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Corporate Governance and Firm Value: Evidence From Lodging Companies

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Abstract

This study examined the relationships and interactions between corporate governance and firm values of lodging companies with different characteristics. The companies were analyzed separately using a classification and regression tree (CRT) analysis. The analysis results did not show a direct relationship between value and governance, yet that does not mean there is no relationship between them. When the companies' governance scores were similar, corporate governance showed no distinguishing variable on firm value but is a hygiene factor. The analysis also found negative relationships between value and size. This may be important in preventing companies from becoming cumbersome. Also, positive relationships were found between value and the debt ratio of the lodging companies from the most valuable brands. This relationship showed the significance of using the debt ratio as a control tool in evaluating management performance.

Keywords: CRT analysis, hygiene factor, debt ratio, firm size, lodging companies

Introduction

The technical innovations brought by the Industrial Revolution changed company structure and management patterns. These technological developments helped the growth of companies that were able to increase productivity and created the need for a more professional management team. The professionalization of business management required the separation of managers from those who provided capital for the company. This division between those responsible for management and those who focused on keeping the companies funded led to a business culture with competing priorities (Fama & Jensen, 1983a). Jensen & Meckling (1976) described the conflict caused by these differences in purpose and priorities between the decision-makers and the risk-takers the *agency problem*. The agency problem may occur between managers and owners or between shareholders and company lenders (Jensen & Smith, 1985). There were also conflicts of interest arising from the exercise of rights between large and small shareholders (Claessens et al., 1999; Shleifer & Vishny, 1997). Finally, *stakeholder theory* was another term that arose out of the need for companies to be responsible to stakeholders while being considerate of other important interest groups (Freeman & Reed, 1983).

Protection of the rights between the parties or prevention of the violations of those rights to ensure sustainability and success of business activities are only possible by maintaining the balance between the parties. The need for the existence of a system based on mutual trust played an important role in the emergence of a new understanding to resolve the conflicts of interest between the parties or to maintain the balance between the parties. This emerging understanding is expressed as corporate governance, which is considered effective both in resolving conflicts of interest and preventing violations of rights by serving all companies. Corporate governance could be described as a set of rules that contribute to the fulfillment of the obligations of all parties in the business operating system along with the framework of honest, fair, transparent, and responsible operating principles by protecting the business interests and, in fact, the rights of all stakeholders.

Tourism is an industry that operates within with a very wide network. According to Goymen (2000), within the framework of the multilateral relationship network, tourism interacts with many sectors concurrently. This interaction of the tourism sector makes important contributions to the economies of countries. Their contribution to the economies of the countries increases the foreign exchange income, raises employment, increase regional development levels, improves balance of payments, and increases per capita income (Furmolly & Kırkulak-Uludag, 2017). Nonetheless, the tourism sector must deal with the problems arising from the structure of the sector even though it provides important contributions. The fixed capital intensiveness of the investments made in the tourism sector is one of the primary financial problems. Given the high levels of initial investments of the enterprises in the sector, especially the lodging companies, the return periods of these investments that spread over a long period of time, as well as the renewal investments that appear in shorter periods typically account for crucial difficulties of the sector (Civan & Cenger, 2013; Kandir et al., 2007). Other difficulties include the rapid impact of the developments in the economic, political, and social areas on the sector, high level of uncertainty, problems arising from operational cost control, low-profit margins, and high exchange rate risk (Goymen, 2000; Kahilogulları & Karadeniz, 2015).

Corporate governance is a process that contributes to the coordination and supervision of both external and internal operations to achieve business targets effectively and efficiently. The investments made on corporate governance principles and practices by companies in the tourism sector hold an important place in the economy and are expected to play crucial roles in resolving certain problems of the sector.

Adopted in 2011 and enforced from 2012, the new Turkish Commercial Code has been drawn up to include corporate governance principles (Nazlıoğlu & Özerhan, 2016). The corporate governance practices of Borsa Istanbul (a stock market, BIST) lodging companies was expected to improve as the Turkish Commercial Code adopted the implementation of corporate governance principles while regulating the law of partner firms.

This study sought to contribute to the literature by comparing two groups of lodging companies with different characteristics and corporate governance levels. The first contribution of this study is that corporate governance is a hygiene factor for companies with similar level of corporate governance practices. The second contribution of this study is the existence of a relationship between firm value and debt ratio in lodging companies with the most valuable brands.

The primary purpose of this study was to examine the corporate governance practices of the selected lodging companies and to compare the corporate governance practices of BIST lodging companies and the lodging companies from the most valuable brands by developing a corporate governance rating. Within the framework of the legal regulations in Turkey in 2011, BIST lodging companies had demonstrated progress in corporate governance practice. The corporate governance practice of the lodging companies from the most valuable brands had also fulfilled the requirements of the legal framework. Differences between the levels of corporate government practice had also been observed between these two groups of lodging companies

The second purpose of this study was to utilize a CRT analysis to try to estimate the relationships and interactions between the firm values, corporate governance, and any other relevant variables of these two groups of lodging companies. A direct relationship between the firm value and corporate governance practices could not be obtained in both groups of lodging companies. However, the findings show that only the corporate governance score is not a discriminating variable among companies with similar corporate governance practices, rather than showing that there is no relationship between the two groups. We conclude that this is due to the understanding of the importance of corporate governance not in its presence but in its absence.

Firm size was found to be an important variable for both groups of lodging companies on their firm value, and a negative relationship was found between firm value and size. Also, the increase in the debt ratio, like firm size variable was determined to contribute to the increase in the value of the firms for the lodging companies from the most valuable brands. This could have arisen from the use of debt ratio as a mechanism to control the managers. The study has five sections guided by framework of the research objectives. In the second section, a literature of corporate governance is presented. In the third section, the research method, sample, and dependent and independent variables are introduced. In the fourth section, the findings obtained from the CRT analyses are presented. Finally, the results limitations of the research, and recommendations for future research are presented.

Literature Review

Changes in industrialization and business structures have begun to attract attention to the relations among right-holders and have led to the constitution of the corporate governance framework over time. Thus, the conflicts of interest that arise in the relations between the right-holders and the costs caused by these conflicts have resulted in the emergence of basic studies conducted on investor protection and legal regulations (Fama & Jensen, 1983b; Jensen & Meckling, 1976; Jensen & Smith, 1985; Shleifer & Vishny, 1997).

There have been many studies in the literature that examine the relationships of either all corporate governance practices or some features of corporate governance with the firm value (Tobin's Q, market to book), firm performance (Return on Assets [ROA], Return on Equity [ROE]), and stock returns (Earning Per Share [EPS]). Karpoff et al. (1994) analyzed the relationship between corporate governance structure and performance criteria (ROA, Market Value/Book Value). They found a positive relationship between the behavior of maximizing the interests of the shareholder and the performance criteria of the company, whereas a negative relationship was found with the corporate provisions. Core et al. (1999) concluded that firm performances (ROA) of companies with weak corporate governance structures were poor. Claessens et al. (1999) stated that high cash-flow rights were pertinent to a higher market value of firms in the Western Asian countries,

whereas higher control rights were associated with lower market values. Gompers et al. (2003) found an increase in stock returns and firm values of the companies with strong shareholder rights, whereas he found a decrease in capital costs and hostile takeovers.

