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THE IMPACT OF BOARD COMPOSITION ON CAPITAL STRUCTURE: EVIDENCE FROM BORSA ISTANBUL (BIST)[1]

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ABSTRACT

This study aims to examine the effect of board composition on firms' leverage and to evaluate the findings in light corporate governance theories and capital structure theories. It is used panel data analysis based on annual data of firms currently listed in BIST Corporate Governance Index over the period 2012 to 2018.The findings of the study reveal that board size, foreign directors and firm size have statistically significant and positive effects on leverage. On the other hand, female directors, independent directors, Chief Executive Officer (CEO) duality and Return on Asset (ROA) have a negative effect on leverage. However, among these factors, only ROA has a statistically significant effect.

Keywords: Leverage, Corporate Governance, Board Composition.

ÖZET

Bu çalışmanın amacı, firmaların yönetim kurulu bileşenlerinin sermaye yapıları üzerindeki etkisini incelemek ve elde edilen bulguları, sermaye yapısı ve kurumsal yönetim teorileri ışığı altında yorumlamaktır. Çalışma, günümüz itibariyle BİST Kurumsal Yönetim Endeksi'nde yer alan firmaların 2012-2018 yılları arasındaki verilerini kapsamaktadır. Çalışmada, panel veri analizi kullanılmıştır. Çalışma sonuçları, yönetim kurulu büyüklüğünün, yabancı üye sayısının ve firma büyüklüğünün sermaye yapısı üzerinde pozitif etkileri olduğunu göstermiştir. Bunun yanı sıra, kadın üye sayısı, bağımsız üye sayısı, CEO ikiliği ve aktif karlılık oranının sermaye yapısı üzerinde negatif etkisi söz konusudur. Ancak, bu değişkenler arasında sadece aktif karlılık oranının sermaye yapısı üzerindeki etkisi, istatistiki olarak anlamlı bulunmuştur.

Anahtar Kelimeler: Kaldıraç, Kurumsal Yönetim, Yönetim Kurulu Bileşenleri

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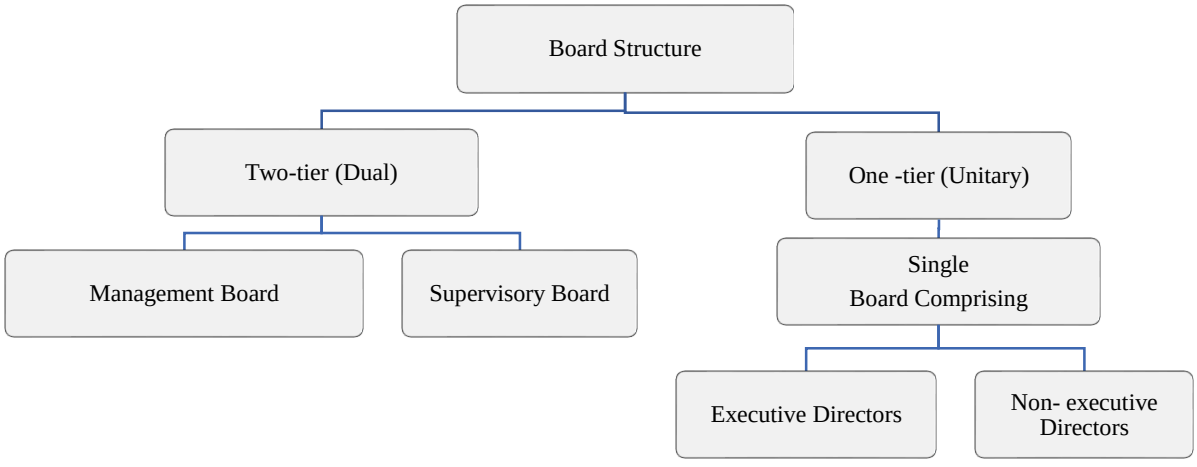
1. INTRODUCTION

Financial decisions are an important and very challenging decisions faced by firm managers. Capital structure is one of the elements of financial decision which refers to financing of the firm's overall assets, daily business operations and future firm growths by combining debt and equity. Even though the ensuring and deciding of the daily functions are considered as the responsibilities of the firm managers in determination of capital structure the board has ultimate decision-making authority.

Generally, a board is an organized group of individuals with a given responsibility to control and govern a firm. The board structure is determined by the by-laws of the firms. The setup of board structure is slightly varied in international settings. In some Europe and Asian countries, corporate governance is divided into two tiers as an executive board and supervisory board.The executive board has consisted of insiders elected by employees and shareholders and headed by the chief executive officer (CEO). The executive board is participating in day to day business operations. The supervisory board is a board that supervises the management board. In the context of Turkey, According to Kosklu (2008) Turkish companies have one tier-board structure (www.mondaq.com). In Turkish companies the board of directors is mainly held by the major shareholders. Although the number of board members is different based on the size of the companies, the minimum number of the members should be three and these members are elected by general assembly of owners for a period of three years. The following Figure 1 presents the board structure.

Figure 1: Board Structure



Source: Kaplan Financial Knowledge Bank

Regardless of the type of the board structure, following and implementing the correct decisions of the board increase the value of the firms. Especially the capital structure decisions made by the board and managers should increase the value of the firms and shareholders. In capital structure determination if the firm is highly leveraged, it could experience less profit as a result of paying the steep cost of debts.

Apart from this problem, the firm could have difficulty to meet its financial obligations during a period of bad economic conditions. Additionally, the competing firms may take advantage of the highly leveraged firms by having more market share. These problems lead the firm to the worst-case scenario of declaring bankruptcy. Therefore the optimal capital structure should maximize the firms' market value and minimize the cost of capital.

Priya & Nimalathasan (2013) indicated that the board characteristics have been criticized for the failure of a firm and a decline in shareholders' wealth. The board of directors' (BOD) lack of attentive to direct the firm's affairs and to control managers who pursue their own self-interestat the cost of shareholders are some the reasons for the failure. Apart from the failure of the firm, the carelessness of the board members and the week internal control can cause the agency problem. The agency problem occurs when the principal (shareholders or owner) and the agent (managers) have different motive that means both parties act to their own interest.

The agency theory that is developed by Jensen & Meckling (1976) mentions that firms should set a capital structure that can minimize the potential conflict of interest between managers, shareholders and debt holders.Since the board of directors has a fiduciary responsibility to protect the interest of shareholders, attentive controlling the tasks of managers and make sure whether the interest of shareholders and managers are solved can limit the agency problem.

From the capital structure perspective some studies indicated that in highly leveraged firms the agency problem seems high. For instance, Jiraporn et al. (2012) indicated that a higher level of financial leverage weakens the strength of internal control mechanisms. As a result the agency problem can increase.On the other hand, a study conducted by Gertler et al. indicated that highly leveraged firms can minimize agency costs. The justification is highly leveraged firms required to make periodic interest payments. These periodic payments provide a discipline on management by reducing the firms' cash available for managers to use it for their personal interest. Therefore, the purpose of this study is to examine the impact of board composition on the capital structure and to evaluate the findings in light corporate governance and capital structure theories.

