

QUANTIFICATION OF THE OPERATIVE RISK IN THE COST OF CAPITAL

Florin CRISTEA ¹

Academy of Economic Studies – Romania, Bucharest

Abstract

When looking at the Global economy and the quantification of the operative risk in the cost of capital, a necessary ingredient for a meaningful analysis is an assessment of the country's integration into world capital markets. The international financial markets are progressively becoming one huge, integrated, global capital market, that is contributing to higher stock prices in developed as well as developing economies. If for example a market is segmented from the rest of the world, its exposure with a common world factor may have little or no ability to explain its expected return. Large companies visible enough to attract global investors, have a lower cost of capital and a greater equity value for two main reasons: first, because the risks of equity are shared among more investors with different portfolio exposures and hence a different "appetite" for bearing certain risks, equity market risk premiums should fall for all companies in countries with access to global markets. Second, when firms in countries with less-developed capital markets raise capital in the public markets of countries with highly developed markets, they get more than lower-cost capital; they also import at least aspects of the corporate governance systems that prevail in those markets. Besides reducing market risk premiums and improving corporate governance, globalization also affects the systematic risk, of individual companies. In global markets, the beta of a firm's equity depends on how the stock contributes to the volatility not of the home market portfolio, but of the world market portfolio. For companies with access to global capital markets whose profitability is tied more closely to the local than to the global economy, use of the traditional CAPM will overstate the cost of capital because risks that are not diversifiable within a national economy can be diversified by holding a global portfolio.

Keywords: cost of capital, market portfolio, equity value, stock price, risk premiums.

JEL Classification: B22, C33, G30.

¹ Academy of Economic Studies, Bucharest, Romania, cristeaflorinfelix@yahoo.com

1. Introduction

The proper recording of the operative risk in the cost of capital is of primary importance for the valuation of companies. The future cash flows are uncertain and therefore have to be included in the valuation calculation with their expected value. At the same time, the operative risk of the cash flow equivalent must be reflected in the cost of capital, which makes its quantification a basic necessity.

To consider the risk contained in the cash flow in the cost of capital, the practice of valuation applies a market risk premium based on the Capital Asset Pricing Model (CAPM). The market risk premium is weighted with the company-specific beta factor. As a rule, the beta factor is determined on the basis of the peer group. To what extent the peer group applied actually carries the operative risk sought for the assessing decision cannot be definitively judged due to the lack of uniform and operational approaches to risk quantification. In the result, the required “generated risk equivalence” is frequently replaced by an “assumed risk equivalence”. If there is no congruence, erroneous valuations may result from an insufficient consideration of the risk.

The peer group based approaches generally applied to date can only partially document the operative risk of the valuation object, if:

- Companies are increasingly less comparable to one another on the basis of purely qualitative distinctive features.
- Business models increasingly penetrate different industries at the same time.
- High volatilities in the capital markets increasingly hamper the derivation of stable empirical data.

CEDA supplements, the previous established methods and quantifies the operative risks associated with a business model. The basis for this is formed by integrated planning models that are in the position to process scenarios and simulation analyses.

The influence of value drivers on the volatility of the cash flow and therefore on an important part of the operative risk of a company can both be isolated – by means of so-called tornado diagrams – as well as illustrated in complete combination in the form of a distribution function of the cash flow from which the risk profile can be read. In the framework of this transparent approach it is possible, under consideration of a number of conceivable scenarios, to not

only determine the expected value of the cash flow for the individual years, but also to quantify a very material part of the operative risk – reflected in the future fluctuations of the cash flow. A decision about the various alternative actions, for instance, the acquisition of the transaction object 1 or 2, cannot therefore be made simply by considering the individual performance, but rather by also considering the risk that accompanies the specific performance. In this way, it is possible to assess whether an action has a higher or lower performance and how its related risk position is. In addition, direct comparisons to other alternative actions are possible. These comparisons are visualized by means of a performance/risk matrix. Beyond that, the interdependencies of the capital market that may occur can be compiled – depending on the alternative course of action – between the overall market and the company. The company's valuation-relevant risk, under consideration of its risk profile as well as its external interactions with the capital market, can be derived in the result and correctly compiled in the cash flow and the equivalent in the corresponding cost of capital.