Klapper and Love (2002) examined the relationship of corporate governance level with operational performance (ROA) and market value (Tobin's Q) in 25 developing countries, and a positive association was obtained between corporate governance and operational performance as well as market value. Black et al. (2006a) detected a positive correlation between the corporate governance indexes and the firm values (Tobin's Q, market value/book value) of companies traded on the Korean Stock Exchange. Black et al. (2006b) explicated the relationships between the corporate governance levels and the firm values (Tobin's Q) of companies in Russia and obtained evidence of an important relationship. Silva and Leal (2005) revealed positive relationships between the firm values and corporate performances of companies in Brazil. Maury and Pajuste (2005) found an adverse relationship between shareholder concentration and firm value. Brown and Caylor (2006) obtained a positive association between firm value and corporate governance score. Chong and Lopez-de-Silanes (2006) analyzed the relationships of the corporate governance indicators of 159 companies traded on the Mexican Stock Exchange with firm value, firm performance, and dividend payments, and found that the corporate governance had significant effects on firm value and firm performance. They also determined that the 25 most valuable and profitable companies made the highest dividend payments.

Black et al. (2012) detected significant associations between the corporate governance levels and their firm values of Brazilian companies. Bebchuk et al. (2009) found a negative relationship between firm value and governance provisions. Gupta et al. (2009) concluded that the corporate governance rankings of companies operating in the Canadian capital market were not related to the firm value, firm performance, nor the market response of annual disclosures. Balasubramanian et al. (2010) detected a positive association between corporate governance indexes and firm values of public enterprises in India. Chen et al. (2012), investigating the association between the insider managerial ownership ratings and hotel performances of hotel enterprises traded on the Taiwan Stock Exchange; found that the increase in the level of managerial ownership accounted for the increase in hotel performance values. Kula and Baykut (2014) found a significant and positive association between the market value of the companies in the BIST corporate governance index and their corporate governance rankings. Ararat et al. (2017) detected a strong association between corporate governance and firm market values within the BIST enterprises.

Buallay et al. (2017) found that corporate governance did not have a significant impact on firm performance and concluded that the largest shareholder ownership has no impact on firm performance (ROE, ROA, Tobin's Q). Mishra and Kapil (2018) found that market-based measurements (Tobin's Q) were more affected by corporate governance than accounting-based measures (ROA). Mardnly et al. (2018) examined the relationships between corporate governance provisions and firm performances (ROE, EPS). They revealed that ownership concentration, as one of the corporate governance elements, was the only crucial factor in determining the performance of companies in Syria. They claimed that this positive effect mainly stemmed from foreign ownership.

Puni and Anlesinya (2020) analyzed the relationship of corporate governance mechanisms with both market-based and accounting-based measurements and found a positive relationship between the board size and the frequency of board meetings, shareholder concentration, and financial

performance; whereas a negative association with the presence of board committees. Mariana et al. (2020) examined corporate governance perception index and profitability on firm value in Indonesia Stock Exchange, finding a partial and significant effect. Junaid et al. (2020) examined the relationship between corporate governance mechanism and firm performances of insurers in Pakistan Stock Exchange and found that ownership concentration, firm size and age positive impact on firm performance, but board composition, executive compensation and leverage are negative impact on firm performance.

Methods

In this study, the CRT analysis were used to reveal the structure and explain the interaction between independent variable(s) and firm value. CRT analysis is a technique to describe explanatory variables and their interactions—important for determining an outcome or dependent variable. The CRT analysis is a non-parametric analysis technique that does not require any assumptions. Dependent variables used in the analysis can be either categorical or continuous. Classification trees were to be used if the dependent variable was categorical, whereas regression trees were to be used if the dependent variable was continuous (Breiman et al., 1984; Yohannes & Webb, 1999).

The CRT analysis constitutes a tree by predicting the interaction of independent variables on the dependent variable. At the beginning of the tree building process, all observations are placed on the parent node. The node following the root node is split into two sub-nodes that are more homogenous than the root node. The splitting process is repeated until each sub-node on the tree is divided into its own sub-nodes. In cases where further splitting cannot be achieved on the tree, terminal nodes are formed, thus a large tree built by completing the process with the resulting nodes and terminals (Steinberg, 2009; Yohannes & Webb, 1999). The resulting tree can be a very large tree or a smaller tree. The large tree renders the estimator of the error rate low while making the relations on the tree difficult to comprehend. If the resulting tree is too large, the branches are pruned, and an optimal tree is obtained. The resulting tree structure makes it possible to estimate the predictor variables affecting the dependent variable and explain the interactions between the dependent variable and the predictor variables; and the structure between the dependent variable and the predictor variables are revealed (Yohannes & Webb, 1999).

The CRT analysis is a technique that is practical to use and easy to understand and interpret. It has advantages such as being unaffected by logarithmic transformations, isolating outlier values, and deviations in a separate node. It also provides an estimate of the misclassification rate and uses the best available information if values are absent in the dataset. Another advantage is its ability to reveal unpredictable interactions between variables compared to traditional multivariate methods (Gepp & Kumar, 2015; Lewis, 2000; Timofeev, 2004). Nonetheless, minor changes that could occur on the main tree caused significant discrepancies in the tree, and so unstable trees are formed. The formation of unusable trees was a shortcoming of the technique (Breiman et al., 1984). Also, the inability to make predictions associated with confidence interval as in parametric techniques was expressed as another shortcoming of the technique (Timofeev, 2004; Yohannes & Webb, 1999). CRT analysis was preferred in this study because its method predicts the interaction of variables on a tree by data sets that have neither a normal distribution nor are affected by logarithmic transformations.

Sample and Data

In this study, six lodging companies in the BIST tourism index in Turkey and six of the 10 lodging companies with the most valuable brands as determined by Brand Finance Directory (2016) were analyzed separately. For the years 2011-2015, the interactions between the corporate governance score (and other variables) on the firm values of both groups of lodging companies were examined. Table 1 for the titles of the lodging companies within the scope of the analysis. The numerical values of the dependent and independent variables utilized in the study were obtained from the Thomson Reuters EIKON financial database.

Table 1. Lodging Companies Included in the Analysis

Lodging Companies in the BIST Tourism Index	Lodging Companies with the Most Valuable Brand
Eurasia Petroleum and Touristic Facilities Investment, Inc.	Accor Hotels Group
Marmaris Altinyunus Touristic Facilities, Inc.	Hilton Worldwide Hotel Holding, Inc.
Martı Hotel Operations, Inc.	Hyatt Hotels Corporation
Net Tourism Trade and Industry, Inc.	Intercontinental Hotel Group
Tek-Art Construction Trade Tourism Industry and Investments, Inc.	Marriott International Hotels, Inc.
Utopya Tourism Construction Management Trade, Inc.	Wyndham Worldwide Hotel

Measurements of Variables and Descriptive Statistics

The firm value was selected as dependent variables, whereas independent variables consisted of the corporate governance score, free-float rate, largest shareholders rate, net profit margin, debt ratio, firm size, firm age, and the number of years since original listing.

