

THE FACTORS OF THE CAPITAL STRUCTURE IN EASTERN EUROPE

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Abstract: The paper proposes a test of the extent to which the financial indicators of the companies listed on the stock exchanges in Romania, Poland, Hungary and Czech Republic and representing four sectors of activity – Food, Chemistry, Energy and Pharmaceuticals – influence the debt ratios of these companies. We use linear regression and principal components analysis in order to test for the influence of 12 different financial indicators in each of the years from 2002 until 2006. The results show that there is evidence in support of the influence of the proposed factors because the coefficients are significant and maintain their signs in all the years of our analysis.

Introduction

When companies make decisions about the use of debt instruments a transformation of the expected cash flow away from shareholders is realized into cash up front. The factors that determine this decision remain unclear despite the important number of studies in this direction. This situation can be motivated partly by the fact that many of the empirical studies try to support a certain theory. The impressive number of evidence may facilitate the support of any theoretical idea. This is the reason for which, generally, lately the research papers did not provide a solid empirical basis able to present the advantages and disadvantages of each of the theories.

Many theories were issued on this problem. One of the most cited theories is the so-called tradeoff theory in which the key elements are the taxation and the bankruptcy costs. Myers (1984) proposed the pecking order theory, which assumes the existence of a hierarchy of the sources of finance according to the law of the least effort of use or resistance – first the retained earnings, then the debt and only on the last level the equity (calling in new partners). More recently, the market timing theory became more notorious (Baker and Wurgler 2004) as a counter theory of the first two. It assumes that the main determinant of the capital structure of a company consists in the relative misvaluation of the equity or debt, at the moment when the company needs financial resources.

The advocates of these theories often use empirical evidence that can support their point of view. Harris and Raviv (1991) is cited as well as Titman and Wessels (1988). The two papers show the existence of some significant empirical problems by the fact that they present contradictory methodological arguments.

According to Harris and Raviv (1991) the empirical studies are in general showing that the leverage increases with fixed assets, tax shield, the growing opportunities and the size of the company and decreases with volatility, advertizing expenditure, research and development expenditure, the probability of bankruptcy and the profitability. Despite these facts, the results of Titman and Wessels (1988) show no effect of the tax

shield, volatility or growth opportunities on the leverage. Hence, the supporters of certain theories find empirical arguments that help the ideas of any theoretical direction.

Our article proposes the analysis of the factors that influence the debt ratio of the companies in Eastern Europe, listed on the stock exchanges in their respective countries. The factors used as explanatory variables are financial indicators on years 2002-2006 for the companies taken into account.

Methodology

In order to analyze the impact of the capital structure to the financial indicators of the companies in Eastern Europe, we used data on companies listed on the stock exchanges from these countries using information about the financial indicators from the Reuters network.

We have obtained information on companies from the following sectors: Food, Chemistry, Energy and Pharmacy for Czech Republic, Poland, Romania and Hungary. Our objective was to provide an analysis that presents the reality in its dynamics, i.e. the influence of the financial indicators on the debt ratio was analyzed for a longer period of time, in a rolling window. Hence, the results present comments on the characteristics of the capital structure of the companies under analysis in each year from 2002 until 2006. One of the proposed objectives is to check for the consistency of the influence of some economic variables on the companies' capital structure.

The methodology used in order to obtain these results is twofold. On one hand we used regular regression inter-companies in each year of our analysis and on the other hand we used the Principal Components Analysis (PCA) for the group of financial indicators used as independent variables.

The first method consists in rolling a multifactor regression, without the use of any test for co linearity or to penalize in a certain way the big number of variables used as explanatory factors for the debt ratios. These regressions provided, in general, different results from one year to another but the set of factors for which statistically significant coefficients were obtained is quite reduced as opposed to the number of factors used in this regression. The method of the multiple regression was used as a first attempt to determine the factors that influence the debt ratio, usually used in any type of analysis. Besides the statistical significance matter, information about the sign of the coefficients could also be extracted as well as the extent to which it is kept from one year to another (from one sample to another). This information can be used in the same manner in order to check for the extent to which the significance happened by chance.

