



**YEDİTEPE UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES**

**THE IMPACT OF OWNERSHIP STRUCTURE ON CAPITAL STRUCTURE
OF
NON-FINANCIAL FIRMS LISTED ON BORSA ISTANBUL**

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A Thesis Submitted in Conformity with The Requirements

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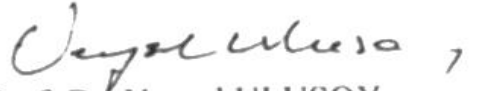
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ABSTRACT

In this thesis, the impact of companies' ownership structure on their capital structure was investigated. The panel data for 20 years between 1995-2014 obtained from non-financial firms listed on BIST were used. With the model set up in the study, how capital structure is affected was measured with the changes in ownership structure. The study resulted as; there is a meaningful statistical relationship between the ownership structure variables and the capital structure. In ceteris paribus situation, the increase of the major shareholders percentage, affected the company's debtness negatively; on the other hand the increase of the three other shareholders percentage affects positively the company's debtness. When only one person becomes the management of the company, companies get into lesser debt or usage of capital structure resources increases. In accordance with the theoretical expectations the increase of profitability of the company means a decrease indebtness and increase resources. The increase of the size of a company would affect debt to equity effect negatively. In short, the ownership structures of the business have an effect on the capital structures.

Key words: Ownership Structure, Capital Structure, BorsaIstanbul

ÖZET

Bu tez çalışmasında işletmelerin sahiplik yapılarının sermaye yapıları üzerindeki etkileri incelenmiştir. Borsa İstanbul' da (BIST) hisse senetleri işlem gören finansal olmayan firmalardan 1995-2014 yılları aralığındaki 20 yıllık panel veri kullanılmıştır. Kurulan model doğrultusunda sahiplik yapısındaki değişikliklerden sermaye yapısının nasıl etkilendiği ölçülmeye çalışılmıştır. Çalışma sonucunda, sahiplik yapısı değişkenleri ile sermaye yapısı arasında istatistiksel olarak anlamlı bir ilişki olduğu görülmüştür. Diğer şartlar sabitken şirketin en büyük hissedarının payının artması şirketin borçluluğu üzerinde negatif bir etkide bulunurken şirketin en büyük üç hissedarının toplam payının artması ise şirketin borçluluğu üzerinde pozitif bir etkiye sahiptir. Şirketin yönetiminde tek kişinin etkin hale gelmesiyle şirketlerin daha az borçlandığı veya sermaye yapısında özkaynak kullanımını arttırdığı görülecektir. Teorik beklentilerle uyumlu şekilde karlılığın artmasının şirketlerin daha az borçlanması veya özkaynaklarının artması anlamına gelmektedir. Şirketlerin büyüklüğünün artması borç-özsermaye etkisini negatif yönde etkileyeceği sonucuna ulaşılmıştır. Özetle, işletmelerin sahiplik yapılarının sermaye yapıları üzerinde etkilerinin olduğu gözlemlenmiştir.

Anahtar Sözcükler: Sahiplik Yapısı, Sermaye Yapısı, Borsa İstanbul

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TABLE OF CONTENTS

APPROVAL DECLARATION.....	i
PLAGIARISM DECLARATION	ii
ABSTRACT	iii
ÖZET	iv
ACKNOWLEDGMENTS	v
TABLE OF CONTENTS	vi
LIST OF TABLES	ix
LIST OF FIGURES	xii
LIST OF ABBREVIATIONS	x
CHAPTER 1. INTRODUCTION	1
1.1. The Topic of the Research	3
1.2. The Purpose and Scope of the Research	4
CHAPTER 2. LITERATURE REVIEW ON THEORIES OF CAPITAL STRUCTURE.....	5
2.1. The Concept of Capital Structure	5
2.2. Factors Affecting Capital Structure and Its Importance in Terms of Businesses	6
2.3. Capital Structure Theories and Their Historical Development	7
2.3.1. Traditional Approaches to Capital Structure	8
2.3.2. Modigliani and Miller Theory	10
2.3.3. Miller Model	11
2.3.4. Trade-Off Theory	13

2.3.5. Pecking Order Theory	15
2.3.6. Agency Theory	17
2.3.7. Market Timing Theory	20
2.3.8. Signaling Theory	21
CHAPTER 3. OWNERSHIP STRUCTURE IN BUSINESSES	25
3.1. The Concept of Ownership	25
3.2. Ownership Concentration	26
3.2.1. Percentage of the Shares Held by the Largest Shareholder (LSH1)	26
3.2.2. Cumulative Shares of the Largest Three Shareholders (LSH3)	36
3.3. Ownership Mix	47
3.3.1. Conglomerate Affiliation (CONG)	47
3.3.2. Family Ownership (FAM)	51
3.3.3. Foreign Ownership (FRGN)	58
CHAPTER 4. EMPIRICAL APPLICATION	62
4.1. Basic Statistical Concepts and Analyses	62
4.2. Studies on the Relationship between Ownership And Capital Structure	64
4.3. Data Set Used in the Research and Limitations	72
4.4. Research Model and Hypotheses	73
4.5. Research Method and the Variables	74
4.6. Empirical Results	78

CHAPTER 5. RESULTS AND DISCUSSION85

REFERENCES87

Appendix A98



LIST OF TABLES

Table 1 : Ownership Concentrations Voting Power for LSH1	27
Table 2 : Definitions of Ratios for LSH1.....	27
Table 3 : Descriptives of Liquidity Effect on Current Assets for LSH1	28
Table 4 : Test of Homogeneity of Variances of Liquidity Effect on Current Assets for LSH1.....	29
Table 5 : ANOVA of Liquidity Effect on Current Assets for LSH1	29
Table 6 : Descriptives of Debt to Equity Effect for LSH1	30
Table 7 : Test of Homogeneity of Variances of Debt to Equity Effect for LSH1	31
Table 8 : ANOVA of Debt to Equity Effect for LSH1	31
Table 9 : Descriptives of Size Effect for LSH1	32
Table 10 : Test of Homogeneity of Variances of Size Effect for LSH1	32
Table 11 : ANOVA of Size Effect for LSH1.....	33
Table 12 : Descriptives of Profit Margin Effect for LSH1	33
Table 13 : Test of Homogeneity of Variances of Profit Margin Effect for LSH1	34
Table 14 : ANOVA of Profit Margin Effect for LSH1.....	34
Table 15 : Descriptives of Financing Effect for LSH1	35
Table 16 : Test of Homogeneity of Variances of Financing Effect for LSH1.....	35
Table 17 : ANOVA of Financing Effect for LSH1.....	36
Table 18 : Ownership Concentrations Voting Power for LSH3	37
Table 19 : Definitions of Ratios for LSH3.....	38
Table 20 : Descriptives of Liquidity Effect on Current Assets for LSH3	39

Table 21 : Test of Homogeneity of Variances of Liquidity Effect on Current Assets for LSH3	39
Table 22 : ANOVA of Liquidity Effect on Current Assets for LSH3	40
Table 23 : Descriptives of Debt to Equity Effect for LSH3	41
Table 24 : Test of Homogeneity of Variances of Debt to Equity Effect for LSH3	41
Table 25 : ANOVA of Debt to Equity Effect for LSH3	42
Table 26 : Descriptives of Size Effect for LSH3	42
Table 27 : Test of Homogeneity of Variances of Size Effect for LSH3	43
Table 28 : ANOVA of Size Effect for LSH3	43
Table 29 : Descriptives of Profit Margin Effect for LSH3	44
Table 30 : Test of Homogeneity of Variances of Profit Margin Effect for LSH3	44
Table 31 : ANOVA of Profit Margin Effect for LSH3	45
Table 32 : Descriptives of Financing Effect for LSH3	45
Table 33 : Test of Homogeneity of Variances of Financing Effect for LSH3	46
Table 34 : ANOVA of Financing Effect for LSH3	46
Table 35 : Group Statistics of Conglomerate Firms	48
Table 36 : Independent Samples Test for Conglomerate Firms	49
Table 37 : Group Statistics of Family Owned Firms	55
Table 38 : Independent Samples Test for Family Owned Firms	56
Table 39 : Group Statistics of Firms with Foreign Ownership	59
Table 40 : Independent Samples Test for Firms with Foreign Ownership	60
Table 41 : Hypothesis	73
Table 42 : Variables Covered by the Model	74
Table 43 : Descriptive Statistics of the Variables	75
Table 44 : Correlation Matrix of the Variables	75

Table45: Variables Unit Root Test	76
Table46: Models Set Up Based on Basic Hypotheses	77
Table47: The Relation Between Ownership Structure and Capital Structure	78
Table48: HausmanTest	79
Table49: Wooldridge and LBI Test	80
Table50: Heteroscedasticity Test	80
Table51: Regression with Driscoll-Kraay Standard Errors	81
Table52: The Relation Between Ownership Structure and Financing Decisions	81
Table53: Hausman Test	82
Table54: Wooldridge and LBI Test	82
Table55: Heteroscedasticity Test	83
Table56: Regression with Robust Standard Errors	83

LIST OF FIGURES

Figure 1 : The Percentage of Conglomerate Firms	48
Figure 2 : The Percentage of Family Owned Firms.....	55
Figure 3 : The Percentage of Firms with Foreign Ownership	59
Figure 4: Research Model.....	73



ABBREVIATIONS

WACC	Weighted Average Cost of Capital
M&M	Modigliani and Miller Theory
BIST	Borsa İstanbul (Istanbul Stock Exchange)
KAP	Public Disclosure Platform (Kamu Aydınlatma Platformu)
G_L	Levered Firm's Value
T_c	The Corporate Tax Rate
T_{ps}	Individual Income Tax Rate Applicable to Income from Common Stock
T_{pb}	Individual Income Tax Rate Applicable to Income from Bonds
B_L	The Market Value of the Levered Firm's Debt
LSH1	Percentage of the Shares Held by the Largest Shareholder
LSH3	Cumulative Shares of the Largest Three Shareholders
CONG	Conglomerate Affiliation
FAM	Family Ownership
FRGN	Foreign Ownership
LEC	Liquidity Effect
DEE	Debt to Equity Effect
SE	Size Effect
PE	Profitability Effect
FE	Financing Effect

CHAPTER 1

INTRODUCTION

Capital structure represents the formation of the company's financial structure with regard to how businesses finance their overall operations. It is best translated into a group of ratios focusing on the relationship between liabilities and the assets. In short, it is the composition of the resources, which help to obtain finance. On one hand, it helps to obtain sources of finance to keep operations of the business, and on the other hand, by giving financial decisions, it helps to form the resource side of the balance sheet. The resources are the assets to benefit the company to generate revenues and in turn provide future positive cash inflow to the business. So the capital structure plans to obtain the balance between the risks and the profit.

The earlier known theories about capital structure of business finance are the classical approaches by Modigliani and Miller. Classical capital structure approaches are about creating a balance between the corporate level of indebtedness, average cost of capital, capital structure changes, corporate risk, and expected returns for increasing the company value. The classical approach is the fund relation between the company value and the capital structure. In 1958, Modigliani and Miller (M&M') conducted a research on business finance and found that there is no relationship between the capital cost and the capital structure of the business. With the findings of this research, Modigliani and Miller (1958) underlined the topic of business risk. However, they were criticized especially by the executives and shareholders because they omitted adding the personal and corporate taxes as the capital income for the taxation process and ruling out the economic reality.

In 1963, M&M added the corporate taxes to their previous work and made an attempt to improve their model in accordance to the expectations of the markets. Nevertheless, not having added the income tax based on capital profits, they were criticized once again by the executives and shareholders. Thereupon, in 1977, Miller created a new model and underlined the importance of income tax in addition to corporate tax when calculating the corporate profit.

Numerous theories of capital structure emphasizes on different areas of capital structure factors. M&M Theory explains active markets, Trade-Off Theory explains taxes, Pecking Order Theory explains asymmetrical information, Agency Theory explains representative costs, Market Timing Theory explains timing of financial supply, and Signaling Theory, like pecking order, explains asymmetrical information.

The ownership structure is identified as ownership mix and ownership concentration. Ownership structure, as ownership concentration, states the proportional distribution among the resources of the business and is identified as the percentage of the shareholders and cumulative shares of the largest three shareholders. The concentration of the ownership states that ownership is spread through the bottom. Within the scope of the literature, ownership structure types are mainly explained as ownership mix conglomerate affiliation, family ownership, and foreign ownership.

Within the context of this thesis, the effect of the variety of the ownership structure upon financing decision-making has been discussed. While the effect of the ownership structure on the capital structure and the financing decisions are researched, the concepts are examined through literature based on general theories and empirical applications. Under the umbrella of the capital structure theories, the classical approaches are Modigliani and Miller Model, Miller Model, Trade-Off

Theory, Pecking Order Theory, Agency Theory, Market Timing Theory and Signaling Theory. When the ownership structure is observed, while defining the ownership concept, the variables that has been used to explain the ownership concentration and ownership mix are discussed and their explanations are made either statistically descriptive or as definitions.

Before making an analysis of the ownership structure's influence on capital structure and financing decision-making, a thorough literature review on the academic work about the relationship between the capital structure and the ownership structure has been made so the variables, the analysis, and the results are observed on the subject. In the empirical part of the thesis, two different regression models are constructed for both of the hypotheses. In this part, in addition to the findings, research models, data used in the research, hypotheses and the variables, the limitations of the research and management of the research are discussed in details as well.

1.1. Purpose of the Study

The ownership structure of a business is determined by the structure and the number of its shareholders. The depth of ownership structure, in other words, the number of partners, varies among firms. High number of partners means that the ownership is inclusive, and this is one of the main goals of financial markets. With the advancements in communication, ownership structures especially with the developing markets show great variety. Financing decisions are affected by many factors, as well as significantly affecting a firm's main policies. Determining capital structure is one of the basic decision areas for a firm such as investment, production, marketing and

profit sharing policies. In this study, we are aiming to understand whether ownership structure has a positive effect on capital structure and its effect on financing decisions.

In other words, in this thesis work, we are aiming to determine with an empirical model whether factors that affect the ownership structure of a business, such as the number and variety of business owners, whether it has a positive effect on the business or not, and how these factors affect financing decisions.

In epitome, the purpose of the study is to understand the impact of ownership types on capital structure of companies. Turkish companies capital structures will be questioned in terms of ownership types.

1.2. Importance of the Study

There are a variety of ownership structures in non-financial firms in Turkey. Turkey is a developing country and this encourages new firms to be established and developed. This results in diversity in the ownership structures of the firms. Furthermore, changes in the governance systems also cause a variety in the ownership structures.

Capital structures of non-financial Turkish firms from each different ownership structure will be observed. Accordingly, whether there is a relationship between capital structure and the ownership structure of those firms will be examined.

The scope of the study to the field of business is to provide evidence in favor of the different characteristics of the capital structure with respect to ownership types of the firms.

CHAPTER 2

LITERATURE REVIEW ON THEORIES OF CAPITAL STRUCTURE

2.1 The Concept of Capital Structure

Capital structure describes the proportion of a company's capital, or operating money, which is earned through debt versus the proportion earned through equity. In other words, it is a financial structure that funds assets and examines financial variables. To increase their firm value, firms can finance their investments by issuing equities or they can go into debt to be able to benefit from tax savings (Schwartz, 1959).