In the analysis, *Tobin's Q* value was used as a firm value (performance) measurement. The Tobin's Q obtained approximated Tobin's Q calculation used by Chung and Pruitt (1994). Tobin's Q value is considered an indicator of the competitiveness of a company or the growth opportunities of the company for its shareholders. Many studies in the literature examined the association between firm value and corporate governance (Ararat et al., 2017; Balasubramanian et al., 2010; Black et al., 2006a; Gompers et al., 2003; Klapper & Love, 2002; Silva & Leal, 2005; Tsai & Gu, 2007). In this study, Tobin's Q value was used as a firm value measurement.

Corporate governance score (the main independent variable) served as a criterion to determine the corporate governance practice performance of the companies. Corporate governance principles guidelines were determined based on Capital Market Boards of Turkey (CMBT) in 2003, itself an extension of OECD' corporate governance. CMBT corporate governance principles consisted of four sub-indices: shareholder rights, disclosure and transparency, stakeholders, and board of directors. First, compliance reports of corporate governance principles from the company annual reports were examined. Then, to find the corporate governance score of the lodging companies, answers were sought within the framework of capital market boards governance principles. The responses were evaluated by scoring *1 point* for positive answers and *0 points* for negative answers. The totals were obtained by multiplying the responses to the questions of each section to their section weigh—resulting in calculations between 0 and 100.

The BIST corporate governance index was created in 2007. However, lodging companies had not yet been included in the Corporate Governance Index. Therefore, Vestel Electronics Industry and Trade, Inc.—which was included in the scope of BIST corporate governance index and received the highest score—was taken as the reference company for the firm subjected to analysis; and its

5-year corporate governance score was calculated. These scores were compared with the scores of the relevant years made by Institutional Shareholder Services Inc and SAHA Corporate Governance and Credit Rating Services Inc. We found these scores to be relatively low compared to the ratings given by the grading companies.

The values of the companies with high corporate governance scores, which also conduct corporate governance practices, were expected to be high as well. Examples of both positive and significant relationships between corporate governance scores and firm value are found in the literature (Abdallah & Ismail, 2017; Ararat et al., 2017; Balasubramanian et al., 2010; Black et al., 2006a; Black et al., 2012; Brown & Caylor, 2006; Gompers et al., 2003; Klapper & Love, 2002), as well as studies relationships between corporate governance scores and the firm value to be insignificant (Gupta et al., 2009; Silva & Leal, 2005).

Free float rate provides information about the concentration in the partnership structure of the companies (Bostanci & Kilic, 2010). Findings in the literature also detected an adverse and insignificant association between free-float rate and the firm value (Ararat et al., 2017; Bayrakdaroglu, 2010; Silva & Leal, 2006).

The largest shareholder rate is a variable used to measure the effectiveness of ownership structure on firm performance, corporate governance, and business behavior (Pedersen & Thomsen, 1997; Yurtoglu, 2000). This largest variable produced many other findings as well. For example, in some studies it was used as the concentrated ownership variable; others detected an adverse association (Abdallah & Ismail, 2017; Claessens et al., 1999; Lozano et al., 2016; Maury & Pauste, 2005; Yurtoglu, 2000); some found an affirmative association between the concentrated ownership and firm value (Bayrakdaroglu, 2010); whereas other studies detected no significant association (Acaravcı et al., 2015; Durak & Taskin, 2014).

Net profit margin refers to the profit earned from the companies' sales (Gitman, 2009). The literature review uncovered studies that determined firm values of companies with high profitability are higher (Balasubramanian et al., 2010; Kula & Baykut, 2014).

Debt ratio measures the share of financial sources provided by creditors against the total assets (Gitman, 2009). Williamson (1988) reported that the increase in the leverage can be seen as a type of corporate governance control mechanism to reduce conflicts between the manager and the shareholder as well as a kind of prestige and reliability indicator within the company. Moreover, corporate governance is also thought to be an effective instrument in mitigating the problem of free cash flow (Ararat et al., 2017; Balasubramanian et al., 2010; Black et al., 2006a; Black et al., 2006b; Cremers & Nair, 2005; Tsai & Gu, 2007).

Although evidence exists that the rise in the debt ratio has an affirmative and significant impact on firm value (Black et al., 2006a; Cheng & Tzeng, 2011; Gill & Obradoviç, 2012), while others found adverse and insignificant associations between the degree of leverage and firm value (Balasubramanian et al., 2010; Yurtoğlu, 2000).

Firm size is calculated by taking the logarithm of total assets and using it to express the magnitude of the value of firm assets. Numerous studies (Acaravcı et al., 2015; Balasubramanian et al., 2010; Black et al., 2006b; Sarakiri, 2020; Tsai & Gu, 2007) detected adverse associations between firm

value and firm size. In contrast, Mule et al., (2015) reported that firm size had no statistically significant effect on firm value.

Firm age refers to the time elapsed since the establishment of the company and is utilized in a research study to measure the influence of business lifespan on corporate governance and firm value. Brown and Caylor (2006) and Buallay et al. (2017) detected a statistically insignificant association between firm value and firm age, whereas Black et al. (2006a) and Ararat et al. (2017) emphasized that newly-established companies had more opportunities to increase their firm value since they had faster growth opportunities.

The number of years since original listing refers to the time elapsed since the date of the company's initial public offer on the stock exchange market (Loderer & Waelchli, 2012). Some studies detected an adverse (Ararat et al., 2017; Black et al., 2006a) as well as a positive association (Balasubramanian et al., 2010; Leite & Carvalhal, 2016;) between the number of years since original stock exchange listing and firm value.

Table 2 presents the estimation formulas for the dependent and independent variables used in the analysis. Table 3 and Table 4 present the summary statistics for the lodging companies.

Table 2. Dependent and Independent Variables

Variable	Definition
Firm Value (Tobin's Q)	(Market value equity + Preferred stock+ Debt)/Total assets
Corporate Governance Score	Shareholder right score + Disclosure score+ Related party score + Board structure score
Free Float Rate	Percentage of outstanding shares available for trading
Largest Shareholder Rate	Percentage share ownership by largest shareholders
Net Profit Margin	Net income/ Sales
Debt Ratio	Total debt/Total assets
Firm Size	The natural logarithm of assets
Firm Age	The number of years elapsed since the year of the company's establishment
Firm Year	The number of years elapsed since the year of the company's IPO

Table 3. Summary Statistics of BIST Lodging Companies

Variable	Minimum	Maximum	Mean	Std. Deviation
Firm Value	.14	1.62	.67	.38
Corporate Governance Score	35.32	73.09	57.97	10.90
Free Float Rate	.07	.67	.37	.17
Largest Shareholder Rate	.17	.79	.47	.19
Net Profit Margin	-1.42	4.47	.45	1.27
Debt/Assets	.00	.60	.15	.16
Firm Size	3.95	7.44	5.34	1.04
Firm Age	5	48	27.83	12.50
Firm Year	0	28	15.67	9.24

$N = 30$

Table 4. Summary Statistics of Lodging Companies With the Most Valuable Brand

Variable	Minimum	Maximum	Mean	Std. Deviation
Firm Value	.71	3.91	168	.91
Corporate Governance Score	74.27	94.38	87.33	4.89
Free Float Rate	.17	.99	.87	.20
Largest Shareholder Rate	.03	.76	.13	.17
Net Profit Margin	-.10	.67	.10	.13
Debt/Assets	.16	.68	.38	.14
Firm Size	7.94	10.18	8.93	.57
Firm Age	21	90	57.57	22.53
Firm Year	2	68	27.00	24.99

$N = 28$

Research Questions

This study aimed to estimate the effect of corporate governance practices and other independent variables on the firm value of the lodging companies included in this analysis and to explain the interactions between them within the context of the following research questions:

> **Research question 1.** Are the firm values of the lodging companies in BIST and the lodging companies with the most valuable brand affected by corporate governance practices?