After this section, a brief discussion about capital structure and corporate governance is presented. Next, literature review, hypothesise development, data and methodology, results and discussion and conclusion are presented respectively.

2. CAPITAL STRUCTURE

Capital structure is a mixture of debt, equity or a hybrid of securities used by a firm to finance its overall business operations. Even though the capital structure strategies can vary by industries, in practice it is difficult to firm managers to have an optimal capital structure. In order to identify the optimize capital structure and explain whether the value of the firms affected by the capital structure there are many studies and theories have been developed. Some of the theories are discussed below.

2.1. Modigliani and Miller (MM) Theory

The Modigliani & Miller (MM) (1958) theory is an extensive and influential capital structure theory that has two propositions. The first proposition refers to the irrelevance of capital structure on the value of firms. It implies that the value of leveraged and unleveraged firms is equal and the mix of debt and equity used by the firms does not matter. The second proposition indicates that the cost of equity increases as the firm increases debt financing. Although the MM theory is the most accepted one, the assumptions of the theory such as absence of taxes, transaction costs, bankruptcy costs, agency costs make the theory difficult to apply in real world. To disprove the assumptions of MM and to explain the relationship between the firms' funding and their value, other capital structure theories such as trade-off, pecking order and agency theory have been developed.

2.2. Trade off Theory

This theory assumes that a firm manager chooses the mix of debt and equity by balancing the benefits of debt-related tax shields and the cost of financial distress. This theory is based on the MM theory that emphasizes on optimal capital structure. It assumes that since the debt used by a firm is tax deductable it may be considered as the cheaper source of financing. However as the amount of debt increase the firm's cost of financial distress also will increase. Therefore the optimal capital structure is a trade-off between the benefits of interest tax shields and the cost of bankruptcy (Shahar et al., 2015).

2.3. Pecking Order Theory

The pecking order theory that is developed by Myers & Majluf (1984) is the other theory that puts a hierarchy for financing decisions. According to this theory due to information asymmetry and adverse selection problems firms prefer to use internal financing first and then debt to equity. According to this theory, the optimal capital structure is created by the firms' preference for different forms of financing. Generally, investors have less company information than the insiders or managers. Because of this higher degree of asymmetric information, the investors require a higher rate of return; as a result, the cost of external financing will be higher than internal financing. Therefore by utilizing less cost of information asymmetry, a firm should have a first preference to use internal financing. If the internal sources of funds are not available the next preference will be debt. Finally the firm can use equity financing as a last resort.

In addition to the above three most common capital structure theories, other different types of capital structure theories are developed. For instance, agency theory that explains about the relationship between principal and agent. According to this theory a principal or shareholders of a firm delegate the agent or the manager to run the business in the best interest of principal. But the agent does not make decisions in the best interest of shareholders and this creates an agency cost. An agency cost is a cost that derives from the actions of an agent acting on behalf of the principal. This cost typically arises due to separation of ownership from control, different risk of preference or conflict of interest, moral hazards and asymmetric information (Panda & Leepsa, 2017).

Jensen (1986) suggests that the indebtedness of a firm as a way to minimize the potential conflict of interest between the shareholders and managers. The justification is the regular interest payments of debt decreases firm's free cash flow which bind managers to use the firm's resource for their own personal use. Similarly Grossman & Hart (1986) indicated that high debt motivates the managers to increase the firm's market value. The reason is if the firm goes bankrupt the managers lose the perquisites of their position. Although neither of the theories is complete to solve the debate on the capital structure they are important in financing decisions and in the field of finance literature. Similarly in recent periods issues related to corporate governance and board characteristics is attract the interest of many researches in finance. A brief discussion about corporate governance is presented as follows.

3. CORPORATE GOVERNANCE

The concept of corporate governance has existed for centuries but it was not popular until the 1970s. Then the occurrence of financial crises in the world has placed a big demand for corporate governance principles. The responsibilities and pressures on the board of directors increased than ever before to have divers board, to have independent directors and to be transparent and accountable (Nicholas, 2018). Corporate governance is management that increases the long-run value of a company by solving a conflict of interest between the company and all stakeholders. In addition to solving the conflict of interest, it sets strategic goals for the company, ensures the efficiency of managers and employees and minimizes operational risks by providing efficiency in internal and external audits (Dağlı et al., 2010:19).

The corporate governance is a process, directions and rules that the institutions work to achieve the goal of the organization and manage the relationship between the board members and shareholders (Khan, 2011). According to Raut (2003) corporate governance is a process developed to allocate the corporate resources with the objective of maximizing the values of shareholders, investors, customers, employees and the community at large. According to Organization for Economic Cooperative and Development OECD (1999) the framework of corporate governance should ensure the strategic guidance of the company, the effective controlling and monitoring of management by the board and the accountability of boards to the company and shareholder and the board members should act in the best interest of shareholders.

Also the specific responsibilities of board members may differ according to the articles of company low, activities such as reviewing and guiding the firm strategies, selecting, monitoring and reviewing of the key executives, overseeing the integrity of the firm's accounting system and financial reporting and managing the conflict of interest between management, shareholders and board members are considered as the basic functions of all board. Similarly, according to Maher (2000)since the ownership and control of firms is different across countries there is no single model of corporate governance which used to solve the agency and principal problems.

However, good corporate governance practiced by any firm should apply the core principles of corporate governance that are developed by OECD in 1999 and revised in 2004; fairness, responsibility transparency and accountability[5].

Good corporate governance is a key factor for the efficiency, success and growth of a firm. It decrease the capital cost the company, increase financing opportunities and liquidity, facilitate the ways to overcome crises and increase the competitiveness of the company with other good governing companies.In addition to increasing the capacity of the firm, good governance ensures economic growth of a country by increasing the confidence of investors that results raise in foreign direct investment, increase competitiveness in the capital market and economy, reduce capital outflows, rapid recovering from crises (Dağlı et al., 2010:19).

In the literature it is stated that good corporate governance is promoted by having divers board members. The diversity of a board in terms of gender, age, ethnic, nationality, educational status etc has a great advantage for the board of the firm. But the diversity should not be for the sake of diversity rater the skill and knowledge of different members of the board should be considered. Strongly coordinated heterogeneous board members can result sharing of abilities and experiences, effective decision makings and reflection and sharing of values (Nor Shaipah, 2018).

The board of directors is an elected group of people by the company's shareholders who must act in the best interest of shareholders and company. The board should be organized in such a way that the all member of the board play a great role in decisions. Chairman is the head of board of directors appointed by the members of the board. The chairman is responsible to ensure the adequacy of time for the discussion of all issues, to ensure board members have accurate, timely and clear information and to ensure the existence of good communication with shareholders Kershaw (2012). CEO is atop decision-maker of a company to whom all other executives report and accountable. The CEO is accountable for board of directors and required to follow and implement the board's direction and decisions. In other words, the highest level of decision making authority for the firm is in the hands of the board with the chairman, above the CEO (Debra, 2018).

3.1. Corporate Governance Theories

There are several types of corporate governance theories that describe the relationship between the firm and stakeholders while carrying out business activities. The most common theories are briefly discussed as follows.

