### THE EFFECT OF CORPORATE GOVERNANCE SCORES ON FIRMS' FINANCIAL PERFORMANCE: EVIDENCE ON BIST100 INDEX<sup>1</sup>

## Asst. Prof. Sedat ERDOGAN<sup>2</sup>

Sirnak University Faculty of Economics and Administrative Sciences Department of Business sedaterdogan@sirnak.edu.tr

### Asst. Prof. Dilek COSKUN ERDOGAN

Sirnak University Faculty of Economics and Administrative Sciences Department of Business dcoskun@sirnak.edu.tr

### ABSTRACT

In this study, Return on Equity Ratio (ROE), Return on Assets Ratio (ROA), and Price-Earnings Ratio (P/E) are determined as the financial performance measures of listed firms to test the effect of overall corporate governance scores and sub-categories scores on financial performance in Turkey. The study covers an unbalanced data set from Bist100 firms which are listed in corporate governance index between the years 2007-2013. The study results are analyzed for the full data set and for the non-financial firms' data set. For each set, the analysis results reveal that corporate governance scores have no statistically significant effect on listed firms' financial performance. Therefore, getting higher corporate governance scores don't mean higher performance for those firms. Besides, there is a statistically significant and positive relationship between stakeholders' scores and financial performance. In other words, firms with higher stakeholders' scores show comparatively higher financial performance.

**Keywords**: Corporate Governance, Corporate Governance Rating, Corporate Governance Index, BİST100, Turkey.

# KURUMSAL YÖNETİM NOTLARININ FİRMALARIN FİNANSAL PERFORMANSLARI ÜZERİNDEKİ ETKİSİ: BİST100 ENDEKSİ ÜZERİNE BİR ARAŞTIRMA

### ÖZET

Bu çalışmada, firmaların finansal performans ölçüleri olarak kullanılan Özsermaye Karlılığı Rasyosu (ROE), Aktif Karlılık Rasyosu (ROA), ve Fiyat Kazanç Oranı (F/K), Türkiye'de kurumsal yönetim ve alt-kategori skorlarının firmaların finansal performansları üzerindeki etkisini incelemek için kullanılmıştır. Veri seti dengeli olmayan bir veri seti olup 2007-2013 yılları arasında BİST100 endeksinde yer alan ve kurumsal yönetim endekine dahil olan firmaları kapsamaktadır. Çalışma sonuçları tüm veri seti ve finansal olmayan firmalardan oluşan veri seti olmak üzere iki bölüm halinde analiz edilmiştir. Her iki veri seti için, kurumsal yönetim notlarının endeksteki firmaların finansal performans üzerinde istatistiksel anlamlı bir etkisi tespit edilememiştir. Yani, daha yüksek kurumsal yönetim notu daha yüksek finansal performans anlamına gelmemektedir. Paydaş notları ile firmaların finansal performansları arasından istatistiksel anlamlı ve pozitif bir ilişki tespit edilmiştir. Daha yüksek paydaş notuna sahip olan firmalar diğer firmalara kıyasala daha iyi finansal performans göstermektedirler.

Anahtar Kelimeler: Kurumsal Yönetim, Kurumsal Yönetim Derecelendirme, Kurumsal Yönetim İndeksi, BİST100, Türkiye.

<sup>&</sup>lt;sup>1</sup> This study is an extended form of The Effect of Corporate Governance Scores on Firm's Financial Performance which was presented and published as an abstract in the 13th International Accounting Conference on 20-21 October 2016 in Izmir-Turkey.

<sup>&</sup>lt;sup>2</sup> Corresponding author. Tel. +90486 216 40 08

### **1. INTRODUCTION**

High-profiled accounting scandals, such as Enron, Xerox, and WorldCom, by shocking investors' confidence, have led to the questioning of reliability of corporate financial reports and have been a major topic of discussion (Erdogan, 2015:15-16). Corporate governance practices, to re-establish the lost credibility, began to take more responsibility and gained more attention of public.

The aim of corporate governance is to help to create an environment of trust, transparency, and accountability to support long-term investments, financial stability, and integrity (OECD, 2015). Corporate governance principles help policymakers to develop and to support economic efficiency, sustainable growth and financial stability by providing shareholders, board members, executives, and other beneficiaries with the right encouragements to perform their roles in a suitable framework (OECD, 2015:9).