The use of the principal components method is due to the fact that it presents two important advantages.

On one hand PCA allows for information on the influence of a big number of variables on a single economic variable by significantly reducing the number of explanatory factors. Thus, the principal components analysis permits the computation of new variables, known as factors of principal components, which are built as linear combinations of the initial variables. In our case, this method consists in the use of 12 financial indicators as explanatory variables to produce 6 factors to be used in the regressions that provide the influences of the financial indicators on the debt ratio. This is why the determination of each factor (component) is based on the weights with which the 12 indicators are composing each factor.

The weights computed with the PCA are built in such a way so that the factor explains in a great deal the variation of the group of financial indicators. This variation

is represented by the group's variance-covariance matrix. Hence, by the use of PCA we will obtain 6 factors that will explain as well as possible the variance-covariance matrix of the group of financial indicators.

On the other hand, the PCA analysis produces factors that are orthogonalized among them, succeeding to avoid the problem of multicollinearity in the regressions that will use them as independent variables.

These are the reasons for which PCA is used for the determination of the way in which the financial indicators of the companies in our sample are influencing the debt ratios for each of the companies in the 4 countries under analysis. The software package used for our analysis is E-views.

Results

We will next present the results for each of the 5 years of study for the 65 companies by exposing the computation obtained after running the two multiple regressions – the one in which the dependent variable is the debt ratio and the independent variables are the 12 financial indicators, on one hand, and the regression in which we use the debt ratio as the dependent variable and the first 6 most important components as explanatory variables, on the other hand. The results of each discomposure are available upon request.

Results for year 2002

After running the regression in which the dependent variable is the total debt divided by total assets for all the companies in the sample we obtained the results presented in the following tables.

Regression with 12 variables in 2002 (E-views output)

Method: Least Squares				
Date: 12/03/07 Time: 18:49				
Sample (adjusted): 1 65				
Included observations: 65 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.222677	0.393140	0.566407	0.5736
ASSETS/EQUITY	0.258142	0.380721	0.678035	0.5008
LIABILITIES/EQUITY	-0.194452	0.380500	-0.511044	0.6115
SALES/TOTAL ASSETS	0.014449	0.025811	0.559796	0.5780
QUICK RATIO	-0.040005	0.045988	-0.869914	0.3883
CURRENT RATIO	-0.033305	0.032974	-1.010048	0.3171
SALES/STOCKS	0.000301	0.000167	1.808713	0.0763
SALES/ACCOUNT RECEIVABLES	-0.002452	0.001809	-1.355361	0.1812
SALES/WORKING CAPITAL	-0.000620	0.000421	-1.472159	0.1470
OPERATING PROFIT	0.000971	0.000571	1.699918	0.0951
EARNINGS BEFORE TAX	0.000905	0.000331	2.731935	0.0086
RETURN ON EQUITY	0.002701	0.001448	1.865071	0.0678
RETURN ON ASSETS	-0.011704	0.004943	-2.367833	0.0216
R-squared	0.814512	Mean dependent var		0.485923
Adjusted R-squared	0.771707	S.D. dependent var		0.191092
S.E. of regression	0.091304	Akaike info criterion		-1.772391
Sum squared resid	0.433492	Schwarz criterion		-1.337514
Log likelihood	70.60272	F-statistic		19.02848
Durbin-Watson stat	2.392072	Prob(F-statistic)		0.000000

The financial indicators for which we found statistical significance are presented in the upper table with bolded fonts. We observe that, besides the Fixed Assets Return, in all the cases the coefficients are positive, but with values very close to 0, although the standard error of the coefficients is small, conducting towards a statistical significance up to the level of 10% for four indicators.

