Corporate governance mechanisms and firm performance: Evidence from Greece

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ABSTRACT

Corporate governance is a fairly new concept which has been put into practice because of the needs of companies to constantly perform better; and it is this need that has made corporate governance so necessary today. As a set of limitations which must be adhered to in order for a company or firm to reach its optimal performance, corporate governance is a process which ensures growth for a firm and the economy.

This paper surveys research on corporate governance of listed manufacturing firms in Greece. A critical analysis based on the available literature is introduced, relatively whether the size of board of directors and ownership structure is related to firm performance. The necessary information for the analysis was collected using secondary data. The listed manufacturing Greek firms were selected based on criteria such as high development rate, high capitalization breadth, and a sufficient enforcement of the principles of corporate governance.

The basic hypotheses to be tested were: i) companies that have an expanding Board of Directors have better internal control and thus they perform better than companies, which have a limited number of members in the Board of Directors, ii) firms which belong to an expanded group of shareholders perform better than those firms which belong to a small group of shareholders or are family owned.

According to the findings of the research, we can not fully accept the two hypotheses, since some ratios are better in companies which implement the aforementioned corporate governance principles, while the remaining do not seem to present any particular difference due to the implemented principles of corporate governance.

Keywords: Corporate Governance, Firm's Performance, Financial Ratios

INTRODUCTION

Corporate governance concerns systems which can ascertain that corporate investors can obtain a return on their investments (Shleifer & Vishny, 1997). Corporate governance ranges throughout countries and firms. A higher quality of governance allows firms to gain access to capital markets more easily, which is greatly important for firms which mean to increase their funds.

The purpose of this paper is to investigate the connection that exists between the characteristics of corporate governance and firm performance in Greek manufacturing firms between the years of 2002-2004. Supplementary information, taken from information on financial statements so as to gather

data on the firm's performance, provided appropriate input in order to guarantee the reliability of our findings.

This essay is separated into four main sections. In the first section, there is an analysis on definition of corporate governance and its relation with the agency theory, as well as its importance on firms. To conclude the first section, the efficiency of corporate governance will be discussed, including ways to minimize the agency problem through compensating the executives.

In the second section, the importance of corporate analysis on firms is analysed, as well as the most common indicators of corporate governance which are used by the firms worldwide. Finally, it is presented the evolution of the corporate governance in Greece and the particular characteristics of the Greek economy.

The third section discusses the way in which companies that are in compliance with corporate governance gain benefits and growth potential by citing various types of research on firm performance in large companies and also in small firms. Indicator categories of firm performance, which focus on profit efficiency and financial ratios, will also be listed. Further research on corporate governance, which has become more popular recently, is also listed here.

The forth section presents the detailed research methodology which was put into use to carry out this study. The research design, the sample collection, data and variables are all discussed here. To end with, the fifth chapter is a summary of the research findings. In the sixth chapter, we attempt to find any limitations to the conclusions which are given through this methodology, and also attempt to find any places where more research would be beneficial.

I. DEFINITION OF CORPORATE GOVERNANCE & ITS RELATIONSHIP WITH THE AGENCY THEORY

The leverage held over the managers of a company by the shareholders-owners has become open to discussion through Corporate Governance. In a corporate governance frame, figuring out a way to measure the lengths to which a company is controlled by individual or sets of shareholders is extremely significant.

Although the term is rather new, however the issues which need clearing up were addressed, even in a different context, firstly by A. Smith in 1776 and many decades after by Berle and Means in 1932. But it was Jensen-Meckling in 1976 that laid the foundations for the contemporary research with the Agency Problem and the Agency Theory.

The Agency Theory requires the separation of the ownership from the management of a firm, but this diversification leads to agency costs, since managers rely on information asymmetry to maximize their own personal benefit. Corporate governance can be regarded as a series of limitations which a firm's performance is subjected to. This definition as given by Nelson J. (2005) is inferred by the worth of the firm's shares, which show the present value of the shareholders allocation of firm value. According to the aforementioned, these are limitations on managers and shareholders while they are in the process of trying to understand how the worth of the firm is to be shared, forming a basis of comprehending how governance practices vary from firm to firm and develop as time passes. In a sociological context, as put by Pesquex (2004), may be seen as vague on the part of the administrators who, as far as this social game may go, are on the fence between supporting what is best for the company and the benefits of the managers and shareholders.

Corporate governance's modern side concentrates on how CEOs impose on the shareholders several governance reforms whose purpose is to surround and protect management, by limiting and controlling the power that shareholders have. Of course it would be unwise of shareholders to agree with management on such suggestions, but it is the researcher's goal to provide an answer to the query regarding the reason for shareholders' consent to take on governance changes which may be detrimental to them. The shareholders entrust the CEO with the bargaining power, given authority by previous firm performance.

As far as Spanos (2005) is concerned, today's corporate governance is looking for the means to ensure suitable returns on suppliers' investments. Usually this is the case of an economy with good economic policies which attracts multinational investors. Through the development of globalization, more capital has been created in countries which have suitable legal systems that give protection to investors. And according to Malla Praveen Bhasa (2004), that the higher the demand for capital, the greater the need for creating better governing performance indicates the significance of the corporate governance globally and in different types of economies.

Using Bhasa as a reference (2004), in a contemporary context of Corporate Governance, we can discriminate two basic types of corporate governance. The first can be understood in Shareholder Theory, which is the Anglo-American type of governance that places importance on the enhancement of the value of the shareholders, taking into consideration that setting a role in the framework of globalization is hard. The other can be understood in Stake Holder Theory, or the Nippon-German type, which calls for increasing the welfare of all those influenced by corporate dealings, which are integral for all businesses.
What has aided in the progression of more innovative theories of corporate governance, succeeding La Porta et al.'s (1999) pioneering study, is the improvement in comprehending corporate laws and ownership structures of various countries. While most European and Asian countries were characterized by concentrated ownership, US corporations had ownership formations which were diffusely run.

II. CORPORATE GOVERNANCE

1. THE IMPORTANCE OF CORPORATE GOVERNANCE ON FIRMS

Although there are many studies examining the relation between corporate governance and corporate performance, the results seem to be divided. While there is no clear evidence of a link between corporate performance and corporate governance, there is a strong perception that corporate is the key indicator of good firm performance. This performance is strengthened by the findings of McKinsey's Investors Opinion Survey (2000), which concluded that the majority of the investors were prepared to pay a premium, if the firm they chose to invest in, had good corporate governance. The participation of outside directors (independent) in combination with the fact that, according to corporate governance principles, managers' compensation is based on stock performance might be a good explanation. Spanos (2005) concluded that positive implications are also a decreased risk for investors, the attraction of investment capital, the improvement of capital performance and the creation of competitiveness between countries.

Although there is more than intuition in the positive relation between the performance of a firm and corporate governance, it is difficult to try to single out those corporate governance variables that may affect performance.

Additionally, the role of executive compensation in corporate governance has an interesting role. According to Davila A. and Pehalva F. (2004), compensation contracts place more importance on performance characterized by accounting measures, such as the return on assets and not on stock-based measures like market's returns, which are feebler in a corporate governance context. It is simpler for CEO's to command account-based measures and studies that are based on such measures, concentrate mainly on cash reimbursement and at times, in stock-based reimbursement, disregard reforms made in the value of the CEO's cache of equity-based holdings.

To sum up, there is a simple, clear relationship between managers' remuneration and minimization of the agency conflicts that result negatively in the actual wealth created or destroyed for any firm. Managers' bargaining power is enhanced by good practices, and they may opt to take advantage of this power to amend new limitations to the future distribution of firm value as sited by Nelson James (2005).