By influencing resource allocation, corporate governance impresses the improvement and functioning of capital markets. Besides, corporate governance practices have strong impact on economic growth and development (Maher & Andersson, 1999:44). Appropriate corporate governance practices help attracting investment, improving operational and financial performance of firms, and decreasing risk for investors (Heenetigala & Armstrong, 2011:1).

In Turkey, the very first corporate governance principles defined by Capital Markets Board (CMB) in 2003, and amended in early 2005, in December 2011, in February 2012, and in June 2012. The final principles set released in October 2014 which was prepared to comply with the Capital Market Law No. 6362. Excluding companies listed on Emerging Markets and Watchlist Market, all ISE companies are subject to mandatory implementation of new CMB Guidelines.

Corporate governance principles of CMB consist of four main sections and twenty subsections, as follows (CMB, 2014):

#### Shareholders

- Facilitating the Exercise of Shareholders Rights
- Right to Obtain Information and to Examine
- General Assembly
- Voting Right
- Minority Rights
- Dividend Right
- Transfer of Shares

#### **Public Disclosure and Transparency**

- Corporate Website
- Annual Report

#### Stakeholders

- Corporation's Policy on Stakeholders
- Supporting the Participation of the Stakeholders in the Corporation's Management
- Human Resources Policy of the Corporation
- Relations with Customers and Suppliers
- Ethical Rules and Social Responsibilities

## **Board of Directors**

- Function of the Board of Directors
- Principles of Activity of the Board of Directors
- Structure of the Board of Directors
- Procedure of Board of Directors Meetings
- Committees Formed Within the Structure of the Board of Directors
- Financial Rights Provided for Members of the Board of Directors and Executive

As a result of the works to restore and to increase the confidence level of corporate companies, corporate governance practices began to be converted to the corporate governance scores by corporate governance rating firms. In Turkey, the very first application of corporate governance rating began to be calculated in 2007. The Capital Markets Board (CMB) is authorized to regulate corporate governance practices in Turkey. Communique (Serial: VIII, No: 51) of CMB organizes conditions for authorized corporate governance rating firms. As of the current date, the List of Authorized Corporate Governance Rating Firms in Turkey are as follows:

- JCR Eurasia Rating, Inc.
- Kobirate International Credit Rating and Corporate Governance Services, Inc.
- Saha Corporate Governance and Credit Rating Services, Inc.

Those authorized corporate governance ratings firms use nearly same methodology to analyze the degree of listed firms' compliance with corporate governance principles. Sections and their weights are as follows:

- Shareholders: 25%
- Public Disclosure and Transparency: 25%
- Stakeholders: 15%
- Board of Directors: 35%

The overall corporate governance scores are given as a number between 1-10 (CMB, 2007). The meanings of corporate governance scores:

- 9-10: The highest level of compliance with corporate governance principles.
- 7-8: High level of compliance with corporate governance principles with minor deficiencies in one or two areas of rated.
- 6: Fair level of compliance with corporate governance principle with minor deficiencies in more than two areas of rated.
- 4-5: Week level of compliance with corporate governance principles with significant deficiencies.
- <4: Very week level of compliance with corporate governance principles with common significant deficiencies.

As a result of corporate governance rating report of authorized corporate governance rating, to be listed in the corporate governance index, the minimum score for overall governance score should be at least 7, and for any sub-categories the minimum category score should be 6.5 or higher (Erdoğan & Demir, 2015:7).

As discussed in the prior research, even though some studies reveal that there is a significant and positive relationship between corporate governance practices and scores on firms' financial performance measures, other studies have been unable to obtain such results. Since the result of those studies varies, to understand the current situation in Turkey, this study investigates the effect of corporate governance scores on the listed firms' financial

performance measures. For that purpose, not only the overall corporate governance scores but also the sub-categories scores are used during the data analysis to understand whether subcategories scores are important factors affecting the listed firms' financial performance.