After running the discomposure using the principal components analysis we obtained 6 components that explain 94,72% of the variation of the entire set of financial indicators. Using the eigenvectors we could determine the 6 components that were next used as dependent variables for a linear regression supposed to explain the values of the debt ratios.

Principal components regression – 2002

Method: Least Squares				
Date: 12/03/07 Time: 19:41				
Sample (adjusted): 1 65				
Included observations: 65 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.485923	0.012612	38.52966	0.0000
PC1	-0.057807	0.006276	-9.211203	0.0000
PC2	0.067467	0.008265	8.162673	0.0000
PC3	-0.010126	0.008811	-1.149295	0.2552
PC4	0.041737	0.010768	3.876089	0.0003
PC5	0.001097	0.012714	0.086318	0.9315
PC6	-0.007734	0.016343	-0.473201	0.6378
R-squared	0.743422	Mean dependent var	0.485923	
Adjusted R-squared	0.716879	S.D. dependent var	0.191092	
S.E. of regression	0.101678	Akaike info criterion	-1.632562	
Sum squared resid	0.599634	Schwarz criterion	-1.398397	
Log likelihood	60.05827	F-statistic	28.00864	
Durbin-Watson stat	2.424013	Prob(F-statistic)	0.000000	

The results of this regression show that the first two components and the fourth one influence the debt ratio in a statistically significant manner. Looking at the importance of these components for the representation of the whole group of financial indicators used in the regression, we observe that these are representing 34%, 19% and respectively 11% of the movement in the entire group, so around 64% of this variation. The significance of these factors prove that, on the whole, the group of financial indicators affects the debt ratios of the companies in the sample for year 2002.

Results for year 2003

The linear regression using the debt ratio as dependent variable computed for 77 companies in the four countries in our sample for year 2003 and employing the financial indicators as explanatory variables, reported statistical significance for the indicators Assets/Equity, Sales/Total Assets, Current Ratio, Operational Profit, EBT and the Fixed Assets Ratio. the values of the coefficients are in general positive, least for the current ratio and for the fixed assets ratio.

Linear regression with 12 independent variables – 2003

Method: Least Squares				
Date: 12/03/07 Time: 18:55				
Sample (adjusted): 1 77				
Included observations: 77 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.055025	0.205473	0.267795	0.7897
ASSETS/EQUITY	0.370746	0.195394	1.897427	0.0623
LIABILITIES/EQUITY	-0.316140	0.195937	-1.613472	0.1116
SALES/TOTAL ASSETS	0.051762	0.018943	2.732532	0.0081
QUICK RATIO	0.048049	0.036794	1.305908	0.1963
CURRENT RATIO	-0.078007	0.033779	-2.309318	0.0242
SALES/STOCKS	3.87E-05	0.000108	0.357562	0.7218
SALES/ACCOUNT RECEIVABLES	0.001231	0.000832	1.479657	0.1439
SALES/WORKING CAPITAL	-0.000319	0.000304	-1.048418	0.2984
OPERATING PROFIT	0.004246	0.001955	2.171814	0.0336
EARNINGS BEFORE TAX	0.001710	0.000211	8.109869	0.0000
RETURN ON EQUITY	0.000661	0.001181	0.560085	0.5774
RETURN ON ASSETS	-0.017683	0.003930	-4.499329	0.0000
R-squared	0.827999	Mean dependent var	0.501975	
Adjusted R-squared	0.795748	S.D. dependent var	0.194840	
S.E. of regression	0.088057	Akaike info criterion	-1.868934	
Sum squared resid	0.496254	Schwarz criterion	-1.473226	
Log likelihood	84.95395	F-statistic	25.67417	
Durbin-Watson stat	2.117349	Prob(F-statistic)	0.000000	

To a great extent, the variables that recorded statistically significant coefficients are approximately the same as in the case of the year 2002. The significance is generally greater than in the previous year although the values of the coefficients are very close to zero. The fixed assets ratio has a significant negative influence, as in the year 2002. The level of the determination coefficient is around the same level (almost 80%), which shows the fact that the factors used succeed in explaining the debt ratios in a significant manner.