[5]In parallel to the practice in the world, Turkey published the corporate governance principles in 2003 for the purpose of developing the corporate governance environment and integrating the Turkish capital market with the global financial markets. In 2005 the Capital Market Board (CMB) of the country reviewed and finalized the principles (Yenice & Dölen, 2013:201). CMB is a regulatory and supervisory authority has the power to establish the rules regarding the principles of corporate governance practice, to require firms to comply with the established principles and to take actions ex officio in this regard (Annual reports of CMB of Turkey, 2012).

3.1.1. Resource Dependency Theory

Resource dependency theory is developed by Pfeffer & Salancik (1970) deals about the effect of external sources of organizations on organization behaviour. The idea of the theory is, resources are a key factor for the success of the organization and the ability of the organization to access and control these resources is a basic for the success. It focused on role of boards in establishing environmental linkages between the firm and outside resources needed by the firm. According to Hillman et al. (2000) this theory is about the role of directors in providing important resources such as skill, information, access to key stakeholders like suppliers, buyers, policy makers and social group as well to from the outside environment the firm (Hillman et al., 2000).

3.1.2. Agency Theory

In corporate governance, agency theory is a theory that explains the relationship and the conflict of interest between the directors or management of the firm and the shareholders. In a firm the shareholders want the directors to make good strategic firm decisions and control the manager to manage the firm in a way that maximizes their value. On the other hand the manager may run the firm that does not fulfill the shareholders' best interest. According to Sanjay (2019), this difference is occurred by two situations. First, generally managers have more relevant information of the firm and they have a great risk appetite. On the other hand since shareholders have the access and perform the firm's day to day operation, they may not understand the critical business decisions made by the manager and they are interested in their current and future value of their holdings than considering the long-term growth of the firm. Second, the manager may run the business in a way that maximizes his or her own personal interests. These situations create distrust among the parties. Therefore the corporate governance practices aim to solve the agency conflicts.

3.1.3. Stewardship Theory

The idea of stewardship theory is in contrast with agency theory. According to this theory managers and executives are self-interested to act in the best interest of the firm than in their own self-interest, and they are more motivated and satisfied by the success of the firm. This theory argues that managers and executives are not interested to leave their job when in difficulty rather they are interested in solving problems and maintaining the sustainability of the firm. Thus a diversified investor of the firm may care little about the riskiness of the firm (Düztaş, 2008).

4. LITERATURE REVIEW

There are many studies in the literature that examine the effects of board components on capital structure. Some of these studies are given below.

The study conducted by Ranti (2013) investigated the effect of CEO duality and board size on capital structure by using linear regression analysis. The study took out a sample of 40 companies listed on the Nigerian Stock Exchange from year 2006 to 2011. The researcher used the debt-equity ratio as a dependent variable that measures the capital structure and CEO duality and board size as independent variables.

The result of the study indicated that capital structure is affected negatively by board size and positively by the CEO duality. The researcher concluded that firms with smaller board size have weak corporate governance. Because of this problem firms tend to increase leverage to reduce the agency problem.

Heng &Azrbaijani (2012) analyzed the effect of the board of director features on the capital structure decisions in an Emerging market Malaysia. The study covers 75 non-financial leading firms listed in Kuala Lumpur Stock Exchange (KLSE) for a period between 2005 and 2008. To measure the board of directors, the board size, CEO/Chair duality, the presence of non-executive directors on the board and presence of independent non-executive directors on the board variables are selected. On the other hand, total debt ratio is used as a proxy to measure the capital structure. The results of the study that is made by multiple regression analysis revealed that capital structure is affected negatively and significantly by board size and positively and significantly by presence of independent non-executive directors. On the other hand, the CEO duality has no significant effect on the capital structure. On the contrary the findings of Zabri et al. (2016) stated that there is no relationship between the board structure and capital structure of Malaysian firms. It covers 100 top listed firms in Malaysia for a period from 2008 to 2012.The board structure is measured by the board size and number of independent members. The other study conducted by Ishak et al. (2011) was investigated the effect of board structure and board process on the capital structure of 175 public listed companies operating in Malaysia for a period between 2007-2009. The study collected used a survey approach and secondary data. In the study the board structure is measured by the board size, directors' age and directors' tenure. With regard to the board process, the variables namely boards' risk oversight, CEO's performance evaluation that is undertaken by the board, the performance of independent directors and accessibility of information are used. In addition to these variables firm size and firm age are used as control variables. The finding of the analysis showed that the directors' age has positive relationship with leverage while the directors' tenure has negative relation. Regarding the effect of the board process on the leverage, all the selected four variables of board process have negative effect on the leverage.

Duca (2013) investigated the relationship between corporate governance and capital structure in his study. The study covers 2010 data of 50 companies traded on the Bucharest Stock Exchange. The board size, board independence and CEO duality are used to measure the board characteristics. Additionally firm size is included as a control variable. The results of the regression analysis indicated that the size of the board positively and significantly affects the capital structure whereas and the CEO duality and the board independence have no effect on capital decisions.

The effect of board characteristics on the capital structure of firms in Jordan was analyzed by Jaradat (2015).The study covers 129 non-financial firms for a sample period from 2009 to 2013. In the study board size, board gender, outside director and CEO duality used as independent variables. The capital structure that is the dependent variable is measured by the leverage ratio. Furthermore; firm size profitability, tangibility and return on asset (ROA) are used as the control variables.

The finding of the study indicated that leverage is positively affected by the board size, board diversity and outside directors. But the CEO duality has no significant effect on the leverage. From the control variables, profitability and ROA negatively while the firm size is positively affect the leverage. Similarly Alabdullah et al. (2018) investigated whether the non-executive directors and the board size have an impact on the capital structure decisions. The data is collected from 100 non-financial firms operating in the services and industry sectors of Jordan for the year 2014. The results of the multiple regression indicated that the board size has a negative and significant effect on financial leverage. Whereas, the effect of independent board and industry type on the leverage is not significant.

The study conducted by Elabed & Slim (2017) tried to determine the impact of board characteristics on corporate financial leverage. The study used a multiple linear regression based on a data of 33 Tunisian listed firms for a sample period of 2006 to 2015. In the study, the corporate leverage is measured by total, long term and short term debt ratios. As independent variables, board size, asset tangibility, profitability, ROA, taxes and growth opportunities are used. The empirical findings showed that board size, firm size, growth rate and tangibility are positively and significantly affect debt. While the effects of CEO duality that is used as dummy variable and profitability is negative. On the other hand the boards' independence has no effect on the leverages.

