INVESTIGATING THE CAPITAL STRUCTURE OF GREEK FIRMS: SOME PRELIMINARY EVIDENCE

Dimitrios Vasiliou
Professor of Bank Management

Hellenic Open University

16 Sahtouri Street & Ag. Andreou Street, GR – 262 22, Patra, Greece
Tel: 0030 210 8259886-9
e-mail: vasiliou@eap.gr

Nikolaos Daskalakis
PhD Candidate

Athens University of Economics and Business

76 Patission Street, GR – 104 34, Athens, Greece
Tel: 0030 210 8203473
e-mail: ndaskal@aueb.gr

Nikolaos Eriotis
Ass. Professor of Accounting

National and Kapodistrian University of Athens

5 Stadiou Street, GR – 105 62, Athens, Greece
Tel: 0030 210 8259886-9
e-mail: nikolaos.eriotis@aueb.gr

Abstract

In this paper we investigate the capital structure of the Greek firms listed in the Athens Stock Exchange. We analyze the current capital structure of the firms and we tackle two important issues: the target capital structure that the firms follow and the notion of debt capacity. The results are based on the answers of the firms in a questionnaire. The current capital structure is further analyzed using data from the Athens Stock Exchange database. Our results show that Greek firms avoid using long-term debt, thus their capital structure consists mainly of equity. This finding is also verified by the fact that firms set target capital structures that also consist of very little long-term debt capital. There is evidence that firms in general prefer short-term debt to long-term. As far as debt capacity is concerned, firms generally consider their debt capacity when they decide about the financing procedure of their long-term investment plans and most of them measure it either every three months or twice per year.

Keywords
Corporate Finance, Capital Structure, Greek Firms

JEL classification
G3, G32

1. Introduction

The actual financing decision–making of the Greek firms is a scientific area that has not yet been explored. Yet, the effective management of the various financing policies is vital for the financial welfare of the firm. A false financing decision may lead a corporation to financial distress and eventually to bankruptcy.

The present paper aims to shed some light into the financing decision-making of the Greek firms. The data were generated from a detailed questionnaire consisting of 24 questions. This paper analyzes 6 of the total 24 questions. All the firms that were listed on the Athens Stock Exchange were asked to answer the questionnaire. Prior to sending, the questionnaire was tested by a panel of experts, resulting in minor adjustments where necessary.

The questionnaire was filled in and sent back during the period of 1st October 2002 until 31st January 2003. 103 executives filled it in, which represents a response rate of 31.1%. The response rate appears to be a good one, if we bear in mind the response rates of corresponding surveys in other countries[1]. We could have achieved a higher response rate if we had constructed a shorter questionnaire. However, our primary aim was to gather as much information as possible, so that we could derive complemented and reliable results and conclusions. The primary reason of the non-respondents was work load and no time to answer. The secondary reason was the no-information-disclosure policy. One could argue that our results may suffer from "response bias". The financial policies of the respondents could differ from these of the non-respondents. However, it is better to possess information from 103 listed corporations in the Athens Stock Exchange than no information at all. At least we can deduce some interesting conclusions about an area that has never been

1. Scott and Johnson (1982) report a response rate of 21.2% for a similar survey in the US.

explored before. Nevertheless, it is the first time that the capital structure of the Greek firms is investigated through the use of a detailed questionnaire. So far, there has been an empirical investigation for the determinants of capital structure in Greece by using econometric models based on data derived by the financial statements of the firms, but not based on a questionnaire. Vasiliou, Eriotis and Daskalakis (2003) provide interesting information about some specific factors that determine the capital structure of the Greek firms.

The analysis is organized as follows. Initially, we analyze the current capital structure of the respondents and how they measure their capital structure. Then we analyze the relationship between the current and the target capital structure that the firms set. Finally, we examine the subscription of the firms to the concept of debt capacity. The conclusions are presented in the last section of the paper.

2. The current capital structure of the greek firms

Capital structure is a very broad financial concept. Brealey and Myers (2000) denote capital structure as the firm's mix of different securities, while Emery and Finnerty (1997) simply say that capital structure is how a firm finances itself. The first interesting element we can derive from the questionnaire is the level of financial leverage that they denote. The firms were asked to denote the percentage of debt in their capital structure as expressed by the ratio of: "Long-term debt to equity". Thus, we use the notion of capital structure in its strict definition where capital structure refers to the mix of long-term debt and equity maintained by the firm. This definition of capital structure is used by several academics[2] who separate

2. See for example Gitman (1997), Scott et.al (2000)

Table 1. The current capital structure of the companies.

