometimes put high pressure on the company's financial results.

The financial leverage effect was determined from the relationship presented in the previous pages. It was calculated for all companies studied, for each year analyzed. Financial leverage affect allows an analysis of the correlation between the rate of financial return, the economic rate of return and the interest rate, that is studying the impact of loans on financial return.

For 2007, ROCE, ROE, IR, FL, SFL and the EFL are presented in the table below.

**Table no. 3**

Company	ROCE	ROE	IR	FL	SFL	EFL
1. ALBZ	7,53%	3,56%	9,61%	0,351	-2,07%	-0,73%
2. ATB	13,67%	12,76%	9,61%	0,210	4,06%	0,85%
3. ARM	-10,32%	-22,88%	9,61%	0,571	-19,93%	-11,38%
4. ARTE	17,46%	16,72%	9,61%	0,352	7,85%	2,76%
5. AZO	3,84%	16,83%	9,61%	0,307	-5,77%	-1,77%
6. AZUR	3,64%	0,98%	9,61%	0,284	-5,96%	-1,70%
7. ARMT	7,35%	6,09%	9,61%	0,042	-2,26%	-0,09%
8. BRM	12,31%	12,80%	9,61%	0,217	2,70%	0,59%
9. SNO	11,57%	10,52%	9,61%	0,000	1,96%	0,00%
10. COMI	9,21%	6,75%	9,61%	0,165	-0,40%	-0,07%
11. DAFR	12,60%	11,33%	9,61%	0,554	2,99%	1,66%
12. ELGS	17,70%	18,11%	9,61%	1,505	8,09%	12,18%
13. EPT	-11,13%	-12,30%	9,61%	0,017	-20,74%	-0,35%
14. TBM	7,71%	7,56%	9,61%	0,413	-1,89%	-0,78%
15. FOSB	19,91%	17,81%	9,61%	0,039	10,31%	0,40%
16. ALU	33,14%	25,83%	9,61%	0,030	23,54%	0,70%
17. MACO	4,62%	2,53%	9,61%	0,125	-4,99%	-0,62%
18. ART	12,99%	9,81%	9,61%	0,771	3,38%	2,61%
19. MOIB	9,80%	5,42%	9,61%	0,879	0,19%	0,17%
20. NAPO	2,51%	0,17%	9,61%	0,062	-7,10%	-0,44%
21. NTEX	5,03%	4,14%	9,61%	0,003	-4,58%	-0,02%
22. SNP	14,82%	13,41%	9,61%	0,000	5,21%	0,00%
23. RRC	-1,35%	-15,22%	9,61%	0,321	-10,96%	-3,52%
24. SCTB	10,76%	5,17%	9,61%	0,000	1,15%	0,00%
25. SEOL	3,09%	2,55%	9,61%	0,143	-6,51%	-0,93%

**Finances - Accounting**

<b>Company</b>	<b>ROCE</b>	<b>ROE</b>	<b>IR</b>	<b>FL</b>	<b>SFL</b>	<b>EFL</b>
26. EFO	5,54%	5,01%	9,61%	0,007	-4,06%	-0,03%
27. TEL	0,18%	0,18%	9,61%	0,347	-9,42%	-3,27%
28. TGN	14,59%	13,47%	9,61%	0,118	4,99%	0,59%
29. COTR	19,97%	23,07%	9,61%	0,546	10,36%	5,65%
30. UMTT	7,06%	0,62%	9,61%	1,113	-2,55%	-2,84%
31. TUFE	3,00%	4,01%	9,61%	0,000	-6,60%	0,00%
32. VNC	8,73%	7,86%	9,61%	0,167	-0,87%	-0,15%

*Source: author's calculations*

Most of the companies studied (17) had a negative EFL in 2007. The lowest value was recorded by ARM (-11.38%) and highest value by ELGS (12.18%). Differential financial leverage had a low of -20.74% (EPT) and the maximum of 23.54% (ALU). These values, even if they were extreme, did not have a high impact on ROE, as FL was reduced, so that EFL also had low levels. Four companies (SNO, SNP, SCTB, TUFE) had a 0 financial leverage (didn't have borrowed capital). Maximum value of the financial leverage was registered by ELGS (1505) and is an unusual value, because the capital borrowed is 1.5 times larger than the equity, which means a very large debt. Overall, financial leverage didn't have very high levels, which is a plus. 11 companies had a positive effect of financial leverage. Most of the recorded values are, however, reduced, indicating that bank loans efficiency was not very large, so that financial return could not grow due to the use of debt.