> **Research question 2.** Are there any differences between independent variables that influence firm values of the lodging companies in BIST and the lodging companies with the most valuable brand?

Findings

The findings in this section derive from two analyses conducted to estimate the association between firm value and independent variables and to reveal the interactions between the variables by evaluating the data of the lodging companies separately.

Findings of the Variables That Describe the Relationship to Firm Value of Lodging Companies in the BIST Tourism Index

In the first analysis, the results that affected the firm value of BIST lodging companies are presented. In this context, the first CRT analysis was performed for the lodging companies based on 30 observations. The model formed had a total of seven nodes—four of which were terminal nodes (see Figure 1.)

Figure 1 shows the variable that divides the data and influences the firm value of the lodging companies in the most homogeneous way is firm size. The mean and standard deviation of the firm value were calculated as 0.67 and 0.38 in the root node, respectively. The mean and standard deviation of the firm values of companies with firm sizes higher than 4.31 are 0.48 and 0.19, respectively, whereas the mean and standard deviation of firm values of companies with firm sizes lower than 4.31 are 1.20 and 0.24, respectively.

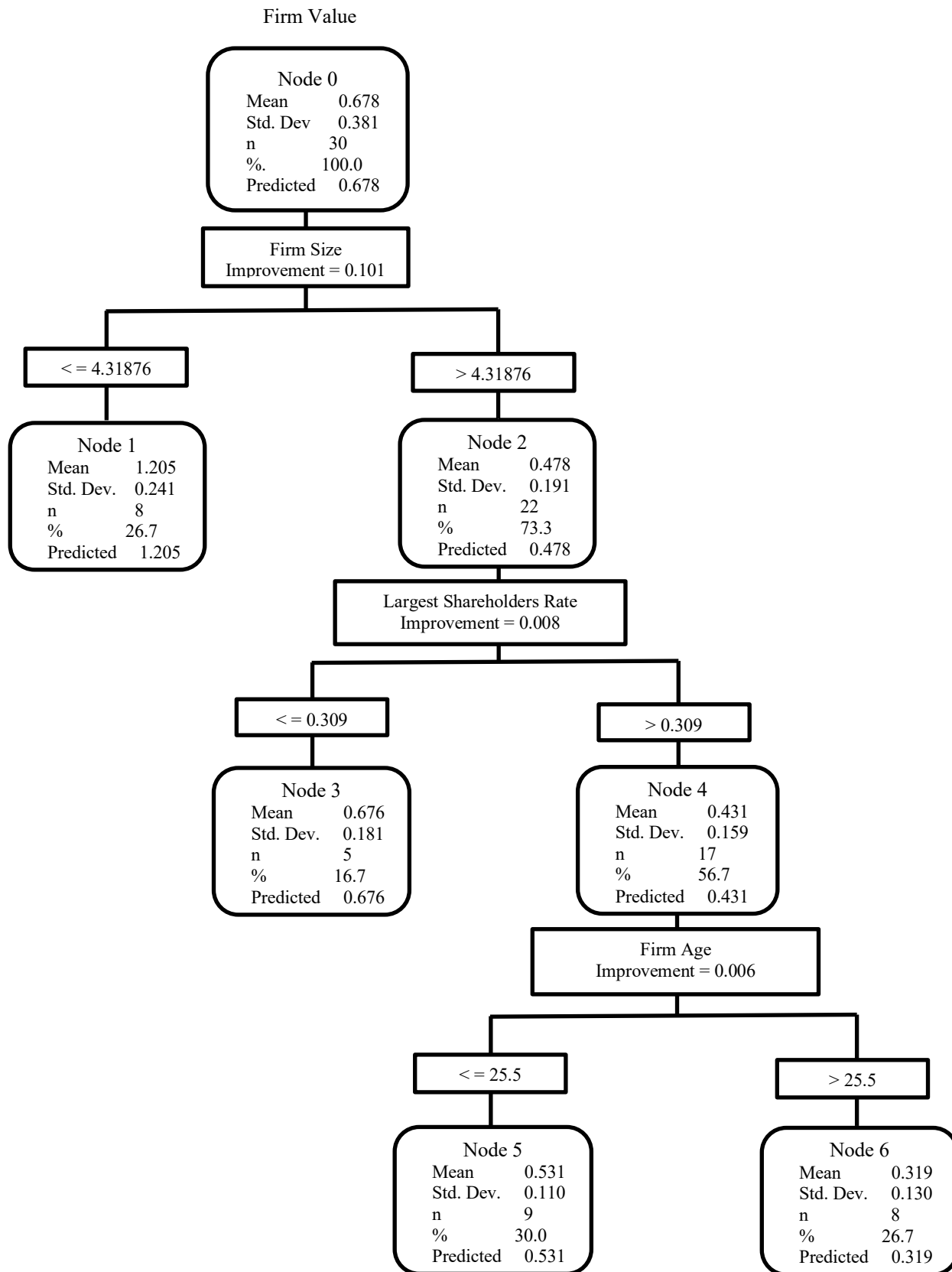**Figure 1.** CRT Analysis Performed on BIST Lodging Companies

Firm Value

Figure 1also shows the companies with the highest mean value of firm are gathered in Node 1, and the companies with the lowest mean value of firm are gathered in Node 6. Companies with the highest mean of firm value in Node 1 are those whose firm sizes are lower than 4.31. The companies located in Node 6 terminal (having the lowest mean of firm value) are the companies with firm sizes higher than 4.31, with the largest shareholders rates higher than 30.9%, and with firm ages more than 25.5 years. In other words, the firm values increased in companies with firm sizes lower than 4.3, whereas firm values tended to decrease in companies with firm sizes higher than 4.3, with the largest shareholders rates higher than 30.9%, and with firm ages more than 25. These findings are consistent with many studies (Acaravci et al., 2015; Balasubramanian et al., 2010; Black et al., 2006a; Tsai & Gu, 2007), concluding a negative relationship between *firm value* and *firm size* in the literature. These findings indicate that small companies tend to create more value than large companies; that is, companies with a high tendency to create value have higher firm values (Kumar, 2015). Besides, researchers have stated that small businesses would have increased their firm values if they had such rapid growth potential (Balasubramanian et al., 2010; Tsai & Gu, 2007).