With their capital structure theories, finance researchers and managers support the firms' increasing needs of capital and risk management, and of financial decisions on capital structure. Financial structure and type of financing are important factors to consider when deciding on capital structure. Another important element is which tools to use in financing policy. Whether the firm is financed with mostly equity or debt depends on the proportion of a company's capital, or operating money, that is obtained through debt versus the proportion obtained through equity (Toraman, 2008).

With financial decisions to finance the assets used to survive, firms give shape to resources part of a balance sheet, that is, capital structure. Business operations are carried out smoothly by meeting the liabilities and keeping liquid assets according to capital structure. Capital structure aims to balance between risk and profit. Using a lot of debt raises expected profitability ratio but cash flow risk, as well. In other words, the more debt they use the more probable financial failure is; so firms make their balance sheets with more liquid assets in order to lessen this probability. If debt makes up more in a firm's assets, that firm also wants to keep more liquid assets in

their balance sheet in case they might have difficulty in going into debt in the future. While firms' capital structure decisions affect their liquidity position, their liquidity position affects their preferences, capital structure and expectations. Acting as a control panel in another sense, capital structure analyzes how shareholders and financial managers can finance the assets (Akkaya, 2008).

2.2 Factors Affecting Capital Structure and Its Importance in Terms of Businesses

Empirical and speculative theories that tried to determine the best capital structures for companies came to light after the relationship between some factors including a firm's operating value, financing decisions and resource costs and its capital structure had been analyzed. A firm's operating conditions may be different than another firm's operating conditions. Even the financial conditions of the same-scale firms in the same sector might differ. That is why capital structure theories cannot provide optimal capital structure completely (Kabakçı, 2008).

The main purpose of effective financial management needed to build optimal capital structure is to maximize the market value and current stock values in order to maximize the company's current value for shareholders. Companies aim to maximize their market value by carefully examining earnings per share, profitability and price-earnings ratio. Capital structure theories lead the way for companies to build optimal capital structure by choosing the right financial structure that affects the firm value (Korkmaz and Karaca, 2013).

The studies on the companies' capital structure show that thanks to the perfect conditions of competition and financial markets that work without failure, the costs of resources that companies use as funding do not vary. Therefore, companies that do not have enough equities can easily find new capital or go into debt. That is why the changes in capital structure will not affect the firm value. While capital structure theories cannot build the financial structure in a clear way, they can provide companies the tools for determining their own equity capital ratio and debt ratio (Kabakçı, 2008).

2.3 Capital Structure Theories and Their Historical Development

What defines the firms' composition of resources is their equity capital or liability ratio. This ratio varies according to the firm's sector, workspace and size. It is stated that firms have their own financial structure, which is a strategic concept should be analyzed in detail. The works that examine this concept are called capital structure theories (Kabakçı, 2008).

Many studies have been carried out on local and international capital structure and theories. In the globalizing business world, managers and firm owners try to rank among the best and there have been a lot of developments as a result of this hard work. Even though managers and firm owners try very hard to carry their business one step further and increase the income, financing problem to support this growth is very common. The increasing needs for capital management and risk management in the global business world are met by capital structure theories developed by financial managers and researchers. In other words, capital structure theories affect financing decisions (Fıratoğlu, 2005).

The earlier theoretical study on capital structure models that affected the capital structure decisions was published in 1958 by Modigliani and Miller. Following this work, the Miller model (1977) in which corporation and individual income tax was added was published. On the other hand, trade-off theory emphasized taxes, pecking order theory stressed information asymmetry, and agency theory underlined agency expenses.

Capital structure theories are as follows in general terms:

- Traditional Approaches to Capital Structure
- Modigliani and Miller Theory
- Miller Model
- Trade-Off Theory
- Pecking Order Theory
- Agency Theory
- Market Timing Theory
- Signaling Theory

2.3.1 Traditional Approaches to Capital Structure

The earlier theories about financing related to capital structure are the traditional approaches discussed by Modigliani and Miller. Traditional capital structure approach tries to increase the firm value by balancing the level of debt, average cost of capital, capital structure changes, company risk and expected earnings. In other words, it is related to the relationship of funding between capital structure and firm value.

Balancing risk and profits, optimal capital structure maximizes share prices and minimizes cost of capital. Therefore, it should be determined that how much debt and how much equities will be used in meeting the needs of funding; in other words, the proportion of debt and equities in the capital structure should be in optimum level (Brigham, 1999).

The decisions, operations and thoughts about capital structure are very important since they affect business value and cost of capital. How the content of capital will maximize the firm value and minimize the cost of capital is among the most important decisions. There are two approaches related to whether firm value and average cost of capital will be different or not depending on whether financial structure will be able to reach the best capital structure. The first approach is about how average capital costs, company risk, the level of debt and expected earnings affect the value of the firm; the second approach is about the decisions on capital structure made independently from the value of the firm and weighted average cost of capital (Yılıgör and Yücel, 2007).

The approaches of optimal capital structure are as below:

- Net Income Approach,
- Net Operating Income Approach
- Traditional Approach

According to net income approach, financial leverage ratio is essential for the value of the firm; and leverage ratio and the firm value are directly proportional. In terms of funding, debt has less risk and cost than equities. Even though firms seem to be taking risk by going into debt, the value of the firm increases because leverage ratio (debt/equities) is high.

In other words, since a firm's going into debt will make the leverage ratio seem high and decrease weighted average cost of capital, the value of the firm will increase. Increased value of the firm will draw investors' attention and share prices will also raise (Yılgör and Yücel, 2007).

Net operating income approach argues that the cost of capital has no effect on the value of the firm and weighted average cost of capital; and a firm's weighted average cost of capital is fixed. When the leverage ratio changes, value of the firm and cost of capital are not affected; in other words, the change of debt component in capital structure has no effect on cost of capital (Demirhan, 2009).

According to traditional approach, companies have only one optimal capital structure. Firms that go into debt and benefit from financial leverage may decrease the cost of capital and increase the value of the firm. However, if the optimal capital structure is surpassed, the amount of debt will cause weighted average cost of capital and cost of capital to increase and this situation will decrease the firm value. According to this approach, cost of debt is less than cost of equities (Okuyan, 2009).

2.3.2 Modigliani and Miller Theory

Capital structure theories made some unclear hypotheses until the article about capital structure that Franco Modigliani and Merton Miller published in 1958. The hypotheses that M&M model relies on were pioneers in the literature although there was no way to empirically test them.

Some of the important hypotheses of the model are;

- The cash flow of all businesses are equal to each other, their bankruptcy costs are zero.
- No taxes are paid over return of capital and capital markets function perfectly.
- There are no information asymmetry and agency costs.
- There are two types of financing, first one is equity capital and the other is liabilities through risk-free interest rate. It is possible to give and take liabilities from risk-free interest rate in the market.
- All businesses belong to the same risk group and there is no growth.

According to the M&M model, there is no optimal capital structure for businesses, businesses are only divided by their risk group, meaning a firm that has the same net operating income with another firm in a similar risk group does not change its value by changing its capital structure.

M&M model is based on arbitrage, in other words, if two similar assets are sold from different prices, arbitrage comes about in a market. They showed that leveraged and unleveraged firms have equal business values. M&M analyzes the effect the leverage has on business value first ignoring personal income tax and corporate income tax.

2.3.3 Miller Model

In their earlier study in 1958 on financial structure, Modigliani & Miller did not include individual and corporation taxes as return of capital; therefore, this study was not valid according to real economic conditions and drew reaction of shareholders and managers. In response, they added corporation tax to that model in

1963 and tried to make it more suitable for market conditions, they kept drawing managers' and shareholders' reaction because they did not include individual income tax.

With the new model in Miller's article called Debt & Taxes, Miller included corporation tax into taxation, and capital gains (stocks and bonds) are taxed as individual income tax. In other words, Miller stated that individual income tax as well as corporation tax is important while determining the firm's capital structure; and interest income is an issue of one-off taxes both for corporations and individuals (Miller, 1977).

It was also observed by Miller (1977) that compared to debt, equities are more advantageous when individual taxes are included in firm value analysis; however, depending on the firm value of the source of the debt, firm value decreases when individual taxes are included in the analysis.

Investors want the interest income to increase because after-tax income decreases after taxation. In other words, if the amount of net tax income that investors obtain after taxation is more than after-tax stock yields of stockholders, firms can go into more debt (Miller, 1977).

In the formula below, Miller (1977) emphasized the importance of taking individual income taxes into account while analyzing firm value and firm's capital structure. He measured the firm value by including individual and corporation income taxes in measuring market value of leveraged and unleveraged companies. According to this model, if individual and corporation income taxes are not included in measuring, leveraged companies will be more valuable than unleveraged companies.

$$G_L = [1 - \frac{(1 - T_c)(1 - T_{ps})}{(1 - T_{pb})}] B_L$$

G_L : Levered Firm's Value

T_c : The Corporate Tax Rate

T_{ps} : Individual Income Tax Rate Applicable to (Share Earnings) Income
.....from Common Stock

T_{pb} : Individual Income Tax Rate Applicable to (Bond Yields) Income from
.....Bonds

B_L : The Market Value of the Levered Firm's Debt

2.3.4 Trade-Off Theory

The first study by Modigliani and Miller in 1958 pioneered the classical studies on optimal capital structure with the Net Income Approach, the Net Operating Income Approach and the Traditional Approach. Brought out by removing the real market conditions and thus causing various criticisms, these approaches generated the Trade-off Theory in 1963, by stretching Modigliani and Miller's approaches on capital structure and by adding tax calculations to them, then by adding the concepts called corporate income tax and personal tax to the calculations done with the approaches on the previous works of Miller (1977) (Sayilgan and Uysal, 2011). The Trade-Off Theory is the integrated version of financial distress and agency costs with M&M and Miller models.

While the firms that do not use debt do not generally go under financial distress, direct and indirect costs are quite high at the firms that use debt as a source of finance. In 1978, Haugen and Senbet described direct costs as the tax deductions, which are comprised of administrative costs such as legal and accounting transactions

during bankruptcy and costs of the bankrupt's estate, which the firms are not entitled to use. Indirect costs, on the other hand, include difficulties in getting new commercial and bank loans, losses of potential and current customers and suppliers, and reorganization costs (Kim, 1978). As the leverage ratio (total debts/total assets) increases, the interest costs and precautions taken by creditors also rise while the possibility of a decrease in income causes financial distress for the firm (Brigham, 1999).

Failure to meet liabilities due to the deficit in cash position is called financial failure. Liquidity problems, decrease in stock turnover, high operating costs, competition, excessive fixed asset investment, problems in debt recoveries, financing mostly based on debts and deficiency in sales volume may cause failure of a firm. Financial distress causes an increase in the chances of failure in paying for the debts, decrease in the firm's current value, increase in capital costs and increase in the expected income of fixed yield security owners. The cost of debt is directly proportional to the debt and financial distress while it is inversely proportional to the value of the firm (Opler and Titman, 1994).

Focusing on the benefits and costs of debts, this theory basically comprises the optimal capital structure with minimum equity finance. Debt should be used when the marginal cost, defined as the possibilities of financial distress (bankruptcy as well) and agency costs, and the marginal benefit, the tax shield effect enabling the interest costs due to the debt to be deducted from taxation, are at the same level (Scherr, 1988). Agency costs are the costs stemming from the conflicts of interest between shareholders and those who use debt as a source of finance, and between managers and shareholders.

Firms may have insufficient equity for their projects; however, as the interest paid during the use of debt is deducted from taxation, which brings advantages to the current and potential projects, many firms prefer to use debts (Bontempi, 2002). However, according to the balance theory, while firms can utilize tax benefits when they use debts until the optimal capital structure, after this point, as the marginal benefit falls behind, these debts comprise risks and substantial costs. Therefore, firms cannot use debts continuously (Besley and Brigham, 2007). Stating that firms' value increase as the loan value and leverage increase, Benito (2003) puts forth that when the risk for bankruptcy rises, profits and cash flow decrease; therefore, utilizing tax benefit of debt to financially relieve the firm will cause more debts and will increase the risk level of the firm.

2.3.5 Pecking Order Theory

It is among M&M (1958) theorem's assumptions that there is no information asymmetry between insiders and outsiders, which means that these people have the same information. In other words, it is out of the question that information asymmetry is present and this information is immediately reflected on the prices.

In financial markets, in order to prevent direct information flow between market participants, asymmetric information between investors and managers is significant. As a result of the inconsistent information caused by the fact that managers have much more different information about the firm's operations and investments than what investors know, the firms analyzed that asymmetric information and tried to stop investment problems. However, after this attempt failed, Pecking

Order Theory was brought up for the first time by Myers and Majluf (1984), and it helped them to explain some of their financial preferences.

One of the most efficient capital structure theories in literature, pecking order theory is based on two main assumptions:

- Managers have more information about the firm's investment opportunities and current earnings than investors; and
- Firm managers act on shareholders' interests (Myers and Majluf, 1984).

The problem of asymmetric information destroys the balance of financial markets, which help product circulation and affect corporate decision-making processes (Aras and Müslümov, 2003). Asymmetric information is defined as the information inequality in financial markets caused by the fact that one party has more or better information required to make a decision than the other (Karacan, 2000). Investors and managers may make different decisions sometimes due to asymmetric information; and consequently, different investments are made and bad financial results arise. Owing to the financial problems that occur for many reasons, firm managers will have difficulty in making new investments. According to the pecking order theory, firms will meet their financial needs from their own funds at first; in the case of not being able to meet them, they will resort to going into debt; and when they are in a situation of not being able to be indebted any more, they will finally resort to issuance of shares. According to this theory, firms do not target any optimal capital ratio or debt (Liesz, 2005; Sayilgan and Uysal, 2011).

If the creditor cannot tell the difference between the potential funders before making an investment in terms of good risks and bad risks, this problem is called

adverse selection (Hubbard, 1994). According to Krasker (1986), share prices decrease due to the adverse selection caused by asymmetric information in the firms that obtain finance from issuance of shares. One of the works in literature that support asymmetric information and pecking order theory belongs to Narayanan (1988). In his study of 1988, he argues that due to information asymmetry, investors who do not have as much information about the quality of investment as managers cannot separate the firms of various quality investments from each other, and firms with good quality investments will have to stand clear from the market as a result. Suggesting the use of preferred stocks as an alternative funding to make use of profitable investment opportunities, Heinkel and Zechner (1990) stated that this alternative funding attracts investors since it offers them preferred and fixed income and the credit worthiness of the firms is raised. According to traditional approaches, pecking order theory, which is based on asymmetric information, has reached the market efficiency as a result of asymmetric information theory tested with traditional capital structure approaches. International funding is also a result of asymmetric information problem (Sunder and Myers, 1999).

2.3.6 Agency Theory

In domestic and international markets, in which firms grow every day with more business and gain a more complex and wider structure, their governance becomes harder. An agent is employed to carry out the tasks of audit and control in the name of shareholders to minimize the negative results of complicated situations that occur between the stakeholders, who could not audit and control the firm any more due to the growth of the firm etc., and firm managers, who display negative

management examples in order to control resources and to increase their power even though their main goal is to enhance shareholders' welfare (Ross et al, 2008).

Shareholders, who want to work with professional managers in order for their firms to be controlled and audited in the best possible way, face with agency costs. Agency costs include three main elements (Tanrıöven and Aksoy, 2010):

- Controlling the managers' activities such as auditing,
- Minimizing the managerial behaviors such as appointing foreign investors' to the board,
- Missed income, that is, opportunity costs when managers consult shareholders during decision-making process.