In 2008, the situation is as follows:

**Table no. 4**

<b>Company</b>	<b>ROCE</b>	<b>ROE</b>	<b>IR</b>	<b>FL</b>	<b>SFL</b>	<b>EFL</b>
1. ALBZ	5,41%	0,66%	10,82%	0,528	-5,41%	-2,85%
2. ATB	7,79%	4,16%	10,82%	0,281	-3,03%	-0,85%
3. ARM	1,85%	-6,24%	10,82%	0,600	-8,97%	-5,38%
4. ARTE	6,72%	1,20%	10,82%	0,578	-4,10%	-2,37%
5. AZO	22,63%	13,90%	10,82%	0,158	11,81%	1,86%
6. AZUR	1,50%	-3,74%	10,82%	0,445	-9,32%	-4,15%
7. ARMT	5,57%	5,28%	10,82%	0,037	-5,25%	-0,19%
8. BRM	5,48%	4,52%	10,82%	0,545	-5,34%	-2,91%
9. SNO	26,91%	14,81%	10,82%	0,062	16,09%	1,00%
10. COMI	16,49%	11,38%	10,82%	0,120	5,67%	0,68%
11. DAFR	9,78%	0,63%	10,82%	0,737	-1,04%	-0,76%
12. ELGS	30,13%	26,87%	10,82%	0,760	19,31%	14,68%
13. EPT	25,90%	16,68%	10,82%	0,020	15,08%	0,30%
14. TBM	-14,23%	-37,77%	10,82%	0,743	-25,05%	-18,62%
15. FOSB	25,92%	19,71%	10,82%	0,035	15,10%	0,53%
16. ALU	22,59%	17,83%	10,82%	0,021	11,77%	0,25%
17. MACO	4,83%	4,18%	10,82%	0,591	-5,99%	-3,54%
18. ART	12,34%	-39,05%	10,82%	0,804	1,52%	1,22%
19. MOIB	4,06%	0,48%	10,82%	0,429	-6,76%	-2,90%
20. NAPO	4,73%	0,89%	10,82%	0,326	-6,09%	-1,98%
21. NTEX	4,36%	3,68%	10,82%	0,000	-6,46%	0,00%

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Company	ROCE	ROE	IR	FL	SFL	EFL
22. SNP	8,47%	7,47%	10,82%	0,131	-2,35%	-0,31%
23. RRC	0,69%	-29,76%	10,82%	0,590	-10,13%	-5,98%
24. SCTB	5,99%	5,85%	10,82%	0,060	-4,83%	-0,29%
25. SEOL	2,20%	0,06%	10,82%	0,263	-8,62%	-2,27%
26. EFO	3,20%	3,45%	10,82%	0,006	-7,62%	-0,04%
27. TEL	0,22%	0,22%	10,82%	0,383	-10,60%	-4,06%
28. TGN	11,30%	10,32%	10,82%	0,074	0,47%	0,04%
29. COTR	6,04%	4,44%	10,82%	0,132	-4,78%	-0,63%
30. UMTT	5,15%	-3,92%	10,82%	0,500	-5,67%	-2,83%
31. TUFÉ	6,59%	5,68%	10,82%	0,076	-4,23%	-0,32%
32. VNC	8,00%	7,00%	10,82%	0,240	-2,82%	-0,68%

Source: author's calculations

The increase of IR to 10.82% in 2008 had repercussions on EFL. This time, 23 companies had negative values. The maximum level was obtained by ELGS again (14.68%) and the minimum level by TBM (-18.62%). The same companies had extreme values for differential financial leverage, due to a higher level of financial leverage. The maximum value of the financial leverage was recorded by ART (0.804). Nine companies had a positive EFL, but the values obtained were lower than in 2007. There is a deterioration compared to 2007, which is visible in the number of companies that have a positive EFL, as well as in the levels obtained. A favorable aspect is shown in ROE, as most companies have a positive level, which means that they have managed to absorb the negative effects of using debts.

#### 4. CONCLUSIONS

Following the study conducted, we noted the difficult time most companies have had to bear, but overall I would say that they still faced the challenges of the economic environment in which they activate in a satisfactory way.

An important role in differentiating them was probably the managerial capacity to make the best decisions in such conditions. Thus, some of them were more affected in terms of profitability, indicators registering declining values, in some cases even well below 0.

#### REFERENCES:

1. Buse, L., Analiza economico-financiara. Sitech Publishing House, Craiova, Siminica, M., 2010  
Circiumaru, D.,  
Simion, D.,  
Ganea, M.
2. Lala-Popa, I., Analiza economico-financiară. Elemente teoretice si studii de caz, Miculeac, M. Editura Mirton, Timisoara, 2009
3. Radu, F., Analiză și diagnostic economico-financiar, Ed. Scrisul Românesc, Cîrciumaru, D., Craiova, 2008  
Bondoc, A.
4. Siminică, M. Diagnosticul financiar al firmei, Ed. Universitaria, Craiova, 2008