The companies in Node 3 are the ones with the highest *firm values* following Node 1. The companies in Node 3 are firms with sizes higher than 4.31 and with the *largest shareholder rate* less than 30.9%. The largest shareholder rate below a certain level is crucial for reducing the negative impact of large shareholders in protecting minority rights in corporate governance practices (Klapper & Love, 2002). The low *firm values* of the companies with the *largest shareholder rates* over 30% indicate they are compatible with previous studies that detected an adverse association between *concentrated ownership* and *firm value* (Abdallah & Ismail, 2017; Lozano et al., 2016; Maury & Pajuste, 2005).

Node 5 appears to be consistent with Black et al. (2006a) and Loderer and Waelchli (2012) who reported a negative association between *firm value* and *firm age*. The increase in firm ages in Node 6 decreases the contribution of the company to the firm value; and the companies with lower firm ages in Node 5 contribute more to the firm value.

In the first CRT analysis, the variable that splits the root node (*firm size*) and the variables that split the Node 2 (*largest shareholders rate share* and *firm age*) are located in the tree. The independent variables not included in the tree, but effective in the splitting process in each node, are presented in Table 5. In Table 5 indicates the variables that affect the firm value in the first place and the second place are *firm size* and *debt ratio*, respectively. On the other hand, *net profit margin* and *corporate governance* scores are found to be the least influencing variables.

Table 5. Independent Variable Importance Table of BIST Lodging Companies

Independent Variable	Importance	Normalized Importance
Firm Size	.107	100.0%
Debt/Assets	.090	84.1%
Firm Age	.050	46.4%
Free Float Rate	.041	38.0%
Largest Shareholder Rate	.036	33.5%
Firm Year	.020	19.1%
Net Profit Margin	.009	8.9%
Corporate Governance Score	.003	3.1%

Note. Dependent Variable: Firm Value

Since the two variables that influence the firm value the most are the *firm size* and the *debt/assets ratio* in the relative importance table, findings here are consistent with previous studies reporting an adverse relationship between firm size and firm value (Acaravci et al., 2015; Ararat et al., 2017; Balasubramanian et al., 2010; Black et al., 2006b; Tsai & Gu , 2007) and also studies that found a positive association between *firm value* and *debt/assets ratio* (Ararat et al., 2017; Cremers & Nair, 2005; Tsai & Gu, 2007).

Free float ratio is ranked fourth most important variable at 38%. The free float ratio has a relative importance of approximately 40% to the firm value. This supports other studies that also found an adverse association between free float ratio and firm value (Ararat et al., 2017; Bayrakdaroglu, 2010). the findings here indicate the increase in free float ratio may have a lowering effect on firm performance (Acaravci et al., 2015).

The estimated error value of the regression tree was calculated at 0.025. The value was obtained as a result of 1 minus estimated error value (1-0.025 = 0.975) which refers to the power of the independent variables to explain the dependent variable. In this context, findings indicate that 97.5% of the changes in the firm values of the lodging companies in BIST have the power to be explained by independent variables.

Variables That Describe the Relationship to the Firm Value of the Lodging Companies With the Most Valuable Brand

In the second analysis, the analysis constructed a model with a total of 11 nodes, six of which being terminal nodes, based on 28 observations belonging to 6 lodging companies with the most valuable brand. A total of nine nodes, five being terminal nodes, were created in the optimal tree obtained as a result of pruning. The second CRT analysis is illustrated in Figure 2.

As a result of the second CRT analysis, the variable that divides the data of the variables affecting the firm value into two groups in the most homogeneous manner was firm size; calculated at the cut-off value of 8.842 The node with the highest mean firm value is Node 4, whereas the node with the lowest mean firm value is Node 5. In other words, companies with firm sizes lower than 8.84 and debt ratios higher than 50.5% have the highest firm values (Node 4), whereas companies with firm sizes higher than 8.842 and debt ratios lower than 48.9% have the lowest firm values (Node 5). Observations of the companies with the second-largest firm values are included in the Node 8 terminal. The firm sizes of the companies located in Node 8 terminal are lower than 8.842 and the debt ratios are between 45% and 50.5%.

The results obtained in the second CRT analysis are compatible on studies that obtained negative relationships between firm size and firm value in the literature (Acaravci et al., 2015; Ararat et al., 2017; Balasubramanian et al., 2010; Tsai & Gu, 2007). The increase in the firm size makes it difficult to coordinate and control the company, and it may result in negative effects on the firm value in terms of following innovations and developments. The increase is also a crucial control mechanism in terms of corporate governance due to the high level of borrowing, as well as the high level of trust in the enterprise and the decrease in agency costs. Findings also indicate that the debt/asset ratio has a positive impact on firm value. The results were consistent with numerous studies in the literature (Chang et al., 2014; Cremers & Nair, 2005; Iskenderoglu et al., 2014; Kara et al., 2015; Silva & Leal, 2005; Tsai & Gu, 2007).

Figure 2. CRT Analysis Performed on Lodging Companies With Most Valuable Brand

Firm Value
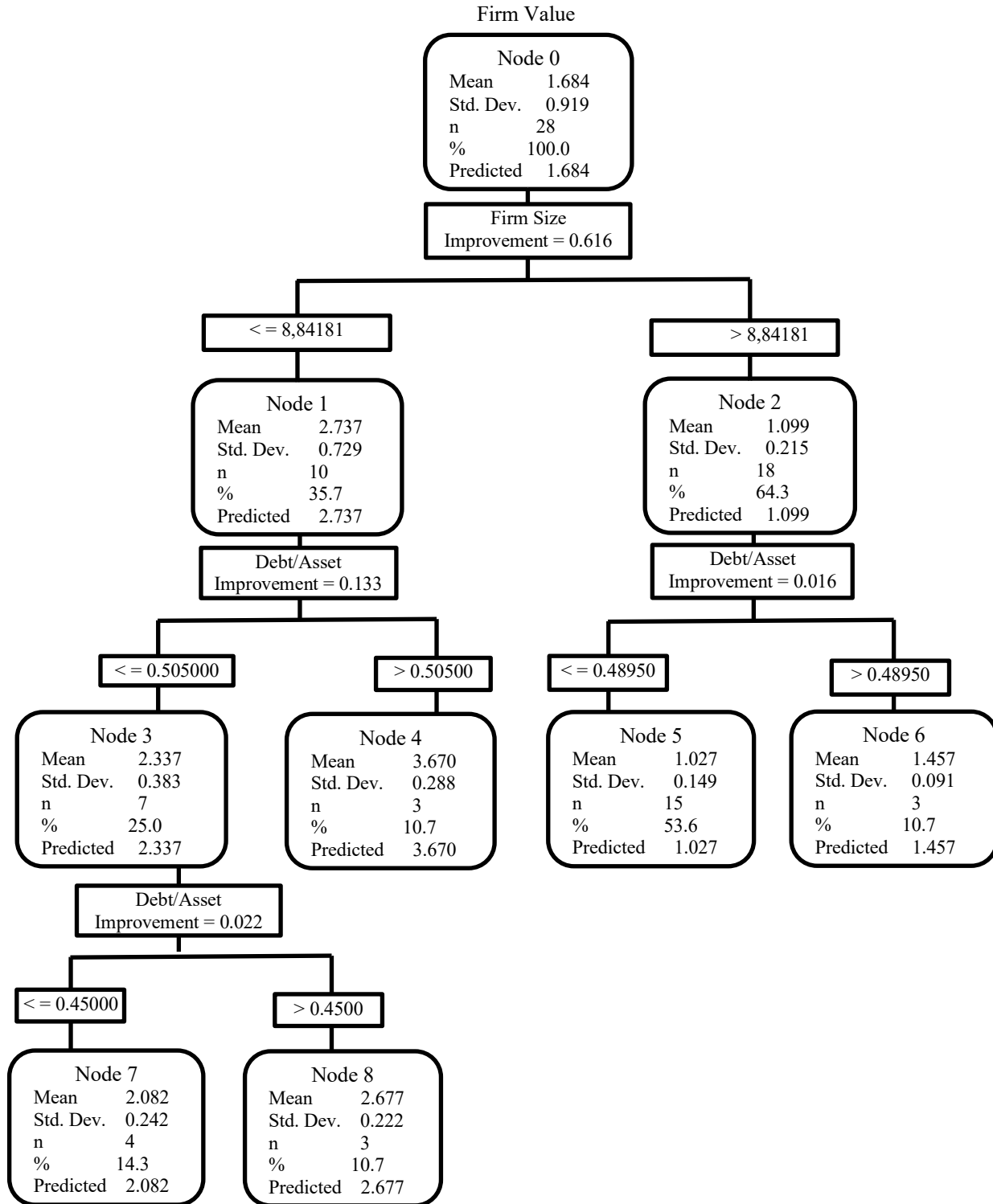
In the second CRT analysis, the variables located in the tree separating the root node and Node 1 are firm size and debt/assets ratio, respectively. The independent variables that do not appear on the tree but remain effective in the splitting process in each node, are presented in Table 6.