This provides extended possibilities to base corporate decisions on additional, robust quantitative analyses. Possible valuation errors based on purely qualitative statements can be avoided. Many studies try to shed light on the relation between capital structure and its determinants. Based on the literature review there are some key internal factors that have significant effect on the financing choice of a company: profitability (Barton & Gordon, 1988; Bauer, 2004; Bastos, Nakamura, & Basso, 2009; Bokpin, 2009; Dincergok & Yalciner, 2011; Keshtkar, Valipour, & Javanmard, 2012 and etc.), asset tangibility (Korajczyk & Levy, 2003; Bastos, Nakamura, & Basso, 2009; Frank & Goyal, 2009; Nguyen & Wu, 2011), growth opportunities (Titman & Wessels, 1988; Ozkan, 2001; Bauer, 2004; Daskalakis & Psillaki, 2008; Kouki & Said, 2012), non-debt tax shields (Ozkan, 2001; Korajczyk & Levy, 2003; Bauer, 2004; Kouki & Said, 2012; Lim, 2012), firm size (Michaelas, Chittenden & Poutzioris, 1999; Korajczyk & Levy, 2003; Bauer, 2004; Hanousek & Shamshur, 2011; Nguyen & Wu, 2011; Lim, 2012). The relations between these variables and capital structure can be negative or positive depending on countries' specifics and debt structure. As a rule authors identify capital structure proxies as market and book debt ratios, and also based on time factor (short-term debt ratio and long-term debt ratio).

2. Problem Statement

According to the literature research, there are several authors investigating the relation between corporate operative risks, capital structure and external factors. One of the most used external determinants of capital structure is Gross Domestic Product (Bastos, Nakamura & Basso, 2009; Bokpin, 2009; Dincergok & Yalciner, 2011; Camara, 2012). They find that there is a negative and significant relation between corporate capital structure and GDP (as well as GDP growth). Gajurel (2006) also argues that there is a negative relation with total debt ratio and short-term debt ratio, but there is a positive influence on the long-term debt ratio. The boost in economy and consequently growth in GDP lead to increase in companies profits. According to pecking order theory companies will prefer internal sources as retained earnings then debt.

Another important external factor, that must be investigate is inflation rate. However, the findings of such studies differ. For example, Bastos, Nakamura & Basso (2009) argue that inflation does not influence the operative risk or the capital structure of a company; and Frank & Goyal (2009) find the relation between inflation and the market leverage, but no effect on the book leverage.

Camara (2012), shows that macroeconomic conditions included inflation rate have significant relation with capital structure. Sett & Sarkhel (2010), Hanousek & Shamshur (2011) also argue that inflation has strong and positive influence on the capital structure and operative risk. Rely on debt structure, Gajurel (2006) finds that inflation is negatively related to total leverage and the short-term debt ratio, but positively influences on the long-term debt ratio.

The relation between leverage and stock returns is investigated by several authors. One of them is, Masulis (1983). He found that change in leverage is positively associated with change in stock returns. Five years after in 1988, Bhandari also argues that leverage has a positive influence on the expected common returns. However, Korteweg (2004), Dmitrov & Jain (2008) find negative relation between leverage and returns. Artikis & Nifora (2011) also investigate the influence of stock returns on the capital structure and operative risk and detect a negative and statistically significant relation between leverage and equity returns.

Industry median leverage, has strong positive relation with capital

structure (Hanousek & Shamshur, 2011). However according to the findings of Frank & Goyal (2009), the industry median leverage has influence only on the market leverage. Commercial paper spread (CPS) according to several authors (Korajczyk & Levy, 2003; Camara, 2012) has a significant influence on the capital structure. According to Bokpin (2009) interest rate as external factor positively and significantly influences the corporate capital structure. Conversely Dincergok & Yalciner (2011) argue that there is a negative relation between interest rate and capital structure.

In 2011, two authors Dincergok & Yalciner, conduct a study, regarding the fact that the stock market development, has positive relation with capital structure and operative risk. Moreover, market capitalization as a proxy for stock market development has a positive influence on the capital structure (Gajurel, 2006). At the same time Bokpin (2009) argues that there is no relation between these variables. And Sett & Sarkhel (2010) find negative relation between capital structure and stock market development.