Abor & Biekpe (2006) examined the impact of corporate governance structure on the capital structure of 129 SMEs operating in Ghana between 2006 and 2015. To measure the corporate governance they used board size, board composition, board skill and CEO duality variables. The result of the study implied that capital structure is affected negatively by the board size, while positively by board composition, board skill and CEO duality. Priya & Nimalathasan (2013) conducted a study on the effects of board characteristics on the capital structure of hotels and restaurants operating in Sri Lanka. The study used 5 years data covers form 2008 to 2012. In the study total debt and equity ratios are used to measure the capital structure. The board of directors is defined by the number of meetings held by the board of directors, the inside directors, CEO duality, the board composition and board size. The regression results of the study indicated that the board composition and board size positively related to debt ratio while the CEO duality negatively related. On the other hand, the CEO duality and board composition is positively related to equity ratio. The impact of corporate governance on the leverage of firms operating in Bangladesh is investigated by Uddin et al., (2019). The study covers 63 firms for a sample period between 2003 and 2007. In the study, the board size, board composition, managerial ownership, board independence, CEO duality and institutional owners are used as independent variables. Firm size and ROA also included as control variables. The findings of the study indicated that CEO duality, board size and managerial ownership are the main determinants of capital structure. Another results of the study showed that the political and family relationship with the corporate governance structure has a great influence on capital structure decisions.

Siromi & Chandrapala (2017) analyzed the impact of corporate governance practices on capital structure decisions. The study covers 138 non-financial listed firms operating in Sri Lanka for a period from 2009-2013. With a dependent variable of debt ratio, the independent variables representing the corporate governance, board size, CEO duality, board composition, board committee and managerial ownership are used. Apart from these variables firm size and profitability are included as control variables. The results of multiple regressions revealed that the board composition that represents having of more independent and non-executive directors positively and significantly affect the financial leverage. On the other hand the board committee and managerial ownership showed negative effect, however the effect of managerial ownership is not statistically significant. In addition to these results, the finding of the study suggests that board size and CEO duality have no significant impact on financial leverage.

Tarus and Ayabei examined the impact of the board of directors on capital structure in their study in 2015. The sample of the study consists of the data of 34 firms traded on the Nairobi Stock Exchange. The year covered by the study is the 2004-2012 interval.The finding of the study indicated that leverage is affected positively by director independence and negatively and significantly by CEO duality and CEO tenure. In addition to these results the study proved that, CEO with a longer tenure influence the power of independent directors in capital structure decisions. In the other study conducted by Emoni et al. (2016) the effect of board diversity on the capital structure is analyzed. The study includes 34 firms listed on the Nairobi Security Exchange, Kenya for8 years period. In the study the effect of gender diversity, ethnic diversity and national diversity of the board has been investigated. Results revealed that gender and age diversity has a positive and significant influence on capital structure whereas ethnic and national diversity have negative effect.With the objective of examining the relationship between corporate governance and capital structure Hasan et al. (2009) made a study on 59 non-financial firms listed on Pakistan Karachi Stock Exchange from the period2002 to 2005. The study used multivariate regression analysis. As a result of the analysis, it was found that there is a negative relationship between managerial ownership and equity ratio. In addition, the findings have shown that the independent members and the CEO duality have no effect on the capital structure.

In the case of Turkey, a study conducted by Topaloğlu & Ege (2017) tried to investigate the effect of board characteristics on the capital structure of 16 banks traded in BIST between 2010 and 2014.To the best of our knowledge there is no other studies conducted in Turkey related to this topic. Therefore the present study is different from the other study in two ways. First in the study of Topaloğlu & Ege the board characteristic is measured by only board size and CEO duality variables, but in the present study new and comprehensive variables are used to measure the board composition. Second, the findings on the nature of relationship between variables evaluated from the perspective of corporate governance theories (agency theory, resource dependency theory and stewardship theory) and capital structure theories (trade-off theory and pecking order theory). These objectives make the study different from other studies conducted in Turkey which reveals the originality of thework.

This study is expected to provide potential investors and researchers, an overview on profile of boards in Turkey and also to present a numerical statement regarding the debt levels of the companies. Also with this study; it is aimed to create an important foresight for the relevant interest groups about the effectiveness of sub-components of the boards of directors (ethnic diversity, gender diversity, etc.) in obtaining resources. Thus, this study aims to contribute to the literature by providing information about board composition factors that affect significantly the capital structure decisions in Turkey.

5. HYPOTHESIS DEVELOPMENT

In this part the study the hypotheses about the relationship between leverage and independent variables used to measure the board composition and control variable are developed. The hypotheses are developed based on the existing literature and from the perspectives of capital structure and corporate governance theories.

5.1. Board Size and Capital Structure

The board of directors is one of the most important determinants of effective corporate governance (Ishak et al., 2011:265). This is a group of people who jointly make strategic decisions such as the financial decisions of a firm. According to Duka (2013:129) the board size is expressed by the total number of the board members. Regarding the difference between having large and small board size there are many points forwarded. According to the resource dependence theory, as a board size increase the advantage of getting different knowledge, skill, practice and experience of the board members increase. Moreover, each new member included in the board can be effective to look out the omitted issues by the other members, thus the board can attain the opportunity of making more effective firm decisions (Pfeffer & Salancik, 1978; Ruigrok et al., 2006). In other words, a larger board size hinders the establishment of healthy communication among the board members and makes difficult to arrive at a joint decision (Ishak et al., 2011:265). As a result, there might be a problem in making strategic decisions such as capital structure. Although coordination among the board members is considered as better in small board, in smaller board size the diversity of alternative ideas, experience and knowledge are likely to be limited.

With regard to the relationship between the size of the board and capital structure, in larger board size, the members are not interested to use borrowed resources so that the free cash[6] available in the firm are not restricted. The study of Lipton & Lorch (1992) demonstrated that in larger board size the tendency of board members for using borrowed funds is low. Likewise, Heng &Azrbaijani (2012), Berger et al. (1997), Hasan et al. (2009) and Wiwattanakantang (1999) have found a negative relationship between the number of board members and leverage ratio. Vıjayakumaran & Vıjayakumaran (2019) have expressed that the existence of significant and negative relationship between board size and capital structure.

[6]Free cash flow is the amount of cash that is always available for any purpose in business and has no restrictions on its use (Başar & Azgın, 2016:790).

One of the reasons of having low leverage by firms with large board size, the board members influence the manager not take more debt or risk (Ishak et al., 2011:265). According to the agency theory, the management should be monitored and supervised to act in line with the interests of both the stakeholders and the company. Thus, the management knows to act cautiously even in the matters it is required to decide alone. There are studies supporting this theory in the literature. For example; Abor (2007), Bokpin & Arko (2009) and Ege & Topaloğlu (2009) have stated in their studies that the members had a high tendency toward borrowing in large boards of directors. Differently from these studies, Ishak, et al. (2011) have explained that the number of board has no effect on the leverage ratio. In the light of these explanations, the hypothesis H_1 developed as follows:

H_1: There is a statistically significant and positive relationship between board size and the leverage ratio.