The result of this study reveals that overall corporate governance scores have no significant effect on the listed firms' financial performance. However, the sub-categories' results reveal different situations. Even though the board of directors' scores and the public disclosure and transparency scores have no statistically significant effect on listed firms' financial performance, the stakeholders scores have significant and positive relationship with financial performance of the listed firms. Another important result of this study is that in 3 different models, the analysis results reveal that the higher shareholders scores have statistically significant but negative effect on some financial performance measures.

## 2. PRIOR RESEARCH

Starting from the early 21<sup>st</sup> century, studies on corporate governance mainly focus on the effect of certain corporate governance features and their effects on firm financial and operational performance, firm value, and market effects. Since OECD and governmental regulatory authorities focus on the importance of corporate governance on firms' transparency, accountability, and trust, some researchers start to create their own corporate governance ranking to test the effect of those factors on performance measurement even though other studies focus on some certain features of corporate governance.

Gompers et al. (2003) create a governance index as a measure of corporate governance based upon 24 governance rules, and summarize that firms with stronger shareholder rights have comparably higher firm value, profits and sales growth with lower capital expenditures and less corporate acquisitions.

Bebchuk et al. (2004) reveal that increase in the entrenchment index, which is based on Investor Responsibility Research Center (IRRC) and Gompers et al. (2003) governance index, is associated with significant reductions in firm value and negative abnormal returns.

Brown and Caylor (2004;2006) create a measure, Gov-Score, to investigate the relationship between corporate governance and firm operating performance. According to their study results, firms with better corporate governance scores are comparatively more profit bringing, more valuable, and pay out more cash to their shareholders. Even though good governance, as measured using compensations (executive and director), is most highly correlated with good performance, it is correlated with bad performance when measured using charter/bylaws.

Cremers and Nair (2005) investigate the relationship between governance mechanisms and equity prices by dividing corporate governance in two pieces, internal (i.e. data on blockholder and public pension fund holdings) and external governance (i.e. Gompers et al. (2003) governance index). By giving the importance to the incorporation between internal and external governance mechanisms and market conditions, study reveals that stronger corporate governance mechanisms produce higher equity prices.

Bhagat and Bolton (2008) state that there is a positive and significant relationship between better corporate governance and firm operating performance by using Gompers et al. (2003) governance index and Bebchuk et al. (2004) entrenchment index. However, none of these two corporate governance measures are associated with future stock market performance.

Ertugrul and Hegde (2009) investigate the relationship between corporate governance ratings and the firm performance by using scores from three U.S. corporate governance rating

agencies. They summarize that ratings are generally poor predictors of expected firm performance by emphasizing the difficulty of extracting the highly complex governance mechanisms into an overall governance score.

Gupta et al. (2009) use data from 2002 through 2005 on the TSX/S&P index to understand whether there is a statistically significant association between corporate governance scores and firm value. As a result, the study doesn't reveal such a relationship between these variables.

Karamustafa et al. (2009) investigate whether there is a significant effect of being listed in corporate governance index on firms' financial and operational performance in Turkey. Their study results reveal that, in the first year of the index, firms' financial and operational performance measures show significant positive results after being listed.

Dagli et al. (2010) study the effect of being listed in the corporate governance index on share prices from 2007 to 2009 in Turkey. They state that corporate governance index has negative risk premium and conclude that even though firms in corporate governance index has lower risk premium compare to other indexes being indexed has no effect on return.

Heenetigala and Armstrong (2011) analyze the effect of corporate governance on the growth of firm performance in Sri Lanka, and the study results specify that corporate governance strategies may affect share price performance and profitability of firms.

Akdogan and Boyacioglu (2014) investigate the relationship between corporate governance practices on firms' financial performance in Turkey. They find statistically significant and positive relationship between the application level of corporate governance principles and firm performance measures (ROE and ROA).

Javaid and Saboor (2015) state that there is a statistically significant relationship between corporate governance index and firm performance (ROA, ROE, and Tobin's Q), and robust corporate governance mechanism has greater changes to pay back.

Erdogan and Demir (2015) investigate the effect of the being involved in BIST Corporate Governance Index on financial performance measures in Turkey. Their study results reveal that being indexed in BIST Corporate Governance Index has no statistically significant effect on the listed firms' financial performance. In their study, Erdogan and Demir used overall Corporate Governance Scores and did not include sub-category scores in the analysis.