Aiming to minimize negative investment decisions and operational costs by being informed beforehand about managerial investment decisions and operations, this theory was named as agency theory by Jensen and Meckling (1976). When the relationship between principal and agent is investigated by a third party in order for everything in the firm to work efficiently in favour of shareholders, this is called agency theory (Einsenhadr, 1989).

The problem of agency may stem from the conflict of interests between shareholders and outsiders such as competitors, public authorities and foreign fund providers, as well as from the fact that managers try enhancing their power and control over resources in the firm (Ross et al, 2008). Additionally, it may also stem from the fact that managers don't benefit from financial leverage optimally and abuse their privileges (such as company cars, expense accounts etc.) (Demirhan, 2009).

Since ownership and management are carried out by the same people in small companies, no agency problem occurs. However, due to the increase of duties and

functional responsibilities in large scale companies, problems of time and information occur. Therefore, managerial authorization assigned to professional managers provides advantages; for example business is carried out by experts and there will be fewer responsibilities for shareholders. This relationship between stakeholders and managers is called agency relationship (Akin, 2004).

Market value and stock prices of a firm increase when managers buy shares and become shareholders in order to reduce agency costs (Ünlü, Bayrakdaroğlu and Şamiloğlu, 2011). According to Jensen and Meckling (1976), managers, whose shares in the firm's equities increase, will pay more attention to the firm; and there will be fewer agency problems with shareholders, which will decrease agency costs and increase the firm's market value. According to Jensen (1986), when the firm's equities and foreign funds are utilized together, the number of funds that are controlled by managers decreases and the firm's market value increases.

Thus, if the leverage ratio is increased to lower agency costs, that is, issuing equities as well as utilizing foreign funds will lessen the need for equity and diminish agency problem. Creditors impose restrictions such as dividends to be paid under certain circumstances, firms' equities to be protected under certain circumstances, and they prevent potential foreign funds to be used. These methods would discipline managers and stop shareholders from making unnecessary investments and consumption expenditures (Megginson, 1997).

Named as asset substitution effect by Harris and Raviv (1988), the theory argues that the shareholders of leveraged firms might invest with negative valence stock or make high-risk investments. This situation, as put by Shapiro and Balbirer (2000) in their study, does not change the amount that will be paid to creditors; and if

the investment is successful, the rest of the income after creditors are paid will belong to shareholders. If it fails, the costs will be reimbursed to creditors.

If agents cannot carry out necessary operations due to the conflicts of interest that reach to such an extent that stops firms from operating well, investment opportunities that would bring profits might go unnoticed and business can stop. It is argued that agency problems underpinned the financial crisis of 2008. Also, how conflicts of interest in agency relationships of giant companies such as Enron, WorldCom, and Parmalat could cause those big companies to go bankrupt has proven to be an important example (Ayriçay and Kalkan, 2013).

2.3.7 Market Timing Theory

Even though the first publication on market timing theory belongs to Baker and Wurgler (2002), Taggart, in 1977, also named it as timing theory. It is a method, in which firms do not issue equity when share prices go down; the firms go indebted if the stock prices are misvalued; and it is found out that firms can reach their targets with less costs. In other words, the real value of equities and stocks of firms that issue equity in the market is determinant in this financing method. Taggart (1977) argued in his study that those who are interested in this field should work on timing of interest rates and stock market.

Classifying market timing theory as part of the behavioral finance, Halaç and Durak (2013) argue that the theory is based on the assumption that, to meet the need for capital, firms choose the most cost-effective structure of finance, that is, a way of financing. The firms tend to issue equity when market value is high, and tend to repurchase equity when market value is low. Thus, the capital structure evolves

according to the market timing. The aim in this theory is to turn any fluctuation in costs of equity into an opportunity (such as tax shield effect) and to reduce the costs of financial distress (Huang and Ritter, 2005).

According to Baker and Wurgler (2002), the main approach of the theory is that firms issue equity instead of debt when the market value is high, and repurchase equity when market value is low. Thus the managers issue equity if they think their firm will increase in value, and if otherwise, the amount of stocks will be reduced (Graham and Harvey, 1997).

The idea is, in order to evolve capital structure in the most cost-effective way, to issue equity or to go into debt according to the fluctuations in the market. It is argued that the firms switch to debt when the costs of debt are low and issues equity when market value is high. The study of Baker and Wurgler (2002) shows that market timing has a permanent and big significance on capital structure. When they measured the capital structure of the firms that used low leverage (market-to-book ratio), Yıldırım and Eceyurt (2012) found out that high leverage firms lowered funds when their market valuations were high, while they raised funds when their market valuations were low.

2.3.8 Signaling Theory

Signaling theory is based on the problem that is called information asymmetry in pecking order theory, which means that corporate insiders have more information than potential investors. Even though investors think that they have the same level of information about the firm as managers, managers have the most amount of information about firms among all including shareholders. Even though investors

have certain amount of information about firms, the information they have about the future of the firm is limited. Potential investors that do not have enough information to be able to make a right decision before making an investment about issues such as specific situations, operating activities, firms' future expectations, capital structure and dividend policies make up the main hypothesis of signaling theory.

If the securities traded by managers in the capital market for less than what they are worth, managers who have positive expectations about the future of the firm will want to share what they have in their minds with potential investors in order to raise the value of these securities. However, investors would be suspicious of this situation and have the impression that the equities are traded in the market for more than what they are worth (Megginson, 1997).

The information asymmetry between investors and managers is a very important issue because it affects the firm's optimal capital structure. Signaling theory is analyzing the financial relationships of firms resulting from arbitrage by taking economic approaches and firms' capital structure into account. Basically, arbitrage is buying an asset at a low price and selling it on a different market for a higher price. Arbitrage pricing in capital assets is one of the most important issues (Van Horne and Wachowicz, 2008).

Within the context of the finance literature, Ross (1977) is the first academic who mentioned signaling theory in his studies and according to his study, debt financing and competitive capital requires that profits need to be balanced depending on arbitrage risk. According to Ross (1977), if managers send a signal to potential investors with the changes they make in the firm's capital structure in order for the assets to be traded for they are worth, they transfer their own expectations about the

future of the firm to investors. When managers propose the leverage ratio themselves, that ratio is assumed as a signal transferred to investors so that the firm's value would not be calculated for more or less than it is worth since investors cannot get a hold of that information so easily. If the leverage ratio is raised, it means the firm can use foreign investment and it would be perceived by investors as a signal that the firm can run into debt.

According to Ross (1977), while managers have information on how to use operating income, investors do not. When the value of returns is imbalanced, the market value of the firm should be maintained in all financial phases. In current market conditions, financial structure of the firms may not be affected by simple changes in capital structure theories. If a firm's operating value goes down due to reasons such as the firm's being sold, individuals will maximize their arbitrage profits in debt-equity relationship. Capital structure theories are important for the operations and sustainability of the firm due to determinants such as market value, taxation, profitability, leverage ratio, productivity, investment decisions and resources.

According to Barclay and Smith (2005), foreign investments, that is, increased leverage ratio put firms under obligations that consist of capital and interests. If firms cannot fulfill those obligations, they will face expenses of financial difficulties. The difference between signaling theory and trade-off theory in terms of foreign investment rate is that firms with successful investments and operations use less foreign investments than optimum leverage ratio. The possibility of the firms' issuing equities in following quarters due to utilization of foreign investment will not affect the price of current equities.

According to signaling theory, firms that prefer foreign funds are the firms with highest market value (Heinkel, 1982). Increase in foreign funding, which means increase in firm value, creates a perception that the firm is reliable. If the firm's market value is high, then its leverage ratio is high, too, and that will increase the debt ratio. When the firm issues equities, it will give an impression that the firm's financial position is at stake, so the firm value will go down (Harris and Raviv, 1991).

According to Copeland et al (2005), shareholders have more information about the current value and quality of their own investments than potential investors. If co-founder has the highest amount of shares in a public joint, the firm's credibility will enhance and potential investors see this situation as a positive sign.

CHAPTER 3

OWNERSHIP STRUCTURE IN BUSINESSES

3.1. The Concept of Ownership

Notion of ownership is shaped by a bundle values such as ethical, legal and economic. The concept of ownership describes the individual's legal use of the right of disposition on movables and immovable (Eren, 1974).

There are many different concepts of ownership such as stock, real estate, intellectual property and capital ownership. In this academic study capital ownership will be analyzed. Capital ownership primarily means the owner's equity, when it is observed more broadly it means the capital ownership of a company.

Generally a limited number of stock ownership can be stated as a higher density of the capital. Companies with lower density of capital have a higher rate of public offering. Companies with higher rates of public offering, executives, stockholders and capital creators are different parties. This causes an agency problem, which is caused by the professional executives.

In the researches conducted by Demsetz (1983), and Demsetz and Lehn (1985); they indicate that operation of businesses with little capital intensity is not preferred in economies whose capital markets are accepted to be developed; instead, businesses with average capital intensity are preferred in capital markets.

3.2. Ownership Concentration

Ownership concentration concept identifies the number of the people possessing the majority of the share register. The higher is concentration the lower the number of controlling shareholders is. The main purpose of ownership concentration is to measure the influencing power of shareholders on the administration. In our study, ownership concentration is measured with two variables respectively;

- Percentage of the Shares Held by the Largest Shareholder (LSH1)
- Cumulative Shares of the Largest Three Shareholders (LSH3)

Ownership concentration of the Turkish manufacturing firms will be examined in line with the financial data collected from Borsa Istanbul and Public Disclosure Platform regarding the non-financial firms operating in Turkey from 1995 to 2014.

3.2.1. Percentage of the Shares Held by the Largest Shareholder (LSH1)

As a concept of ownership concentration measure, LSH1 stands for the percentage of shares held by the largest single shareholder. Examining the ownership concentration structure of firms provides a foresight and information about the concentration level of firms. When we discuss the descriptive statistics of LSH1s;

LSH1 —————> RATIOS

Ownership concentration is measured with the shares of the largest shareholders.

* LSH1¹

* LSH3²

¹ LSH1 : Percentage of The Shares Held by The Largest Share Holder

Table 1 .

Ownership Concentrations Voting Power for LSH1

Voting Power	Code	Ownership Concentration Ranges
Controlling Voting Power	4	% 100 - % 51
Significant Voting Power	3	% 50 - % 31
Influencing Voting Power	2	% 30 - % 11
Minority Voting Power	1	% 10 - 0

In ownership concentrations voting power for LSH1 table, when the ownership concentration range is between 100% and 51%, it is referred as controlling voting power, and the dummy variable is 4 in ANOVA. The voting power between 50% and 31% is referred as significant voting power, and its code is 3. While Influencing voting power ownership concentration ranges between 30% and 11%, its code is 2. The last voting power in this study, minority voting power's ownership concentration range is determined as max 10% (abbr. for Table 1).

Table 2 .

Definitions of Ratios for LSH1

Abbreviation	Definition	Ratios
LEC	Liquidity Effect on Current Assets	Current Assets / Total Assets
DEE	Debt to Equity Effect	(Short Term Liabilities + Long Term Liabilities) / (Short Term Liabilities + Long Term Liabilities + Owner's Equity)
SE	Size Effect (Size Natural Logarithm of Sales Revenues)	LN(Sales Revenues)
PE	Profitability Effect	Profit Margin / Revenues
FE	Financing (Leverage) Effect	Financial Expenses / (Short Term Liabilities + Long Term Liabilities)

² LSH3 : Cumulative Shares of the Largest Three Shareholders

As can be seen from definitions of ratios for LSH1, liquidity effect (LEC) can be found by dividing current assets by total assets; debt to equity effect (DEE) can be found by dividing the sum of short term and long term liabilities by the sum of short term and long term liabilities and owner's equity. In this study, while Size effect (SE) can be computed with natural logarithm of sales revenues, profitability effect (PE), in this study, can be calculated with profit margin divided by revenues. The value for Financing (leverage) effect (FE) can be found by dividing financial expenses by total liabilities (abbr. for table 2).

Table 3.

Descriptives of Liquidity Effect on Current Assets for LSH1

Descriptives

LEC

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	19	,32188	,175753	,040320	,23717	,40659	,035	,594
2	226	,52982	,166667	,011087	,50797	,55166	,013	,873
3	417	,54965	,200872	,009837	,53032	,56899	,036	,950
4	736	,52286	,194065	,007153	,50882	,53690	,061	,951
Total	1398	,52925	,193475	,005175	,51909	,53940	,013	,951

The table shows the descriptive statistics for liquidity effect on voting power of the sample firms for LSH1. There is a meaningful difference between controlling voting power and minority voting power on current assets to total assets liquidity ratio regarding percentage share of the largest shareholder (abbr. for Table 3).

Table 4 .

Test of Homogeneity of Variances of Liquidity Effect on Current Assets for LSH1

Test of Homogeneity of Variances

LEC

Levene Statistic	df1	df2	Sig.
5,007	3	1394	,002

Hypothesis for homogeneity of variances

H0: Group variances are homogeneous with 95% reliability.

H1: Group variances are not homogeneous with 95% reliability.

Because the Sig. value is not $p > 0.05$, H1 hypothesis is accepted for homogeneity test.

So, it can be expressed that with 95% reliability, the variances of the groups are not homogeneous (abbr. for Table 4).

Table 5.

ANOVA of Liquidity Effect on Current Assets for LSH1

ANOVA

LEC

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1,021	3	,340	9,251	,000
Within Groups	51,272	1394	,037		
Total	52,293	1397			

Hypothesis for one way analysis of variance

H0: with 95% reliability, there is not a statistically significant difference between the averages of groups.

H1: with 95% reliability, there is a statistically significant difference between the averages of groups.

When ANOVA chart is analyzed, if the information that group variances being homogenous was confirmed in homogeneity of variances test, H0 hypothesis would be accepted for one way analysis of variance as the Sig. value was $p < 0.05$; then we could say that there is a statistically significant difference between the averages of the groups with 95% reliability. However, as the variances of the groups are not homogeneous with 95% reliability, it is concluded that there is not a statistically significant difference between them no matter significant value provides $p < 0.05$ condition or not (abbr. for Table 5).

Table 6.

Descriptives of Debt to Equity Effect for LSH1

Descriptives
DEE

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	19	,29207	,056934	,013062	,26463	,31952	,185	,430
2	226	,58987	,759971	,050553	,49025	,68949	,020	5,975
3	417	,56446	,401125	,019643	,52585	,60307	,110	5,259
4	736	,51761	,447751	,016504	,48521	,55001	,024	8,674
Total	1398	,54020	,498132	,013323	,51407	,56633	,020	8,674

In this table the descriptive statistics for debt to equity effect on voting power of the sample firms for LSH1 are shown. There is a meaningful difference between controlling voting power and significant voting power on debt to equity ratio regarding percentage share of the largest shareholder. The highest mean is on significant voting power. In other words, significant voting power is affected by debt to equity effect than the other voting powers (abbr. for Table 6).

Table 7.

Test of Homogeneity of Variances of Debt to Equity Effect for LSH1

Test of Homogeneity of Variances
DEE

Levene Statistic	df1	df2	Sig.
6,240	3	1394	,000

Because the Sig. value is not $p > 0.05$, H1 hypothesis is accepted for homogeneity test. So, it can be expressed that with 95% reliability, the variances of the groups are not homogeneous (abbr. for Table 7).