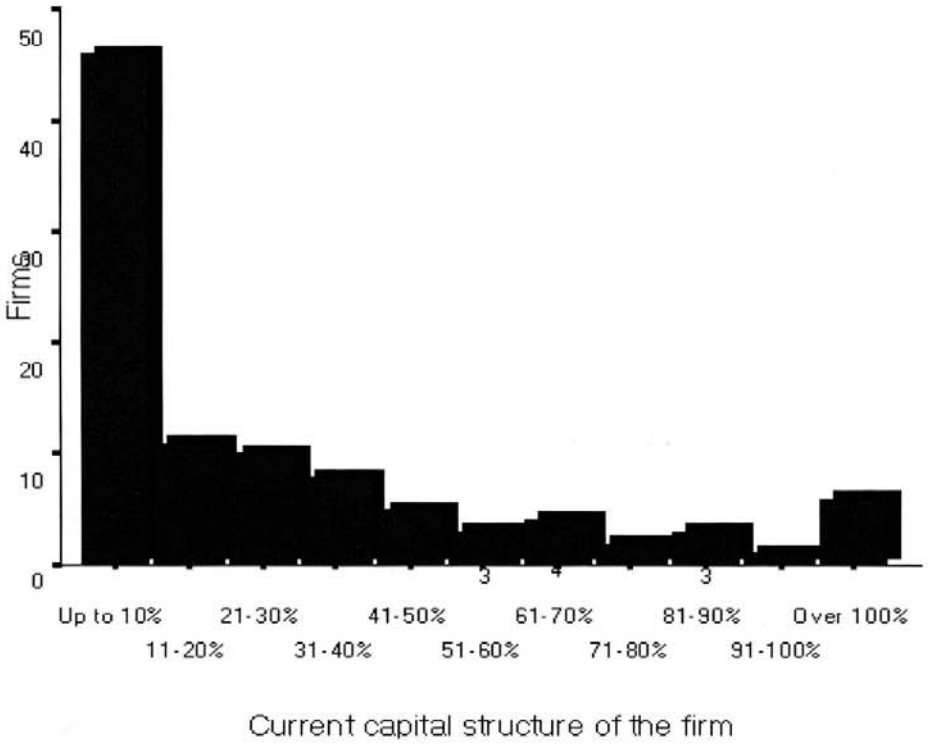
	Frequency	Percent	Valid Percent	Cumulative Percent
Up to 10%	46	44.7	46.5	46.5
11-20%	11	10.7	11.1	57.6
21-30%	10	9.7	10.1	67.7
31-40%	8	7.8	8.1	75.8
41-50%	5	4.9	5.1	80.8
51-60%	3	2.9	3.0	83.8
61-70%	4	3.9	4.0	87.9
71-80%	2	1.9	2.0	89.9
81-90%	3	2.9	3.0	92.9
91-100%	1	1.0	1.0	93.9
More than 100%	6	5.8	6.1	100.0
Valid	99	96.1	100.0	
Missing	4	3.9		
Total	103	100.0		

capital structure from financial structure; the latter refers to the mix of total debt and equity. The current capital structure of the firms that participated in the questionnaire is presented in Table 1.

Ninety nine out of the 103 companies answered in this question. The results are very interesting indeed. The firms denote that they retain mainly (46.5%) a current capital structure (i.e. long-term debt to equity), between 0% and 10%. The second most important answer (11.1%) refers to a current capital structure between 10% and 20%. These answers lead us to the conclusion that most enterprises denote that they either use very little or no long-term debt at all. The answers are graphically depicted in Figure 1.

Exploring the answers of the corporations we see that there were six respondents (6.1%) that denoted that their capital structure is constituted of more debt than equity

Figure 1. The current capital structure of the firms.



(Long-term debt to total capitalization ratio: over 100%). This finding seems rather odd, mainly because the results so far show that there is a general trend which leads the corporations to use very little long-term debt capital. Thus, we isolated these 6 enterprises in order to analyze if there is a particular sector that favours the use of debt. The results are presented in Table 2.

Table 2 shows that the six enterprises that denoted that use over 100% debt capital come from six different sectors. Accordingly, we cannot conclude that there is a particular sector that encourages debt financing.

The above results may seem peculiar in sense that it may be strange to believe that firms can use so little long-term debt capital. Therefore, in order to verify the validity of the answers we looked at the published financial statements. These data were derived from the Athens Stock Exchange (ASE) database which contains the

Table 2. Cross tabulation: Main market/sector in which the firm belongs - the current capital structure of company.

Main market/sector that the firm belongs	**The current capital structure of company Above 100%**
Banks	1
Hotels and remaining accommodation	1
Wholesale trade	1
Foods	1
Metal products	1
Plastic	1
Total	6

financial statements of all the listed firms. We derived our data from the firms' balance sheets of the year 2001. The results are presented in Table 3. Table 3 contains an additional row that refers to the firms that do not use any long-term debt at all.

Comparing Tables 1 and 3 we see that Greek firms do use very little long-term debt. In fact, the highest percentage of the firms (43.43%) does not use any long-term debt at all. The answers provided by the financial executives in the questionnaire are therefore true.