The results provide the same level of significance for the regression with principal components for this year. After the discomposure, we used the first 6 most important components that represent about 93% of the total variation of the group of 12 financial indicators. We observe a strong statistical significance for all the 6 components up to the level of 10%.

Regression for principal components – 2003

Method: Least Squares				
Date: 12/03/07 Time: 19:39				
Sample (adjusted): 1 77				
Included observations: 77 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.501975	0.016017	31.34049	0.0000
PC1	0.034114	0.008593	3.970133	0.0002
PC2	0.054796	0.009537	5.745697	0.0000
PC3	-0.028996	0.011951	-2.426340	0.0178
PC4	-0.030641	0.014040	-2.182415	0.0324
PC5	-0.025148	0.015206	-1.653877	0.1026
PC6	-0.072434	0.019429	-3.728078	0.0004
R-squared	0.520741	Mean dependent var		0.501975
Adjusted R-squared	0.479662	S.D. dependent var		0.194840
S.E. of regression	0.140547	Akaike info criterion		-1.000040
Sum squared resid	1.382744	Schwarz criterion		-0.786967
Log likelihood	45.50154	F-statistic		12.67649
Durbin-Watson stat	1.797258	Prob(F-statistic)		0.000000

The conclusion that can be drawn from this analysis is, as in the previous year, that the financial indicators taken into account succeed to explain to a great extent the debt ratio of the companies in the 4 countries. The sample of companies is greater for this year, which may mean that the information from the two regressions are more significant for 2003 than for 2002. The number of companies used in the analysis grew from one year to another and the results that are presented next are however different.

Results for year 2004

The results for the regression with the 12 explanatory variables for year 2004 are presented in the following table. In this year the sample has the dimension of 80 – we were able to find information on the financial indicators for 80 companies in the 4 countries under analysis.

Linear regression with 12 independent variables – 2004

Method: Least Squares				
Date: 12/03/07 Time: 18:57				
Sample (adjusted): 1 80				
Included observations: 80 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.124442	0.218533	0.569443	0.5710
ASSETS/EQUITY	0.324759	0.210360	1.543824	0.1273
LIABILITIES/EQUITY	-0.268351	0.210478	-1.274960	0.2067
SALES/TOTAL ASSETS	0.055727	0.015854	3.514990	0.0008
QUICK RATIO	0.031806	0.034636	0.918299	0.3618
CURRENT RATIO	-0.085509	0.030304	-2.821740	0.0063
SALES/STOCKS	-0.000141	6.17E-05	-2.286211	0.0254
SALES/ACCOUNT RECEIVABLES	-0.000394	0.001126	-0.349838	0.7276
SALES/WORKING CAPITAL	-6.51E-05	0.000146	-0.446848	0.6564
OPERATING PROFIT	-0.001705	0.001085	-1.571045	0.1209
EARNINGS BEFORE TAX	0.002844	0.001451	1.960701	0.0541
RETURN ON EQUITY	-0.000101	0.001147	-0.088244	0.9299
RETURN ON ASSETS	-0.008106	0.003076	-2.635036	0.0104
R-squared	0.840969	Mean dependent var		0.455180
Adjusted R-squared	0.812486	S.D. dependent var		0.184057
S.E. of regression	0.079702	Akaike info criterion		-2.073380
Sum squared resid	0.425611	Schwarz criterion		-1.686301
Log likelihood	95.93520	F-statistic		29.52512
Durbin-Watson stat	1.874071	Prob(F-statistic)		0.000000

The financial indicators for which the regression results presented statistical significance in this year are Sales/Total Assets, Current Ratio, Sales/Stocks, EBT and the Return on Fixed Assets. Although the factors with statistical significance are slightly different with respect to the previous situations, we can observe that the sign of the coefficients is the same in all the cases. The coefficients have values close to 0 but the standard error is small enough as opposed to their values, which gives them an important statistical significance – all the coefficients for the factors above mentioned are significant at the 5% level.