According to the relative importance levels noted in Table 6, the variables that most influence the firm values are debt/assets ratio and firm size; whereas the variables that least influence the firm value are the number of years since original listing, largest shareholder rate, and net profit margin.

Table 6. Importance of Independent Variables for Lodging Companies With the Most Valuable Brand

Independent Variable	Importance	Normalized Importance
Debt/Assets	.645	100.0%
Firm Size	.637	98.8%
Firm Age	.362	56.1%
Free Float Rate	.279	43.3%
Corporate Governance Score	.276	42.8%
Firm Year	.248	38.4%
Largest Shareholder Rate	.201	31.2%
Net Profit Margin	.151	2.5%

Note. Dependent Variable: Firm Value

The estimated error value of the regression tree was calculated as 2.7%. The value was obtained as a result of 1 minus estimated error value (1- 0,02=0.973) which expresses the power of the independent variables to explain the dependent variable. The findings show that 97.3% of the changes in the firm value of lodging companies with the most valuable brand have the power to be explained by the variables.

Conclusions

In 1999, OECD published corporate governance principles to prevent the negativities that occur as a result of bad management of businesses. Similarly, numerous reports published in Europe aimed to eliminate deficiencies in company management (Committee on the Financial Aspect of Corporate Governance, 1992; Study Group on Directors' Renumeration, 1995; Committee on Corporate Governance, 1998; Institute of Chartered Accountants in England and Wales, 1999; Department of Trade and Industry, 2003; Higgs, 2003). In the United States, the SOX law (2002) sought to eliminate the disadvantages of business scandals and mismanagement and support more effective corporate governance. Concurrently, the Turkish Industry and Business Association published its corporate governance principles in 2000 and the CMBT were formed corporate governance principles in 2003. The new Turkish Commercial Code which was adopted in 2011 has been drawn up to include corporate governance principles (Nazlıoğlu & Özerhan, 2016). All these studies represent continuous efforts to generalize and improve corporate governance practices.

Theoretical Implications

In this study, CRT analyses produced the variables indicating a relationship with the firm values of the lodging companies with the most valuable brand and the lodging companies in the BIST tourism index. In the first CRT analysis, a negative relationship was found between firm size and the firm value of the lodging companies included in the BIST tourism index. In the second CRT analysis, a negative relationship was detected between firm value and the firm size of the lodging companies with the most valuable brand, while a positive relationship was determined between firm value and debt ratio. In this context, the size of the firm was concluded to be important in terms of the lodging companies in both groups and described as having a negative relationship

with the firm value—all in line with the results of other sectors in the literature. The findings on the debt ratio reflect evidence that it is an indicator of the effectiveness of firm assets and motivation tools (Ross, 1977). Hence, we conclude that the increase in debt ratio is important to provide control against managerial discretion and in signaling value maximization (Williamson, 1988).

Practical Implications

It is thought to be important in terms of contributing to preventing the firm of cumbersome due to the negative relationship between firm value and firm size. It is expected that positive relationships between firm value and debt ratio would contribute to its use as an instrument in the evaluation of management performance. It can be stated that the increase in debt ratio looms large since the increase in debt level constitutes a mechanism for controlling managers, and their ability to pay debts, as well as being indicators of firm reliability and prestige.

In the I. and II. CRT analyses, it is determined that the corporate governance score is not located in the regression tree and the relative importance percentage is low in the independent variables' importance table. However, it would not be accurate to interpret this situation as that corporate governance is not important or would not have an effect on firm value. In cases where there are no differences among corporate governance practices, it demonstrates that the corporate governance score is not a distinguishing variable on firm value. Corporate governance should be considered as a hygiene factor in the realization of company activities. This is because corporate governance practices meet the minimum requirements. Therefore, its importance arises only when there are important differences between corporate governance practices. This situation, as Herzberg emphasized in the Hygiene-Motivation Theory (Robbins & Judge, 2007), should be seen as an instrument whose significance is not comprehended in its existence but felt in its absence. As a result of the analysis, the fact that corporate governance does not have a significant interaction on the firm value can be expressed as a proof of the hygiene factor among companies with similar corporate governance practices.

Limitations and Future Research

The low number of lodging companies examined in this study and the short, five-year analysis period allow neither for the generalization of the research results, nor comparison with the results of other sectors. The insufficient level of corporate governance reports of the companies in the BIST tourism index for the years prior to 2011 do not allow for a longer period to be analyzed and opportunities for making periodic comparisons with previous years.

For future studies, the companies within the scope of the analysis can be repeated over a longer period, and relationship, relative importance of the independent variables on firm value can be determined. The factors effecting firm value of lodging companies in different countries can be compared and analyzed. Moreover, using different analysis methods, the results of research studies on lodging companies and the CRT analysis results can be compared and sectorial differences can be explicated by applying to different sectors. Furthermore, comparisons can be made by examining the factors that affect the firm value of companies that conduct corporate governance practices and those that do not conduct corporate governance practices.

References

Abdallah, A. A. N., & Ismail, K. A. (2017). Corporate governance practices, ownership structure, and corporate performance in the GCC countries. *Journal of International Financial Markets, Institutions & Money, 46,* 98-115.