Yilmaz and Buyuklu (2016) investigate some certain features of corporate governance on financial performance in Turkey. They state that corporate governance variables effect firm's performances. Especially, they emphasize that shares of independent board members and leverage have negative effect and foreign ownership has a positive effect on firms' financial performances.

### **3. RESEARCH DESIGN**

In our overall research design, ROA, ROE, and P/E are determined as dependent variables representing financial measures of performance. In this study, overall corporate governance scores and sub-categories' scores are determined as independent variable to test their effect on listed firms' performance measures. Meanwhile, Ln(TA) is used as the size control variable in all models.

The data set is an unbalanced panel data set covers 7 year-data (2007-2013) from listed firms. Table 1 shows the variables, variable explanations, variable types, measurement of variables, and their expected signs in the models.

### Sosyal Bilimler Metinleri, 2017/02

Variables	Explanation	Variable Type	Measurement	Expected Sign
ROA	Return on Asset	Dependent Variable	Net Income/Total Assets	
ROE	Return on Equity	Dependent Variable	Net Income/Shareholders' Equity	
P/E	Price/Earnings Ratio	Dependent Variable	Market Value Per Share/ Earnings Per Share	
CgS	Corporate Governance Scores	Independent Variable	Reported in Corporate Governance Rating Reports	+
ShS	Shareholders Scores	Independent Variable	Reported in Corporate Governance Rating Reports	+
PdT	Public Disclosure and Transparency Scores	Independent Variable	Reported in Corporate Governance Rating Reports	+
StH	Stakeholders Scores	Independent Variable	Reported in Corporate Governance Rating Reports	+
BdS	Board of Directors Scores	Independent Variable	Reported in Corporate Governance Rating Reports	+
Ln(TA)	Ln(Total Assets)	Control Variable	Ln(Total Assets)	+

### **Table 1:** Definition of Variables and Expected Signs in the Models

Even though some research results may not report the same expectations, normally since the overall corporate governance scores and sub-categories' scores are very important signs of institutionalization, transparency, financial stability and integrity, we expect their signs as positively associated with performance measures.

#### **3.1. Data Description**

Table 2 shows the descriptive statistics for corporate governance scores. When we look at the overall scores, it is seen that except for the board of directors, all other scores are higher than 8 (after transforming the data to the upper system). Moreover, public disclosure and transparency scores and stakeholders' scores are very close to the highest level of compliance with corporate governance principles. On the other hand, compare to non-financial firms' scores, financial firms' scores are comparable higher.

Variable	Obs	Mean	Std. Dev.	Min	Max
Full Data Se	t				
CgS	143	85.7195	4.8337	71.20	94.03
ShS	143	83.0905	10.7116	68.60	95.24
PdT	143	89.4607	10.9587	88.10	99.47
StH	143	88.5021	12.9245	86.70	99.14
BdS	143	76.5216	12.4729	60.10	97.82
Financial Fin	rms				
CgS	35	86.7457	4.31459	75.56	94.03
ShS	35	84.1629	6.05514	70.23	94.68
PdT	35	90.6737	5.44522	73.27	97.91
StH	35	93.7369	5.35242	70.91	99.14
BdS	35	79.5643	7.167	66.54	95.08
Non-Financi	al Firms				
CgS	108	85.3869	4.96346	71.20	93.97
ShS	108	82.743	11.8373	68.60	95.24
PdT	108	89.0676	12.2196	88.10	99.47
StH	108	86.8057	14.1673	86.70	98.33
BdS	108	75.5356	13.6429	60.10	97.82

**Table 2:** Descriptive Statistics of Corporate Governance Scores

In this study, the data comes from two data resources. The first part of data is related to financial and operational performance measures of firms' included in the corporate governance index. This part of data is a hand-collected data comes from the Public Disclosure Platform (PDP) in Turkey, and annual reports of listed firms. The second part of data is related to corporate governance scores. There is one composite and four sub-categories' (shareholders, public disclosure and transparency, stakeholders, and board of directors) scores reported by corporate governance rating firms in corporate governance rating reports of listed firms and websites of authorized rating firms. In Turkey, corporate governance scores are published each year starting since 2007. Table 3 shows corporate governance indexed firms' descriptive statistics related to overall corporate governance scores and the number of indexed firms are gradually getting higher. Total 143 indexed firms have been detected and 35 of those firms are related to financial sectors and 108 firms are from other sectors.