Table 8.

ANOVA of Debt to Equity Effect for LSH1

ANOVA
DEE

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2,348	3	,783	3,169	,024
Within Groups	344,297	1394	,247		
Total	346,645	1397			

When ANOVA chart is analyzed, the Sig. value is,024 but the variances of the groups are not homogeneous. In that respect, we can say that there is no significance due to the homogeneity test (abbr. for Table 8).

Table 9.

Descriptives of Size Effect for LSH1

Descriptives
SE

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	19	15,79	1,718	,394	14,96	16,62	14	20
2	221	17,89	1,970	,133	17,63	18,15	12	22
3	416	18,31	2,276	,112	18,09	18,53	12	23
4	735	18,27	2,088	,077	18,12	18,42	13	25
Total	1391	18,19	2,146	,058	18,07	18,30	12	25

The table shows the descriptive statistics for size effect on voting power of the sample firms for LSH1. There is a meaningful difference between controlling voting power and minority voting power on size effect regarding percentage share of the largest shareholder. There is a size effect augmentation from minority voting power to controlling voting power (abbr. for Table 9).

Table 10.

Test of Homogeneity of Variances of Size Effect for LSH1

Test of Homogeneity of Variances
SE

Levene Statistic	df1	df2	Sig.
3,204	3	1387	,022

Because the Sig. value is not $p > 0.05$, H1 hypothesis is accepted for homogeneity test. So, it can be expressed that with 95% reliability, the variances of the groups are not homogeneous (abbr. for Table 10).

Table 11.

*ANOVA of Size Effect for LSH1*ANOVA
SE

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	140,336	3	46,779	10,366	,000
Within Groups	6259,066	1387	4,513		
Total	6399,402	1390			

When ANOVA chart is analysed, if the information that group variances being homogenous was confirmed in homogeneity of variances test, H0 hypothesis would be accepted for one way analysis of variance as the Sig. value was $p < 0.05$; then we could say that there is a statistically significant difference between the averages of the groups with 95% reliability. However, as the variances of the groups are not homogeneous with 95% reliability, it is concluded that there is not a statistically significant difference between them no matter significant value provides $p < 0.05$ condition or not (abbr. for Table 11).

Table 12.

*Descriptives of Profit Margin Effect for LSH1*Descriptives
PE

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	19	-,00963	,507128	,116343	-,25406	,23480	-,963	1,053
2	221	,10165	2,309090	,155326	-,20447	,40777	-9,408	31,791
3	416	,00948	,406679	,019939	-,02971	,04868	-6,443	1,129
4	735	,06421	,438632	,016179	,03245	,09597	-2,100	8,914
Total	1391	,05278	,999633	,026803	,00020	,10536	-9,408	31,791

In this table the descriptive statistics and ANOVA for profitability effect on voting power of the sample firms for LSH1 are shown. Minority voting power has the lowest mean. The rest of all means are close to zero value (abbr. for Table 12).

Table 13.

Test of Homogeneity of Variances of Profit Margin Effect for LSH1

Test of Homogeneity of Variances
PE

Levene Statistic	df1	df2	Sig.
3,063	3	1387	,027

Because the Sig. value is not $p > 0.05$, H1 hypothesis is accepted for homogeneity test. So, it can be expressed that with 95% reliability, the variances of the groups are not homogeneous (abbr. for Table 13).

Table 14.

ANOVA of Profit Margin Effect for LSH1

ANOVA
PE

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1,478	3	,493	,492	,688
Within Groups	1387,503	1387	1,000		
Total	1388,980	1390			

When ANOVA chart is analysed, if the information that group variances being homogenous was confirmed in homogeneity of variances test, H0 hypothesis would be accepted for one way analysis of variance as the Sig. value was $p < 0.05$; then we could say that there is a statistically significant difference between the averages of the groups with 95% reliability. However, as the variances of the groups are not

homogeneous with 95% reliability, it is concluded that there is not a statistically significant difference between them (abbr. for Table 14).

Table 15.

Descriptives of Financing Effect for LSH1

Descriptives
FE

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	19	11,59297	37,667215	8,641452	-6,56204	29,74799	-3,278	161,783
2	226	25,05767	336,882773	22,409109	-19,10089	69,21624	-113,551	5045,871
3	417	8,55069	69,961249	3,426017	1,81623	15,28516	-142,882	1119,844
4	736	-3,65873	132,283332	4,876028	-13,23134	5,91387	-3336,040	253,821
Total	1398	4,83270	170,499197	4,560041	-4,11257	13,77796	-3336,040	5045,871

The table shows the descriptive statistics for financing effect on voting power of the sample firms for LSH1. There is a meaningful difference between significant voting power and minority voting power on leverage ratio regarding percentage share of the largest shareholder. Minority voting power has the lowest mean (abbr. for Table 15).

Table 16.

Test of Homogeneity of Variances of Financing Effect for LSH1

Test of Homogeneity of Variances
FE

Levene Statistic	df1	df2	Sig.
2,502	3	1394	,058

The Sig. value is $p > 0.05$, H_0 hypothesis is accepted for homogeneity test. So, it can be expressed that with 95% reliability, the variances of the groups are homogeneous (abbr. for Table 16).

Table 17.

ANOVA of Financing Effect for LSH1

ANOVA
FE

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	152146,808	3	50715,603	1,747	,155
Within Groups	40458609,982	1394	29023,393		
Total	40610756,791	1397			

Although the variances of the groups are homogeneous, the Sig. value is ,155 at 1% significance level. In other words, there is no statistically difference between the averages of the groups with 95% reliability even though the variances of the groups are homogeneous (abbr. for Table 17).

3.2.2. Cumulative Shares of the Largest Three Shareholders (LSH3)

In literature, a shareholder holding the cumulative percentages of a company's shares is frequently used as ownership concentration measure. However, we considered to choose the three shareholders with the largest shares in the company (Cumulative Shares of the Largest Three Shareholders) more appropriate for our study when taking Turkish financial market characteristics into consideration.

LSH3 —————> **RATIOS**

Ownership concentration is measured with the shares of the largest shareholders.

* LSH1³

* LSH3⁴

Table 18.

Ownership Concentrations Voting Power for LSH3

Voting Power	Code	Ownership Concentration Ranges
Controlling Voting Power	4	%100 - %51
Significant Voting Power	3	%50 - %31
Influencing Voting Power	2	%30 - %11
Minority Voting Power	1	%10 - 0

In ownership concentrations voting power for LSH3 table, when the ownership concentration range is between 100%-51%, it is referred as controlling voting power, and the dummy variable is 4 in ANOVA. The voting power between 50% and 31% is referred as significant voting power, and its code is 3. While Influencing voting power ownership concentration ranges between 30% and 11%, its code is 2. The last voting power in this study, minority voting power's ownership concentration range is determined as max 10% (abbr. for Table 18).

³LSH1 : Percentage of The SharesHeld by The Largest Share Holder

⁴LSH3 : Cumulative Shares of the Largest Three Shareholders

Table 19.

Definitions of Ratios for LSH3

Abbreviation	Definition	Ratios
LEC	Liquidity Effect on Current Assets	Current Assets / Total Assets
DEE	Debt to Equity Effect	(Short Term Liabilities + Long Term Liabilities) / (Short Term Liabilities + Long Term Liabilities + Owner's Equity)
SE	Size Effect (Size Natural Logarithm of Sales Revenues)	LN(Sales Revenues)
PE	Profitability Effect	Profit Margin / Revenues
FE	Financing (Leverage) Effect	Financial Expenses / (Short Term Liabilities + Long Term Liabilities)

As can be seen from Definitions of ratios for LSH3, liquidity effect (LEC) can be found by dividing current assets by total assets; debt to equity effect (DEE) can be found by dividing the sum of short term and long term liabilities by the sum of short term and long term liabilities and owner's equity. In this study, while size effect (SE) can be computed with natural logarithm of sales revenues, profitability effect (PE), in this study, can be calculated with profit margin divided by revenues. The value for financing (leverage) effect (FE) can be found by dividing financial expenses by total liabilities (abbr. for Table 19).

Table 20.

Descriptives of Liquidity Effect on Current Assets for LSH3

Descriptives

LEC

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	2	,47234	,072850	,051513	-,18219	1,12687	,421	,524
2	80	,44168	,182770	,020434	,40100	,48235	,013	,749
3	123	,47627	,172438	,015548	,44550	,50705	,101	,873
4	1193	,54067	,194083	,005619	,52965	,55170	,036	,951
Total	1398	,52925	,193475	,005175	,51909	,53940	,013	,951

The table shows the descriptive statistics for liquidity effect on voting power of the sample firms for LSH3. Controlling voting power has the highest mean. However, in contrast to LSH1 there is a fluctuation between minority, influencing, and significant voting power and influencing voting power has the lowest mean (abbr. for Table 20).

Table 21.

Test of Homogeneity of Variances of Liquidity Effect on Current Assets for LSH3

Test of Homogeneity of Variances

LEC

Levene Statistic	df1	df2	Sig.
3,053	3	1394	,028

Hypothesis for homogeneity of variances

H₀: Group variances are homogeneous with 95% reliability.

H₁: Group variances are not homogeneous with 95% reliability.

Because the Sig. value is not $p > 0.05$, H1 hypothesis is accepted for homogeneity test. So, it can be expressed that with 95% reliability, the variances of the groups are not homogeneous (abbr. for Table 21).

Table 22.

ANOVA of Liquidity Effect on Current Assets for LSH3

ANOVA
LEC

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1,121	3	,374	10,178	,000
Within Groups	51,172	1394	,037		
Total	52,293	1397			

Hypothesis for one way analysis of variance

H0: with 95% reliability, there is not a statistically significant difference between the averages of groups.

H1: with 95% reliability, there is a statistically significant difference between the averages of groups.

When ANOVA chart is analysed, if the information that group variances being homogenous was confirmed in homogeneity of variances test, H0 hypothesis would be accepted for one way analysis of variance as the Sig. value was $p < 0.05$; then we could say that there is a statistically significant difference between the averages of the groups with 95% reliability. However, as the variances of the groups are not homogeneous with 95% reliability, it is concluded that there is not a statistically significant difference between them no matter significant value provides $p < 0.05$ condition or not (abbr. for Table 22).

Table 23.

Descriptives of Debt to Equity Effect for LSH3

Descriptives
DEE

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	2	,29099	,074580	,052736	-,37909	,96106	,238	,344
2	80	,33014	,156520	,017499	,29531	,36498	,043	,825
3	123	,57007	,650250	,058631	,45400	,68613	,065	5,259
4	1193	,55162	,492562	,014261	,52365	,57960	,020	8,674
Total	1398	,54020	,498132	,013323	,51407	,56633	,020	8,674

The table shows the descriptive statistics for debt to equity effect on voting power of the sample firms for LSH3. Minority voting power has highest mean and influencing voting power has lowest mean as debt to equity effect (abbr. for Table 23).

Table 24.

Test of Homogeneity of Variances of Debt to Equity Effect for LSH3

Test of Homogeneity of Variances
DEE

Levene Statistic	df1	df2	Sig.
2,676	3	1394	,046

Because the Sig. value is not $p > 0.05$, H1 hypothesis is accepted for homogeneity test. So, it can be expressed that with 95% reliability, the variances of the groups are not homogeneous (abbr. for Table 24).

Table 25.

*ANOVA of Debt to Equity Effect for LSH3*ANOVA
DEE

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	3,920	3	1,307	5,314	,001
Within Groups	342,726	1394	,246		
Total	346,645	1397			

When ANOVA chart is analyzed, if the information that group variances being homogenous was confirmed in homogeneity of variances test, H0 hypothesis would be accepted for one way analysis of variance as the Sig. value was $p < 0.05$; then we could say that there is a statistically significant difference between the averages of the groups with 95% reliability. However, as the variances of the groups are not homogeneous with 95% reliability, it is concluded that there is not a statistically significant difference between them no matter significant value provides $p < 0.05$ condition or not (abbr. for Table 25).

Table 26.

*Descriptives of Size Effect for LSH3*Descriptives
SE

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	2	14,50	,707	,500	8,15	20,85	14	15
2	75	16,91	1,953	,226	16,46	17,36	12	20
3	122	17,62	1,829	,166	17,30	17,95	12	20
4	1192	18,33	2,149	,062	18,21	18,45	13	25
Total	1391	18,19	2,146	,058	18,07	18,30	12	25

The table shows the descriptive statistics for size effect voting power of the sample firms for total shares of the largest 3. The mean values of the size effect increase from minority voting power to controlling voting power (abbr. for Table 26).

Table 27.

Test of Homogeneity of Variances of Size Effect for LSH3

Test of Homogeneity of Variances

SE

Levene Statistic	df1	df2	Sig.
2,172	3	1387	,090

The Sig. value is $p > 0.05$, H_0 hypothesis is accepted for homogeneity test. So, it can be expressed that with 95% reliability, the variances of the groups are homogeneous (abbr. for Table 27).

Table 28.

ANOVA of Size Effect for LSH3

ANOVA

SE

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	213,793	3	71,264	15,980	,000
Within Groups	6185,609	1387	4,460		
Total	6399,402	1390			

The variances of the groups are homogeneous, and the Sig. value is ,000 at 1% significance level. In other words, there is a statistically difference between the averages of the groups with 95%. There is a meaningful difference between groups on size effect regarding to total shares of the largest 3. There is a size effect augmentation

from minority voting power to controlling voting power and controlling voting power (abbr. for Table 28).

Table 29.

Descriptives of Profit Margin Effect for LSH3

Descriptives

PE

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	2	,06004	,025473	,018012	-,16882	,28891	,042	,078
2	75	-,23610	1,458399	,168401	-,57165	,09944	-9,408	1,053
3	122	-,06939	,704310	,063765	-,19563	,05685	-6,443	,394
4	1192	,08345	,987905	,028614	,02731	,13959	-2,100	31,791
Total	1391	,05278	,999633	,026803	,00020	,10536	-9,408	31,791

The table shows the descriptive statistics for profitability effect on voting power of the sample firms for LSH3. Controlling voting power has the highest mean. The rest of all means are close to zero value (abbr. for Table 29).

Table 30.

Test of Homogeneity of Variances of Profit Margin Effect for LSH3

Test of Homogeneity of Variances

PE

Levene Statistic	df1	df2	Sig.
5,296	3	1387	,001

Because the Sig. value is not $p > 0.05$, H1 hypothesis is accepted for homogeneity test. Therefore, it can be expressed that with 95% reliability, the variances of the groups are not homogeneous (abbr. for Table 30).

Table 31.

ANOVA of Profit Margin Effect for LSH3

ANOVA

PE

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9,201	3	3,067	3,083	,026
Within Groups	1379,779	1387	,995		
Total	1388,980	1390			

When ANOVA chart is analysed, if the information that group variances being homogenous was confirmed in homogeneity of variances test, H₀ hypothesis would be accepted for one way analysis of variance as the Sig. value was $p < 0.05$; then we could say that there is a statistically significant difference between the averages of the groups with 95% reliability. However, as the variances of the groups are not homogeneous with 95% reliability, it is concluded that there is not a statistically significant difference between them no matter significant value provides $p < 0.05$ condition or not (abbr. for Table 31).

Table 32.