Also, there are other external determinants of corporate capital structure, for example developing of banking sector, public debt, ban credit, unemployment rate and etc. (Korajczyk & Levy, 2003; Bastos, Nakamura & Basso, 2009; Bokpin, 2009; Sett & Sarkhel, 2010; Camara, 2012). In addition, some authors investigate the influence of different macroeconomic indexes on the corporate capital structure. For instance, Alberto Alesina (2010) find that the product market index, legal system index, non-state economic structure index and financial market index are negatively correlated with debt ratio. Moreover, the companies choose short-term loans, if the degree of government intervention is stronger, efficiency of product market is higher and the legal system is robust. And the preferred source of financing is long-term loans, if the proportion of non-state economy is greater and development of financial sector is higher. The summarized findings of previous studies on the theme of capital structure and its determinants are provided in Appendix A.

3. Research Questions/Aims of the research

In this paper we investigate the relation between macroeconomic factors represented by indicators of monetary and fiscal policies and corporate operative risk in the capital structure. The sample consists of evidence from

seven European countries as Estonia, Lithuania, Poland, Hungary, Sweden, Germany and Greece symbolized emerging and developed markets.

The countries Estonia, Lithuania, Hungary and Poland have high income economies; but, they also exemplify emerging markets according several analytical agencies as Dow Jones, S&P†. In addition, Greece refers to emerging economies after the Global Financial Crisis. Advanced economies are represented by Germany and Sweden. We constructed the sample containing the manufacturing companies for the period 2007–2012 from the international database Amadeus. The main selection requirements were region (if it is incorporated in an investigated country), industrial sector (if manufacture is the main specialization) and availability of appropriate information (if a company has all required data for the period 2007-2012).

In this case, the macroeconomic factors are revealed by indicators of monetary and fiscal policies, and several main determinants of economic development and stability. The variables of monetary policy are long-term interest rate (LTIR), short-term-interest rate (STIR), inflation rate as GDP deflator (IR) and money and quasi money (M2) as percentage of GDP, which indicate monetary conditions in general. Fiscal policy is represented by proxies as central government debt to GDP (CGD), tax revenue as percentage of GDP (TR), income taxes as percentage of revenue (IT). Also the fiscal policy is a government spending and taxing for the purpose of stabilizing the economy. As well there are short-term and long-term goals. In short-term outlook government prevent excessive unemployment and control inflation. For long-term perspectives fiscal policy encourage economic growth for the purpose of higher standard of living. Fiscal policy has two main tools as changing tax rates and changing government expenditure. There are also expansionary and contractionary fiscal policies. In the first case government increases aggregate demand by adjusting the budget through increasing spending or decreasing taxes. The companies lose their tax benefits for debt financing. Also raise in government spending may lead to bigger sales and profits, thus the retained earnings as internal capital will be available and more preferable. Consequently, the total leverage is going to decrease. Under contractionary fiscal policy it is the opposite. The government resorts to debt, when spending exceed its revenue, and it is inadvisable to increase taxes or cut spending. Looking at the variables like unemployment rate (UR) and GDP growth (GDPg) feature macroeconomic development and stability, we can see that operative risk in the capital structure can be measured in different ways. One

of the fundamental classifications of proxies is debt structure. Many studies are based not only on the total liabilities, but divide them into short- and long-term liabilities (Michaelas, Chittenden & Poutziouri, 1999; Hall, Hutchinson & Michaelas, 2000; Bhiard & Lucey, 2010; Hanousek & Shamshur, 2011; Keshtkar, 2012). For our research we have chosen three capital structure measures: total leverage represented by total debt to total assets (TL), long-term debt ratio represented by long-term liabilities to total assets (LTD) and short-term debt ratio represented by short-term liabilities to total assets (STD), in order to take into consideration structure of debt. In our research as a first step we provide Pearson correlation analysis, in order to investigate the influence macroeconomic factors on capital structure and operative risk.

4. Research Methods

The obtained results vary across countries and depend on corporate debt structure. Thus, in Estonia there is a strong negative significant relation between inflation rate and total debt ratio and short-term debt ratio. The interest rates as another indicator of monetary policy have also negative but non-significant impact on the same proxies of capital structure. The fiscal policy represented by government debt has opposite influence on corporate capital structure: negative significant relation with total debt and short-term debt and negative significant relation with long-term debt. The tax revenue and income taxes have negative and non-significant relation with total leverage and short-term debt. But in the case of income taxes it positively and significantly affect long-term debt ratio. The money supply M2 as well as unemployment rate have non-significant strong positive influence on total leverage and short-term debt, but negative on long-term. The GDP growth has non-significant weak relation with all proxies of capital structure in all investigated countries, except Greece, where it has significant strong positive influence on short-term debt ratio.