2. COMMON CORPORATE GOVERNANCE INDICATORS WORLD-WIDE

Contemporary businesses, as Malla Praveen Bhasa (2004) put it, have been transformed into massive corporation giants through the changes which are taking place worldwide. They have also brought on a new breed of professionals: the managers who took the responsibility of corporation onto themselves and took control.

Corporate Governance Indicators are created in order to change the principles of corporate governance measures, which will be quantified in some way, making it possible to rank every business at a national or international level. This will not only be useful to investors, but also to businesses that will be able to see the weaknesses and eliminate them in order to continually better themselves.

Apart from two different schools of thought, there are certain main indicators of corporate governance applied and accepted globally. First of all, there is the protection of the Shareholder's Rights. This protection is integral for the efficiency of the market, but it is reliant on the laws of each country. The main principle is one share-one vote. In this way we manage to ensure equal value amongst all shareholders and especially protect the minority shareholders.

Another important premise that must be implemented is the triptych of Transparency-Disclosure and Monitoring of Information. Prompt and full disclosure or information relevant to the corporation is a main factor of ensuring clarity and protection of the investors. The disclosure of activities and structure of the corporation may attract investors. Inconsistencies in information is interpreted as a limited level of liquidity, resulting in a business which is forced to draw capital at a higher cost, which is known in finance terminology as discount, so as to balance out with the unwillingness of the investors.

One technique which is recommended by almost all codes of corporate governance is the participation of non-executives and independent members in BOD. Another technique is the separation of the Managing Director from the Head of the Board of Directors. The size of the Board of Directors should not be too large as this would create a lack of coordination, but not too small so as to allow for a greater exchange of ideas. At this point we should notice that there are also some additional methods relative to the BOD such as: the assessment procedures of the BOD and its members, the frequency of the B.O.D's meetings, the payment of not-executive and independent members of the B.O.D's. Last but not least, there is the compensation of the Chief Executive Officer and Executive Management.

Dávila A. & Peñalva F. (2004) in their paper, tried to investigate the way in which corporate governance affects the executives' compensation, using various forms of firm performance measures. They developed a governance variable, the *TotGoV.*

3. CORPORATE GOVERNANCE IN GREECE

In the first years after the 2nd World War, Greece became industrialized and along with this came serious structural difficulties. As Spanos L. (2005) outlines, what spurred economic activity in Greece was private consumption in addition to private and public investment. As paralleled to the E.U, the rate of foreign direct investments was low and that was the reason for which some reforms in governmental policies were made, such as simplifying tax systems and carrying on privatization. The typical way to gather capital is through IPO, and in the most recent decade there were many transformed companies such as these, from being private-family owned to becoming public listed companies.

Regarding Corporate Governance, Greece concentrates mostly on watching over the interests of individual and minority shareholders, minimal legal protection over those shareholders who vote by mail and also laws which serve oppressed minorities. As stated by Spanos (2005), unfortunately, in the European Union, Greece ranks the lowest in the following the rule of law and accounting standards.

After the bubble phase in 1999, the the Greek Capital market experienced a serious underperformance up to 2002.[1] Later, as concluded by Spanos L. (2005), there was a big change in the economic environment in 2001, which was the year of Greece's accession into Euro zone. The pressure brought on by the need for international institutional investors is basically what motivated the compliance process. What listed companies must understand is that suitable corporate governance is essential for them to be able to draw international capital.

Greek companies are under Law 2190/1920 and listed companies are also under Law 3016/2002 which is "on corporate governance, board remuneration and other issues". First implemented in May 2002, the law outlined basic corporate governance duties, and its intend was to ensure clarity and bolster the confidence investors had. The most basic issues that described in detail were: the composition of board of directors, the non-executive director's remuneration the internal auditing and the share capital increase.

III. CORPORATE GOVERNANCE VARIABLES AND FIRM PERFORMANCE

This section discusses how companies that are in compliance with corporative governance principles have certain benefits and growth opportunities, while citing various forms of research on firm performance, both in large companies and in small family firms. Indicator categories of firm performance, focusing on profit efficiency and financial ratios, will also be listed. As corporate governance has become more popular recently, there has also been more research done on it, which is also listed here.

Nelson J. (2005) writes that there is a notion for a positive relationship between the degree of compliance with the corporate governance principles and the value and share price of the firm. That was also the main reason for the creation of new valuation systems in recent years, which are considered to be

[1] Loukas Spanos "The evolution of Corporate Governance in Greece" 1st LSE PhD Symposium on Modern Greece: Current Social Science Research on Greece, London School of Economics, Hellenic Observatory London, June 21, 2003.

solutions that may be applicable to any kind of business. Also, there is surprisingly little empirical evidence linking firm performance with changes in governance practices.

A possible explanation, as given by Hutchison M. and Ferdinard G. (2003), might be the fact that there is strong endogenity between the relative variables, since the corporate governance variables can affect firm performance and this can, in turn affect corporate governance.

Another common feature within this field of research is the fact that all of it focuses on big, publicly-listed firms and the value generated for the shareholders ignoring another common type of firm, the family firm. The family firm is still a very important type of firm globally; but since the control of a firm rests in the hands of a family, it is very difficult for a clear separation between the shareholders and the management group to exist. The boundaries are not always clear and many of the principles of corporate governance are not easy to implement.

Nonetheless, Spanos (2005) found a striking relationship between Corporate Governance and stock returns and a powerful correlation between the market value and Corporate Governance.

There are different indicator categories of firm performance, but we can distinguish two. The first category focuses on the evaluation of profit efficiency. In other words, it closely measures the profit that a best-practice firm would earn when facing its own exogenous conditions. Usually, it examines factors that are not part of agency costs. Its main advantage is that it is able to address some of the difficulties in other performance measures, but it also imprecise and embodies a measurement error.

The second category includes the Financial Ratios and stock market returns, which ate indicators that are typically industry adjusted and do not account for important differences across firms within an industry, consequently providing a more complete picture (Berger N. et al. 2002).

In this second category, there are three different measures for the evaluation of a firm's performance, which can be used in testing the predictions of different agency costs hypotheses. There are the Financial Ratios, which use data from the Balance Sheet and the Income Statement, the stock market returns and their volatility, and finally the Tobins'Q, which mixes market values with accounting values. Although maximizing accounting profits and shareholder value are two different things, it is logical to assume that the losses from the agency costs are proportionally close to the losses in the accounting profits that are measured by profit efficiency.

For this reason, profit efficiency may be considered as a reasonable proxy for the agency conflicts between all interested parties (Berger N. et al. 2002). In spite of the aforementioned, in research we must remember that stock prices are better at capturing the intangible value generated, in order to reach reliable results.

In the same spirit, we must note that managers find accounting-based measures easier to control than market-based measures. The reallocation of capital or cash-flow, changing the accounting procedures or remaking the expenses, are some of the common actions that accountants use for this purpose. On the other hand, the market value is easily influenced by exogenous economic factors, so it is logical to consider that accounting-based performance measures reflect the managers' actions. As cited by Hutchinson M., Ferdinard G. (2003), although in the immediate future accounting manipulation may result differently, in the long run accounting and market measures of return should reflect the same economic factors for the firm.

Major accounting scandals and large-scale corporate failures were the main reasons for the growing interest in corporate governance. This particular research is still in the early stages but already there are attempts to create an empirical link between different corporate governance indices such as "Standard & Poor's Corporate Governance Scores" or "Metrics International" and firm value. In this context there are many studies that examine the most common corporate governance provisions and their implications on the firms.

From a slightly different perspective, initially we could say that there are studies which examine the relationship between ownership structure and corporate performance. Crashwell, Taylor & Saywell (1997), examine the relationship between the distribution of equity ownership and corporate performance among 349 publicly traded Australian Firms, whose results weakly support a curvilinear relationship between insider ownership and corporate performance.