Regression with principal components – 2004

Method: Least Squares				
Date: 12/03/07 Time: 19:37				
Sample (adjusted): 1 80				
Included observations: 80 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.455180	0.009865	46.14068	0.0000
PC1	-0.036540	0.005202	-7.023627	0.0000
PC2	0.083440	0.006091	13.69907	0.0000
PC3	0.039190	0.006984	5.611587	0.0000
PC4	0.010779	0.009239	1.166710	0.2471
PC5	0.004711	0.009938	0.473981	0.6369
PC6	0.009457	0.011486	0.823298	0.4130
R-squared	0.787636	Mean dependent var		0.455180
Adjusted R-squared	0.770182	S.D. dependent var		0.184057
S.E. of regression	0.088236	Akaike info criterion		-1.934178
Sum squared resid	0.568344	Schwarz criterion		-1.725751
Log likelihood	84.36712	F-statistic		45.12493
Durbin-Watson stat	1.741815	Prob(F-statistic)		0.000000

After the discomposure, we can say that the first 6 components represent more than 92% of the variation of the entire set of financial indicators for the 80 companies in our sample for this year. Running the regression showed that the first 3 components have a statistical significance and they stand for 30%, 22% and 17% respectively of the variation in the whole group, meaning approximately 69% of this variation.

We consider that the statistical significance is relevant for the group of companies and indicators taken into account, which means that the debt ratio is affected in a significant manner by these indicators in 2004.

Results for 2005

In 2005 our study used 81 companies from the 4 countries in the sample. The linear regression shows that for 3 of the 12 financial indicators in our analysis, statistically significant coefficients were obtained up to the level of 14%.

The linear regression with 12 variables in 2005

Method: Least Squares				
Date: 12/03/07 Time: 19:00				
Sample (adjusted): 1 81				
Included observations: 81 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.278091	0.138360	2.009903	0.0484
ASSETS/EQUITY	0.112550	0.133715	0.841711	0.4029
LIABILITIES/EQUITY	0.027182	0.138126	0.196793	0.8446
SALES/TOTAL ASSETS	-0.000382	0.015075	-0.025314	0.9799
QUICK RATIO	0.027659	0.024783	1.116032	0.2683

CURRENT RATIO	-0.072993	0.021154	-3.450494	0.0010
SALES/STOCKS	-3.23E-05	2.96E-05	-1.091394	0.2790
SALES/ACCOUNT RECEIVABLES	-0.000389	0.001193	-0.325926	0.7455
SALES/WORKING CAPITAL	-6.00E-05	5.10E-05	-1.176359	0.2436
OPERATING PROFIT	0.000157	0.003241	0.048512	0.9615
EARNINGS BEFORE TAX	-0.003294	0.002985	-1.103448	0.2737
RETURN ON EQUITY	0.000797	0.000524	1.520818	0.1329
RETURN ON ASSETS	0.000498	0.000333	1.497732	0.1388
R-squared	0.895324	Mean dependent var		0.430854
Adjusted R-squared	0.876851	S.D. dependent var		0.174393
S.E. of regression	0.061199	Akaike info criterion		-2.603329
Sum squared resid	0.254681	Schwarz criterion		-2.219035
Log likelihood	118.4348	F-statistic		48.46838
Durbin-Watson stat	2.014877	Prob(F-statistic)		0.000000

The significance level is quite reduced at least due to the fact that the sign of the coefficients is different with respect to the previous years.

However the results of the principal components analysis discomposure shows that the first 3 factors and the 6th one, used in the regression in which the dependent variable is the debt ratio, have statistically significant coefficients with very reduced p-values (virtually 0), so with a very small error of rejection of the null hypothesis.