In Lithuania the inflation rate has weak non-significant relation with corporate capital structure, as well as in other countries except Sweden, where relations are strong significant but depends on debt structure, and Hungary, where its influence negative but non-significant. Interest rates both long-term and short-term have negative strong influence on capital structure; however, its significance depends on debt structure. The government debt has strong positive impact on capital structure in Lithuania and Hungary; moreover, Greece also has positive relation but weak and non-significant. The influence

of monetary supply is negative but non-significant. At the same time unemployment rate has positive impact on capital structure.

Table 1. An example of a table

Total Leverage	LTIR	STIR	IR	CGD	TR	IT	M2	UR	GDPg
Estonia	↓↓	↓↓	↓↓*	↑↑*	↓	↓↓	↑↑	↑↑	↓
Lithuania	↓↓**	↓↓	↓	↑↑*	↓↓	↓↓	↓↓	↑↑*	↓
Poland	↓	↑↑	↓	↓↓	↑↑	↑↑	↓	↓	↑↑
Hungary	↑	↓↓	↓↓	↑↑	↓	↓↓*	↑↑	↑↑	↑
Germany	↑↑**	↑↑*	↓	↓↓**	↓	↑↑*	↑	↑↑	↑
Sweden	↑↑	↑↑*	↑↑*	↓↓**	↑↑	↑↑*	↓↓*	↓	↑
Greece	↓↓	↑↑	↑↑	↑	↑	↑	↓	↓↓	↑

↑↑ - strong positive relation (≥ 0.5); ↑ - not strong positive relation (≤ 0.5); ↓↓ - strong negative relation (≥ 0.5); ↓ - not strong negative relation (≤ 0.5) * Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

A very important view, is the fact that, Poland, Hungary and Greece have weak relation between long-term interest rate and capital structure and operative risk; furthermore, its direction depends on corporate debt structure. At the same time in Germany and Sweden both the long-term and short-term interest rates have strong positive and significant influence on total leverage. According to government debt, the level and direction of its influence rely on corporate debt structure and countries' specifics. Poland experiences negative influence of government debt on capital structure, as well as Germany and Sweden, where the relations are significant with most variables. The variables represented taxes are positive related to total debt in Poland and Sweden, but negative in Hungary and Estonia. In Poland the M2, unemployment rate and GDP growth have very weak and non-significant influence on capital structure. Unemployment rate has strong positive influence on total leverage in Estonia, Lithuania, Hungary and Germany, but only in Lithuania this relation is significant. In Greece, Poland and Sweden there is a negative relation with capital structure, however, only in Greece it is strong, but also non-significant. In all countries corporate debt structure plays a great role not only in determination of relation direction, but also the power of influence. Furthermore, countries specifics and whereas it is emerging market or developed economy, all of these have a great impact on the associations between capital structure and macroeconomic factors. Table 1 illustrates the direction, strength and significance of investigated relations.

5. Findings

Gross income use in the Basic Indicator and Standardised Approaches for operational risk is in all the companies from the countries presented in this research, is only a proxy for the scale of operational risk exposure of a company and can in some cases underestimate the need for capital for operational risk. With reference to the macroeconomics factors for the Management and supervision of operational risk, the company should consider whether the capital requirement generated by the day to day activity, give's a consistent picture of the operational risk exposure; for example in comparison with other companies, that are having similar size and operations.

A risk expert when asked about his opinion about the operational risk, he said: "There is no standard to follow in order to avoid the operational risk. Understanding the problems which the company is facing should lead to better

decisions making that would eventually be reflected in the company performance!”

Also, a survey made by the US Accounting Company Deloitte, reveals the fact that most companies described themselves as effective in liquidity risk (85%), credit risk (83%) and regulatory and compliance risk(74%).

However, only 45%, gave themselves a high rating when referring to operational risk. Therefore the operational risk became a very important part of the company management attention being at the same time a very vulnerable part of the financial instruments of the company.

6. Conclusions

When decision has to be made, managers link there thinking, to the source of financing based on the macroeconomic conditions and its countries' specifics. The findings show the importance of corporate debt structure and country specifics. To some extent the obtained results also indicated the significance of country's development as far as it represents emerging or developed market. The government debt has positive influence on the capital structure in majority of emerging markets and negative in developed. Moreover, the impact of other variables in developed countries is stronger and significant in most cases. It s interesting that in Greece, which suffered from Global Financial Crisis to a greater extent and was mark down in the world developing indexes, has the weakest relations. Inflation rate has positive influence in emerging markets and Germany, and negative in Sweden and Greece. The interest rate both short-term and long-term has strong positive significant impact on capital structure in Germany and Sweden.