Amerta Mardjono (2005), in a case study examines why two giants, Enron Inc. and HIH Insurance, collapsed. The paper's purpose is to describe a more contemporary understanding on how a firm fails attributable to its corporate governance implementation. The study indicates that both firms did not fail because they were in bad business, but because they assaulted the key principles of good corporate governance.

Berger and Bonacorsi di Patti E. (2005), examine the theoretical part of corporate governance in their paper, which deals with the effect that leverage has on the agency costs and thereby on firm performance, using profit efficiency. They used data from the U.S.A Banking Industry and their results were found to be statistically and economically significant.

Finally, the article of Evysung Kim (2004), examines the relationship between corporate governance and productivity performance, focusing on family ownership and capital structure in a sample of Korean firms collected in 1991-1998. The results showed a positive relationship between family ownership concentration and productivity performance and that high debt reliance seemed to be negatively related to productivity performance in family firms.

To summarize, it is obvious that the research conducted has various objectives and sometimes leads to controversial or confusing conclusions. Within this context it is obvious that specific mechanisms cannot be easily utilized in a number of similar firms, since it is doubtful that it will give analogous results. Taking into consideration that the interest in this field of research is rather new, it is necessary that the future orientation of the academics as well as of the practitioners be focused on the evolution of those governance mechanisms which will limit these troubles.

IV. RESEARCH METHODOLOGY

1. RESEARCH DESIGN & SAMPLE SELECTION

The purpose of this analysis is to deduce whether the implementation of the principles of corporate governance have positive effects on firm performance.

In order to reach valid and reliable results, two different corporate governance indicators have been chosen; specifically, the size of the board of directors and the ownership structure. It has been found that each one influences the performance of firms according to the relevant theory. However, even if financial ratios are strongly criticised for their validity because of manipulation, we cannot overlook the fact that it is the main assessment factor of a financial situation. This is understood and

calculated worldwide since publicised financial situations are an easily accessible source for the researcher or analyst.

In order for an analysis to be carried out, we must choose a field of the Greek economy, which presents certain characteristics like a high development rate, high capitalization breadth, and a sufficient enforcement of the principles of corporate governance.

Through the above, the field of manufacturers, which is considered to be the most significant in the Greek economy, was selected. During 2003-2004, the prospects of the manufacturing field in Greece were positive and this was due to the completion of the second social support deal and its allocations, the Third Community Package Deal (SANTER) which included great works such as building roads, investments in railroad lines, airports and significant investments in tourism, telecommunications, energy infrastructures, the undertaking of the 2004 Olympic Games, the gradual improvement of the Greek economy and assisting construction by lessening the interest rates on funding.

Also, the need for massive construction in the area of transport, energy, the protection of the environment, the strong improvements in the field of Land Development (Real Estate), as well as the Greek manufacturers breaking into the Eastern European block because of the reconstruction of the general Balkan area and the development of countries in Eastern Europe and the Middle East all contributed to the positive progression of the field.

In addition, another important reason for which the branch of manufacturers was chosen is that the change in government brought up the matter of transparency in manufacturing firms and businesses of the mass media. The above topic concerns the "Primary Shareholder" legislature, which was put into effect by the previous government and forbade companies in the mass media with a share of more than 5% in stock from taking on public works and state provisions (Law 3021/2002). This law excluded relatives who were financially independent and allowed the interference of offshore companies. Within Greece there were many examples of companies, which became active in the media and at the same time they maintained control over companies, which were also contractors of public works.

2. DATA AND VARIABLE

Our survey covers the time period between the years 2002-2004. We believe that a three-year time frame would be more suitable than longer intervals and also according to relative bibliography is acceptable. In mid 1999 the Greek capital market faced an extensive share price overvaluation episode. The crisis resulted on a significant decline of the share price in the last quarter of 1999. Listed companies alone were unable to restore public confidence. Reduced corporate accountability and insufficient disclosure practices induced massive liquidation by investors. As a result, the Greek Capital market experienced a serious underperformance up to the year 2002. The aforementioned situation made Greek investors lose great amounts of their invested capital due to the previous speculative processes.

As secondary data, we use the financial statements published by the companies, which were collected from ICAP. ICAP is the largest company of financial data, publications and business consulting in Greece.

The financial statements were collected in order to obtain the relevant amounts of the accounts, which are necessary for the calculation of different performance metrics. We have chosen to obtain the data in this way, as it represents the information available to users, which is in the earnings release, since many accounting case studies require access to confidential information, which is not easily guaranteed. Furthermore, in this sample data

recording the Board of Directors and ownership structure for the corporations has been obtained over the Internet, and specifically off of the websites of each firm.

In our sample, we have collected 22 companies listed in the Athens Stock Exchange (ASE), throughout a three-year period. The sample consists of the annual panel observations for each financial ratio of 66 firms.

To examine the relation between the principles of corporate governance and firm performance, we construct a set of indicator variables. In our research, the dependent variable concerns ownership establishment and the Board of Directors, and the independent variable concerns the financial ratios which are chosen on the basis of their popularity in the literature and their potential relevancy to the study. According to Brigham ***et al*** (1999), financial ratios of a firm are arguably better measures of a firm's current performance than the individual items on the financial statement. The above variables were chosen in order to achieve the greatest external validity, which shows, the degree to which the conclusions of the cases in this study can be generalized for the total of all firms.

In the following table, the names of the firms for our study, which belongs in the manufacturing field, are listed.

Table a: Listed Firms

1. AEGEK	9. DOMIKI CRETES	17. MICHANIKI
2. AKTOR	10. EDRASI	18. MOCHLOS
3. ALTE	11. EFKLIDIS	19. PANTECHNIKI
4. ATHINA	12. EKTER	20. PROODEFTIKI
5. ATTIKAT	13. ERGAS	21. TERNA
6. AVAX	14. GENER	22. THEMELIODOMI
7. BIOTER	15. INTRAKOM	
8. DIEKAT	16. MESOCHORITIS	

From the group of indexes used to conduct our study, we have included four categories of ratios that have predictor power for financial performance, which are: a) liquidity ratios, which measure a firm's ability to meet cash needs as they arise, b) activity ratios, which measure the liquidity of specific assets and the efficiency of managing assets, c) financial structure and variability ratios, and d) profitability ratios, which measure the overall performance of a firm and its efficiency in managing assets, liabilities and equity. The indexes are clearly presented in the following:

3. METHODOLOGY

This study was carried out in order to determine whether corporate governance has a positive effect on firm performance. In order to achieve this, two indicators of corporate governance as critical variables of firm performance were used. These two indicators were the size of the Board of Directors and ownership structure. Our study is separated into two sections, based on the standards of corporate governance, which is being used to test the hypothesis. At this point the hypotheses, which we intend to test, are the following:

Hypothesis 1: *Companies that have an expanding Board of Directors have better internal control and thus they perform better than companies, which have a limited number of members in the Board of Directors.*

Based on the above hypothesis, we set the null hypothesis so as to express the opposite, which is:
Ho: M (X_1)-M (X_2) < 0
Where:
X_1: financial ratios of members of the Board of Directors are less than or equal to 10.
X_2: financial ratios of members of the Board of Directors greater than 10.

In our sample, the performance of firms that have an expanding board of directors is equal to or less than firms that have a limited number of Board of Directors members. We are to make a decision on the basis of the sample, which will be to either accept the hypothesis or to reject that hypothesis.

In a situation where we cannot reject Ho, this means that the performance of a firm is not affected by a certain index of corporate governance. The alternative hypothesis is outlined below.
H_1: M (X_1)-M (X_2) > 0.

In the population, firms that have an expanding Board of Directors have a higher performance than firms that have a limited number of members in the Board of Directors. This is a one-sided upper tail (or one tail test).