5.2. Diversity and Capital Structure

Diversity (age, gender, ethnic origin, nationality) on boards improves the controlling mechanism of the firms and increases the effective corporate governance. However diversity for the sake of diversity is not enough rather, the board should focus on the knowledge and ideas that the diverse directors contribute to the board (Nicholas, 2019). According to Emoni (2016:141) in order to ensure the effectiveness of the management, the members should have various skills and abilities. According to the resource dependence theory, diversity can be an important mechanism to access the critical resources for the growth of the firm and it increases the problem-solving capacity (Gallego-Alvarez, 2010). With the purpose of improving board performance and diversity, in recent years regulators are encouraging and increasing pressure on companies to add female members on the board. When theoretical explanations observed, diversity is considered as one of the indicators to decrease discrimination and other theories present diversity as a tool to increase the performance of the board. In the resource dependency theory, the presence of directors contributes different valuable benefits to the board. In the literature it is indicated that women directors have the ability to create a link with stakeholders and they bring skill, knowledge and experience to the boardroom that differs from their counter male directors (Terjesen, 2009; Hillman et al., 2007). Concerning the impact of female directors on the capital structure of firms Emoni et al. (2016) have found a positive relationship between gender diversity and capital structure. The researchers stated that female members ask more questions to the management when decisions concerning the capital structure are made thus, more alternatives could be put forward to reach the best external resources. Jaradat (2015) has stated that female directors are more advantageous in finding external resource therefore; firms with female directors on the board tend to use borrowed resources. Based on the existing literature the hypothesis about the relationship between diversity and capital structure is developed as follows:

H_2: There is a statistically significant relationship between female directors and the leverage ratio.

5.3. Foreign Directors and Capital Structure

There are few studies conducted on the impact of foreign directors on the capital structure. For instance, Nguyen (2016) stated that the manipulative practices exercised by the managers are more likely constrained by foreign directors. Moreover, Emoni et al. (2016) have concluded that foreign directors are reluctant to use more borrowed funds. The hypothesis about the relationship between foreign directors and capital structure is developed as follows:

H_3: There is a statistically significant relationship between foreign directors and the leverage ratio.

5.4. Independent Directors and Capital Structure

According to resource dependence theory, business firms are not only entities that try to adapt their environment, but also in order to maintain their sustainability they exert effort to get resources and try to contribute benefits to the environment. Hence, one of the duties of the board of directors is to establish a good relationship with the external environment and providing resources. Under the agency theory and resource dependence theory it is argued that independent directors are important to establish a good linkage between the firm and with external stakeholders (Atılgan, 2017:319-320). In other words, independent directors who do not have any relation with the firm and managers provide a sustainable relation with the external environment (Kılıç, 2014:39).Therefore, it is worth to define the independent members as the most important mechanisms controlling in the businesses (Fama & Jensen, 1983). Moreover, the independent directors play an important role in reducing agency problems (Elabed & Slim, 2017:2).

According to the agency theory, the main duty of the boards of directors is to observe and control managers so as to minimize the possible conflict of interest between the shareholders and managers. Hence, the theory posits that the conflicts of interest between the shareholders and managers can be solved with a board structure with more independent directors. The reason for this is that when the managers or board members make any decision they would affect the benefits of shareholders, then the independent directors should be impartial and act in a welfare of minority shareholders (Atılgan, 2017:319). Additionally the independent directors play a great role in improving the decision-making processes (Elabed & Slim, 2017:2). A capable and experienced independent director should actively participate in the decision-making processes, approach the matters impartially and contribute to the board by presenting independent oversight.

A firm with more independent directors is protected against uncertainties and this increases the ability of a firm to raise external finance (Siromi & Chandrapala, 2017:29). In the literature, different results have been obtained about the relationship between the number of independent directors and capital structure. Abor (2007) has found that firms with a higher number of independent directors use more borrowed resources compared to other firms. Similarly other researchers like Abor & Biekpe (2006), Bokpin & Arko (2009), Tarus & Ayabei (2015), Siromi & Chandrapala (2017) and Jaradat (2015) have found positive relationship between the independent directors and capital structure. On the contrary, Purag et.al. (2016) have demonstrated that independent directors have a negative influence on the leverage ratio.

Other studies conducted by Duka (2013), Priya & Nimalathasan (2013), Alabdullah et al. (2018), Zabri et al. (2016), Hasan et al. (2009) have concluded that independent directors have no influence on capital structure decisions. In light of this information, the hypothesis H_2 is developed as follows:

H_4: There is a statistically significant relationship between the independent directors and the leverage ratio.

5.5. CEO Duality and Capital Structure

CEO is the highest-ranking executive in a firm responsible for the overall firm's activities and accountable to the board of directors. CEO duality refers to indicate when the CEO of a firm also serves as a chairman in the board. The role of CEO duality has been a debated issue among different researchers and it is addressed differently in the agency theory and stewardship theory. According to agency theory, in order to achieve the goal of the firm the responsibility of board of directors and CEO should be separated. This means a firm should not be managed by a single person who has a dual role as board of directors and CEO (Palanissamy, 2015). This theory suggests that CEO duality increases the agency cost, as managers practice to increase their self-own interest even it harms the benefit of shareholders. In other words, when the CEO acts his/her self own-interest, if there is no separate chairman to look out the shareholders, the CEO weakens the controlling power of the board and there would not be transparency. CEO duality can complicate the issues related to CEO succession. Sometimes the individual that holds the two positions may want to retire as CEO but continue the role as the chairman. Although this separates the roles, the chairman may no longer is considered as a new person and the whole board might take sides with the old chairman whom they have relation and history, this may create a conflict of interest (McGrath, 2009).

Stewardship theory rejects the suggestions of agency theory on CEO duality. According to this theory, the purpose of business firm is serving rather than making profit. But to be able to serve, the firm must be economically sustainable and efficient in using of resources by working with stakeholders. Managers of such firms are intrinsically motivated to serve and see themselves as steward of the business rather act their own personal needs and interests (Stephen, 2014). This theory supports the CEO duality where the CEO also becomes the chairman. The justification is since both positions are occupied by a single person the firm needs not to pay more to their new chairman, so the cost of the firm decreases.

Regarding the impact of CEO duality on firms' capital structure, in the literature there are different views have been forwarded. For example, Ranti (2013), Abor & Biekpe (2006), Uddin et al. (2019) and Topaloğlu & Ege (2017) have concluded that there is positive relationship between CEO duality and capital structure. Topaloğlu & Ege (2017) have stated that CEO duality decreases the control and management problems but increases the agency costs. Moreover, the researchers have expressed that, in CEO duality since all power is in the hands of a single person, the possibility of accessing external resources is high and it facilitates decisions related to capital structure.

On the other hand, Elabed & Slim (2017) and Tarus & Ayabei (2015) have stated that CEO duality has a negative influence on capital decisions. In the other studies conducted by Duka (2013), Jaradat (2015), Priya & Nimalathasan (2013), Hasan et al. (2019), Purag et al. (2016) and Siromi & Chandrapala (2017) have demonstrated that CEO duality has no influence on capital decisions. In light of these findings, the hypothesis H_3 is developed as follows:

H_5: There is a statistically significant relationship between CEO duality and the leverage ratio.