There are two possible reasons for the interpretation of these answers. The first reason may be that the firms do not use long-term debt and prefer short-term borrowing. Indeed, if we look at the published financial statements of the Greek firms, we see that most of the firms do use short-term debt. The results are presented in Table 4. The first very interesting conclusion is that there is no firm that does not use short-term debt at all. However, at a first glance there seems to be two exactly different policies that firms follow, as far as their short-term debt policy is concerned: either they use very little short-term debt (32.32% apply a short-term debt to equity ratio lower

Table 3. Current Capital Structure of the firms based on the ASE database.

	Frequency	Percent	Valid Percent	Cumulative Percent
No long term debt	43	41.75%	43.43%	43.43%
Up to 10%	22	21.36%	22.22%	65.66%
11-20%	10	9.71%	8.08%	73.74%
21-30%	7	6.80%	9.09%	82.83%
31-40%	3	2.91%	3.03%	85.86%
41-50%	2	1.94%	1.01%	86.87%
51-60%	1	0.97%	2.02%	88.89%
61-70%	1	0.97%	1.01%	89.90%
71-80%	3	2.91%	2.02%	91.92%
81-90%	2	1.94%	3.03%	94.95%
91-100%	0	0.00%	0.00%	94.95%
More than 100%	5	4.85%	5.05%	100.00%
Valid	99	96.12%	56.57%	
Missing	4	3.88%		
Total	103	100.00%		

than 20%) or a great amount of short-term debt (18.18%, use more than 100%).

But, if we analyze this 18.18% a bit further, the conclusions are altered. Examining the five firms that use more long-term debt than equity (from Table 3), we see that one of them has been recently merged whereas another one is at present under supervision and a third one reported losses for the year 2001.

Furthermore, examining the 18 firms that use more short-term debt than equity (from Table 4), we find in this group the same company that was merged, as well as the one that is now under supervision. Four out of the 18 are banks and the shares of one out of the 18 are currently not traded in the stock exchange. These firms should be treated as outliers as their activities show that they do not represent, from our point of view, the activities of a fi-

Table 4. Ratio of short-term debt to equity of the Greek firms.

	Frequency	Percent	Valid Percent	Cumulative Percent
No long term debt	0	0.00%	0.00%	0.00%
Up to 10%	16	15.53%	16.16%	16.16%
11-20%	16	15.53%	16.16%	32.32%
21-30%	8	7.77%	8.08%	40.40%
31-40%	10	9.71%	10.10%	50.51%
41-50%	5	4.85%	5.05%	55.56%
51-60%	4	3.88%	4.04%	59.60%
61-70%	5	4.85%	5.05%	64.65%
71-80%	6	5.83%	6.06%	70.71%
81-90%	7	6.80%	7.07%	77.78%
91-100%	4	3.88%	4.04%	81.82%
More than 100%	18	17.48%	18.18%	100.00%
Valid	99	96.12%	100.00%	
Missing	4	3.88%		
Total	103	100.00%		

nancially "typical and healthy" firm[3]. If we exclude these total 8 firms we get the results about the capital structure of the firm and their short-term debt to equity ratios presented in Tables 5 and 6 respectively.

If we exclude the 8 firms for the reasons mentioned above, the conclusions are altered. The strong evidence that firms, in general, prefer avoiding long-term debt capital remains. We see that 78.02% of the 91 firms use very little long-term debt capital as the long-term debt to equity ratio is less than 20%. On the other hand, firms seem to use short-term debt financing. We see that 32.32% use also very little short-term debt (short-term debt to eq-

3. We decided to exclude the four banks because the short-term obligations for banks does not represent the same notion compared with that of the other firms.

Table 5. Current Capital Structure of the firms based on the ASE database (8 firms excluded).

	Frequency	Percent	Valid Percent	Cumulative Percent
No long term debt	43	41.75%	47.25%	47.25%
Up to 10%	21	20.39%	23.08%	70.33%
11-20%	7	6.80%	7.69%	78.02%
21-30%	7	6.80%	7.69%	85.71%
31-40%	3	2.91%	3.30%	89.01%
41-50%	2	1.94%	2.20%	91.21%
51-60%	1	0.97%	1.10%	92.31%
61-70%	0	0.00%	0.00%	92.31%
71-80%	3	2.91%	3.30%	95.60%
81-90%	2	1.94%	2.20%	97.80%
91-100%	0	0.00%	0.00%	97.80%
More than 100%	2	1.94%	2.20%	100.00%
Valid	91	88.35%	100.00%	
Excluded	8	7.77%		
Missing	4	3.88%		
Total	103	100.00%		

Table 6. Ratio of short-term debt to equity of the Greek firms (8 firms excluded).