By Type I Error the null hypothesis is rejected and the null hypothesis is true. Reject the null hypothesis means that the alternative is true. In our case, firms that have an expanding Board of Directors have a higher performance and better internal control than firms that have a limited number of members in the Board of Directors, which is not true. If the probability of making a Type I Error is small, for example less than 0,05 and our sample give a calculated probability as small or even smaller, we conclude than the data are not consistent with the null hypothesis. Thus, we reject the null hypothesis and concluded that the alternative hypothesis is true.

Furthermore, by Type II Error we do not reject the null hypothesis when the null is false. This means that the performance of firms that have an expanding Board of Directors is lower than the firms that have a limited number in the Board of Directors. Meanwhile, the alternative to this hypothesis states that they are efficient.

The t-test is used in order to test the hypothesis, to determine whether the results are statistically significant or not. In the first hypothesis the statistical significance of the differences in the mean ratio is based on the t-statistic from a parametric test (based on the assumption of unequal variances).

$$t = \frac{\overline{X_1} - \overline{X_2}}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

Where $\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}$ is the estimated standard error.

This test will determine whether the difference in the mean ratios of the two groups of firms is significantly different from zero. This is the most common test for the difference between the two population means, X_1 and X_2.
If there are no significant differences, then the number of members in the Board of Directors is not seen as a positive indicator of corporate governance.

In our research all the calculations were made by using software such as SPSS & Excel. In this case, instead of calculating a t value, looking up the critical values from tables and making a decision, we calculate the "p-value".

The p-value, which directly depends on a given sample, attempts to provide a measure of the strength of the results of a test, in contrast to a simple reject or do not reject. If the null hypothesis is true and the chance of random variation is the only reason for samples differences, then the p-value is a quantitative measure to feed into the decision making process as evidence.

"P-value" defined as a value associated with the probability of getting the observed experimental result (or worse) if the null hypothesis were true. We combined the p-value with the significance level in order to make a decision on a given test of hypothesis. In such a case, if the p-value is less than some threshold (usually 0.05), then we reject the null hypothesis. In a statistical hypothesis test, the p-value is the probability of observing a test statistic at least as extreme as the value actually observed, assuming that the null hypothesis is true.

The second hypothesis, which is being tested in this study, is:

Hypothesis 2: *"Firms which belong to an expanded group of shareholders perform better than those firms which belong to a small group of shareholders or are family owned".*

Using the above claim we set the null hypothesis to express the exact opposite, which is:
H_0: $M(X_1)-M(X_2) < 0$

Where X_1: the variable rate of expanding shareholders
X_2: the variable rate of a small group of shareholders or family owned firms.

In our study, the performance of firms that have expanding shareholders is equal to or less than firms that have a small group of shareholders or family owned firms.

V. RESULTS

In the first part of our empirical analysis, we are testing the hypothesis that companies having an expanding Board of Directors have better internal control and thus they perform better than companies that have a limited number of members in the Board of Directors. The test was done by constructing and comparing two groups of manufacturing companies. Group A contains companies with members of Directors numbering less than ten, and Group B includes companies with members of Directors of higher than ten, which is consistent with corporate governance principles. Correlations analyses were performed to determine the associations between the two groups of financial performance. As the correlation between financial performances is not hypothesized in one direction, these associations will be analysed using a two-tailed test.

In the second part of our analysis, we examined the hypothesis that firms which belong to an expanded group of shareholders perform better than those firms which belong to a small group of shareholders or are family owned.

a) 1st HYPOTHESIS

For all five different categories of ratios under examination, the first table presents the results of the descriptive statistics meaning the sample size, the mean and the standard deviation for each group firms that are being compared, while the second table presents Levene's Test for the homogeneity of variance and a t-test of difference between the means of two groups. In group A were included those firms having a limited number of members in the Board of Directors while group B includes those firms which have an expanded number of members in the Board of Directors.

Levene's test is used in order to determine whether the group variances are approximately equal, in other words whether the homogeneity of variance assumption, is satisfied. If the p-value for Levene's test is greater than 0.05 which is the significance level in most cases as well as in present research, then the group variances do not differ enough and we applied *"Equal variances assumed"* line to look up the t-test results. In contrast, as long as the Levene's test p-value is less than 0.05, we used *"Equal variances not assumed"* line instead to adjust for unequal variances. The t-value and degrees of freedom appear to the right.

- **Liquidity Ratios**

Regarding the liquidity ratios, from table 1[2] we see that for current ratio in group A, there are 15 firms with mean value 1.61 and standard deviation 0.99,

[2] All the tables are presented in the Appendix

while for group B, the mean value of the same ratio equal to 2.12 with standard deviation 0,69. The results of the remaining liquidity ratios are shown in table 1.

As we can see from table 2, for current ratio, acid ratio and working capital ratio, p-values are greater than 0.05. Therefore, for these ratios we accept the null hypothesis that the variability of ratios used for assessing performance of the two groups is equal, implying that the variances are equal to: 1.859, 1.626 and respectively with 64 degrees of freedom.

Concerning the column labelled "p-value", it gives the two-tailed p-value associated with the test. In our case, for current ratio and working capital ratio at the significance level of 0.05, p-value is around 0.05. Consequently, we reject null hypothesis signifying that the mean values between the two groups for current ratio and working capital ratio, are unequal. More specifically, as we can see from the table, the mean value for current ratio for group B is higher than the mean value for group A. Thus, the mean value of current ratio between the two groups is statistically significant different. In our case, rejecting the null hypothesis means that companies with an expanding Board of Directors have better performance or superior internal control than companies which have a limited number of members in the Board of Directors. For the remaining liquidity ratios, the null hypothesis is accepted, as p-value is higher than 0.05.

By analysing and studying the category of liquidity ratios, of the five ratios which are used, only two of five have a positive effect on this particular factor.

- **Activity Ratios**

Table 3 presents the results of the descriptive statistics for the activity ratios. In table 4, the results of the Levene's test for the homogeneity of variance and a t-test for the difference between the means of the two groups are presented.
In this case, at the significance level 0.05, p-value for all the relative ratios are greater than 0.05. Since p-value is bigger than 0.05, we accept the null hypothesis, implying that the variances are equal. Furthermore, according to the results of t-test for all other activity ratios, the mean differences between the two groups are not statistically significant. Hence, the null hypothesis is accepted. In this situation it is clear, that the activity ratios in firms which implement the principles of corporate governance are not better off than firms which choose not to.

- **Profitability Ratios**

Firstly, the results of the descriptive statistics for the profitability ratios are presented in table 5.

Secondly, the results of the Levene's test and a t-test are reported in table 6. As shown in the table, the significance level of 1%, p-values for Return on Investment and Return on Equity are higher than 0.01. Therefore, the null hypothesis is accepted, implying that variances are equal, since "equal variances assumed" t-values are: 2.682 and -2.727 respectively with 64 degrees of freedom.

In addition, at the significance level 5%, the ratio of operating profit to total assets the p-value is equal to 0.05. Consequently, the null hypothesis is accepted, signifying that variances are equal. The t-value for the above mentioned ratio is -1.997 with 64 degrees of freedom. According to t-results, p-value for ratios such as Return on Investment and Return on Equity are less than 0.01. Due to this, Ho hypothesis is rejected, implying that the mean values between the two groups are unequal.

In particular, as we can see in the table, the mean value for the above ratios, for Group B is higher than the mean value of group A. Thus, the mean value for the above ratios is statistically significant. At the significance level of 5% the ratio of operating profit to total assets have p-value of t-test less than 0.5. That shows that the mean value between the two groups is unequal and so the null hypothesis is rejected.

Based on the above results, it can be assumed that firms employing an expanding Board of Directors and which apply rules of corporate governance do not clearly present greater profitability measured by the relative ratios than those firms which employ a limited number of members in the Board of Directors. Over the five examined ratios, only the three support this claim.