#### Sosyal Bilimler Metinleri, 2017/02

Year	2007	2008	2009	2010	2011	2012	2013
Observations	6	9	19	22	24	31	32
Mean	78.7517	81.4622	82.4468	83.7105	85.035	87.7945	90.0509
Std. Deviation	3.91567	3.23426	2.63964	4.43682	3.87915	3.66148	3.49439
Minimum	75.17	75.56	77.13	71.2	73.88	76.75	80.49
Maximum	85.88	87.64	87.69	90.35	91.02	92.44	94.03

**Table 3:** Descriptive Statistics of Overall Corporate Governance Scores

#### 3.2. Hypotheses Development

In this study, there are three hypotheses to test the relationship between corporate governance scores and firm financial performance. We test those three hypotheses both for the full data set and for the non-financial firms.

Panel regression models examines the effect of corporate governance overall and subcategories scores on ROA, ROE, and P/L. The following equations capture the panel data regression models of this study:

$$RoA_{it} = \alpha + \beta_1 CgS_{it} + \beta_2 CgS_{it} + \beta_3 ShS_{it} + \beta_3 PdT_{it} + \beta_4 StH_{it} + \beta_4 BdS_{it} + \beta_5 \ln (Ta)_{it} + \varepsilon_{it}$$
(3.1.)

$$RoE_{it} = \alpha + \beta_1 CgS_{it} + \beta_2 CgS_{it} + \beta_3 ShS_{it} + \beta_3 PdT_{it} + \beta_4 StH_{it} + \beta_4 BdS_{it} + \beta_5 \ln (Ta)_{it} + \varepsilon_{it}$$
(3.2.)

 $P/L_{it} = \alpha + \beta_1 CgS_{it} + \beta_2 CgS_{it} + \beta_3 ShS_{it} + \beta_3 PdT_{it} + \beta_4 StH_{it} + \beta_4 BdS_{it} + \beta_5 \ln (Ta)_{it} + \varepsilon_{it}$ (3.3.)

### 4. FINDINGS

First of all, to understand the effect of being listed in corporate governance index, propensity score matching procedures are set. The year  $(t_0)$  that firms start to be listed in corporate governance index is defined as the treatment year, compared with the previous years'  $(t_{-1})$  results to understand whether being listed in the index has effect on financial performance measures of listed firms. The model results reveal that there is no such an effect. In other words, being listed in corporate governance index has no effect on financial performance measures.

The second part of the study is related to analyzing the effect of corporate governance scores on performance measures. Therefore, we divided the data set into two pieces, financial firms and non-financial firms. Table 4 shows the results for full data set and non-financial firms. Since the number of financial firms is comparable less and model results are not statistically significant, the results for non-financial firms will not be mentioned in this paper.

Even though the data set is not very large and balanced, because panel date results are more robust, significant, and more suitable, we decide to use panel data regression analysis instead of pooled regression analysis. When Hausman Test (1973) results show us to use random effect panel data regression analysis, we also control whether there is a significant difference between the results for pooled regression analysis and panel data analysis by checking Breusch-Pagan Lagrangian Multiplier (LM) Test (1980). The results for Hausman Test and Breusch-Pagan Test are reported in the model results table.

When we check the full data set results for ROE, ROA, and P/E, even though most of the coefficients are positive, only the scores for stakeholders has significant and positive effect on those performance measures. For those three performance measure, higher stakeholders' governance scores mean higher performance. On the other hand, for the first model, shareholders scores has not very robust but statistically significant negative coefficient. In other words, higher stockholders scores mean lower ROE for the firms listed in the corporate governance index for the full data set. Moreover, the analysis results reveal that even though coefficients are positive, overall corporate governance scores has no statistically significant effect on firm performance measures. Higher corporate governance scores don't mean higher performance.