Acaravcı, K. S., Kandır, S. Y., & Zelka, A. (2015). Kurumsal yönetimin BIST şirketlerinin performanslarına etkisinin araştırılması [Investigation of the impact of corporate governance on the performance of BIST companies]. *Niğde Üniversitesi İİBF Dergisi, 8*(1), 171-183.

Ararat, M., Black, S. B., & Yurtoğlu, B. B. (2017). The effect of corporate governance on firm value and profitability: Time series evidence from Turkey. *Emerging Markets Review, 30,* 113-132.

Balasubramanian N., Black S. B., & Khanna V. (2010). The relation between firm level corporate governance and market value: A study of India. *Emerging Market Review, 11,* 319-340.

Bayrakdaroğlu, A. (2010). Mülkiyet yapısı ve finansal performans örneği: IMKB örneği [Ownership structure and financial performance example: ISE example]. *Ekonomi Bilimleri Dergisi, 2*(2), 11-20.

Bebchuk, L., Cohen, A., & Ferrell, A. (2009). What matters in corporate governance. *The Review of Financial Studies, 22*(2), 783-827.

Black, B. S., De Carvalho, A. G., & Gorga, É. (2012). What matters and for which firms for corporate governance in emerging markets? Evidence from Brazil (and other BRIK countries). *Journal of Corporate Finance, 18*(4), 934-952.

Black, S. B., Jang, H., & Kim, W. (2006a). Does corporate governance affect firm value? Evidence from Korea. *Journal of Law, Economics, & Organization, 22*(2), 366-413.

Black, S. B., Love, I., & Rachinsky, A. (2006b). Corporate governance indices and firms' market values: Time series evidence from Russia. *Emerging Markets Review, 7*(4), 361-379.

Bostancı, F., & Kılıç, S. (2010). Şirketlerde halka açıklık oranının piyasa performansına etkisi: İstanbul Menkul Kıymetler Borsası üzerine ampirik bir çalışma [The effect of free float ratio on market performance in companies: An empirical study on the Istanbul Stock Exchange]. *İMKB Dergisi, 12*(45), 1-27.

Brand Finance Directory. (2016). *Global rankings brand rankings by sector and country*. https://brandirectory.com/rankings/turkey/2016

Breiman, L., Friedman H. J., Olshen, A. R., & Stone, J. (1984*). Classification and regression trees*. Chapman & Hall.

Brown, D. L., & Caylor, L. M. (2006). Corporate governance and firm valuation. *Journal of Accounting and Public Policy, 25*(4), 409-434.

Buallay, A., Hamdan, A., & Zureigat, Q. (2017). Corporate governance and firm performance: Evidence from Saudi Arabia. *Australasian Accounting, Business and Finance Journal*, *11*(1), 78-98.

Chang, Y. K., Chou, K. R., & Huang, T. H. (2014). Corporate governance and dynamics of capital structure: New evidence. *Journal of Banking & Finance, 48,* 374-385.

Chen, M. H., Hou, C. L., & Lee, S. (2012). The impact of insider managerial ownership on corporate performance of Taiwanese tourist Hotels. *International Journal of Hospitality Management, 31*(2), 338-349.

Cheng, C. M., & Tzeng, C. Z. (2011). The effect of leverage on firm value and how the firm financial quality influence on this effect. *World Journal of Management, 3*(2), 30-53.

Chong, A., Lopez-de-Silanes, F. (2006). *Corporate governance and firm value in Mexico*. SSRN. https://dx.doi.org/10.2139/ssrn.1820043

Chung, K. H., & Pruit, S. W. (1994). A simple approximation of Tobin's q. *Financial Management, 23*(3), 70-74.

Civan, M., & Cenger, H. (2013, October 23-26*). Borsada işlem gören turizm işletmelerinin finansal yapı ve karlılık oranları arasındaki ilişkinin analizi (2009-2012*) [Analysis of the relationship between financial structure and profitability rates of tourism businesses listed on the stock exchange (2009-2012); Conference Presentation]. 17th Finance Symposium*,* Mugla, Turkey.

Claessens, S., Djankov, S., Fan, P. H. J., & Lang, P. H. L. (1999). *On expropriation of minority shareholders: Evidence from East Asia*. SSRN. https://dx.doi.org/10.2139/ssrn.202390

Committee on Corporate Governance. (1998). *Committee on corporate governance: Final report*. https://ecgi.global/download/file/fid/9444

Committee on the Financial Aspect of Corporate Governance. (1992). *The financial aspect of corporate governance*. www.ecgi.org/codes/documents/cadbury.pdf

Core, E. J., Holthausen, W. R., & Larcker, F. D. (1999). Corporate governance, chief executive officer compensation, and firm performance. *Journal of Financial Economics, 51*(3), 371-406.

Cremers, J. K., & Nair, B. V. (2005). Governance mechanisms and equity prices. *Journal of Finance, 6*, 2859-2894.

Department of Trade and Industry. (2003). *The Tyson report on the recruitment and development of non-executive directors*. http://facultyresearch.london.edu/docs/TysonReport.pdf

Durak, M. G., & Taşkın, F. D. (2014). Kurumsal yönetim uygulamalarının işletme performansı üzerindeki etkileri: BIST üretim şirketleri üzerinde bir uygulama [Effects of corporate governance practices on business performance: An application on BIST manufacturing companies]. *Mali Cozüm Dergisi, 24*(6), 29-56.

Fama, E. F., & Jensen, M. C. (1983a). Separation of ownership and control. *Journal of Law & Economics*, *26*(2), 301-325.

Fama, E. F., & Jensen, M. C. (1983b). Agency problem and residual claims. *Journal of Law & Economics, 26*(2), 327-349

Freeman, R. E., & Reed, L. D. (1983). Stockholders and stakeholders: A new perspective on corporate governance. *California Management Review*, *25*(3), 88-106.

Furmolly, A. W., & Kirkulak Uludag, B. (2017, October 18-22). Turizmin Türkiye ekonomisi üzerindeki etkisi [The impact of tourism on Turkey's economy; Conference Presentation]. 18th National Tourism Congress, Mardin, Turkey.

Gepp, A., & Kumar, K. (2015). Predicting financial distress: A comparison of survival analysis and decision tree techniques. *Procedia Computer Science, 54,* 396-404.

Gill, A., & Obradoviç, J. (2012). The impact of corporate governance and financial leverage on the value of American firms. *International Research Journal of Finance and Economics*, *91,* 1-14.

Gitman, J. L. (2009). *Principle of managerial finance.* Pearson.

Gompers, P., Ishii, J., & Metrick, A. (2003). Corporate governance and equity prices. *The Quarterly Journal of Economics*, *118*(1), 107-156.

Göymen, K. (2000). Tourism and governance in Turkey. *Annals of Tourism Research*, *27*(4), 1025-1048.

Gupta, P. P., Kennedy, B. D., & Weaver, C. S. (2009). Corporate governance and firm value: Evidence from Canadian capital markets. *Corporate Ownership & Control, 6*(3), 293-307.