This may be due to the fact that companies that have an expanding Board of Directors usually have large size compared to companies with Board of Directors composed of fewer members.

This is probably the case of "size effect" meaning that profitability ratios are biased to size since usually firms with large sizes have lower profitability than companies of a minor size.

- **Financial structure ratios**

In table 7 the results of the descriptive statistics for the financial structure ratios are presented. Secondly, the results of the Levene's test and t-test are presented in table 8.

At the significance level of 5%, p-values for Long Term Capital/Total Assets is higher than 0.05. Therefore the null hypothesis is accepted implying that variances are equal. Since equal variances assumed, t-value for the above ratio is 2.155 with 64 degrees of freedom.

According to t-test, the p-value for the above mentioned ratio is equal to 0.035, less than 0.05. That implies that Ho hypothesis is rejecting and alternative hypothesis is accepted. Furthermore, the mean values between the two groups are unequal. More specific, as we can see from the table the mean value for the above ratio for Group B is higher than the mean value of Group A. Thus, the mean value for the above ratio is statistically significant.

For all other financial structure ratios at the significance level of 5%, the null hypothesis is accepted.

- **Z-score**

As concerns z-score, at the significance level of 0.01, the p-value is higher since it equals to 0.088. That implies that variances are equal. Therefore the null hypothesis is accepted and the alternative hypothesis is rejected. Accepting the null hypothesis in our case means that, companies with an expanding Board of Directors perform less and have less internal control than the companies, which have a limited number of members in the Board of Directors.

b) 2nd HYPOTHESIS

- **Liquidity Ratios**

Table 1 presents the results of the descriptive statistics for the liquidity ratios, whereas table 2 presents the results of the Levene's Test and t-test. At the significance level of 0.05 the p-value (F), for current ratio and the acid test ratio is lower than 0.05. In this way the null hypothesis is accepted, indicating unequal variance, the t-value for the above mentioned ratio being: -3.940 and -2.911.

Also, t-test results show that p-value for the aforementioned ratio is less than 0.01. As such, the mean value between the two groups is unequal and the null hypothesis is rejected. In our case, that means that firms which have an expanding Board of Directors have higher performance and better internal control than firms which have a limited number of members in the Board of Directors. Relatively to Working Capital and Working Capital ratio and according to t-test, we can marginally accept the Ho, since the p-values of t-test is 0.072 and 0.088 respectively.

- **Activity Ratios**

Table 3 presents the result of descriptive statistics for the activity ratios, while table 4 depicts the results of the Levene's test and t-test. At the significance level of 5% for the Inventory Turnover Ratio, Trade Creditors to Purchases Ratio and Assets Turnover Ratio, p-value is less than 0.05. On that account, we reject the null hypothesis; signifying that the variances are unequal and the t-value for the above ratios are 1.598, 1.608 and 2.707. Furthermore, a t-test result shows that p-value for the ratios are less than 0.05, the mean values between the two groups then being unequal and the null hypothesis is rejected. As shown in the table, the mean value of Group B for the above ratios is higher than the mean value of Group A. In this way the mean value for the two ratios between the two groups is statistically significant.

- **Profitability ratios**

Table 5 displays the results of the descriptive statistics for the profitability ratios. Following this, the results of the Levene's test and a t-test are reported in table 6. At the significance level of 5%, p-values of Levene's test for the ratios Return on Investment, Return on Equity and Operating profit to Total Assets, are less than 0.05. Since p-value is less than 0.05, we reject the null hypothesis implying that the variances are unequal.

Therefore, since "unequal variances assumed", as we can see from the table, t-value for the above ratios is: 2.909, 2.893 and 2.483. In continuation, t-results for the above mentioned ratios shows p-value prices to be less than 0.05, meaning the mean values between the two groups are unequal and so null hypothesis is rejected. Rejecting the null hypothesis connotes that, the alternative hypothesis is true. According to the table, the mean value for Group B for the previously mentioned ratios is higher than the mean value of Group A, causing the mean value for the ratios, between the two groups to be statistically significant.

- **Financial structure ratios**

The following table presents the results of the descriptive statistics for the financial structure ratios.

The table following this shows the results of the Levene's test and t-test. At the significance level of 1%, p-value for Interest Coverage Ratio is less than 0.01; the null hypothesis is rejected, which implies that variances are unequal. The t-value for the above ratio is equal to 2.248. Also at the significance level of 5%, p-value of Long Term Capital / Total Assets , Ratio of Owners Equity to Total Assets and Debt Ratio is lower than 0.05; the null hypothesis is then rejected signifying that variances are unequal.

A t-test result at the significance level of 0.05 for the Interest Coverage Ratio, shows that p-value is less than 0.05. The mean values between the two groups are unequal and therefore the null hypothesis is rejected. At the significance level of 0.01 for ratio Long Term Capital / Total Assets, p-value is less than 0.01. Moreover, the mean values between the two groups are unequal and null hypothesis is rejected.

- **Z-score**

The last table presents the results of the descriptive statistics for z-score, whereas table 10 shows the results of the Levene's test and t-test.

At the significance level 5%, the p-value is than 0.378, so we accept the null hypothesis, implying that the variances are equal. Furthermore, t-test result shows that p-value is higher than 0.05 making the mean values between the two groups equal and accepting the null hypothesis.

VI. SUMMARY & CONCLUSIONS

Corporate governance provides a framework for firm practices and behaviour. Its purpose is to create an atmosphere of trust among the four groups which are involved: the shareholders, the Board of Directors, the management which acts in an executive capacity, and the remaining members who have an interest in the firm, such as the stockholders, the creditors, the government, etc. Insufficient rules of corporate governance have led large firms to economic scandal, mainly due to the foul play of top financial executives. In turn, their actions destroyed the trust that existed between the investors and the firms, and magnified the precariousness in international markets.

Despite the fact that there have been no such large financial scandals in Greece, the significant and prolonged decrease in prices of share value which became obvious after the period of the stock market bubble in the year of 1998-1999, is greatly attributed to the investors' loss of trust in the financial choices made by the management teams of firms.

Most of the listed companies in Greece, though, do not have adequate enough corporate governance mechanisms. Listed companies' ownership concentration remains high, which has created a strong bond between the side of the main shareholder and the management team. What is still predominant in the Greek capital market is the family firm. Internationally recognized Board structures which are at an international level and recognized, still have not been sufficiently founded, such as board committees, the director's independence and qualifications, and the education of the director.

Following this mode, the board mainly works as a non-active component in the company, complying with the judgments of the management. Non-executive board members do not effectively monitor the management, in lieu of acting as shareholder agents. Such is the situation in most of the (family) public companies in Greece; high enough costs are caused by a bias in being partial towards family interests instead of the firm's, because of a sense of duty towards the family.

Although regulations order certain requirements concerning board independence, it is hard to decipher whether the board actually fills these demands. Self-regulation is what determines the existence of board structure and procedures. The point that listed companies must accept is that a board which operates well holds an advantage in a business world which is highly competitive. What this connotes is that the greatest obstacle which must be overcome by family-owned listed firms is to take another look at their CG policy, to take on more modern standards and to establish a suitable exchange between the private firm's agency costs and the widely held public firm.

What this study intends to do is to examine the mechanisms of corporate governance in publicly traded Greek manufacturing firms between the years of 2002-2004, and to check the connection between these governance properties and the performance of the firm. Out of the total set of principles in corporate governance, we have selected two mechanisms, the size of the Board of Directors and the establishment of ownership.

The above selection of mechanisms was made through the information which is available on company websites. As such, access to this information was quite accessible. The following knowledge became clear through the empirical results of the study. To begin with, test results prove that companies with an expanding Board of Directors can better control the firm internally, and so they have a better performance than companies with a smaller number of members in the Board of Directors. Also, firms which introduced corporate governance systems are characterized by high profitability ratios.