5.6. Firm Size and Capital Structure

In capital structure decisions, firm size is one of the important factors that is needed to be considered. With regard to the relationship with the effect of firm size on borrowed resources, different theories have been introduced. According to the trade-off theory, market recognition of large firms is higher compared to small firms. Using their reputation, these firms can easily obtain funds from external sources such as financial institutions (Singh, 2016:1652). Hence, the trade-off theory argues that the tendency of large firms for using borrowed resources will be more compared to other firms. Differently, pecking order theory predicts an inverse relationship between the firm size and borrowed funds. The reason is as the firms grow, their organizational structures become more complex and they are required to disclose more information to the public and this decreases the information asymmetry. Communication difficulties between units bring high costs to businesses while reducing the possibilities of enterprises to benefit from external debt instruments (Gülşen & Ülkütaş, 2012:52).Therefore, larger firms prefer to use more equity than debt. In the literature, different results have been obtained on the relationship between firm size and capital structure. Jaradat (2015), Elabed & Slim (2017), Purag et al. (2016), Abor & Biekpe (2006) and Hasan et al. (2019) have stated that the tendency of larger firms for using borrowed resources is higher. On the contrary, Duka (2013), Siromi & Chandrapola (2017) and Priya & Nimalathasan (2013) have found that there is no relationship between the firm size and capital structure. In light of this information, the hypothesis H_4 is presented as follows:

H_6: There is a statistically significant and positive relationship between the firm size and the leverage ratio.

5.7. Profitability and Capital Structure

Profitability is one of the critical variables that influence capital structure decisions. Because, the part of earned profit is retained by a firm in order to use as an alternative resource against borrowed resources (Singh, 2016:1652). On the topic of the relationship between profitability and capital structure, trade-off and pecking order theories give different explanations. According to the trade-off theory highly profitable firms prefer more debt to so as to get benefits from the tax shield (Elabed & Slim, 2017:2). Moreover, such firms rely more on borrowed resources in order to discipline their managers through periodic interest payments on the debt (Gonzalez & Gonzalez, 2011:6). In support of this suggestion the study of Jaradat (2015), Uddin et al. (2019) have found that profitability increases the use of borrowed funds.

As opposed to the trade-off theory, the pecking order theory argues that profitable firms should carry on their activities through internal financing resources rather than external resources. According to this approach, a firm should use its undistributed profits for meeting its financial need, and in case the internal financing resources are not available, it should resort to external resources (Singh, 2016:1651). In other words, as the profitability increases the borrowing needs of firm will decrease (Uysal, 2010:48). Topaloğlu & Ege (2017), Abor & Biekpe (2006) and Purag et.al. (2016) have concluded that profitability has a negative influence on capital structure. Based on the findings obtained by previous studies hypothesis H_5 is developed as follows:

H_7: There is a statistically significant relationship between profitability and leverage ratio.

6. DATA AND METHODOLOGY

Prior studies have investigated the impact of board structure on the capital structure by using regression analysis. This study follows the existing literature to select the variables and also incorporates factors that are not observed by the previous researches conducted in Turkey. This study used panel data collected from 39[7] firms trade in BIST Corporate Governance Index for a period between 2012 and 2018. All the data is annual data obtained from the financial reports of Public Disclosure Platform (KAP). In the study capital structure that is defined by debt ratio is used as dependent variable. To measure the board structure board size, gender diversity, foreign director, independent director and CEO duality variables are used. In addition to these variables, firm size and ROA are used as control variables. The following Table 1 presents all the variables and their measurement.

[7]As of 18 November 2019, there are 49 companies in the BIST Corporate Governance Index. However due to their different balance sheet and operating structures the analysis excludes banks.

Table 1: The Definition of Variables

	Variable	Model Name	Measurement
Dependent Variable	Debt Ratio	LEV	Total debt divided by total asset
Independent Variable	Board Size	BS	The number of board members
	Gender Diversity	GEND	The number of female directors divided by the total number of directors on the board.
	Foreign Directors	FDIR	The number of foreign directors divided by total number of directors on the board.
	Independent Director	INDPDIR	The number of independent directors divided by total number of directors on the board.
	CEO Duality	DUAL	It is a dummy variable. If a single individual holds a position of CEO and chairman (CEO duality) it is taken as 1 otherwise, 0.
Control Variables	Firm Size	FS	A natural logarithm of total assets.
	Return on Assets	ROA	Earnings after interest and taxes divided by the total asset.

7. MODEL DEVELOPMENT

Regression analysis by using panel data may decrease the bias of omitted variables when their no information about the variables that related to both dependent and independent variables and if the variables have time-invariant values (Hanck et al.,2019).The equation established for panel data is shown below.

$$LEV_{it} = \beta_{0+} \beta_1 BS_{it} + \beta_2 GEND_{it} + \beta_3 FD_{it} + \beta_4 INDPDIR_{it} + \beta_5 DUAL_{it} + \beta_6 FS_{it} + \beta_7 ROA_{it+} e_{it}$$

The definition of dependent and independent variables is given in Table 1 above. In the model, β_0 indicates the coefficient of regression, β_1, β_2, β_3... show the coefficients of independent and control variables, e_i indicates the error. Firms in the same cross-section and the period of time are shown by i and t respectively.

The model is estimated by using the pooled OLS method (Ranti, 2013; Jaradat, 2015). Since doing unit root tests for small T and large N panels, (specially for N<10) can be misleading, thus mentioned test is not applied in our model to prevent spurious regression results (Baltagi, 2008). In order to determine whether there is a correlation between the values of the variables, the autocorrelation test is performed. The test is made by the Wooldridge (2002) test that has a null hypothesis no serial correlation. The test result indicates that the presence of autocorrelation problem. In addition to this test, to test whether the variance of the error term is constant across samples, the heteroscedasticity test is made. To test this problem, the Wald test is used. The result of the test indicates that the null hypothesis of the test that there is no heteroscedasticity is rejected.

To solve the problem of autocorrelation and heteroscedasticity the Driscoll-Kraaystandard error is computed. The results of autocorrelation and heteroscedasticity are available with the results of the regression that is presented in Table 4.

8. RESULTS AND DISCUSSIONS

Table 2 below presents the summary of statistics for dependent, independent and control variables used in this study.

Table 2: Descriptive Statistics

	Mean	Median	Maximum	Minimum	Std. Dev.	Observations
LEV	0.512	0.525	0.969	0.005	0.223	273
BS	8.989	9.000	15.000	5.000	2.204	272
GEND	0.132	0.111	0.556	0.000	0.131	272
FD	0.097	0.000	0.556	0.000	0.142	272
INDPDIR	0.310	0.333	0.571	0.100	0.070	272
DUAL	0.077	0.000	1.000	0.000	0.267	272
FS	9.463	9.471	10.676	7.799	0.655	273
ROA	0.059	0.054	0.995	-0.354	0.100	273

Based on the result of Table 2 above, the mean of leverage is 0.51 with a standard deviation of 0.22.This result indicates that about 50% of the firms' total asset is financed by debt. The mean and standard deviation of board size is 8.98 and 2.20 respectively. The range of board size experienced by the firms is from 15 to 5. The average proportion of female directors is 0.13 with a maximum and minimum value of 0.55 and 0. This indicates that even though in some firms about 50% of the board members are females, in some of other firms there is no female member on the board. In most of the firms used in this study, there is no foreign director. But the average value of foreign directors is about 0.09 with a standard deviation of 0.14. This result implies that the majority members of the firms' board are not foreign directors.