	Frequency	Percent	Valid Percent	Cumulative Percent
No long term debt	0	0.00%	0.00%	0.00%
Up to 10%	16	15.53%	16.16%	16.16%
11-20%	16	15.53%	16.16%	32.32%
21-30%	8	7.77%	8.08%	40.40%
31-40%	9	8.74%	10.10%	50.51%
41-50%	5	4.85%	5.05%	55.56%
51-60%	4	3.88%	4.04%	59.60%
61-70%	5	4.85%	5.05%	64.65%
71-80%	6	5.83%	6.06%	70.71%
81-90%	7	6.80%	7.07%	77.78%
91-100%	4	3.88%	4.04%	81.82%
More than 100%	11	10.68%	18.18%	100.00%
Valid	91	88.35%	100.00%	
Excluded	8	7.77%		
Missing	4	3.88%		
Total	103	100.00%		

Table 7. Total debt to total capitalization ratio base on the ASE database (8 firms excluded).

	Frequency	Percent	Valid Percent	Cumulative Percent
No debt at all	0	0.00%	0.00%	0.00%
Up to 10%	17	16.50%	18.68%	18.68%
11-20%	15	14.56%	16.48%	35.16%
21-30%	11	10.68%	12.09%	47.25%
31-40%	13	12.62%	14.29%	61.54%
41-50%	18	17.48%	19.78%	81.32%
51-60%	7	6.80%	7.69%	89.01%
61-70%	4	3.88%	4.40%	93.41%
71-80%	5	4.85%	5.49%	98.90%
81-90%	1	0.97%	1.10%	100.00%
91-100%	0	0.00%	0.00%	100.00%
More than 100%	0	0.00%	0.00%	100.00%
Valid	91	88.35%	100.00%	
Excluded	8	7.77%		
Missing	4	3.88%		
Total	103	100.00%		
Average debt ratio		***36.9%***		

uity ratio less than 20%), but another 40.40% use large amounts of short-term debt (ratio higher than 60%). Firms do seem to prefer short-term debt to long-term debt financing and there is evidence that a small percentage of firms (10.68%) seem to finance their activities with more short-term debt than equity. If we calculate the total debt to total capitalization ratio of the firms we get results that can be considered as expected, in sense that most firms in foreign economies seem to apply similar total leverage ratios. The results are presented in Table 7 from which we see that most of the firms (81.32%) use no more than 50% debt financing in their financial structure. On the other hand, the average total debt to total capitalization ratio of the Greek firms is 36.9% which is relatively high if we compare it with the corresponding ratios of foreign economies[4].

4. See more information about the debt ratio of foreign economies in Rajan and Zingales (1995)

The most interesting conclusion from the above analysis was that firms avoid using long-term debt. This may happen because Greek banks appear quite hesitant in providing long-term funds. The second reason refers to the abnormal movements of the Athens Stock Exchange. The continuous growth of the stock exchange during the period 1997-2000 led the listed firms to raise a great deal of capital via public offering. More specifically, as the share prices continued to rise, firms did not miss the opportunity to pump large amounts of capital due to the high share price via the issues of new equity. Greek firms actually acted as Marsh (1982) and Korajczyk et. al. (1990) have already shown; that firms tend to issue equity following abnormal price appreciation. Thus, they issued new equity covering their needs in funds at least in the mid term. So, the firms ended up with huge funds derived from public offering, and there was no need to use debt; thus, the capital structure contained either very little or no debt at all. The current capital structure of the firms was shaped during that period and was not altered thereafter, perhaps because the raised funds were adequate to cover the financial needs of the firms in the mid-term period.

3. Financial leverage metrics

Moving back to the analysis of the questionnaire, we recall that in the question about capital structure, the corporations were asked to denote their capital structure measured as the ratio of "Long-term debt to equity" so that the answers of the corporations could be homogenous. However, corporations may use different ways to measure their financial leverage. The answers of the corporations in this particular question of the financial leverage measurement provide us interesting conclusions. At first,

Table 8. How do you measure your capital structure?

	Mean	Yes	No
Long-term debt to equity ratio	0.515	51	48
Long-term debt to total capitalisation ratio	0.485	48	51
Long-term liabilities to total assets ratio	0.293	29	70
Times-interest-earned ratio	0.202	20	79
EBIT plus rent expenses plus depreciation to interest plus dividends plus rent expenses	0.162	16	83
Equity to total assets ratio	0.081	8	91
Other	0.071	7	92
Long-term debt to net earnings ratio	0.051	5	94
Valid: 99, Missing: 4			

we will have an idea of how the corporations in Greece perceive the concept of capital structure and second in which activities they emphasize in relation to the capital structure. The results are presented in Table 8.