Higgs, D. (2003). Review of the role and effectiveness of non-executive directors. https://ecgi.global/sites/default/files/codes/documents/higgsreport.pdf

Institute of Chartered Accountants in England and Wales. (1999). *Internal control: Guidance for directors on the combined code*. https://ecgi.global/sites/default/files/codes/documents/turnbul.pdf

İskenderoğlu, Ö., Saygın, O., & Akdağ, S. (2014). *Kurumsal yönetim ve sermaye yapısı* [Corporate governance and capital structure]*.* Karahan.

Jensen, M. C., & Clifford W. C. (1985). Stockholder, manager, and creditor interests: Applications of agency theory. In E. I. Altman, & M. G. Subrahmanyam (Eds.), *Recent advances in corporate finance* (pp. 93-131). Harvard University.

Jensen, M. C., & Meckling, W. H. (1976). Theory of firm: Managerial behavior agency cost and ownership structure. *Journal of Financial Economics, 3*(4), 305-360.

Junaid, M., Xue, Y., Syed, W. M., Ziaullah, M., & Riffat, N. (2020). Corporate governance mechanism and performance of insurers in Pakistan. *Green Finance*, *2*(3), 243-262.

Kahiloğulları, S., & Karadeniz, E. (2015). Halka açık konaklama şirketlerinin finansal yapılarının analizi: Uluslararası bir karşılaştırma [Analysis of financial structures of public hospitality companies: An international comparison]. *Çankırı Karatekin Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 5*(2), 531-548.

Kandır, Y. S., Önal, B. Y., & Karadeniz, E. (2007). *Turizm yatırım projelerinin yönetimi değerlendirilmesi ve finansman* [Management evaluation and financing of tourism investment projects]*.* Detay.

Kara, E., Erdur Acar, D., & Karabıyık, L. (2015). Effects of corporate governance level on the financial performance of companies: A research on BIST corporate governance index. *Ege Academic Review, 15*(2), 265-274.

Karpoff, M. J., Marr, M. W., & Danielson, G. M. (1994). *Corporate governance and firm performance*. The Research Foundation of the Institute of Chartered Financial Analysts. https://www.cfainstitute.org/-/media/documents/book/rf-publication/1994/rf-v1994-n8-4449-pdf.ashx

Klapper, F. L., & Love, I. (2002). *Corporate governance, investor protection and performance in emerging market*. The World Bank Development Policy Research Group. http://documents.worldbank.org/curated/en/375451468765875377/Corporate-governance-investor-protection-and-performance-in-emerging-markets

Kula, V., & Baykut, E. (2014). Kurumsal yönetim derecelendirme notu ile piyasa değeri arasındaki ilişki: BIST XKURY şirketleri üzerine bir araştırma [The relationship between corporate governance rating and market value: A research on BIST XKURY companies]. *Uşak Universitesi Sosyal Bilimler Dergisi, 7*(3), 1-17.

Kumar, B. R. (2015). Determinant of value creation: An empirical examination from UAE market. *International Journal of Economics and Financial Issues, 5*(1), 77-85.

Leite, R., & Carvalhal, A. (2016). Firm age, value, performance and corporate governance in Brazil. *Corporate Ownership & Control, 13*(4), 8-12.

Lewis, J. R. (2000, May 22-25). *An introduction to classification and regression tree (CART) analysis* [Paper Presentation]. Annual Meeting of the Society for Academic Emergency Medicine, San Francisco, CA, USA.

Loderer, C., & Waelchli, U. (2012). *Firm age and performance.* SSRN. https://dx.doi.org/10.2139/ssrn.1342248

Lozano, M. B., Martínez, B., & Pindado, J. (2016). Corporate governance, ownership and firm value: Drivers of ownership as a good corporate governance mechanism. *International Business Review, 25*(6), 1333-1343.

Mariana, Abdullah, S., & Mahmud M. (2020). Corporate governance perception index, profitability and firm value in Indonesia. *Technology and Investment, 11*(2), 13-21.

Mardnly, Z., Mouselli, S., & Abdulraouf, R. (2018). Corporate governance and firm performance: An empirical evidence from Syria. *International Journal of Islamic and Middle Eastern Finance and Management*, *11*(4), 591-607.

Maury, B., & Pajuste, A. (2005). Multiple large shareholders and firm value. *Journal of Banking & Finance*, *29*, 1813-1834.

Mishra, R. K., & Kapil, S. (2018). Board characteristics and firm value for Indian companies. *Journal of Indian Business Research*, *10*(1), 2-32.

Mule, K. R., Mukras, S. M., & Nzioka, M. O. (2015). Corporate size, profitability, and market value: An econometric panel analysis of listed firms in Kenya. *European Scientific Journal, 11*(13), 376-396.

Nazlıoğlu, B., & Özerhan, Y . (2016). The evaluation of regulations configured in new Turkish commercial code in terms of corporate governance. *Journal of Banking and Financial Research, 3*(2), 16-27.

Pedersen, T., & Thomsen, S. (1997). European patterns of corporate ownership: A twelve-country study. *Journal of International Business Studies, 28*(4), 759-778.

Puni, A., &Anlesinya, A. (2020). Corporate governance mechanisms and firm performance in a developing country. *International Journal of Law and Management, 62*(2), 147-169.

Robbins, P. S., & Judge, A. T. (2007). *Organizational behavior* (12th ed.). Pearson Prentice-Hall.

Ross, A. S. (1977). The determination of financial structure: The incentive-signaling approach. *The Bell Journal of Economics, 8*(1), 23-40.

Sarakiri, J. A. (2020). Liquidity, size and firm value: Evidence from Nigeria economy. *World Journal of Finance and Investment Research, 5*(1), 13-20.

Shleifer, A., & Vishny, W. R. (1997). A survey of corporate governance. *The Journal of Finance, 52*(2), 737-783.

Silva, A. L. C., & Leal, R. P. C. (2005). Corporate governance index, firm valuation, and performance in Brazil. *Revista Brasileira Finanços*, *3*(1), 1-18.

Silva, A. L. C., & Leal, R. P. C. (2006). Ownership, control, valuation and performance of Brazilian corporations. *Corporate Ownership & Control, 4*(1), 300-308.

Steinberg, D. (2009). CART: Classification and regression trees. In X. Wu, & V. Kumar (Eds.), *The top ten algorithms in data minin*g (pp.179-201). Taylor& Francis Group.

Study Group on Directors' Renumeration. (1995). *Directors' renumeration: Report of a study group chaired by Sir Richard Greenbury*. https://ecgi.global/sites/default/files/codes/documents/greenbury.pdf

Timofeev, R. (2004). *Classification and regression trees theory and applications* [Unpublished master's thesis]. Humbold University, Berlin, Germany.

Tsai, H., & Gu, Z. (2007). The relationship between institutional ownership and casino firm performance. *International Journal of Hospitality Management, 26*(3), 517-530.

Williamson, O. E. (1988). Corporate finance and corporate governance. *The Journal of Finance, 43*(3), 567-591.

Yurtoglu, B. B. (2000). Ownership, control and performance of Turkish listed firms. *Empirica, 27*(2), 193–222.

Yohannes, Y., & Webb, P. (1999). *Classification and regression trees, a user annual for identifying indicators of vulnerability to famine and chronic food insecurity.* International Food Policy Research Institute.

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