The mean of independent director is 0.31 with a range of 0.57 as a maximum value to 0.1as a minimum value. The maximum value of independent directors (0.57) indicates that in some of the firms half of the board members are independent directors. With regard to CEO duality that is used as a dummy variable in the model, the mean value is 0.07 and the standard deviation 0.26. The ranging of this variable is from 1 to 0. These results indicate that in 7% of the firms the CEO also holds the position of chairman. The mean of the firm size that is measured by the logarithm of the total assets is 9.46 with a standard deviation of 0.65. The difference in firm size ranges from a maximum and minimum value of 10.67 and 7.79 respectively. This result indicates that even though it is not significant, there is a disparity between firms in total assets. The mean of profitability is 0.05 with a range of 0.99 to -0.35. This indicates that there is a great difference between firms under review in profitability.

Table 3 below presents the correlation coefficients between the variables. Leverage is positively and significantly correlated with BS, FD and FS whose degree of correlation is 0.36, 0.28 and 0.40 respectively. This result indicates that the higher board size, a board with foreign directors and large firms tend to use more leverage.

On the other hand, the three variables namely GEND, DUAL and ROA negatively correlated with leverage with a correlation coefficient of -0.14, -0.03 and -0.43 respectively. This implies that a board with highly gender diversity, CEO duality and highly profitable firms tend to use low less debt. From the results of the correlation, there is no high correlation between leverage and the independent and control variables.

Table 3: Correlation Coefficients Between Variables

	LEV	**BS**	**GEND**	**FD**	**INDPDIR**	**DUAL**	**FS**	**ROA**
LEV	1							
BS	0.359***	1						
GEND	-0.141**	-0.217***	1					
FD	0.280***	0.329***	-0.202***	1				
INDPDIR	0.014	-0.273***	-0.057	-0.065	1			
DUAL	-0.035	-0.055	-0.141*	-0.156**	0.045	1		
FS	0.404***	0.390***	-0.269***	0.093	0.200***	0.138*	1	
ROA	-0.434***	0.024	-0.034	0.060	-0.134*	-0.022	-0.154**	1

The ***,** and * denotes the significance level at 1%, 5%, and 10% respectively

Among the independent variables, there is no high correlation between explanatory variables. Therefore, the data has no multicollinearity problem. Table 4 below reports the results of regression analysis that is made to determine the relationship between board structure and capital structure of firms under review. As it is indicated in the previous parts of the paper all variables have expected sign or hypothesis. The first eight rows of the table show the coefficients of selected explanatory variables and the last three rows present the results of heteroscedasticity and autocorrelation.

Based on the estimated results of Table 4 below, the effect of board size on the capital structure is positive and statistically significant at 1%-degree level. A unit increase in board size increases the firms' debt by 0.02. A unit increase in board size increases the firms' debt by 0.02. The positive impact of board size on the capital structure may be because of larger board size may demand external finance for firm expansion and aggressive implementation of investment opportunities. The other reason for positive effect of board size on the capital structure explained by researchers such as Jensen (1986), Berger et al. (1997). The explanation given by these researchers is, in a larger board size there might be a problem of giving common decision and it increase the conflict. As a result, the corporate governance practice of the firm weakens and leading to higher level of leverage. Based on this result the first hypothesis of this study that assumed the positive relationship between board size and capital structure is accepted.

Even though it is not statistically significant, the impact of gender diversity on the firms' capital structure is negative with a coefficient of -0.02. This indicates that increasing the female number in the board will decrease the leverage of the firm. In literature, it is pointed out that, a board with great diversity makes optimal strategic decisions. Similarly, a study conducted by Dang et al. (2014) proved that in firms that have more gender-diverse board directors are more likely to receive equity-based compensation. The result of this study is similar to the conclusion of Dang et al. (2014) and Jaradat (2015). The second hypothesis about the positive relationship between gender diversity and capital structure is rejected.

Table 4: Regression Results

Variable	Coefficient
C	-0.423*** (0.049)
BS	0.019*** (0.002)
GEND	-0.017 (0.047)
FDIR	0.328*** (0.026)
INDPDIR	-0.083 (0.082)
DUAL	-0.031 (0.041)
FS	0.086*** (0.008)
ROA	-0.926*** (0.146)
Adjusted R^2	0.397
Wooldridge	13.415***
Hetrosce Wald	32598.93***
Total Observation	273

Robust standard errors are reported in parentheses and ***,** and * denote the significance level at 1%, 5% and 10% respectively.

In addition to gender diversity the other variable that indicates the presence of board diversity is board nationality. The result of Table 4 above shows, the presence of foreign directors on the board has a positive and at 1% statistically significant effect on the leverage. This finding is opposite to the findings of Emoni et al. (2016) that got a negative relationship between national diversity and leverage in listed firms in NSE. In literature and theories such as resource dependency theory suggested that board diversity can be a solution for the problem of accessing resources that are important to the success of the firm.

Although studies about the effect of foreign directors on the capital structure are very limited, the positive effect of foreign directors on firm's performance has been explained. For instance, Nguyen (2016) indicated that the presence of foreign directors on a board is more likely to constrain the manipulative practices exercised by the managers. The third hypothesis of this study about the positive relationship between foreign directors and leverage is accepted.

The effect of independent directors on firms' leverage is negative and statistically not significant. This implies the higher number of independent directors in the board tends the firm to use less debt. When the statistics result is observed in the firms about 31% of board members are independent directors. But this director does not have a significant influence on the firms' leverage. This implies that most of the independent directors are may not be impartial or they have a connection with the owners of the firm. Moreover, this result is opposite to the prediction of agency and resource dependency theories.

Generally, independent directors are supposed to improve corporate credibility, act in the best interest of owners and ensure the good governance of the company. Overall the result of Table 4 above shows the more independent directors lead to the less use of debt and rise of equity financing. The result of negative effect of independent directors on leverage may indicate that, in a firm with weak corporate governance, managers can voluntarily raise more debt in order to reduce the agency conflict Florackis &Ozkan (2009). The finding of this study is similar to Alves et al. (2014). Similarly the impact of CEO duality on the capital structure is negative but not statistically significant. This implies that in a firm with a unitary leadership structure or when a single individual holds the position of CEO and chairman the leverage will decrease. The fifth hypothesis that expects the positive relationship between CEO duality and leverage is rejected. This result is consistent with the findings of Priya & Nimalathasan (2013) and Ganiyu & Abiodun (2012).

The two common determinates of capital structure that is used as control variables are the firm size and ROA have different effect on the leverage. The effect of firm size is positive and statistically significant at 1 % degree level. A unit increase of firm size in terms of total assets tends to increase the debt by 0.08. The positive association of firm size and capital structure is suggested by trade-off theory. The theory suggested that generally large firms considered more diversified with stable cash flow than small firms. Additionally, large firms have better access to get credit compared to smaller firms. Therefore, the probability of bankruptcy is less. On the other hand, this result contradicts the developed hypothesis of this study that expects a negative association and with the expectation of pecking order theory. This theory assumes that since large firms required to provide more information to outsiders the information asymmetric and cost of adverse selection problems is less. Thus they prefer issuing equity than debt.