Furthermore, test results prove that firms characterized by an expanded group of shareholders do better than firms characterized by a small group of shareholders or firms which are family owned. In brief, the study strongly suggests that firm performance is in direct relation with corporate mechanisms.

Since there was a small sample of firms for us to use, we cannot be certain that the firms which comply with a higher form of corporate governance perform better or are more efficient. Our theory is that the first set of results we received based on a small sample, are an indication of the trend which is confirmed in the above hypothesis.

Therefore, we believe that future study, which can combine a greater concentration of firm samples, research techniques, a more extensive time frame for study, as well as other factors of corporate governance, will be able to lay the foundations for better corporate governance, which means a higher level of efficiency. Also, we hope that a further research on the topic using a bigger sample of firms and probably a longer time period would attract the attention of all interested parties.

APPENDIX

1st Hypothesis

Table 1: Group Statistics for Liquidity Ratios

RATIO	GROUP	N	Mean	Std.Deviation	Std.Error Mean
CURRENT RATIO	GROUP A	15	1,612133	0,9987296	0,1398501
	GROUP B	51	2,125839	0,6940832	0,1792115
ACID TEST RATIO	GROUP A	15	1,755190	0,8351163	0,1169397
	GROUP B	51	1,363680	0,7629404	0,1969904
WORKING CAPITAL	GROUP A	15	5,0E+07	4,2E+07	5932092
	GROUP B	51	3,6E+07	2,5E+07	6439988
WORKING CAPITAL RATIO	GROUP A	15	0,202067	0,1471264	0,0206018
	GROUP B	51	0,287349	0,1412948	0,0364822
CASH FLOW LIQUIDITY RATIO	GROUP A	15	0,044294	0,0489401	0,006853
	GROUP B	51	0,755000	0,0784825	0,0202641

Table 2: Levene's Test and t-test for Liquidity Ratios

RATIO	Value: [3]"EVA" [4]"EVNA"	Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	P-VALUE (F)	t	df	P-VALUE (T)	Mean difference
CURRENT RATIO	"EVA"	1,412	0,239	1,859	64	0,068	0,5137059
	"EVNA"			2,260	32,834	0,031	0,5137059
ACID TEST RATIO	"EVA"	0,508	0,478	1,626	64	0,109	0,3915102
	"EVNA"			1,709	24,745	0,1	0,3915102
WORKING CAPITAL	"EVA"	3,844	0,054	1,246	64	0,217	14348391
	"EVNA"			1,639	39,811	0,109	14348391
WORKING CAPITAL RATIO	"EVA"	0,09	0,765	1,990	64	0,051	0,0852824
	"EVNA"			2,036	23,679	0,053	0,0852824
CASH FLOW LIQUIDITY RATIO	"EVA"	6,224	0,015	-1,873	64	0,066	-0,0312059
	"EVNA"			-1,459	17,322	0,163	-0,0312059

Table 3: Group Statistics for Activity Ratios

RATIO	GROUP	N	Mean	Std.Deviation	Std.Error Mean
INVENTORY TURNOVER RATIO	GROUP A	15	13,046951	33,9661997	4,7562193
	GROUP B	51	9,079680	9,1981526	2,3749528
AVERAGE COLLECTION PERIOD	GROUP A	15	116,070500	90,5740916	12,68291
	GROUP B	51	97,292847	103,0300649	26,60225
ACCOUNTS RECEIVABLE TURNOVER RATIO	GROUP A	15	1,372931	1,0233634	0,1432995
	GROUP B	51	1,574333	0,7103532	0,1834124
AVERAGE ACCOUNTS	GROUP A	15	305,640	529,7795406	74,18397

[3] "EVA" for Equal Variances Assumed
[4] "EVNA" for Equal Variances Not Assumed

RECEIVABLE			600		
	GROUP B	51	516,758100	214,1757726	55,29995
TRADE CREDITORS TO PURCHASES RATIO	GROUP A	15	1,519073	1,1187897	0,1566619
	GROUP B	51	1,267553	0,4939268	0,1275314
AVERAGE PAYABLE PERIOD SHORT-TERM LIABILITIES	GROUP A	15	390,656800	328,3560166	45,97904
	GROUP B	51	345,496300	167,2892697	43,19390
NET WORKING CAPITAL TURNOVER RATIO	GROUP A	15	-3,727104	43,0473977	6,0278414
	GROUP B	51	0,611633	6,5092403	1,6806786
ASSETS TURNOVER RATIO	GROUP A	15	0,540973	0,4322409	0,0605258
	GROUP B	51	0,582767	0,2404038	0,0620720

Table 4: Levene's Test and t-test for Activity Ratios

RATIO	Value: "EVA" "EVNA"	Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	P-VALUE (F)	t	df	P-VALUE (T)	Mean difference
INVENTORY TURNOVER RATIO	"EVA"	1,124	0,293	0,445	64	0,658	3,9672710
	"EVNA"			0,746	63,863	0,458	3,9672710
AVERAGE COLLECTION PERIOD	"EVA"	0,018	0,894	0,684	64	0,496	18,777608
	"EVNA"			0,637	20,787	0,531	18,777608
ACCOUNTS RECEIVABLE TURNOVER RATIO	"EVA"	3,459	0,067	-0,712	64	0,479	-0,2014020
	"EVNA"			-0,865	32,878	0,393	-0,2014020
AVERAGE ACCOUNTS RECEIVABLE	"EVA"	3,603	0,062	1,501	64	0,138	211,11744
	"EVNA"			2,282	57,546	0,026	211,11744
TRADE CREDITORS TO PURCHASES RATIO	"EVA"	2,552	0,115	0,843	64	0,402	0,2515192
	"EVNA"			1,245	53,818	0,218	0,2515192
AVERAGE PAYABLE PERIOD SHORT-TERM LIABILITIES	"EVA"	1,649	0,204	0,511	64	0,611	45,160471
	"EVNA"			0,716	46,857	0,478	45,160471
NET WORKING CAPITAL TURNOVER RATIO	"EVA"	0,474	0,494	-0,833	64	0,408	-9,3387373
	"EVNA"			-1,492	56,849	0,141	-9,3387373
ASSETS TURNOVER RATIO	"EVA"	1,750	0,191	-0,357	64	0,722	-0,0417941
	"EVNA"			-0,482	42,517	0,632	-0,0417941

Table 5: Group Statistics for Profitability Ratios

RATIO	GROUP	N	Mean	Std.Deviation	Std.Error Mean
RETURN ON INVESTMENT	GROUP A	15	0,060210	0,0619556	0,0086755
	GROUP B	51	0,109073	0,0622504	0,0160730
RETURN ON EQUITY	GROUP A	15	0,102712	0,1061218	0,0148600
	GROUP B	51	0,186893	0,1014003	0,0261814
LONG TERM PROFITABILITY	GROUP A	15	0,350582	0,1297210	0,0181646
	GROUP B	51	0,386307	0,1213221	0,0313252
GROSS PROFIT MARGIN	GROUP A	15	0,109229	0,1358724	0,0190259
	GROUP B	51	0,160873	0,0716363	0,0184964
OPERATION PROFIT TO TOTAL ASSETS	GROUP A	15	0,281241	0,4018269	0,0562670
	GROUP B	51	0,529513	0,4925032	0,1271638