Some clarifications are essential so that the results of Table 8 can be comprehensive. At first, it seems reasonable that the corporations may use more than one of the methods mentioned in the question. The potential answers are presented in the first column of Table 8. The presentation order of the answers in the Table differs from that presented in the questionnaire, because in the Table they are presented according to their popularity among the firms, starting from the most popular to the least popular. For example, the measurement ratio of "Long-term debt to equity" is the one used by most respondents, while respectively the ratio "Long-term debt to net earnings" is the least popular measurement method.

The various methods of measurement that are mentioned in the particular question can be separated into two categories. The first refers to the methods of measurement that are based on elements of the balance-sheet and it includes the following methods:

- Long-term debt to total capitalisation ratio (total capitalisation stands for long-term debt plus equity)
- Long-term liabilities to total assets ratio
- Long-term debt to equity ratio
- Common equity to total assets ratio (i.e. the common equity ratio)

The second category refers to the methods of measurement that are based on elements of the income statements and it includes the following methods:

- Times-interest-earned ratio (earnings before interest and taxes divided by total interest expense)
- Long-term debt to net earnings
- Earnings before interest and taxes plus rent expenses (i.e. lease payments) plus depreciation divided by interest expense plus dividend payments plus rent expenses (the cash flow coverage ratio).

Ninety nine out of the 103 corporations answered at least in one of the available answers. For every method that the 99 companies denoted that they do use as a measure for their capital structure, stands the "Yes" and for the remainder methods that they do not use stands the "No". Consequently, 51 out of the 99 corporations denoted that they use the "Long-term debt to equity ratio", as a method of measurement of their capital structure, while 48 use the "Long-term debt to total capitalisation ratio" and so on.

The results that we derive from the analysis of the question can be considered as expected. The "Long-term debt to equity ratio" was the metric considered most important in the firms' financing decision procedure; more than half of the companies (51%) denoted that they use this particular ratio. The similar ratio of "Long-term debt to total capitalisation" was the second most favoured measurement among the preferences of the companies. Generally, balance-sheet based measurement methods are mainly used by the companies, while income statements measurement methods that include profits are usually

avoided. This can be explained by the fact that earnings are relatively volatile within a period and thus cannot reflect the real features of the capital structure and may lead to erroneous financing decisions. Accordingly, the companies recognize this disadvantage and avoid including earnings in the capital structure measurement procedure.

At this point we should mention that the answers given from the Greek companies reveal both similarities as well as differences compared with the answers given in similar surveys in foreign economies. For instance, Scott and Johnson (1982) report that the "Long-term debt to total capitalization ratio" was the measurement considered most important by the US firms in a similar survey for the 1000 largest companies in the US. This specific measurement was second according to our survey. However, they also found the "surprising", as they denote, conclusion that the debt ratio defined as total liabilities divided by total assets was rarely used by the firms. In our survey the similar ratio of long-term liabilities to total assets ratio was the third most popular among the alternative answers of the firms.

4. Target capital structure

In the first section of this paper we analyzed the current capital structure of the firms. However the current capital structure may differ from the target capital structure that firms want to retain in the future. Brigham and Houston (2004) define the target capital structure as "the mix of debt, preferred stock and common equity with which the firm plans to raise capital".

Initially we ask firms if they actively set target debt ratios and we ask those which do so to denote the percent range. Next we analyze how often the firms control and adjust their target capital structure. The results are presented in Tables 9, 10 and 11 respectively.

Table 9. Does your firm set an optimal capital structure as a long-term target?

	Frequency	Percent	Valid Percent	Cumulative Percent
No	19	18.4	19.4	19.4
Yes	79	76.7	80.6	100.0
Valid	98	95.1	100.0	
Missing	5	4.9		
Total	103	100.0		

Table 9 includes the results from the answers of the firms if they set an optimal capital structure as a long-term target.

Ninety eight out of the total 103 companies answered in this question. A large number of firms (80.6%) answered that they do set long-term target capital structure. This result is very important indeed because it implies that most of the Greek firms perceive the notion of capital structure in a long-term perspective and they set long-term leverage targets. Next, we analyze which percent range the Greek firms prefer as their target capital structure. The results are presented in Table 10.