The other determinant of capital structure is ROA. This variable has a negative statistically significant impact on the leverage. The magnitude of the coefficient and the degree of significance of the ROA indicate that the profitability of the firm is an important factor in determination of capital structure.

This implies that highly profitable firms in Turkey use less debt than less profitable firms. This result is similar to the findings of (Rajan & Zingales, 1995; Jaradat, 2015) and consistent with the prediction of pecking order theory. This theory justifies that firms have order of preference to finance investment opportunities. The first preference is retained earnings, followed by debt than equity financing. Therefore, profitable firms generally have more retained earnings; they prefer internal financing than debt.

CONCLUSION

In this paper the impact of board composition on the capital structure of firm currently listed in BIST Corporate Governance Index is investigated. The novelty of this study is in the following two ways. The first difference of this study is, new and comprehensive variables that are not observed in previous studies in Turkey used to measure the board composition. Second, the findings of the study are evaluated through the lens of corporate governance theories (agency theory, resource dependency theory and stewardship theory) and capital structure theories (trade-off theory and pecking order theory). The study used panel data analysis based on annual data for the period 2012-2018. In the analysis debt ratio is used as a proxy of capital structure. Independent variables are foreign directors, female directors, independent directors, CEO duality and board size. Control variables are firm size and return on assets.

The findings of the study indicate that board size has statistically significant and positive effects on leverage. According to the results, different experiences, knowledge, different ideas and perspectives of each member in large board of directors can lead to make better decisions on strategic issues. In addition, in the board of directors with a large number of members, each member can use their personal connections to establish a relationship with the external environment and provide required resources as well.The positive association between board size and capital structure is similar with Abor (2007), Bokbin and Arko (2009), Duca (2013), Topaloğlu and Ege (2017) and disagree with Heng and Azrbaijani (2012), Berger et.al. (1997), Hasan at.al. (2009) and Wiwattanakantang (1999). Differently from these studies, Ishak, et al. (2011) have explained that the number of board has no effect on the leverage ratio.

The results of the analysis showed that there was no statistically significant relationship on the leverage ratio of female members. As a general diversity inherent need for women members in Turkey it is caused by external rather than a driving force of the orientation. This situation, which is called "tokenism" (the presence of a small number of female members on the board of directors) in foreign literature, arising from the need to respond to external pressures rather than the internal need of the companies, also causes important problems. Kanter (1977) stated that female members in important positions but few in number due to tokenism may be exposed to social isolation and exclusion and cause a lack of synergy in boards of directors. Such a situation also hinders the effective and productive work of women members, who are already on the boards of directors, in a small number (Atalay and Aktaş, 2020).

Concerning the impact of female directors on the capital structure of firms Emoni et al. (2016) and Jaradat (2015) have found a positive relationship between gender diversity and capital structure.

In addition to gender diversity the other variable that indicates the presence of board diversity is board nationality. Effect on leverage ratio of foreign directors is positive and statistically significant. Ethnic diversity brings different experiences, expertises, knowledge and perspectives. This diversity together with the different cultural experiences of board members can provide different suggestions to take more effective strategic decisions. Also foreign members who are more competent at the international markets; can help to accelerate the process by acting as an intermediary between the company and foreign banks and financial institutions on providing funds. There are few studies conducted on the impact of foreign directors on the capital structure. For instance, Nguyen (2016) stated that the manipulative practices exercised by the managers are more likely constrained by foreign directors. Moreover, Emoni et al. (2016) have concluded that foreign directors are reluctant to use more borrowed funds.

The effect of independent directors on firms' leverage is negative and statistically not significant. The reason for this may be the low number of independent members on the boards of directors because most companies in Turkey are family businesses. In such companies, board of directors is managed by family members and family members who are in the majority tend to dominate the decision making process, thus making independent members remain passive. Like female members, it can also be said that independent members are for show in Turkey. Although they are identified as independent members in the board; in fact, they are not independent, as stated in the literature. The result of this study is similar to the conclusion of Duka (2013), Priya and Nimalathasan (2013), Alabdullah, et.al. (2018), Zabri et.al. (2016), Hasan et.al. (2009). Abor & Biekpe (2006), Bokpin & Arko (2009), Tarus & Ayabei (2015), Siromi & Chandrapala (2017) and Jaradat (2015) have found positive relationship between the independent directors and capital structure. On the contrary, Purag et.al. (2016) have demonstrated that independent directors have a negative influence on the leverage ratio. Similarly, the impact of CEO duality on the capital structure is negative but not statistically significant. The result of this study is similar to the conclusion of Duka (2013), Jaradat (2015), Priya and Nimalathasan (2013), Hasan et al. (2019), Purag et al. (2016) and Siromi & Chandrapala (2017). Elabed & Slim (2017) and Tarus & Ayabei (2015) have stated that CEO duality has a negative influence on capital decisions. Also, Ranti (2013), Abor and Biekpe (2006), Uddin et al. (2019) and Topaloğlu & Ege (2017) have concluded that there is positive relationship between CEO duality and capital structure.

The two common determinates of capital structure that is used as control variables are the firm size and ROA have different effect on the leverage. The effect of firm size is positive and statistically significant. Big firms have a lot of recognition in the market. Therefore, such companies can easily obtain the funds they need from banks and other financial institutions by using their reputation. The result of this study is similar to the conclusion of (2015), Elabed & Slim (2017), Purag et al. (2016), Abor & Biekpe (2006) and Hasan et al. (2019).

Duka (2013), Siromi & Chandrapola (2017) and Priya & Nimalathasan (2013) have found that there is no relationship between the firm size and capital structure. The other determinant of capital structure is return on asset. This variable has a negative statistically significant impact on the leverage. Profitable companies may want to keep some or all of their revenues in the firm. In this case, instead of using external sources, firms can meet the funds they need from the internal financing sources.The high profitability signifies that the shares allocated from the profit will be higher. Therefore, profitable companies will turn to external financing resources if only their internal financing resources are not sufficient. In other words, compared to other companies, there would be a lower debt level for companies with high profitability. The positive association between return on asset and capital structure is similar with Topaloğlu and Ege (2017), Abor and Biekpe (2006), Purag at.al. (2016). Also, Jaradat (2015), Uddin et al. (2019) have found that profitability increases the use of borrowed funds.

The findings of the study indicate that board size, foreign directors and firm size have statistically significant and positive effects on leverage. On the other hand; female directors, independent directors, CEO duality and ROA have a negative effect on leverage. However, among these factors, only ROA has a statistically significant effect. The findings about the impact of board size and CEO duality are consistence with agency theory whereas, the result of foreign directors support the resource dependency theory. The findings of this study have important implications for managers, shareholders and board of directors. The board members should focus on important factors of board composition in capital structure decisions. The shareholders should be careful during selecting the board members who have an ultimate authority on the value of shareholders holdings. In future studies, it would be good if investigations on the impact of age and educational status of board of directors, executive directors and CEO tenure on the capital structure are made.

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