Descriptives of Financing Effect for LSH3

Descriptives

FE

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	2	1,40619	,025932	,018337	1,17320	1,63918	1,388	1,425
2	80	3,61734	19,366062	2,165192	-,69237	7,92704	-29,045	161,783
3	123	2,57808	19,630274	1,770002	-,92582	6,08198	-142,882	83,050
4	1193	5,15240	184,402780	5,338844	-5,32218	15,62697	-3336,040	5045,871
Total	1398	4,83270	170,499197	4,560041	-4,11257	13,77796	-3336,040	5045,871

The table shows the descriptive statistics for financing effect on voting power of the sample firms for LSH3. There is a direct increase on minority voting power to controlling voting power. However, influencing voting power is higher than significant voting power (abbr. for Table 32).

Table 33.

Test of Homogeneity of Variances of Financing Effect for LSH3

Test of Homogeneity of Variances
FE

Levene Statistic	df1	df2	Sig.
,235	3	1394	,872

The Sig. value is $p > 0.05$, H_0 hypothesis is accepted for homogeneity test. So, it can be expressed that with 95% reliability, the variances of the groups are homogeneous (abbr. for Table 33).

Table 34.

ANOVA of Financing Effect for LSH3

ANOVA
FE

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	888,829	3	296,276	,010	,999
Within Groups	40609867,962	1394	29131,900		
Total	40610756,791	1397			

Although the variances of the groups are homogeneous, the Sig. value is ,999 at 1% significance level. In other words, there is no statistically difference between the averages of the groups with 95% reliability even though the variances of the groups are homogeneous (abbr. for Table 34).

3.3. Ownership Mix

3.3.1. Conglomerate Affiliation (CONG)

Conglomerate affiliations can be stated as businesses connected to a group of companies or to a conglomerate (Khanna and Rivkin, 2001). The most distinctive feature that expresses the conglomerate businesses is the fact that the controlling shareholder can directly be a conglomerate and also it can provide the control of the conglomerate by means of the other businesses connected to the conglomerate. Apart from providing advantages in many issues such as transfers of information, specialist manager appointment and finding debt for conglomerate businesses, conglomerates have the disadvantages of lack of monitoring of business managers and lack of flexibility of actions; and the risk of being exploited by the controlling shareholder is pointed to be the most crucial disadvantage (Sarkınç, 2008).

According to Khanna and Rivkin (2001), the fact that the conglomerate businesses are connected to the conglomerates causes an increase in recognition of the business and as there is a conglomerate behind the business, the possibility of bankruptcy for these businesses is relatively lower than it is for the other businesses, which are non-conglomerate. Because a conglomerate affiliation, to name it better, a business with lower probability of financial difficulty or lower probability of bankruptcy, has more suitable credit possibilities and borrowing conditions, it can be expected that these companies might go in debt with higher rates than the other businesses. According to pecking order theory, the businesses that choose not to borrow are the businesses that have equity capital; in other words, even the borrowing conditions are met, they may prefer benefitting from equity capital to loaning, as they are a conglomerate company.

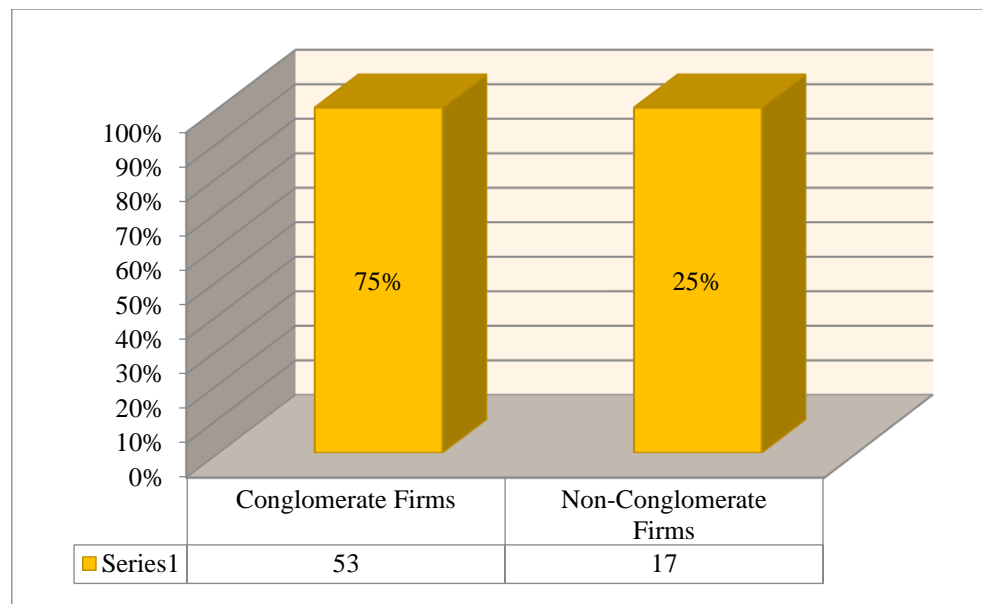


Figure 1. The Percentage of Conglomerate Firms

The graph shows that while the examined conglomerate firms' percentage is 75%; and the non-conglomerate firms are 25%. There are 70 firms and 53 of them are conglomerate firms (abbr. for Figure 1).

Table 35.

Group Statistics of Conglomerate Firms

Group Statistics					
	CONGL	N	Mean	Std. Deviation	Std. Error Mean
LEC	0	1042	,51729	,194317	,006020
	1	349	,57311	,176808	,009464
DEE	0	1042	,54962	,562539	,017427
	1	349	,51626	,216108	,011568
SE	0	1042	17,98	2,177	,067
	1	349	18,81	1,924	,103
PE	0	1042	,05347	1,153284	,035727
	1	349	,05072	,112198	,006006
FE	0	1042	2,40117	192,346664	5,958690
	1	349	12,14057	77,118963	4,128083

Size natural logarithm of sales revenues ratios have the highest mean for conglomerate firms. On the other hand, profitability ratios means' are close to zero value (abbr. for Table 35).

Table36.

Independent Samples Test for Conglomerate Firms

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
LEC	Equal variances assumed	4,531	,033	-4,749	1389	,000	-,0558	,0118	-,0789	-,0328
	Equal variances not assumed			-4,977	650,911	,000	-,0558	,0112	-,0778	-,0338
DEE	Equal variances assumed	10,572	,001	1,081	1389	,280	,0334	,0309	-,0272	,0939
	Equal variances not assumed			1,595	1366,723	,111	,0334	,0209	-,0077	,0744
SE	Equal variances assumed	4,297	,038	-6,305	1389	,000	-,8253	,1309	-1,0821	-,5685
	Equal variances not assumed			-6,703	669,096	,000	-,8253	,1231	-1,0671	-,5836
PE	Equal variances assumed	4,968	,026	,045	1389	,964	,0028	,0618	-,1186	,1241
	Equal variances not assumed			,076	1098,042	,939	,0028	,0362	-,0683	,0738
FE	Equal variances assumed	,225	,635	-,921	1389	,357	-9,7394	10,5716	-30,4775	10,9987
	Equal variances not assumed			-1,344	1349,886	,179	-9,7394	7,2489	-23,9598	4,4810

Levene test sig. value shows that data is not homogeneous. According to the T test result there is significant mean difference at $-,0558$. However, we cannot accept the T test significance result due to the homogeneity test result for liquidity effect

(LEC⁵). When Levene test sig. value shows that the data is not homogeneous for debt to equity effect (DEE⁶), the T test result shows the significant mean difference at ,0334. Thus we cannot accept the T test significance result due to the homogeneity test result for debt to equity effect. Even though Levene test sig. value demonstrates that the data is not homogeneous for size effect (SE⁷), the T test results point out the significant mean difference at -,8253. Therefore, we cannot accept the T test significance result caused by the homogeneity test result for size effect. In spite of Levene test sig. value indicates that the data is not homogeneous for profitability effect (PE⁸), the T test result shows the significant mean difference at ,0028. However, we cannot accept the T test significance result due to the homogeneity test result for profitability effect. Although Levene test sig. value demonstrates that the data is homogeneous for financing (leverage) effect (FE⁹), the T test result shows the insignificant mean difference at -9,7394. Therefore, we cannot accept the T test significance result due to the homogeneity test result for leverage effect. None of these ratios creates a meaningful difference for conglomerate affiliation. In this manner, hypothesis is rejected (abbr. for Table 36).

⁵ LEC: Liquidity Effect

⁶ DEE: Debt to Equity Effect

⁷ SE: Size Effect

⁸ PE: Profitability Effect

⁹ FE: Financing (Leverage) Effect

3.3.2. Family Ownership (FAM)

Out of all small and medium-sized enterprises throughout the world and Turkey, 95% in Turkey and Italy, 85% in Switzerland and 80% in Spain are family companies (Ateş, 2003). Family-owned enterprise is the form of capital ownership with the highest percentage in terms of its contribution to gross domestic income and its total size (Cadbury, 2000). A family business is an enterprise in which all or most of company shares belong to a family or to a member of a family (Tagiuri and Davis, 1992). For a company to be able to become a family enterprise, strong family relations should exist. Also, family members should be able to control the company they own and to make decisions about company operations (Mustakalli, 2002).

Tuncel (2011) states that family enterprises are founded to prevent family inheritance from being dispersed or to provide financial opportunities for the family. In family enterprises, top management mostly consists of family members, a minimum of two generations should be working for the enterprise, and managers are the breadwinners of that family (Cadbury, 2000).

In a family enterprise, which has a control-based ownership, the family makes decision-making processes easier. While strategic decisions are being made in a profitable way, management expenses are lower (Steger, 2004). Family companies are founded to maintain family bonds, make use of inheritance, be financially independent and secure, support successful and talented employees and make effort to be beneficial to society (Ward, 1987). Family enterprises can be small or global while they can also be SMEs. In family enterprises, both managers and shareholders consist of family members; this prevents potential conflicts of interests and solves the agency problem (Cadbury, 2000). Different family members can own stocks in family

businesses. If a family enterprise is public, partners that own most of the shares might be family members and capital intensity might be high in spite of a large capital base. Therefore, the family that owns most of the stocks might harm the interests of stockholders that cannot constitute a majority.

Stockholder managers' actual aim should be to maintain the continuity of operating activities and to be successful. Risk and return potential will increase in parallel with the time family members spend working together for common interest. Only with long-term plans and decisions, success can come (Anderson and Reeb, 2003).

Family enterprises, by their nature, tend to grow fast; and growth, by its nature, comes with some problems. A growing company will lack qualified employees for its various units; therefore, it will need and employ non-family managers; and hence, the management will not be carried out only by the family. Agency problem will be inevitable and this will cause extra costs that family members will have to bear (Cadbury, 2000). The main problem of small sized family enterprises, on the other hand, is that unqualified family members and their inner circle are employed to maintain family relations (De Kok, Uhlaner and Thurik, 2006).

Just like human beings, businesses are born, grow up, and die, which means they cannot maintain their existence. While family businesses are established by a leader family member, after the death of the founder family member, the management and ownership of the business are transferred to the second generation. However, the new generations may not always fulfill the responsibility of persistence of the business, which is almost always the case. In developing countries, the administration of the business management is generally transferred from the founder leader to the

new generations in compulsory situations such as death whereas in developed countries, the founder leader can transfer the business management to professional managers (Bukkart et al, 2003).

Family businesses have important advantages and disadvantages in terms of financial, managerial and institutional aspects. Family members can obtain finance by using their prestige on creditors and suppliers. Family businesses can get almost all of their financial sources with the help of their equities, and thus in the presence of any financial problem, the family members can easily eliminate this problem by selling assets. Since the family businesses do not tackle with the financial problems, they can increase the competitive power of the business in the market by focusing on business activities. Family members with strong relations make the decision-making mechanism faster than other capital ownership structures by suppressing the bureaucracy that leads to time losses, act together as family members towards the problems with business activities, and own their businesses in the high level in order to transfer the business from generation to generation with the aim of maintaining sustainability (Müftüoğlu, 1998). The institute culture will not be artificial in family businesses since family values that are effective in generating institute culture are indispensable and common values for each member of the family. Therefore, it is obvious that institutional commitment is completely what family members want rather than being artificial. As a matter of fact, adaptation problems are less encountered problems than other capital ownership structures (Alayoğlu, 2003).

On the other hand, there will be financial problems in the case of not having movable and fixed property to be sold by the members of the family because they cannot sustain financial sources with equities, and this will negatively affect the competitive power of the business while a probability of unsustainability of business

activities will appear. Family businesses that are not into foreign financial sources because of a variety of reasons may be negatively influenced by finance and profit policies (Müftüoğlu, 1998). Family businesses, in which centralist management perspective is dominant, managers and workers are prevented to take decisions and use initiative, and business decisions are only taken by the founder leader to sustain the business management. If it is necessary for the founder leader to leave the management, the business activities will not be maintained. There may be power struggles among family members depending on the conflict of interest with respect to their positions and authority in the management; therefore, the competitive power of the business in the market will eventually decrease (Karpuzoğlu, 2004). Besides, although most family members do not deserve to be placed for high level management positions because of both their qualifications and being not appropriate for those positions, getting order from those inexperienced people, so-called “managers”, has an unfavorable effect on the performance on other managers and workers in the business. Furthermore, this situation will also increase their concerns regarding their career and may result in the resignation of qualified employees (Erdem, Ceylan, and Saylan, 2013). Generally, the founder leaders are closed to innovations due to various reasons, and those companies closed to institutionalization badly affect the development of the business. Institution culture changes in accordance with the size of the company structure and differences in cultures between generations. Nevertheless, instead of scientific methods, the foresight and experiences of the founder leader, which are believed to be invaluable source of knowledge, are taken into consideration when taking decisions. So, this appears to be one of the important institutional disadvantages of family businesses (Karpuzoğlu, 2004).

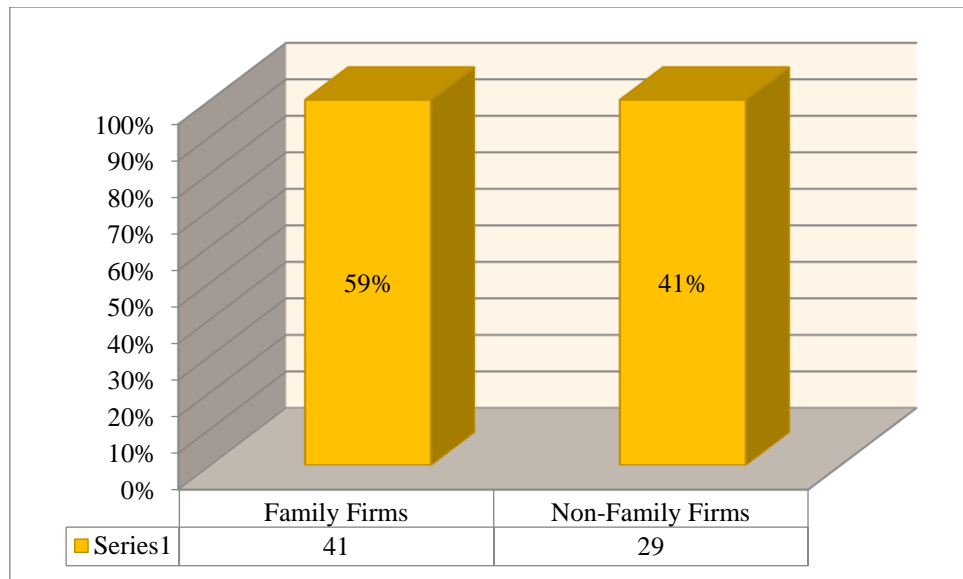


Figure2. The Percentage of Family Owned Firms

The graph shows that while the examined family owned firms percentage are 59%, non-family owned firms are 41%. There are 70 firms and 41 of them are family owned firms (abbr. for Figure 2).