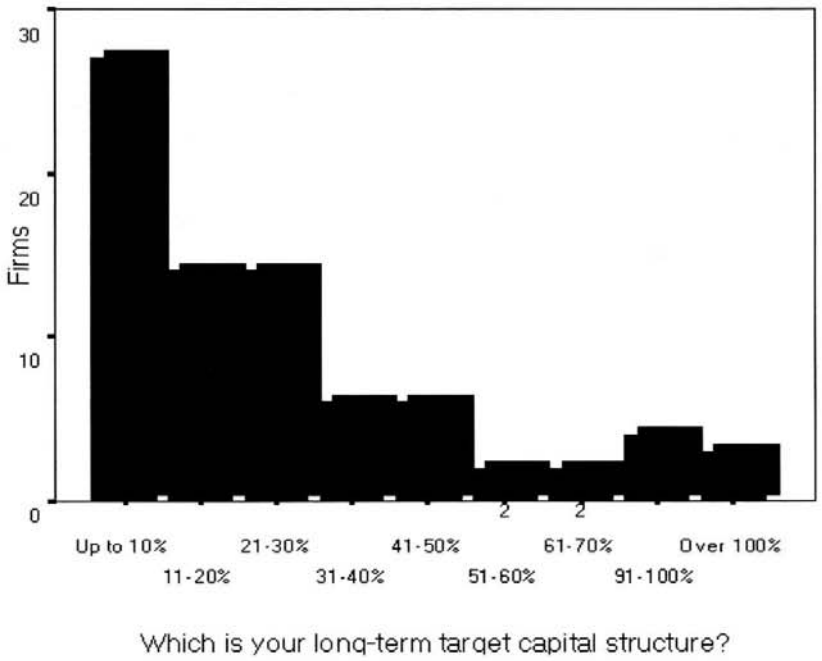
The answers given were from seventy eight companies out of the seventy nine that gave a positive answer in the previous question. Although the most popular capital structure percentage width remains the same with that they use at the current time period (0%-10%), it is much lower (34.6% instead of 46.5%). Thus, there seems to be a tendency on behalf of the firms that they will use more long-term debt capital in the future. Diagram 2 graphically depicts the answers of the firms.

As it can be seen from diagram 2 and table 7, 34.6% of the 78 firms denote that they set a target capital structure somewhere between 0%-10%, 17.9% between 10%-20% and another 17.9% within the width of 21%-30%. These three answers accumulate the 70.5% of all the answers.

Table 10. Which capital structure do you set as long-term target?

	Frequency	Percent	Valid Percent	Cumulative Percent
Up to10%	27	34.6	34.6	34.6
11-20%	14	17.9	17.9	52.6
21-30%	14	17.9	17.9	70.5
31-40%	6	7.7	7.7	78.2
41-50%	6	7.7	7.7	85.9
51-60%	2	2.6	2.6	88.5
61-70%	2	2.6	2.6	91.0
91-100%	4	5.1	5.1	96.2
Over 100%	3	3.8	3.8	100.0
Total	78	100.0	100.0	

Diagram 2. Which is your long-term target capital structure?



A remarkable conclusion is that most of the firms (70.5%) set a target capital structure that contains relatively little debt capital. More specifically, they do not seem to maintain a target capital structure with debt ratio exceeding 30%.

Table 11. How often during a year does your firm follow its target capital structure when financing its investments?

	Frequency	Percent	Valid Percent	Cumulative Percent
Never	5	4.9	5.3	5.3
Rarely	15	14.6	15.8	21.1
Often	22	21.4	23.2	44.2
Very often	21	20.4	22.1	66.3
Systematically	10	9.7	10.5	76.8
During the analysis of each investment project	22	21.4	23.2	100.0
Valid	95	92.2	100.0	
Missing	8	7.8		
Total	103	100.0		

Next, we are interested in analyzing how often firms control and adjust their current capital structure according to their target capital structure. The results are presented in Table 11.

The time periods "rarely", "very often" and so on are rather subjective. That is why we decided to define these periods as follows:

Rarely = (once per year)
Often = (twice per year)
Very often = (approximately every three months)
Systematically = (approximately every month)

Ninety five out of the 103 firms answered to this question. Approximately half of the firms (45.3%) denoted that they check whether they follow their target capital structure either often or very often.

A significant percentage of firms (23.2%) answered that they check their capital structure during the analysis of each investment project. This means that several firms choose carefully their fund sources when they fi-

nance their investment projects. To sum up, the answers in this specific question are almost equally divided in three answers: often, very often and during the analysis of each investment project. Firms do not need to check their capital structure systematically because they realize that capital structure refers to the long-term period.

5. Debt capacity

Harris and Raviv (1991) denote that the concept of debt capacity is initially mentioned by Maksimovic (1988) as the maximum amount of debt that firms in an oligopoly can retain so that tacit collusion among the firms can exist. However debt capacity has nowadays become a broader concept and is defined as the maximum amount of debt that a firm can retain while maintaining a minimum total cost of capital. An important implication of this definition is that it allows the existence of a percentage width of optimal capital structure rather than a specific figure. Debt capacity should not be confused with borrowing capacity; the latter refers to the ability of the firm to use lending capital however without maintaining a minimum total cost of capital.

Next question examines the concept of debt capacity and is divided in two parts. The main objective of the first part is to analyze if the firms take debt capacity under consideration when they examine the financing process of the long-term investing decisions. The second part analyzes the factors that determine the debt capacity and the relative importance of each factor. The results of the first part of the question are presented in Table 12.