The influence of macroeconomic factors varies across countries and depends on corporate debt structure. However, external determinants of capital structure play a great role in financial decision-making process. And the knowledge concerning the power and direction of such influence supports managers to make effective and accurate financing choice for stable and successful development. This is the first step to determine and investigate the relation between macroeconomic factor and corporate capital structure. The further research assume to exceed the sample and investigated period, choose external factors, which are not highly correlated between each other and create regression model, in order to make results more significant and reliable.

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Appendix A. External determinants of corporate capital structure: literature review

Authors	external determinants of capital structure	Sample of research	Findings
Jordan et al., 1998	Industry effect* Effective tax rate	United Kingdom 605 SMEs for the period 1989–1993	There is industry effect on the capital structure. There is no effect of tax rate on the capital structure.
Michaelas et al., 1999	Effective tax rate** Industry effects*	United Kingdom 3500 small firms for the period 1986–1995	Tax effects can be taken into consideration for short-term capital structure decisions. Industry effects have influence on the capital structure.
Korajczyk	Two-year corporate profit	USA	There are negative relation

and Levy, 2003	growth* 2-year equity market return* commercial paper spread*	5623 event quarters for the period 1984 to 1999	between macroeconomic conditions and leverage (particular from unconstrained companies)
Bauer, 2004	Tax* Industry classification*	Estonia 74 companies listed on the Estonian Stock Exchange for the period 2000–2001	Tax is positively correlated with leverage, but on the lower level of significance.
Gajurel, 2006	GDP growth rate Inflation rate Market capitalization Market capitalization to GDP NEPSE index Number of listed companies	Nepal Companies listed on Nepal Stock Exchange Limited (NEPSE) for the period 1995–2004	The GDP growth rate has a negative influence on the total leverage and short-term debt., but a positive effect on the long- term debt. The inflation rate is also negatively related to total leverage and short-term debt ratio, but negative to long-term debt ratio. Market capitalization has positive influence on the long-term and short-term debt ratio.
Bastos et al., 2009	Growth of GDP* Income per capita Annual inflation rate Participation of publicly-traded companies in the economy* Tax burden* Business time*	Latin America: Mexico, Brazil, Argentina, Chile, Peru. 388 public-traded companies for the	The growth of GDP has negative and significant relation with indebtedness. Income per capita and inflation do not influence the capital structure. Participation of publicly- traded companies in the economy has a negative and significant relation with capital structure. Tax burden has negative

		period 2001–2006	and significant impact on short-term debt. Business time has a positive relation with short-term leverage.
Bokpin, 2009	GDP per capita* Inflation* Stock market Development (market capitalization)* Interest rate* Bank credit	The companies from 34 emerging countries for the period 1990–2006	There is negative relation between GDP and capital structure. Inflation and short-term debt to equity ratio has positive relation. Interest rate significantly positively influences capital structure. Development in banking sector positively influences capital structure. There is a negative relation between stock market development and short-term debt.
Frank and Goyal, 2009	industry median leverage* expected inflation*	USA US non-financial companies over the period 1950–2003	The median industry leverage has influence on the market leverage. Inflation does not have effect on the book leverage.

Appendix B. Correlation between macroeconomic factors and corporate capital structure

B.1. Correlation between macroeconomic factors and corporate capital structure: evidence from Estonia

	LTIR	STIR	IR	CGD	TR	IT	M2	UR	GDPg
TDR	-.706	-.804	-.914*	.885*	-.375	-.733	.599	.548	-.100
	.117	.054	.011	.019	.464	.097	.209	.260	.851
STD	-.666	-.794	-.906*	.905*	-.400	-.757	.644	.527	-.142
	.148	.059	.013	.013	.432	.081	.168	.282	.788
LTD	.035	.465	.566	-.885*	.577	.819*	-.982**	-.146	.591
	.947	.352	.242	.019	.230	.046	.000	.782	.217

*Correlation is significant at the 0.05 level; ** Correlation is significant at the 0.01 level

B.2. Correlation between macroeconomic factors and corporate capital structure: evidence from Lithuania

	LTIR	STIR	IR	CGD	TR	IT	M2	UR	GDPg
TDR	-.869**	-.772	-.372	.901*	-.642	-.545	-.677	.895*	-.188
	.025	.072	.468	.014	.169	.264	.140	.016	.722