Table37.

Group Statistics of Family Owned Firms

Group Statistics

	FAM	N	Mean	Std. Deviation	Std. Error Mean
LEC	0	824	,54137	,185325	,006456
	1	567	,51666	,199513	,008379
DEE	0	824	,47545	,237833	,008285
	1	567	,63687	,716617	,030095
SE	0	824	18,49	2,257	,079
	1	567	17,75	1,890	,079
PE	0	824	,05962	,210055	,007318
	1	567	,04284	1,545867	,064920
FE	0	824	9,56024	184,330668	6,421463
	1	567	-2,00804	149,202370	6,265911

Size natural logarithm of sales revenues ratios (SE) have the highest mean for family owned firms. On the other hand, profitability ratios (PE) means' are close to zero value. Leverage ratios (FE) have the lowest mean for family owned firms (abbr. for Table 37).

Table38.

Independent Samples Test for Family Owned Firms

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
LEC	Equal variances assumed	5,004	,025	2,368	1389	,018	,025	,010	,004	,045
	Equal variances not assumed			2,336	1157,098	,020	,025	,011	,004	,045
DEE	Equal variances assumed	25,559	,000	-6,004	1389	,000	-,161	,027	-,214	-,109
	Equal variances not assumed			-5,171	652,471	,000	-,161	,031	-,223	-,100
SE	Equal variances assumed	15,696	,000	6,423	1389	,000	,741	,115	,515	,968
	Equal variances not assumed			6,635	1336,862	,000	,741	,112	,522	,960
PE	Equal variances assumed	8,187	,004	,308	1389	,758	,017	,055	-,090	,124
	Equal variances not assumed			,257	580,409	,797	,017	,065	-,112	,145
FE	Equal variances assumed	,177	,674	1,241	1389	,215	11,568	9,325	-6,723	29,860
	Equal variances not assumed			1,289	1352,910	,197	11,568	8,972	-6,032	29,169

Levene test sig. value shows that data is not homogeneous. According to the T test result there is significant mean difference at ,025. However, we cannot accept the T test significance result due to the homogeneity test result for liquidity effect (LEC). When Levene test sig. value shows that the data is not homogeneous for debt to equity effect (DEE), the T test result shows the significant mean difference at -,161. Thus we cannot accept the T test significance result due to the homogeneity test result for debt to equity effect. Even though Levene test sig. value demonstrates that the data is not homogeneous for size effect (SE), the T test results point out the significant mean difference at ,741. Therefore, we cannot accept the T test significance result caused by the homogeneity test result for size effect. In spite of Levene test sig. value indicates that the data is not homogeneous for profitability effect (PE), the T test result shows the significant mean difference at ,017. However, we cannot accept the T test significance result due to the homogeneity test result for profitability effect. Although Levene test sig. value demonstrates that the data is homogeneous for financing (leverage) effect (FE), the T test result shows the insignificant mean difference at 11,568. Therefore, we cannot accept the T test significance result due to the homogeneity test result for leverage effect. None of these ratios creates a meaningful difference for conglomerate affiliation. In this manner hypothesis is rejected(abbr. for Table 38).

3.3.3. Foreign Ownership (FRGN)

The companies that have foreign shareholders as investors (FRGN) are the businesses that have foreign partners, in other words, they are the businesses with foreign shareholders in their ownership structure. Foreign shareholders or businesses that tend to get in this kind of partnerships are big businesses with international scale. Businesses that want to become foreign partners with businesses in Turkey have been in a rising trend especially in recent years. It can be thought that the businesses with foreign shareholders in their ownership structure have easier access to credit and they have more suitable credit terms compared to local businesses. Contrary to the expectation for these businesses to be in more debt, the idea that these businesses' level of debt will be lower is irrefutable as these businesses with international scale have solid equity capital structure; to put it another way, it can be stated that if foreign fund increases in a business, debt rate will decrease (Kumar, 2004).

While in their studies, Sarkınç (2008) accept the partner as “foreign” if it has 10% and more share, Karakaya (2004) and Önder (2000) consider businesses with 1% and more foreign share as “foreign” in the research they conducted.

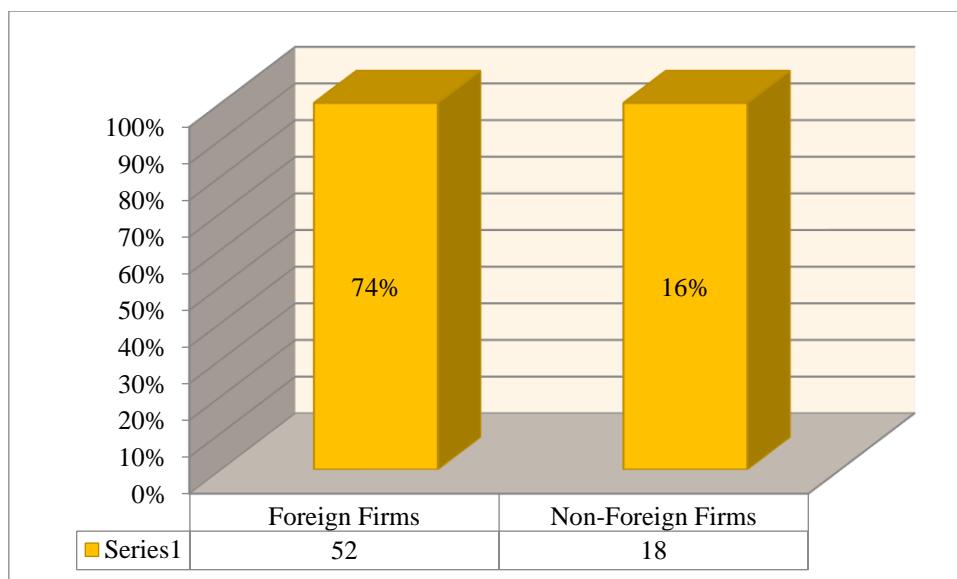


Figure3. The Percentage of Firms with Foreign Ownership

The graph shows that while the examined foreign firms percentage are 74%, non-foreign firms are 16%. There are 70 firms and 52 of them are foreign firms (abbr. for Figure 3).

Table39.

Group Statistics of Firms with Foreign Ownership

Group Statistics

	FRGN	N	Mean	Std. Deviation	Std. Error Mean
LEC	0	1029	,52262	,196267	,006118
	1	362	,55595	,175384	,009218
DEE	0	1029	,55695	,564668	,017603
	1	362	,49662	,218377	,011478
SE	0	1029	17,90	2,187	,068
	1	362	19,01	1,783	,094
PE	0	1029	,05501	1,160599	,036181
	1	362	,04645	,108552	,005705
FE	0	1029	6,73865	194,563914	6,065332
	1	362	-,53866	68,205225	3,584787

Size natural logarithm of sales revenues ratios (SE) have the highest mean for firms with foreign ownership. On the other hand, profitability ratios (PE) means' are close to zero value. Leverage ratios (FE) have the lowest mean for firms with foreign ownership (abbr. for Table 39).

Table 40.

Independent Samples Test for Firms with Foreign Ownership

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
LEC	Equal variances assumed	10,482	,001	-2,854	1389	,004	-,0333	,0117	-,0562	-,0104
	Equal variances not assumed			-3,012	701,351	,003	-,0333	,0111	-,0550	-,0116
DEE	Equal variances assumed	8,753	,003	1,981	1389	,048	,0603	,0305	,0006	,1201
	Equal variances not assumed			2,871	1378,424	,004	,0603	,0210	,0191	,1016
SE	Equal variances assumed	15,658	,000	-8,723	1389	,000	-1,1141	,1277	-1,3646	-,8635
	Equal variances not assumed			-9,612	768,727	,000	-1,1141	,1159	-1,3416	-,8865
PE	Equal variances assumed	5,451	,020	,140	1389	,889	,0086	,0611	-,1113	,1284
	Equal variances not assumed			,234	1077,864	,815	,0086	,0366	-,0633	,0804
FE	Equal variances assumed	,667	,414	,697	1389	,486	7,2773	10,4468	-13,2159	27,7705
	Equal variances not assumed			1,033	1388,993	,302	7,2773	7,0455	-6,5436	21,0983

Levene test sig. value shows that data is not homogeneous. According to the T test result there is significant mean difference at $-.0333$. However, we cannot accept the T test significance result due to the homogeneity test result for liquidity effect (LEC). When Levene test sig. value shows that the data is not homogeneous for debt to equity effect (DEE), the T test result shows the significant mean difference at $.0603$. Thus we cannot accept the T test significance result due to the homogeneity test result for debt to equity effect. Even though Levene test sig. value demonstrates that the data is not homogeneous for size effect (SE), the T test results point out the significant mean difference at -1.1141 . Therefore, we cannot accept the T test significance result caused by the homogeneity test result for size effect. In spite of Levene test sig. value indicates that the data is not homogeneous for profitability effect (PE), the T test result shows the significant mean difference at $.0086$. However, we cannot accept the T test significance result due to the homogeneity test result for profitability effect. Although Levene test sig. value demonstrates that the data is homogeneous for financing (leverage) effect (FE), the T test result shows the insignificant mean difference at 7.2773 . Therefore, we cannot accept the T test significance result due to the homogeneity test result for leverage effect. None of these ratios creates a meaningful difference for conglomerate affiliation. In this manner hypothesis is rejected (abbr. for Table 40).

CHAPTER 4

EMPRICAL APPLICATION

4.1. Basic Statistical Concepts and Analyses

In social sciences, the researchers have to use statistics whether for explaining their hypotheses or explaining their research results (Durmuş, Yurtkoru, and Çinko, 2013). The terms, which have to be known and used as the foundations of these types of research, are explained below:

Statistics: The science of collecting, organizing and summarizing the data and by using these data creating and analyzing the tables and reporting them.

Data: The raw information collected by observation, interview, or secondary information sources

Independent Variable: A type of variable, which is supposed to effect the variable that forms the research subject.

Dependent Variable: Another type of the variables is the dependent variable. It changes according to independent variable.

Mode: The value which signifies the equilibrium point of a datasets central leaning measurement

Variance: Each observation respectively subtracted from the mean and the square of these values divided by number of the observations. Variance is the square of standard deviation.

T-Test: If the graded variable is made up of two subgroups for the independent examples the t-test is used. For testing the difference situation between the mean of two independent groups the t-test is used; it is a statistical analysis technique.

ANOVA: If the classified variable is made up of three or more subgroups ANOVA, the one-way variance analysis is used. To test the difference of more than two independent groups means this analysis is used called as one-way variance analysis. The researchers should be careful to use ANOVA for minimum of 30 and close observation data.

Regression: Even though the independent T-Test and ANOVA the equality of the means of independent groups, they cannot explain a meaningful information about the relation between variables. For this reason, researchers use regression analysis to form a mathematical equation between variables. In regression analysis, there has to be only one dependent variable but more than one independent variable can be used. This analysis determines how a dependent variable is explained by other independent variables, for this reason the model of analysis is created through explaining independent variables relation to dependent variable.

4.2. Studies on the Relationship Between Ownership and Capital Structures

Brailsford et al. (2002) have conducted a study covering firms in Australian Stock Exchange to observe the relation between finance and ownership structure. Independent variables that affect the capital structure have been identified as follows; specificity of business assets, business risk level, tax rate, ownership structure variables and representation cost. Consequently, with the increase of capital concentration of the firms, ratio of foreign resource use also increases in a parallel manner. If stocks of a firm are accumulated by an institutional investor, there will occur the inspective efficiency of the directors, therefore, directors will have to fulfill the investments that will rise the firm value and they will have to back away from investments with negative net present value.

In their study analysing the firms in fareast, Driffield et al. (2007) believes that birth and expansion processes of macroeconomic crisis could be comprehended by investigating “the effect of ownership structure on capital structure and firm value”. When testing whether capital structure of firms is affected by ownership structure, they take the variable as the control of the largest shareholder in capital concentration and capital share on cash flow. They use investment and growth opportunities, size of the firm, assets diversification and firm age as control variables. As a consequence, it has been empirically confirmed that as the ownership structure (capital) concentration increases, the proportion of foreign resources in total resources increases. So, the argument that large shareholders adopt a growth strategy based on borrowing in order to protect this in cases where the ownership structure is narrow has been confirmed.

In their study where they search the distinctive features of capital structures of Latin American countries, Cespedes et al (2010) use Herfindahl index for calculation

of capital concentration, which is used in firm level and shows the competition level in the sector. Consequently, they have reached a high Herfindahl index, which means that they have achieved the information that firms with high capital concentration finance their capital structures in a foreign resource-weighted base.

Margaritis and Psillaki (2010) study effect of capital structure on ownership structure and business performance. The proportion of foreign resources in total resources is designated to be the capital structure variable which is specified as the independent variable; on the other hand, dummy independent variables are specified to be tangible and intangible fixed assets, profitability, growth, the share of the first, the second and the third largest shareholders in the capital, and institutional investor and family owned business. Consequently, it has been seen that as the capital concentration increases, the firms prefer to obtain finance with more foreign resources and that there is not an effect of capital type on capital structure.

In their study conducted among firms operating in China, Li et al. (2009) inquire whether the capital structure is affected by dummy variables used as foreign ownership, public ownership and institutional investor ownership. Industry, business size, term of assets, assets specificity are included in the model as controlled variable. As a result, it has been observed that on every condition, ownership structure determines the capital structure and contrary to the fact that public ownership businesses use more foreign resource, businesses with foreign investor ownership use less foreign resources.

Barton and Sundaram (1989) analyse how the capital structure is affected within the scope of shareholders theory. Profitability, growth of sales, tax effect, structure of assets, effect of shareholders, size of the business and risk of the business

are used as independent variables. Consequently, they have come to the point that business strategies that are formed by shareholders directly influence the capital structure, in other words, the characteristics of business shareholders have an effect on the financial decisions of the business.

Margaritis and Psillaki (2008) analyse the relation among capital structure, ownership structure and firm performance by using the financial data of French manufacturing firms. As a result, it has been observed that ownership concentration does not affect high leveraged firms however leads the low leveraged firm to operate with less equity capital and thus rises the return on assets.

Bohren and Odegaard (2005) discuss the businesses operating in Oslo Stock Exchange in their study. As a result, it has been observed that business profitability rises in line with ownership concentration and the structure of board of directors, and therefore, there occurs a positive relation between ownership concentration and business profitability.

Deesomsak, Paudyal and Pescetto (2004) analyse the distinctive features of capital structure decisions of businesses operating in Asia Pacific region, which also includes Malaysia, Thailand, Singapore and Australia. As a result, they have found a positive relation between business size and borrowing, on the other hand, they have found a negative relation among price performances, growth opportunities, liquidity and tax shield.

Durukan (1997) empirically tests the factors affecting the capital structures of businesses operating between 1990 and 1995. Consequently, it has been understood that the most important factor affecting the capital structure is non-debt tax shield. Besides, any relation between profitability and capital structure hasn't been observed

and it has been concluded that there is a positive relation between the market value of the business and capital structure.