The regression with principal components – 2005

Method: Least Squares				
Date: 12/03/07 Time: 19:34				
Sample (adjusted): 1 81				
Included observations: 81 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.430854	0.007285	59.14215	0.0000
PC1	-0.052855	0.003448	-15.32787	0.0000
PC2	0.052840	0.004363	12.11174	0.0000
PC3	0.053088	0.005186	10.23710	0.0000
PC4	0.002573	0.006642	0.387346	0.6996
PC5	0.002999	0.007477	0.401101	0.6895
PC6	-0.019668	0.008604	-2.285877	0.0251
R-squared	0.869252	Mean dependent var		0.430854
Adjusted R-squared	0.858650	S.D. dependent var		0.174393
S.E. of regression	0.065566	Akaike info criterion		-2.529077
Sum squared resid	0.318114	Schwarz criterion		-2.322149
Log likelihood	109.4276	F-statistic		81.99539
Durbin-Watson stat	1.982038	Prob(F-statistic)		0.000000

The components that have significant coefficients explain the variation of the group of financial indicators with approximately 34%, 21%, 15% and 6%, so with a cumulated power of 75%. Hence we can say that the group of variables explain to a great extent the debt ratio for the companies in the countries that we took into account.

The results for year 2006

In year 2006 we disposed of a sample of 82 companies that cover the four sectors from the 4 countries. The results are presented in the following table.

The linear regression with 12 variables – 2006

Method: Least Squares				
Date: 12/03/07 Time: 19:03				
Sample (adjusted): 1 82				
Included observations: 82 after adjustments				
Variable	Coefficient t	Std. Error	t-Statistic	Prob.
C	0.357044	0.186633	1.913077	0.0599
ASSETS/EQUITY	0.026781	0.179987	0.148795	0.8821
LIABILITIES/EQUITY	0.117378	0.182270	0.643975	0.5217
SALES/TOTAL ASSETS	-0.018822	0.018470	-1.019048	0.3117
QUICK RATIO	0.023903	0.023229	1.029010	0.3071
CURRENT RATIO	-0.064705	0.019670	-3.289466	0.0016
SALES/STOCKS	-4.29E-05	3.73E-05	-1.149913	0.2541
SALES/ACCOUNT RECEIVABLES	0.001097	0.001989	0.551267	0.5832
SALES/WORKING CAPITAL	1.73E-05	3.22E-05	0.535704	0.5939
OPERATING PROFIT	0.001239	0.002377	0.521168	0.6039
EARNINGS BEFORE TAX	-0.003339	0.002303	-1.449792	0.1516
RETURN ON EQUITY	0.000343	0.000735	0.466993	0.6420
RETURN ON ASSETS	0.000672	0.000528	1.274309	0.2068
R-squared	0.883132	Mean dependent var		0.419352
Adjusted R-squared	0.862807	S.D. dependent var		0.189163
S.E. of regression	0.070065	Akaike info criterion		-2.334318
Sum squared resid	0.338731	Schwarz criterion		-1.952765
Log likelihood	108.7070	F-statistic		43.45063
Durbin-Watson stat	1.875430	Prob(F-statistic)		0.000000

We can observe that, in the regression with the 12 variables used in their level values, a statistical significance was obtained for the coefficient of the Current Ratio (with a p-value of 0.16%) and for the coefficient of the EBT with a degree of error of 15.16%. We can observe that the Current Ratio is able to explain the debt ratio with a negative coefficient, the same sign in all the years of our analysis. The coefficients for the other indicators in the regression are very close to zero and within similar variation bounds as in the regressions run in the previous years.

More information can be drawn from the principal components analysis. After the discomposure we used the first 6 components, which represent about 96% of the

variation of the entire group of financial indicators. The regression of the debt ratio for the 82 companies shows that the first 3 and the 6th component have significant coefficients.