One hundred and one companies out of the 103 answered in this question. Seventy seven respondents (76.2%) denote that they do consider debt capacity when they analyze the financing of the long-term investing decisions. Thus, they measure if and how their debt capac-

Table 12. Do you take your firm's debt capacity under consideration when you analyze the financing process of the long-term investing decisions?

	Frequency	Percent	Valid Percent	Cumulative Percent
No	24	23.3	23.8	23.8
Yes	77	74.8	76.2	100.0
Valid	101	98.1	100.0	
Missing	2	1.9		
Total	103	100.0		

ity will be affected, as a result of the financing procedure. More specifically, they analyze possible consequences in debt capacity from the choice of the various financing sources. Thus they are interested in controlling and preserving a debt capacity that will allow them to issue funds at special cases.

Table 13 presents the results of the analysis regarding the factors that determine the debt capacity.

The answers are indicative of the general orientation of the Greek firms. The two most important factors that the firms use more frequently are times-interest-earned ratio (mean: 4.21) and the maintenance of a desirable borrowing capacity (mean: 4.17). Thus, the firms are mainly interested in dealing with potential financial distress and in being able to draw funds whenever they consider such a move as necessary. It is obvious that the primary goal of the firms when setting their capital structure is to minimize any obligations that derive from it and afterwards they focus on the advantages that a capital structure may offer.

Table 13. Which factors determine the debt capacity of your firm and which is the relative importance of each factor?

		I use										
	Mean	**Never**		**Rarely**		**Often**		**Very often**		**Systematically**	
Long-term debt to total capitalization ratio	3.86	12	15.58%	10	12.99%	22	28.57%	17	22.08%	16	20.78%
Long-term debt to equity ratio	4.15	8	10.39%	9	11.69%	14	18.18%	23	29.87%	23	29.87%
Long-term liabilities to total assets ratio	3.74	14	18.18%	9	11.69%	23	29.87%	22	28.57%	9	11.69%
Times-interest-earned ratio	4.21	5	6.49%	6	7.79%	15	19.48%	36	46.75%	15	19.48%
Maintenance of a desirable borrowing capacity	4.17	9	11.69%	6	7.79%	16	20.78%	22	28.57%	24	31.17%
Restrictive covenants (in debt financing)	3.53	16	20.78%	14	18.18%	23	29.87%	20	25.97%	4	5.19%
Industry standards	3.16	29	37.66%	15	19.48%	20	25.97%	9	11.69%	4	5.19%
Other	2.23	76	98.70%	0	0.00%	0	0.00%	0	0.00%	1	1.30%
Valid: 77, Missing: 0											

At this point we should analyze the term "obligations" so that we can get a better understanding of how the Greek firms decide to set their capital structure. The obligations that refer to the debt-equity choice can be divided in two groups: dividends ant interest. Dividends are linked with equity and interest with debt. These two constitute the obligations from capital structure. However, there is a major difference. Dividends are not compulsory and do not lead to any legal penalties like interest does. Comparing dividends and interest, financial distress (at least from a legal point of view) can only rise when interest cannot be paid.

More specifically, financial distress consists of two "components". First, preventing such an unpleasant situation from happening and second if it happens being prepared to confront it. Firms do try to prevent it from happening by controlling their times-interest earned ratio (first answer in the rank in determining the debt capacity) and they also try to be prepared to confront it by maintaining a desirable borrowing capacity (second answer in the rank in determining the debt capacity) and also by checking their debt to equity ratio (third answer in the rank in determining the debt capacity).

The answers of the firms in the above question show that there is a conservative orientation in dealing with capital structure, a conclusion that is also verified by similar surveys in foreign economies. For instance, Allen (1991) reports that the policy that firms seem to follow is "prudent" so that they will be able to deal with "worst-case scenarios". Bancel and Mittoo (2003) show that financial flexibility is the most important determinant of the capital structure decisions of the European managers. From our point of view and according to the answers given by the Greek companies, this means that firms are mainly interested in minimizing the obligations that come from the capital structure and the possibility of financial distress. Minimization of financial distress can only mean

Table 14. How often do you measure your debt capacity?

	Frequency	Percent	Valid Percent	Cumulative Percent
Never	6	5.8	6.1	6.1
Rarely (once per year)	4	3.9	4.0	10.1
Often (twice per year)	29	28.2	29.3	39.4
Very often (every three months)	30	29.1	30.3	69.7
Systematically (every month)	20	19.4	20.2	89.9
During the analysis of every investment plan.	10	9.7	10.1	100.0
Valid	99	96.1	100.0	
Missing	4	3.9		
Total	103	100.0		

one thing: minimization of the debt used. This is exactly what the firms do, as we have already seen from the analysis of the first question. They denote that they use very little long-term debt and they also denote that the target capital structure should contain very little long-term debt. Thus, the results of this question are consistent with the answers of the firms in the preceding questions.

We have seen whether firms take debt capacity under consideration when they analyze the financing of the long-term investing decisions. Next, we analyze how often the firms measure their debt capacity. The results are presented in Table 14.