Zheka (2003) investigates the effect of ownership structure of the firm on firm efficiency with reference to the financial data of 283 firms operating in Ukraine in 2000-2001. As a result, director ownership has been found to have a negative effect on efficiency. Therefore, it has been confirmed that foreign invested firms are inefficient but they have a positive effect on management quality.

Abu-Serdaneh, Zuriekat and Al-Sheikh (2010) discuss the effect of ownership structure and other explanatory factors on firm performance by using 56 manufacturing firms in Jordan and 5 years panel data of these firms. Consequently, it has been confirmed that there is not a significant relation between director ownership and foreign ownership and profitability variables. It has been observed that institutional investor ownership and equity capital amount increasing together diminishes the profitability and as ownership concentration increases profitability also increases.

Rathinasamy, Krishnaswamy and Mantripragada (2000) internationally study capital structure and market interactions of firms by means of financial data of the firms in manufacturing sector in 47 countries, which also includes Turkey, within the scope of working programme of Center for International Financial Analysis (CIFAR) in 1987-1991. As a result, a positive relation between Tobin's Q and leverage ratio has been found.

Titman and Wessels (1998) investigate the determinants of capital structure variables in line with financial data from 469 firms operating in manufacturing sector in the USA between 1974 and 1982. As a result, representation costs have been

observed to be important determinants of capital structure variables. Along with this, they observe that there is a significant relation between firm size and short-term debts and that the capital structure of the firms have an effect on the relation between firm value and profitability.

Thomsen and Pedersen (2000) analyse the performance and the ownership structure of 435 largest firms chosen from 12 European countries including Austria, Belgium, Denmark, England, Finland, France, Germany, Italy, Netherlands, Norway, Spain and Sweden. As a result, it is seen that family businesses have more business value when compared to other businesses and there is an important increase in their sales growth. A positive relation between ownership structure, business performance and business value is observed.

Demsetz and Lehn (1985) analyse the causes and the effects of the change in ownership structure in 511 firms operating in the USA (by defending the idea that the maximization of the relation between firm value and ownership structure changes systematically and consistently). As a result, Demsetz and Lehn (1985) conclude that there is not a negative relation contrary to studies that observe a negative relation between ownership structure and performance.

Kısakürek and Aydın (2013) analyse 104 firms, which was operating in Borsa Istanbul (BIST) permanently in 1992-2011 by focusing on financial crisis and benefitting from balance sheets and income charts. Consequently, while it is observed that they prefer their equity capital including the crisis years of the firms; there is also a positive relation between sales profitability capital structure and return to assets, and there is a negative relation between sales profitability and return on equity.

Okuyan (2009) discuss the effects of ownership structure on capital structure by using financial data of 194 firms publicly traded in Borsa Istanbul in 2005-2007 based on ownership structure variables like businesses being family firms, businesses having foreign shareholders and businesses belonging to a group. The data set is tested with ANOVA and Regression analysis. As a result, it has been observed that ownership structure of the businesses is effective on capital structure.

Sayman (2012) studies the effects of ownership structures on capital structure and firm performance by using the financial data of 117 of businesses, which were active on Borsa Istanbul regarding the years 1998-2009. As a result, the study observes that the ownership structure of the firms has an effect on firm value and capital structure.

Yıldır and Yücel (2012) conducted a research regarding the deductions on ownership and control difference within the scope of ownership structure of the businesses by using the financial data from firms publicly traded in Istanbul Stock Exchange for 2006-2008. As a result, it has been inferred that the level of controlling shareholder in businesses is high, pyramid structures are commonly available, but they don't form complicated structures. It is observed that the ownership rights and the control rights of the controlling shareholder differ significantly, and this difference is higher when the controlling shareholder is a business.

Akbulut (2011) investigates the effects of business capital on profitability with the financial data from 127 manufacturing firms operating in Borsa Istanbul between 2000 and 2008. As a result, it is observed that there is a negative relation between capital management and profitability; cash to cash cycle differs among manufacturing

sectors, and therefore, there happens a negative relation between capital structure and profitability.

Kabakçı (2008) discusses the relation between capital structure and firm performance in line with the financial data from 22 firms, which was publicly traded in Borsa Istanbul and also operated in food sector between 2000 and 2005. As a result, while it is seen that there is a negative relation between capital structure and return on equity and therefore low debt ratio is effective for the firms to reach high profitability values; that the growth variable coefficient of the firms is significant and positive shows that they may show a tendency to borrowing if growing firms consider new investment possibilities.

The factors which affect the capital structure of the firms are analysed by Doğukanlı and Acaravcı (2004) by discussing 66 manufacturing firms operating in Borsa Istanbul in 1992-2002 using variables specific to the firm and macroeconomic variables. As a result, it is seen that there is a negative relation between capital structure and profitability.

The effects of ownership structures of the manufacturing firms operating in Borsa Istanbul 100 index on their financial performance by Yıldırım and Demireli (2009). As a consequence, they conclude that as the ownership and control power of the largest shareholder increases, the return on equity, sales profitability and profitability of assets decrease; and contrary to this, Tobin's Q ratio increases (Bayrakdaroğlu, 2010).

Tanrıöven and Aksoy (2010) study the effects of the concentration in the ownership structure of the firms on the firm performance with the financial data from 113 firms operating in Borsa Istanbul in 1996-2009. Consequently, the size of board

of directors does not affect return on equity and net profit margin significantly. The effect of the size of the board of directors on return equity occurs negatively, though not significantly. And this shows that decrease of concentration is more important in terms of all shareholders' return than only that of the largest shareholder. The direction of three largest shareholders' share effect is negative for return on assets and net profit margin but it does not have a significant effect on return on equity. It is observed that as the share of the three largest shareholders rises, return on assets and net profit margin decrease, and the concentration in ownership structure has the biggest effect on return on assets.

Bayrakdaroğlu (2010) studies the relation between the ownership structure of businesses operating in Borsa Istanbul in 2005-2009 and financial performance in terms of the five largest shareholders' share of capital, the three largest shareholders' share of capital, the largest shareholder's share of capital, foreign hare, free float rate and director ownership. As a result, it is observed that the ownership structure variables have an effect on financial performance within the scope of different models, and contrary to expectations foreign share and director ownership variables do not have any effect on financial performance in spite of the fact that capital concentration variables and free float rates generally have an effect on financial performance.

Aytekin and İbiş (2014) study the effects of the ownership structures of 23 firms publicly traded in Borsa Istanbul on Metal Products Machinery Index (Xmesy) shares in 2009-2012 on their financial performance by making a correlation with the share of the largest shareholder, the share of the two largest shareholders, the share of the three largest shareholders, foreign share and free float rate, return on assets in terms of performance and return on equity. As a result, it has been confirmed that

ownership structure variables have an effect on financial performances of the businesses in the sector.

4.3. Data Set Used in the Research and Limitations

This study mainly aims to reveal to what direction the differences in the ownership structures of the firms affect the capital structure and financing decisions.

70 non-financial firms that operated in Borsa Istanbul (BIST) between 1995 and 2014 have been analysed within the context of this research. The dataset used in the research is collected from Borsa Istanbul and the Public Disclosure Platform.

The motive behind the fact that solely non-financial firms take place within the scope of the research is to provide the same accounting standards on the financial chart data belonging to the variables, which will be included in the model. And the reason why the time period is limited to 20 years is that the data belonging to the variables, which will be included in the model, was only provided in this time period.

It should be noted that the data used in the research does not include all of the businesses in BIST or the industries in whole country. This is caused due to the limitation of the capital structure data; for this reason, the data used in the research includes the businesses between 1995-2014.

4.4. Research Model and the Hypotheses

Following models and hypotheses have been formed within the scope of the research model. The effect of ownership structure on capital structure and financing decisions will be analysed in this direction (abbr. for. Figure 4).

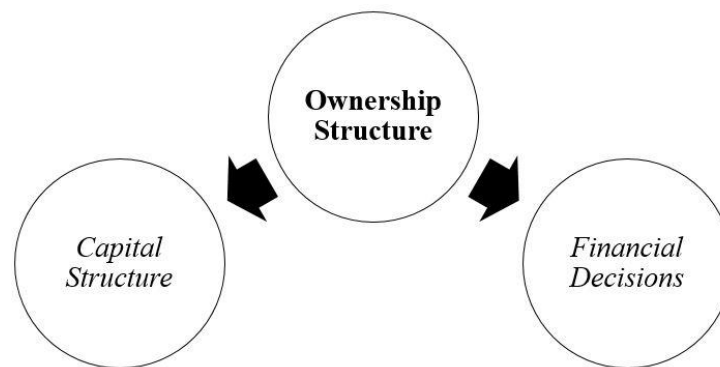


Figure 4. Research Model

Table 41.

Hypothesis

<i>Hypothesis</i>	<i>Definitions</i>
<i>H₁</i>	Ownership structure has an impact on capital structure.
<i>H₂</i>	Ownership structure has an impact on financing decisions.

As can be seen in table of hypothesis, there are two main hypotheses in this research (abbr. for Table 41).

4.5. Research Method and the Variables

Panel data analysis has been used in order to measure the effect of ownership structure on capital structure and financing decisions. Within this context; in order to measure capital structure, one of the facts of this research, debt to equity effect (DEE), in other words, the ratio of long-term liabilities to short term liabilities has been used. In order to measure financing decisions, which is another basic fact,

financing effect (FE), the ratio of total debt to profit before tax has been used. For the ownership structure fact whose effect is to be measured two variables, the share of the largest shareholder (LSH1) and total share of the three largest shareholders have been utilized in the model.

The fact that the research covers Turkish manufacturing sector and firms different than each other in terms of structure exist in the mentioned sector have brought about the necessity to separate the effects unique to this type of firms. Therefore, family ownership (FAM), conglomerate affiliation (CONG) and foreign ownership (FRGN) or LSH1 and LSH3 dummy variables that refer to the shareholder have been added to the model to be set up in order to separate the structural effects of the firms.

Along with these variables, three control variables as liquidity effect (LEC), size effect (SE) and profitability effect (PE), which have influence on capital structure, and financing decisions have also been added to the model.

The table below includes the descriptions of the variables covered by the model and their calculation methods (abbr. for Table 42).

Table 42.

Variables Covered by the Model

Code	Definitons	Descriptions
LSH1	Largest Shareholder	Ratio (%)
LSH3	Cumulative Shares of Largest Three Shareholders	Ratio (%)
FAM	Family Ownership	Dummy Variable
FRGN	Foreign Ownership	Dummy Variable
CONG	Conglomerate Affiliation	Dummy Variable
LEC	Liquidity Effect	Current Assets/Total Assets (%)
DEE	Debt to Equity Effect	Short+Long Term Liabilities/Total Liabilities (%)
SE	Size Effect	Natural Logarithm of Revenues
PE	Profitability Effect	Net Profit-Loss/Revenues (%)
FE	Financing (Leverage) Effect	Total Debt / EBITDA (%)

Descriptive statistics and correlation matrix of the variables used in the model are as follow(abbr. for Table 43):

Table43.

Descriptive Statistics of the Variables

	LSH1	LSH3	CONGL	FAM	FRGN	LEC	DEE	SE	PE	FE
Mean	51.01	63.84	0.25	0.41	0.26	0.53	0.54	18.16	0.05	4.83
Median	51.00	63.65	0.00	0.00	0.00	0.54	0.49	18.24	0.05	1.33
Maximum	98.77	98.77	1.00	1.00	1.00	0.95	8.67	25.07	31.79	5045.87
Minimum	6.00	9.20	0.00	0.00	0.00	0.01	0.02	12.04	-9.41	-3336.04
Std. Deviation	20.79	17.81	0.43	0.49	0.44	0.19	0.50	2.14	1.00	170.38
Skewness	0.17	-0.41	1.15	0.37	1.10	-0.11	7.89	0.10	22.43	13.13
Kurtosis	2.56	3.16	2.32	1.14	2.22	2.24	93.76	3.09	750.16	657.33
Observation	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400

As it can be seen on the tables, decision mechanism regarding the ownership structure in Turkey is cantered upon few people. Besides, it can be seen that capital structure appears as an average value (0.53) (abbr. for Table 44).

Panel data analysis means the analysis of horizontal cross-sectional observations in a same and determined time dimension. Within this frame, panel data analysis embodies heterogeneity with two different systems, and solving problematic aspects of relevant analysis types like lack of observation, intersectional high relation.

Table 44.

Correlation Matrix of the Variables

	LSH1	LSH3	CONGL	FAM	FRGN	LEC	DEE	SE	PE	FE
LSH1	1									
LSH3	0.747	1								
CONGL	-0.064	0.155	1							
FAM	-0.296	-0.218	-0.423	1						
FRGN	0.309	0.460	0.031	-0.208	1					
LEC	0.071	0.168	0.129	-0.067	0.082	1				
DEE	0.017	0.053	-0.028	0.158	-0.052	0.158	1			
SE	0.186	0.233	0.177	-0.174	0.236	-0.072	0.002	1		
PE	-0.005	0.014	-0.001	-0.008	-0.003	-0.023	-0.122	0.022	1	
FE	-0.037	-0.009	0.025	-0.033	-0.019	0.020	-0.010	0.007	-0.001	1

Therefore, stability problem that can emerge in time series analysis before the setting up of the model is required to be tested in panel context. Because this situation can cause spurious regression problem and cause the model give misleading results if the variables are not stable or in other words, if they include unit root.

Within this context, many tests like Levin-Lin-Chu, Im-Pesaran-Shin, PP Fisher, Harris-Tzavalis, Hadri LM are used in the literature. Under the cover of this research, unit root test has been applied on variables based on LLC and PP Fisher tests, widely used among others. The result is as follows no unit root has been come across in the variables; the variables to be included in the model are stable (abbr. for Table 45).

Table45.

Variables Unit Root Test

Variables	LLC		PP Fisher	
	T test	p-value	Chi ² test	p-value
LSH1	-940.00	0.000	393.69	0.000
LSH3	-47.56	0.000	350.60	0.000
LEC	-14.17	0.000	273.26	0.000
DEE	-16.23	0.000	231.38	0.000
SE	-27.06	0.000	1632.98	0.000
PE	-21.50	0.000	584.30	0.000
FE	-21.37	0.000	824.66	0.000

4.6. Empirical Results

Fixed effect and random effect as the two models come to the forefront in the panel data analysis. Fixed effect model is based on the acceptance that time-constant individual effects in panel data equation are constant for all the panel units and they are unrelated to the independent variables. Random effects model set out from the presumption that time-constant individual effects are not constant and it allows descriptive variables and time-constant effects to be involved in an interaction to a certain extent.

Under the scope of the research, both models are given as tables by estimation. Later, Hausman test has been referred to in order to distinguish which model is more effective. Models set up regarding the basic hypotheses of the research their outputs are as bellow (abbr. for Table 46):

Table 46.

Models Set Up Based on Basic Hypotheses

Ownership Structure - Capital Structure	
Fixed Effects	DEE = f (LSH1, LSH3, CONGL, FAM, FRGN, LEC, SE, PE, FE)
Random Effects	DEE = f (LSH1, LSH3, CONGL, FAM, FRGN, LEC, SE, PE, FE)
Ownership Structure - Financial Decisions	
Fixed Effects	FE = f (LSH1, LSH3, CONGL, FAM, FRGN, DEE, LEC, SE, PE)
Random Effects	FE = f (LSH1, LSH3, CONGL, FAM, FRGN, DEE, LEC, SE, PE)

Ownership Structure - Capital Structure

The model displaying the relation between ownership structure and capital structure is as follows (abbr. for Table 47):

Table 47.