Regression with principal components – 2006

Method: Least Squares				
Date: 12/03/07 Time: 19:27				
Sample (adjusted): 1 82				
Included observations: 82 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.419352	0.008309	50.47105	0.0000
PC1	-0.016785	0.003670	-4.573303	0.0000
PC2	0.102011	0.005103	19.99025	0.0000
PC3	0.016898	0.005802	2.912290	0.0047
PC4	-0.004677	0.007730	-0.605122	0.5469
PC5	-0.004822	0.008351	-0.577372	0.5654
PC6	-0.031306	0.011592	-2.700716	0.0085
R-squared	0.853516	Mean dependent var	0.419352	
Adjusted R-squared	0.841797	S.D. dependent var	0.189163	
S.E. of regression	0.075239	Akaike info criterion	-2.254790	
Sum squared resid	0.424570	Schwarz criterion	-2.049338	
Log likelihood	99.44639	F-statistic	72.83336	
Durbin-Watson stat	1.499579	Prob(F-statistic)	0.000000	

These components explain 30%, 20%, 16% and 4% of the variation of the group of financial indicators, which means a cumulated power of approximately 70% of this variation. The conclusion is that, as observed in the previous years, the group of financial indicators can be used for the determination of the debt ratio for the countries in our sample.

Conclusions

In general we can say that the group of variables taken into account in our analysis influences the values of the capital structure (measured as debt divided by total assets), by regressions with a high coefficient of determination. Although the explanatory variables showed different influence levels in the 5 years of our analysis, the group of variables is almost the same and the signs of the coefficients, at the 10% significance level, are the same in all the instances. This is why we can assert that the statistical significance is not random due to the repetition in all the years.

In the same line of thinking, the discomposure in principal components of the group of 12 financial indicators available for the analysis in each of the 5 years succeeds in explaining the debt ratio up to a level of 70% from the group variation. Due to the fact that the significant variables are the same in most of the cases, we can conclude that they represent the most important part of the group of financial indicators, so that the financial indicators as a whole can explain the debt ratio in an environment in which we do not have co linearity.

REFERENCES

1. Fischer, M., R. Heinkel, and J. Zechner (1989). Dynamic Capital Structure Choice; Theory and Tests. *Journal of Finance* 44, 19-40;
2. Choe, H., R.W. Masulis, and V. Nanda, 1993, Common stock offerings across the business cycle, *Journal of Empirical Finance* 1, 3-31;
3. Corwin, S.A., 2003, The determinants of underpricing for seasoned equity offers, *Journal of Finance* 63, 2249-2279;
4. DeAngelo, H., and R. Masulis, 1980, Optimal capital structure under corporate and personal taxation, *Journal of Financial Economics* 8, 3-29;
5. Faulkender, M., and M.A. Petersen, 2006, Does the source of capital affect capital structure?, *Review of Financial Studies* 19, 45-79;
6. Fischer, E., R. Heinkel, and J. Zechner, 1989, Dynamic capital structure choice: theory and tests, *Journal of Finance* 44, 19-40;
7. Frank, M.Z., and V.K. Goyal, 2003, Testing the pecking order theory of capital structure, *Journal of Financial Economics* 67, 217-248;
8. Jaggia, P.B., and A.V. Thakor, 1994, Firm-specific human capital and optimal capital structure 35, 283-308;
9. Jensen, M.C., 1986, Agency costs of free cash flow, corporate finance, and takeovers, *American Economic Review* 76, 323-329;
10. Jensen, M.C., and W.H. Meckling, 1976, Theory of the firm: managerial behavior; agency costs and ownership structure, *Journal of Financial Economics* 3, 305-360;
11. Titman, S., 1984, The effect of capital structure on a firm's liquidation decision, *Journal of Financial Economics* 13, 137-151;
12. Titman, S., and R. Wessels, 1988, The determinants of capital structure choice, *Journal of Finance* 43, 1-21.