When it comes to the analysis of the effect of same variables on performance measures for non-financial firms, we obtain very similar results with some differences. For RoE and RoA, the results are very similar. Stakeholders' scores have statistically significant effect on those two performance measures. In other words, getting higher stakeholders' score has statistically significant positive effects on firms' assets and equity profitability. However, analysis results do not show statistically significant relationship for the P/E performance measure. Even the model itself is not significant. Robust standard errors are reported in the panel data regression models.

#### Sosyal Bilimler Metinleri, 2017/02

Data Set	Full Data Set			Non-Financial Firms			
Dependent Variables	RoE	RoA	P/E	RoE	RoA	P/E	
Panel Regression Model	Random Effect	Random Effect	Random Effect	Random Effect	Random Effect	Fixed Effect	
Intercept	0.016135 (0.962)	0.223036 ( <b>0.095</b> )*	-1.05457 ( <b>0.019</b> )**	0.307915 (0.505)	0.173259 (0.427)	- 0.50426 (0.464)	
CgS	0.00169 (0.619)	0.000184 (0.902)	0.004629 (0.208)	-0.00065 (0.904)	-0.00064 (0.759)	0.00623 6 (0.162)	
ShS	-0.00671 ( <b>0.077</b> )*	-0.00166 (0.200)	-0.00013 (0.971)	-0.01161 ( <b>0.010</b> )**	-0.00283 ( <b>0.077</b> )*	0.00002 2 (0.997)	
PdT	-0.00373 (0.382)	-0.00093 (0.431)	-0.00383 (0.194)	-0.00279 (0.626)	-0.00107 (0.522)	- 0.00263 (0.569)	
StH	0.009885 ( <b>0.001</b> )***	0.002409 ( <b>0.022</b> )**	0.004729 ( <b>0.012</b> )**	0.01295 ( <b>0.000</b> )***	0.003554 ( <b>0.004</b> )***	0.00299 8 (0.432)	
BdS	0.000299 (0.871)	0.000151 (0.843)	-0.00123 (0.329)	0.001496 (0.550)	0.000339 (0.726)	- 0.00091 (0.533)	
Lnakbuy	-0.00243 (0.863)	-0.00872 (0.158)	0.056928 ( <b>0.014</b> )**	-0.008 (0.725)	-0.00308 (0.774)	0.02495 4 (0.413)	
Prob>Chi2	0.000***	0.000***	0.008***	0.000***	0.005***	0.454	
R-squared	0.4370	0.21	0.363	0.565	0.336		
Hausman Test for Random Effect (Prob>Chi2)	0.127	0.234	0.185	0.113	0.0723	0.989	
Breusch-Pagan Lagrangian Multiplier Test (LM) for Random Effect (Prob>)	0.000	0.000	0.000	0.0237	0.001		

Table 4: Panel Data Regression Model Results for Full Data Set and Non-Financial Firms
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P values are in parentheses. \*\*\*p<0.01, \*\* p<0.05, \* p<0.10.

## **5. CONCLUSION**

This study investigates the effect of corporate governance scores on firms' assets and equity profitability and Price/Earnings Ratio for the firms listed in corporate governance index in Turkey. Authorized rating firms reporting both overall corporate governance scores and sub-categories results. This study examines both the effect of overall scores and subcategories score on performance measures.

Even though some studies reveal that corporate governance and corporate governance scores has no effect on firms' performance measures, other studies demonstrate such an effect. This study also focuses on whether sub-categories scores have effect on firm performance measures.

The study results reveal that overall corporate governance results of listed firms have no statistically significant effect on firm performance measures. Higher governance score do not mean higher financial performance. Even though better corporate governance with higher corporate governance scores may be important for other reasons, for financial performance the story looks different. On the other hand, when sub-categories are investigated, it is seen that there is a statistically positive association between stakeholders' score and firm financial performance.

By reporting the results, we also keep in our minds that the data set is not large enough to get very satisfactory results, and the data coverage may be shallow. Checking the results with a bigger data set may show different results. On the other hand, the three financial measures that we used as our dependent variables may be replaced by other financial measures to check the results' consistency.

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