The Relation Between Ownership Structure and Capital Structure

DEE	Fixed Effects				Random Effects			
	Coefficients	Std. Error	t-stat	p-value	Coefficients	Std. Error	t-stat	p-value
LSH1	-0.003	0.001	-2.930	0.003	-0.003	0.001	-2.690	0.007
LSH3	0.003	0.001	2.090	0.036	0.003	0.001	2.110	0.035
CONGL	-0.044	0.057	-0.770	0.440	-0.043	0.052	-0.810	0.417
FAM	-0.043	0.048	-0.900	0.370	-0.010	0.044	-0.230	0.818
FRGN	0.016	0.046	0.350	0.726	0.007	0.043	0.160	0.872
LEC	0.074	0.067	1.110	0.267	0.093	0.065	1.430	0.152
SE	0.012	0.006	2.070	0.039	0.012	0.006	1.990	0.046
PE	-0.030	0.009	-3.460	0.001	-0.031	0.009	-3.590	0.000
FE	0.000	0.000	-0.270	0.785	0.000	0.000	-0.300	0.765
_cons	0.300	0.126	2.390	0.017	0.277	0.130	2.130	0.033
<i>R_Square</i>	0.005				0.019			
<i>F stat</i>	2.800				25.580			
<i>F prob.</i>	0.003				0.002			
<i>sigma_u</i>	0.406				0.383			
<i>sigma_e</i>	0.300				0.300			
<i>rho</i>	0.646				0.620			

According to the estimation results, there is no difference between fixed effects and random effects models in terms of estimated coefficients and the significance of the variables. Both models are integrally significant and their estimated coefficients are similar.

As can be seen on the above table, CONGL, FAM, FRGN, LEC and FE variables do not have a statistically significant effect on the capital structure of the company; t statistics of the mentioned variables are very close to zero. But a statistically significant relation exists between ownership structure variables and ownership structure. Accordingly, the increase of the share of the largest shareholder

in the company, when other conditions are stable, has a negative effect on the indebtedness of the company. The increase of the total share of the three largest shareholders of the company has a positive effect on the indebtedness of the company. Additionally, the increase of the company size affects debt to equity effect in a negative way.

According to the predicted results, Hausman test is used to decide whether to choose fixed effects or random effects model. As stated in the beginning, there is not a basic hypothetical difference regarding the relation between time-constant individual effects and descriptive variables in two models. Fixed effects model allows individual effects to be completely unrelated to their independent variables and random effects model allows a relation to a certain extent. Therefore, even if there is such a de facto relation, random effects model will indicate it only in deviation. So, it is a wider method in literature to use the models together. As for the test results again, the null hypothesis that points the selection of random effects cannot be refused (abbr. for Table 48).

Table 48.

HausmanTest

Hausman Test	Chi ² test stat.	p-value
	14.0400	0.0806

The models have been subjected to heteroscedasticity tests in order to test if the estimations are solid and they fulfil the basic regression analysis presumptions. Within this context, Wooldridge and LBI test results showing whether there is autocorrelation among error terms are as follows (abbr. for Table 49):

Table49.

Wooldridge and LBI Test

Autocorrelation	Wooldridge Test	LBI Test
	1507.1	0.661

According to the test results, the statistics have passed the critical values, the null hypothesis pointing that no autocorrelation exists among error terms has been refused. The model contains first order positive autocorrelation.

The existence of heteroscedasticity in the model is tested on the table below. According to this, the null hypothesis claiming that the model has constant variance has been rejected. (abbr. for Table 50).

Table50.

Heteroscedasticity Test

Heteroskedasticity Test	Chi ² test stat.	p-value
	80163	0.000

As a result of autocorrelation and heteroscedasticity tests, necessity to correct the standard errors of the model has been observed. The model has reached its ultimate form using Driscoll-Kraay standard errors, which are often referred in the literature to solve these problems (abbr. for Table 51).

The results are as follow:

Table51.

Regression with Driscoll-Kraay Standard Errors

DEE	Regression with Driscoll-Kraay Std. Errors			
	Coefficients	Driscoll-Kraay Std. Errors	t-stat	p-value
LSH1	-0.003	0.001	-2.380	0.020
LSH3	0.003	0.001	3.230	0.002
CONGL	-0.044	0.040	-1.100	0.275
FAM	-0.043	0.028	-1.510	0.136
FRGN	0.016	0.031	0.520	0.603
LEC	0.074	0.112	0.660	0.510
SE	0.012	0.005	2.670	0.009
PE	-0.030	0.019	-1.590	0.117
FE	0.000	0.000	-0.630	0.531
_cons	0.300	0.153	1.960	0.054
<i>R_Square</i>	0.019			
<i>F stat</i>	12.810			
<i>F prob.</i>	0.000			

Ownership Structure - Financing Decisions

The model displaying the relation between ownership structure and financing decisions is as below:

Table52.

The Relation Between Ownership Structure and Financing Decisions

FE	Fixed Effects				Random Effects			
	Coefficients	Std. Error	t-stat	p-value	Coefficients	Std. Error	t-stat	p-value
LSH1	0.096	0.611	0.160	0.875	-0.758	0.381	-1.990	0.047
LSH3	0.214	0.691	0.310	0.757	0.592	0.462	1.280	0.200
CONGL	34.568	32.414	1.070	0.286	-7.075	13.420	-0.530	0.598
FAM	11.114	26.970	0.410	0.680	-19.461	11.857	-1.640	0.101
FRGN	-0.629	26.059	-0.020	0.981	-13.378	12.545	-1.070	0.286
DEE	-4.250	15.610	-0.270	0.785	-3.000	9.762	-0.310	0.759
LEC	0.135	37.776	0.000	0.997	16.677	25.100	0.660	0.506
SE	-1.004	3.398	-0.300	0.768	1.068	2.311	0.460	0.644
PE	-1.002	4.897	-0.200	0.838	-0.720	4.624	-0.160	0.876
_cons	-6.254	71.372	-0.090	0.930	-7.706	46.181	-0.170	0.867
<i>R_Square</i>	0.000				0.006			
<i>F stat</i>	0.180				7.080			
<i>F prob.</i>	0.996				0.629			
<i>sigma_u</i>	43.049				11.546			
<i>sigma_e</i>	170.269				170.269			
<i>rho</i>	0.060				0.005			

According to the estimation results, there is no difference between fixed effects and random effects models in terms of estimated coefficients and the significance of the variables. However, the estimated coefficients in both models are statistically insignificant. All of the p values are quite higher than 0.05. At the same time, both models are integrally insignificant (abbr. for Table 52).

The result of the Hausman Test, conducted regarding which of the two models to be chosen to use, is as follows:

Table53.

Hausman Test

Hausman Test	Chi ² test stat.	p-value
	6.1400	0.7254

The results of the autocorrelation and heteroscedasticity tests conducted to test the statistical robustness of the models is as follow. No autocorrelation among error terms in model has been encountered under the light of the findings (abbr. for Table 53).

Table54.

Wooldridge and LBI Test

Autocorrelation	Wooldridge Test	LBI Test
	0.689	2.096

However, the model has heteroscedasticity, and test statistics is quite high and the null hypothesis claiming that the model has constant variance has been rejected (abbr. for Table 54).

Table55.

Heteroscedasticity Test

Heteroscedasticity Test	Chi2 test stat.	p-value
	8.40E+10	0.000

In this case, a re-estimation has been conducted with error terms resistant to heteroscedasticity (abbr. for Table 55). The ultimate form of the model is as follows:

Table56:

Regression with Robust Standard Errors

FE	Regression with Robust Std. Errors			
	Coefficients	Robust Std. Errors	t-stat	p-value
LSH1	0.096	0.159	0.600	0.549
LSH3	0.214	0.220	0.970	0.335
CONGL	34.568	20.872	1.660	0.102
FAM	11.114	6.949	1.600	0.114
FRGN	-0.629	6.733	-0.090	0.926
DEE	-4.250	6.756	-0.630	0.531
LEC	0.135	16.092	0.010	0.993
SE	-1.004	1.501	-0.670	0.506
PE	-1.002	1.023	-0.980	0.331
_cons	-6.254	34.541	-0.180	0.857
<i>R_Square</i>	0.000			
<i>F stat</i>	0.630			
<i>F prob.</i>	0.767			

The new expected model did not reveal different results wither. The regression analysis initially set up to measure the ownership structures effect on the financing decisions did not reveal meaningful results (abbr. for Table 56).



CHAPTER 5

RESULTS AND DISCUSSION

This thesis conducted research on the stock values between 1995-2014 period, and made an attempt to find whether or not the variety of non-financial firm owners affect the capital structure or financing decisions of the firms traded on Borsa Istanbul. In accordance with the results of this 20-year long data, it has been concluded that firms are not completely independent from their ownership structures while they are deciding on their capital structures.

According to the results of the regression model, which was used in the empirical research to observe the relation between the ownership structure and the capital structure; conglomerate affiliation, family ownership, foreign ownership, liquidity effect, and financing effect variables do not have statistically significant effect on the capital structure of the company. In addition, t statistics of the mentioned variables are very close to zero. But a statistically significant relation exists between ownership structure variables and ownership structure.

Accordingly, the increase of the share of the largest shareholder in the company, when other conditions are stable, has a negative effect on the indebtedness of the company. The increase of the total share of the three largest shareholders of the company has a positive effect on the indebtedness of the company. Besides, the increase of the company size affects debt to equity effect in a negative way.

According to the results of regression model, which was used in the empirical research to observe the relation between the ownership structure and the financing decisions, there is no difference between fixed effects and random effects models in terms of estimated coefficients and the significance of the variables. However, the

estimated coefficients in both models are statistically insignificant. All of the p values are quite higher than 0.05. At the same time, both models are integrally insignificant.

The regression shows that the ownership structure has an insignificant financing decisions. The results of the study can be valid not only for other companies and sectors listed on Borsa Istanbul, but also it can be a topic of research for future studies.



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APPENDIX A: List of Non-Financial Firms Used in the Model

Stock	Firm
ADANA	Adana Çimento San. ve Tic. A.Ş. (A)
ADBGR	Adana Çimento San. ve Tic. A.Ş. (B)
ADNAC	Adana Çimento San. ve Tic. A.Ş. (C)
AFYON	Afyon Çimento San. A.Ş.
AKSA	Aksa Akrilik Kimya San. A. Ş.
ALCAR	Alarko Carrier San. ve Tic. A.Ş.
ANACM	Anadolu Cam San. A. Ş.
ARCLK	Arçelik A. Ş.
AYGAZ	Aygaz A. Ş.
BAGFS	Bagfaş Bandırma Gübre Fabrikaları A.Ş.
BANVT	Banvit Bandırma Vitaminli Yem San Tic. A.Ş.
BFREN	Bosch Fren Sistemleri San ve Tic A.Ş.
BOLUC	Bolu Çimento San A.Ş.
BOSSA	Bossa Tic ve San İşletmeleri A.Ş.
BRISA	Brisa Bridgestone Sabancı Lastik San ve Tic. A.Ş.
BRSAN	Borusan Mannesmann Boru Sanayi ve Tic. A.Ş
BTCIM	Batıçim Batı Anadolu Çimento San. A.Ş.
BUCIM	Bursa Çimento Fabrikası A.Ş.
BURCE	Burçelik Bursa Çelik Döküm San. A.Ş.
CEMTS	Çemtaş Çelik Makina San ve Tic. A.Ş.
CIMSA	Çimsa Çimento San ve Tic. A.Ş.
CMENT	Çimentaş İzmir Çimento Fabrikası T.A.Ş.
COMDO	Componenta Döktaş Dökümcülük Tic ve San A.Ş.
DARDL	Dardanel Önentaş Gıda San. A.Ş.
DENCM	Denizli Cam San ve Tic. A.Ş.
DERIM	Derimod Konfeksiyon Ayakkabı Deri San. ve Tic. A.Ş.
DGKLB	Kelebek Mobilya ve Kontrplak San. A.Ş.
DGZTE	Doğan Gazetecilik A.Ş.
DITAS	Ditaş Doğan Yedek Parça İmalat ve Teknik A.Ş.
DOGUB	Doğusan Boru San ve Tic. A.Ş.
DURDO	Duran Ofset Matbaacılık ve Ambalaj San. A.Ş.
DYOBY	DYO Boya Fabrikaları San. ve Tic. A.Ş.
ECYAP	Eczacıbaşı Yapı Gereçleri San. ve Tic. A.Ş.
EDIP	Edip Gayrimenkul Yat. San.
EGEEN	Ege Endüstri ve Tic. A.Ş.
EGGUB	Ege Gübre San. A.Ş.
EGPRO	Ege Profil San ve Tic A.Ş.
EGSER	Ege Seramik San. ve Tic. A.Ş.

Stock	Firm
EMNIS	Eminiş Ambalaj San. ve Tic. A.Ş.
EPLAS	Egeplast Ege Plastik Tic. ve San. A.Ş.
EREGL	Ereğli Demir ve Çelik Fabrikaları Tic. A.Ş.
ESEMS	Esem Spor Giyim San ve Tic. A.Ş.
FENIS	Feniş Alüminyum San ve Tic A.Ş.
FMIZP	Federal-Mogul İzmit Piston ve Pim Üretim Tesisleri A.Ş.
FRIGO	Frijo - Pak Gıda Maddeleri San ve Tic A.Ş.
FROTO	Ford Otomotiv San A.Ş.
GEDIZ	Gimsan Gediz İplik ve Mensucat San A.Ş.
GENTS	Gentaş Genel Metal San ve Tic A.Ş.
GOLTS	Göлтаş Çimento Göller Bölgesi Çimento San ve Tic A.Ş.
GOODY	Goodyear Lastikleri T.A.Ş.
GUBRF	Gübre Fabrikaları T.A.Ş.
HEKTS	Hektaş Tic T.A.Ş.
HURGZ	Hürriyet Gazetecilik ve Matbaacılık A.Ş.
HZNR	Haznedar Tuğla San A.Ş.
IHMAD	Bayındır Madencilik
INTEM	İntema İnşaat ve Tesisat Malzemeleri Yatırım ve Pazarlama A.Ş.
IZMDC	İzmir Demir Çelik San A.Ş.
IZOCM	İzocam Tic ve San A.Ş.
MRDIN	Mardin Çimento San ve Tic A.Ş.
MRSHL	Marshall Boya ve Vernik San A.Ş.
TBORG	T. Tuborg Bira ve Malt San A.Ş.
TRCAS	Turcas Petrol A.Ş.
TRKCM	Trakya Cam San A.Ş.
TUDDF	Türk Demir Döküm Fabrikaları A.Ş.
TUKAS	Tukaş Turgutlu Konserveçilik A.Ş.
TUPRS	Tüpraş - Türkiye Petrol Rafinerileri A.Ş.
USAK	Uşak Seramik San A.Ş.
VESTL	Vestel Elektronik San ve Tic A.Ş.
VKING	Viking Kağıt ve Selüloz A.Ş.
YUNSA	Yünsa Yünlü San ve Tic A.Ş.