Table 6: Levene's Test and t-test for Profitability Ratios

RATIO	Value: "EVA" "EVNA"	Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	P-VALUE (F)	t	df	P-VALUE (T)	Mean difference
RETURN ON INVESTMENT	"EVA"	1,032	0,314	-2,682	64	0,009	-0,0488635
	"EVNA"			-2,675	22,804	0,014	-0,0488635
RETURN ON EQUITY	"EVA"	0,390	0,534	-2,727	64	0,008	-0,0841816
	"EVNA"			-2,796	23,782	0,010	-0,0841816
LONG TERM PROFITABILITY	"EVA"	0,261	0,611	-0,951	64	0,345	-0,0357243
	"EVNA"			-0,987	24,231	0,344	-0,0357243
GROSS PROFIT MARGIN	"EVA"	0,830	0,366	-1,410	64	0,163	-0,0516439
	"EVNA"			-1,946	45,147	0,058	-0,0516439
OPERATIONAL PROFIT TO TOTAL ASSETS	"EVA"	2,280	0,136	-1,997	64	0,050	-0,2482722
	"EVNA"			-1,785	19,806	0,090	-0,2482722

Table 7: Group Statistics for Financial Structure Ratios

RATIO	GROUP	N	Mean	Std.Deviation	Std.Error Mean
FIXED ASSETS/EQUITY CAPITAL	GROUP A	15	0,593087	0,1438977	0,0201497
	GROUP B	51	0,614931	0,1091029	0,0281703
FIXED ASSETS/TOTAL ASSETS	GROUP A	15	0,331286	0,1596777	0,0223593
	GROUP B	51	0,350093	0,1597771	0,0412543
RATIO OF OWNERS EQUITY TO TOTAL ASSETS	GROUP A	15	0,601016	0,1270174	0,0177860
	GROUP B	51	0,570720	0,0622010	0,0160602
DEBT RATIO	GROUP A	15	0,394294	0,1260732	0,0176538
	GROUP B	51	0,426513	0,0639664	0,0165160
RATIO OF BORROWING EQUITY	GROUP A	15	0,728827	0,3768788	0,0527736
	GROUP B	51	0,768140	0,2059595	0,0531785
LONG TERM CAPITAL/TOTAL ASSETS	GROUP A	15	0,607487	0,1056570	0,0147949
	GROUP B	51	0,670075	0,0696020	0,0179711
INTEREST COVERAGE FIXED ASSETS/TOTAL ASSETS	GROUP A	15	12,748990	25,6092774	3,5860161
	GROUP B	51	23,969947	30,6771549	7,9208073

Table 8: Levene's Test and t-test for Financial Structure Ratios

RATIO	Value: "EVA" "EVNA"	Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	P-VALUE (F)	t	df	P-VALUE (T)	Mean difference
FIXED ASSETS/EQUITY CAPITAL	"EVA"	0,835	0,364	0,543	64	0,589	0,218447
	"EVNA"			0,631	28,806	0,533	0,218447
FIXED ASSETS/TOTAL ASSETS	"EVA"	0,001	0,972	-0,401	64	0,690	-0,0188071
	"EVNA"			-0,401	22,88	0,692	-0,0188071
RATIO OF OWNERS EQUITY TO TOTAL ASSETS	"EVA"	3,792	0,056	0,899	64	0,377	0,0302957
	"EVNA"			1,264	48,833	0,212	0,0302957
DEBT RATIO	"EVA"	3,699	0,059	-0,951	64	0,345	-0,0322192
	"EVNA"			-1,333	47,064	0,189	-0,0322192
RATIO OF BORROWING EQUITY	"EVA"	1,977	0,165	-0,386	64	0,701	-0,0393125
	"EVNA"			-0,525	43,374	0,602	-0,0393125
LONG TERM CAPITAL/TOTAL ASSETS	"EVA"	3,706	0,059	2,155	64	0,035	0,0625878
	"EVNA"			2,689	34,917	0,011	0,0625878
INTEREST COVERAGE FIXED ASSETS/TOTAL ASSETS	"EVA"	1,764	0,189	-1,425	64	0,159	-11,22096
	"EVNA"			-1,291	20,091	0,212	-11,22096

Table 9: Group Statistics for z-score

RATIO	GROUP	N	Mean	Std.Deviation	Std.Error Mean
z-score	GROUP A	15	1,735400	0,9160133	0,1282675
	GROUP B	51	1,539007	0,4799331	0,1239182

Table 10: Levene's Test and t-test for z-score

RATIO	Value: "EVA" "EVNA"	Levene's Test for Equality of Variances	t-test for Equality of Means

		F	P-VALUE (F)	t	df	P-VALUE (T)	Mean difference
z-score	"EVA"	3,005	0,088	0,796	64	0,429	0,1963933
	"EVNA"			1,101	45,459	0,277	0,1963933

2st Hypothesis

Table 1: Group Statistics for Liquidity Ratios

RATIO	GROUP	N	Mean	Std.Deviation	Std.Error Mean
CURRENT RATIO	GROUP A	15	2,145986	0,3623044	0,0935466
	GROUP B	51	1,543633	1,0356941	0,1450262
ACID TEST RATIO	GROUP A	15	1,769471	0,3556189	0,0918204
	GROUP B	51	1,315127	0,9014822	0,1262328
WORKING CAPITAL	GROUP A	15	4,2E+07	43824784,94	1,1E+07
	GROUP B	51	6,3E+07	37128898,3	5199086
WORKING CAPITAL RATIO	GROUP A	15	0,21016	0,1191730	0,0307703
	GROUP B	51	0,284969	0,1537798	0,0215335
CASH FLOW LIQUIDITY RATIO	GROUP A	15	0,50127	0,0518978	0,0133999
	GROUP B	51	0,51757	0,0599231	0,0083909

Table 2: Levene's Test and t-test for Liquidity Ratios

RATIO	Value: "EVA" "EVNA"	Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	P-VALUE (F)	t	df	P-VALUE (T)	Mean difference
CURRENT RATIO	"EVA"	4,381	0,04	-2,203	64	0,031	-0,6023529
	"EVNA"			-3,490	61,957	0,001	-0,6023529
ACID TEST RATIO	"EVA"	5,052	0,028	-1,900	64	0,062	-0,4543439
	"EVNA"			-2,911	58,459	0,005	-0,4543439
WORKING CAPITAL	"EVA"	0,001	0,978	1,83	64	0,072	20796845
	"EVNA"			1,670	20,282	0,11	20796845
WORKING CAPITAL RATIO	"EVA"	0,39	0,535	-1,734	64	0,088	-0,748286
	"EVNA"			-1,992	29,115	0,056	-0,748286
CASH FLOW LIQUIDITY RATIO	"EVA"	0,02	0,888	-0,095	64	0,924	0,0016302
	"EVNA"			-0,103	26,012	0,919	0,0016302

Table 3: Group Statistics for Activity Ratios

RATIO	GROUP	N	Mean	Std.Deviation	Std.Error Mean
INVENTORY TURNOVER RATIO	GROUP A	15	31,114767	59,3627905	15,32741
	GROUP B	51	6,566043	7,3915308	1,0350213
AVERAGE COLLECTION PERIOD	GROUP A	15	81,710647	108,3597128	27,97836
	GROUP B	51	120,653500	87,2833632	12,22212
ACCOUNTS RECEIVABLE TURNOVER RATIO	GROUP A	15	1,281441	1,1411229	0,2946367
	GROUP B	51	1,885400	0,8653321	0,1211707
AVERAGE ACCOUNTS RECEIVABLE	GROUP A	15	289,599800	211,7218156	54,66634
	GROUP B	51	521,475900	528,0409115	73,94052
TRADE CREDITORS TO PURCHASES RATIO	GROUP A	15	2,000187	1,6359844	0,4224094
	GROUP B	51	1,303592	0,6875846	0,0962811
AVERAGE PAYABLE PERIOD SHORT-TERM LIABILITIES	GROUP A	15	330,709100	283,1382748	73,94052
	GROUP B	51	395,005900	304,5016605	42,63876
NET WORKING CAPITAL TURNOVER RATIO	GROUP A	15	5,135400	4,6085099	1,1899121
	GROUP B	51	-	43,145982	6,0416459