Ninety nine out of the total 103 firms answered in this question. Before analyzing the results we should make the following clarification. In the previous question if the firms consider debt capacity when they decide about the financing of the long-term investment plants, 77 out of the 103 companies gave a positive answer. In this question of how often firms measure their debt capacity, 99 out of 103 firms gave a positive answer. Someone could

argue that as long as only 77 out of the total 103 companies gave a positive answer in question 11 there cannot be 99 companies that measure their debt capacity; where did these surplus 22 companies come from? However, it is obvious that these surplus 22 companies simply measure their debt capacity and control their capital structure without considering it in the future investment financing procedure. They may use their debt capacity for other reasons, like for instance a future raise of funds that will not be directly combined with the financing procedure of the investment plans.

Most of the firms denoted that they measure their debt capacity either every three months (30.3%) or twice per year (29.3%). Firms generally avoid to measure their debt capacity systematically (20.2%) or during the analysis of every investment plan (10.1%) mainly because it does not change in a short-term period. We should point out that although very few firms measure their debt capacity during the analysis of every investment plan, most of them consider it when they analyze the financing of their long-term investment decisions, as we saw from the corresponding analysis of.

6. Conclusions

In this paper we have provided some information concerning the financing decision process of the Greek firms. The sample consisted of 103 listed corporations at date 31.8.2002 in the Athens Stock Exchange.

According to the results, Greek firms avoid using long-term debt in their capital structure perhaps because of the financial distress that debt may induce. This conclusion was verified by the analysis of the financial statements figures of the firms consisting our sample. We found evidence that firms do use short-term debt and prefer using it from long-term debt financing. However, we should

denote that the fact that firms avoid long-term debt may exist because of the specific situations that hold in Greece in the last five years. The abnormal growth of the Athens Stock Exchange during 1997-2000 resulted in the fact that most listed firms decided to raise funds by issuing equity.

One could argue that the current capital structure of the firms is shaped with so little long-term debt capital due to this specific occasion (i.e. the ASE abnormal growth) and thus does not reflect the real capital structure intention of the Greek firms. The real intention however can be investigated by analyzing the target capital structure that the firms want to maintain in the future. The analysis of the target capital structure that the firms set showed that firms do desire to avoid long-term debt capital. Most of the firms prefer to set target capital structures that mainly employ equity instead of long-term debt.

Firms do consider their debt capacity when making their financing decision about their long-term investment plans. They focus mainly on minimizing the possibility of financial distress which is mainly caused by an inability to deal with the interest expense. That is also why they prefer to use very little long-term debt. Most of the firms do measure their debt capacity and they do so preferably every three months or twice per year.

References

Allen D. E., (1991), "The Determinants of the Capital Structure of Listed Australian Companies: The Financial Manager's Perspective", Australian Journal of Management, Vol. 16, pp. 103-128.

Bancel F. and U. Mittoo, (2003) "The determinants of Capital Structure: A Survey of European Firms", working paper.

Brealey R. and S. Myers, (2000), Principles of Corporate Finance, 6th ed., McGraw Hill, New York.

Brigham E. and J. Houston, (2004), Fundamentals of Financial Leverage, 10th ed., Thomson Learning, Ohio.

Emery D. and J. Finnerty, (1997), Corporate Financial Management, Prentice Hall, New Jersey.

Gitman L., (1997), Principles of Managerial Finance, 8th ed., Addison Wesley, New York.

Harris M. and A. Raviv, (1991), "The Theory of Capital Structure", Journal of Finance, Vol. 46, No. 1, pp. 297-355.

Korajczyk R., Lucas D. and R. McDonald, (1990), "Understanding Stock Price Behaviour Around the Time of Equity Issues, in R. Glenn Hubbard, ed.: Asymmetric Information, Corporate Finance and Investment, University of Chicago Press, Chicago.

Maksimovic V. (1988), The Debt / Equity Choice, Ballinger Publishing Company, New York.

Marsh P. (1982), "The Choice between Equity and Debt: An Empirical Study", Journal of Finance, Vol. 37, pp. 121-144.

Rajan R. and L. Zingales, (1995), "What do we know about Capital Structure: Some Evidence from International Data", Journal of Finance, Vol. 50, pp. 1421-1460.

Scott D., Martin J., Petty W. and A. Keown, (2000), Basic Financial Management, 8th ed., Prentice Hall, New Jersey.

Scott D. and D. Johnson, (1982), "Financing Policies and Practices in Large Corporations", Financial Management, Summer, pp. 51-59.

Vasiliou D., Eriotis N. and N. Daskalakis, (2003), "The Determinants of Capital Structure: Evidence from the Greek Market", paper presented at the 2nd Annual Meeting of Hellenic Finance and Accounting Association, Athens, Greece.