STD	-0.874*	-0.107	0.098	0.366	0.074	-0.135	-0.554	0.766	0.425
	0.023	0.841	0.853	0.475	0.889	0.798	0.254	0.076	0.401
LTD	-0.433	-0.970**	-0.598	0.922**	-0.950**	-0.632	-0.449	0.564	-0.630
	0.391	0.001	0.210	0.009	0.004	0.178	0.372	0.244	0.180

* Correlation is significant at the 0.05 level; ** Correlation is significant at the 0.01 level

B.3. Correlation between macroeconomic factors and corporate capital structure: evidence from Poland

	LTIR	STIR	IR	CGD	TR	IT	M2	UR	GDPg
TDR	-0.168	0.781	-0.106	-0.654	0.797	0.605	-0.469	-0.011	0.591
	0.750	0.067	0.841	0.159	0.058	0.203	0.348	0.984	0.217
STD	-0.347	0.467	-0.489	-0.371	0.682	0.273	-0.367	0.180	0.708
	0.500	0.350	0.324	0.470	0.136	0.600	0.475	0.733	0.115
LTD	0.216	0.773	0.556	-0.680	0.469	0.736	-0.332	-0.299	0.034
	0.680	0.072	0.251	0.138	0.348	0.095	0.521	0.564	0.948

* Correlation is significant at the 0.05 level; ** Correlation is significant at the 0.01 level

B.4. Correlation between macroeconomic factors and corporate capital structure: evidence from Hungary

	LTIR	STIR	IR	CGD	TR	IT	M2	UR	GDPg
TDR	.036	-.552	-.617	.663	-.168	-.847*	.743	.789	.144
	.945	.256	.192	.151	.750	.033	.091	.062	.785
STD	-.181	-.650	-.552	.399	-.494	-.951**	.479	.574	.357
	.731	.162	.256	.433	.319	.004	.337	.234	.487
LTD	.394	-.224	-.543	.915*	.432	-.421	.970**	.920**	-.259
	.440	.670	.266	.011	.392	.406	.001	.009	.620

* Correlation is significant at the 0.05 level; ** Correlation is significant at the 0.01 level

B.5. Correlation between macroeconomic factors and corporate capital structure: evidence from Germany

	LTIR	STIR	IR	CGD	TR	IT	M2	UR	GDPg
TDR	.953**	.865*	-.005	-.966**	-.348	.872*	.319	.692	-.164
	.003	0.026	.992	.002	.499	.023	.538	.128	.757
	-.198	-.041	.331	.229	.70	.074	.491	-.767	-.444

STD	.706	.938	.522	.662	.073	.889	.323	.075	.378
LTD	.622	.446	-.253	-.657	-.784	.358	-.236	.960**	.269
	.187	.376	.628	.157	.065	.486	.652	.002	.607

* Correlation is significant at the 0.05 level; ** Correlation is significant at the 0.01 level

B.6. Correlation between macroeconomic factors and corporate capital structure: evidence from Sweden

	LTIR	STIR	IR	CGD	TR	IT	M2	UR	GDPg
TDR	.806	.878*	.874*	-.935**	.686	.845*	-.887*	-.748	.226
	.053	.021	.023	.006	.132	.034	.018	.087	.667
STD	.823*	.899*	.919**	-.977**	.735	.809	-.884*	-.757	.379
	.044	0.15	.010	.001	.096	.051	.020	.081	.458
LTD	-.730	-.799	-.837*	.885*	-.681	-.671	.764	.665	-.462
	.1	.056	.037	.019	.137	.145	.077	.149	.356

* Correlation is significant at the 0.05 level; ** Correlation is significant at the 0.01 level

B.7. Correlation between macroeconomic factors and corporate capital structure: evidence from Greece

	LTIR	STIR	IR	CGD	TR	IT	M2	UR	GDPg
TDR	-.620	.526	.618	.440	-.305	.323	.344	-.687	.351
	.189	.283	.191	.382	.557	.533	.504	.132	.495
STD	-.591	.604	.334	.201	.167	.397	-.688	-.545	.938**
	.291	.204	.518	.703	.752	.436	.131	.263	.006
LTD	.275	-.332	-.032	.013	-.300	-.229	.814*	.201	-.730
	.598	.521	.952	.980	.563	.663	.049	.702	.099

* Correlation is significant at the 0.05 level; ** Correlation is significant at the 0.01 level