			3,587035		
ASSETS TURNOVER RATIO	GROUP A	15	0,455980	0,5773646	0,1490749
	GROUP B	51	0,871740	0,2645945	0,370506

Table 4: Levene's Test and t-test for Activity Ratios

RATIO	Value: "EVA" "EVNA"	Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	P-VALUE (F)	t	df	P-VALUE (T)	Mean difference
INVENTORY TURNOVER RATIO	"EVA"	23,406	0,000	2,93	64	0,005	24,548724
	"EVNA"			1,598	14,128	0,132	24,548724
AVERAGE COLLECTION PERIOD	"EVA"	0,320	0,574	-1,436	64	0,156	-38,94281
	"EVNA"			1,275	19,653	0,217	-38,94281
ACCOUNTS RECEIVABLE TURNOVER RATIO	"EVA"	1,048	0,31	2,205	64	0,031	0,6039588
	"EVNA"			1,896	18,984	0,073	0,6039588
AVERAGE ACCOUNTS RECEIVABLE	"EVA"	3,116	0,082	-1,655	64	0,103	-231,8762
	"EVNA"			-2,522	57,86	0,014	-231,8762
TRADE CREDITORS TO PURCHASES RATIO	"EVA"	10,267	0,002	2,427	64	0,018	0,6965945
	"EVNA"			1,608	15,481	0,128	0,6965945
AVERAGE PAYABLE PERIOD SHORT-TERM LIABILITIES	"EVA"	0,076	0,784	-0,73	64	0,468	-64,296681
	"EVNA"			-0,76	24,356	0,455	-64,29681
NET WORKING CAPITAL TURNOVER RATIO	"EVA"	0,738	0,394	0,777	64	0,44	8,7224353
	"EVNA"			1,417	53,666	0,162	8,7224353
ASSETS TURNOVER RATIO	"EVA"	11,582	0,001	3,962	64	0,000	0,4157596
	"EVNA"			2,707	15,766	0,016	0,4157596

Table 5: Group Statistics for Profitability Ratios

RATIO	GROUP	N	Mean	Std.Deviation	Std.Error Mean
RETURN ON INVESTMENT	GROUP A	15	0,056222	0,0841989	0,217401
	GROUP B	51	0,122633	0,0496945	0,006959
RETURN ON EQUITY	GROUP A	15	0,096129	0,1463452	0,377862
	GROUP B	51	0,209273	0,0825786	0,011563
LONG TERM PROFITABILITY	GROUP A	15	0,318320	0,1403024	0,036226
	GROUP B	51	0,370578	0,1228817	0,017207
GROSS PROFIT MARGIN	GROUP A	15	0,135987	0,0698026	0,018023
	GROUP B	51	0,116549	0,1380747	0,019334
OPERATION PROFIT TO TOTAL ASSETS	GROUP A	15	0,248676	0,5829673	0,150522
	GROUP B	51	0,640233	0,3361111	0,047065

Table 6: Levene's Test and t-test for Profitability Ratios

RATIO	Value: "EVA" "EVNA"	Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	P-VALUE (F)	t	df	P-VALUE (T)	Mean difference
RETURN ON INVESTMENT	"EVA"	13,512	0,000	3,833	64	0,000	0,0664118
	"EVNA"			2,909	16,966	0,010	0,0664118
RETURN ON EQUITY	"EVA"	12,999	0,001	3,85	64	0,000	0,1131439
	"EVNA"			2,863	16,704	0,011	0,1131439
LONG TERM PROFITABILITY	"EVA"	1,050	0,309	-1,402	64	0,166	-0,0522584
	"EVNA"			-1,303	20,734	0,207	-0,0522584
GROSS PROFIT MARGIN	"EVA"	0,611	0,437	0,524	64	0,602	0,0194376
	"EVNA"			0,735	47,245	0,466	0,0194376
OPERATIONAL PROFIT TO TOTAL ASSETS	"EVA"	7,190	0,009	3,306	64	0,002	0,3915569
	"EVNA"			2,483	16,826	0,024	0,3915569

Table 7: Group Statistics for Financial Structure Ratios

RATIO	GROUP	N	Mean	Std.Deviation	Std.Error Mean
FIXED ASSETS/EQUITY CAPITAL	GROUP A	15	0,619900	0,1036313	0,267575
	GROUP B	51	0,607045	0,1452748	0,020343
FIXED ASSETS/TOTAL ASSETS	GROUP A	15	0,312433	0,1541927	0,039812
	GROUP B	51	0,342363	0,1608174	0,022519
RATIO OF OWNERS EQUITY TO TOTAL ASSETS	GROUP A	15	0,580533	0,5724650	0,014781
	GROUP B	51	0,598129	0,1282191	0,017954
DEBT RATIO	GROUP A	15	0,417767	0,5848430	0,015101
	GROUP B	51	0,396867	0,1273648	0,178346
RATIO OF BORROWING EQUITY	GROUP A	15	0,734507	0,1623196	0,041911
	GROUP B	51	0,738720	0,3832648	0,053678
LONG TERM CAPITAL/TOTAL ASSETS	GROUP A	15	0,589227	0,0565301	0,145960
	GROUP B	51	0,675445	0,1039707	0,014559
INTEREST COVERAGE FIXED ASSETS/TOTAL ASSETS	GROUP A	15	34,589787	41,9231650	10,82451
	GROUP B	51	9,625508	17,6618449	2,4731530

Table 8: Levene's Test and t-test for Financial Structure Ratios

RATIO	Value: "EVA" "EVNA"	Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	P-VALUE (F)	t	df	P-VALUE (T)	Mean difference
FIXED ASSETS/EQUITY CAPITAL	"EVA"	2,086	0,153	0,319	64	0,751	0,128549
	"EVNA"			0,382	31,879	0,705	0,128549
FIXED ASSETS/TOTAL ASSETS	"EVA"	0,019	0,891	-0,639	64	0,525	-0,299294
	"EVNA"			-0,654	23,712	0,519	-0,299294
RATIO OF OWNERS EQUITY TO TOTAL ASSETS	"EVA"	4,193	0,045	-0,514	64	0,609	-0,0175961
	"EVNA"			-0,757	53,301	0,453	-0,0175961
DEBT RATIO	"EVA"	4,243	0,043	0,614	64	0,514	0,0209000
	"EVNA"			0,894	51,979	0,375	0,0209000
RATIO OF BORROWING EQUITY	"EVA"	3,849	0,054	-0,041	64	0,967	-0,0042129
	"EVNA"			-0,062	55,655	0,951	-0,0042129
LONG TERM CAPITAL/TOTAL ASSETS	"EVA"	4,168	0,045	-3,07	64	0,003	-0,0862184
	"EVNA"			-4,182	43,624	0,000	-0,0862184
INTEREST COVERAGE FIXED ASSETS/TOTAL ASSETS	"EVA"	23,854	0,000	3,391	64	0,001	24,964279
	"EVNA"			2,248	15,488	0,040	24,964279

Table 9: Group Statistics for z-score

RATIO	GROUP	N	Mean	Std.Deviation	Std.Error Mean
z-score	GROUP A	15	1,822280	0,9155103	0,2363837
	GROUP B	51	1,652084	0,8192168	0,1147133

Table 10: Levene's Test and t-test for z-score

RATIO	Value: "EVA" "EVNA"	Levene's Test for Equality of Variances	t-test for Equality of Means

		F	P-VALUE (F)	t	df	P-VALUE (T)	Mean difference
z-score	"EVA"	0,788	0,378	0,689	64	0,493	0,1701957
	"EVNA"			0,648	21,044	0,524	0,1701957

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