

# Corporate Governance and Share Prices: Firm Level Review in Turkey

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**Abstract**—This paper examines the relationship between corporate governance rating and stock prices of 26 Turkish firms listed in Turkish stock exchange (Borsa Istanbul) by using panel data analysis over five-year period. The paper also investigates the stock performance of firms with governance rating with regards to the market portfolio (i.e. BIST 100 Index) both prior and after governance scoring began. The empirical results show that there is no relation between corporate governance rating and stock prices when using panel data for annual variation in both rating score and stock prices. Further analysis indicates surprising results that while the selected firms outperform the market significantly prior to rating, the same performance does not continue afterwards.

**Keywords**—Corporate governance, stock price, performance, panel data analysis.

## I. INTRODUCTION

CORPORATE governance, an issue that is being debated over the last couple of decade, is crucial for corporations in terms of their current business performance and future prospects. Business performance is a broad perspective which includes the following: establishing governing structure, stakeholders', creditors' and debtors' rights; good human resources management, transparency, sales growth and finally all of these good management practices lead to higher equity value for firms. Higher firm values translate to higher stock prices [9]. Before going any further it would be relevant to give a brief writing on how corporate governance had become necessary for the business world. Though, firms in developed economies have been applying corporate governance structures since 1930s [8], the issue of corporate governance took much attention after the failure of WorldCom and Enron. Reference [4], argue that corporate scandals occurred in between 2000 and 2002 are consequent of a poor signal of corporate governance and ethics. They also believe that since the securities markets play an important role, the investors must be informed transparently and believe that misleading information can also mislead the way investors behave and as a result markets will not be efficient. Inefficient markets will not align with incentives of shareholders and managers. For example, since equities are traded in stock exchanges, the role of this market is important in terms of transparency and public disclosure (i.e. listing requirement) [6]. While these events took place, the U.S. Congress introduced the Sarbanes-Oxley Act to restrict governance corporate rules to prevent such problems. Also, [3] point out that despite previously adopted

corporate governance mechanisms, such scandals were inevitable in the corporate world.

As good corporate governance is essential for the firms' economic and financial performance, it will encourage businesses and create greater sight for prospective opportunities [14]. The regulatory bodies in the U.S and the U.K adopted governance framework for the firms to function properly and to be in compliance with the interest of investors. By looking at the information provided by [18], the governance framework regime adopted by the U.S is Sarbanes Oxley Act of 2002 and the same identical structure adopted by the Financial Reporting Council in the U.K. The main principals of governance frameworks to be used to establish a governance score are as follow: leadership, effectiveness, accountability, remuneration and relationship with shareholders.

While the developed countries have advanced in establishing in corporate governance, the emerging economies also follow suits to adopt similar guidelines for governance practices. According to [15] with the entries to free market, Poland adopted corporate governance with the start of privatization in the beginning of 1990s. However, as Poland is new in capital markets and free economy, there were weaknesses in corporate governance, like having lack of independent institutions. Reference [15] concludes that, since then, good governance mechanism was introduced to align with interest of investors and executives.

After liberalization of Turkish economy in 1980s, the individuals have been involved in private businesses and financial markets. Institutions, such as Istanbul Stock Exchange (ISE, it is now called BIST) and Capital Markets Board of Turkey (CMB) were set up to facilitate financial instruments and markets. As more and more corporations have been listed in the Turkish stock exchange, the regulations were needed to arrange relation between stakeholders and corporates. Eventually, CMB brought OECD corporate governance principles into use in 1999 for listed companies in Borsa Istanbul [5]. Later on, these principle were revised in 2005 by CMB to take account the realities of Turkish economy [16]. One of the revisions was to authorise credit rating agency to give each company a score regarding corporate governance practices and compliances. Finally, a Corporate Governance Index (CGI) was set up in 2007.

Before moving further to explore if there is a relationship between corporate governance and equity prices in Turkey, this paper will include some previous studies related to this issue. The literature review provides some common grounds and empirical results from worldwide experiences and then

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provides several empirical studies on Turkey's firm performance and equities prices related to corporate governance framework.

## II. LITERATURE REVIEW

The most comprehensive and widely referred paper on the relationship of corporate governance and equity prices is the study of [9]. The authors constructed a governance index to show level of shareholders rights as proxy. By using performance-attribution time-series regressions, they proved that shareholders with strongest rights', in terms of control in a company, provided higher returns, higher firm value and higher sales growth. The reason behind that in well governed corporation the power of management and ability of shareholders to replace directors gives sound performance to corporations. While the poor performance of the firms with weak shareholders rights was observed; the authors also give some explanation that these poor performances may be due to unobservable firm characteristic.

Reference [2] examined an emerging country, India. The authors also constructed a Corporate Governance Index for Indian companies to measure firms' governance score level. Their research provided an overview of the effect of corporate governance on public firms and found a positive relation between the Indian corporate governance index and firm values. They found corporate rules are more appropriate for larger Indian firms but weak performance by the smaller firms. They believe that the reason behind this result is because larger firms, especially public companies, somewhat forced to disclose legal requirement and conform the governance rules by the authorities.

A study by [17] focused on one of the principle of corporate governance, financial reporting disclosure and its effect on stock prices in Indonesia. The study provides voluntary information disclosure has a positive effect on stock prices. However, the author notes that there is no abnormal return between companies. The result indicates that the importance of corporate governance on stock prices is not significant when using hierarchical regression test.

Another research on an emerging economy by [12] is explaining the relationship between corporate governance and firms' performance and dividend policy of Polish firms. After constructing a corporate governance index (CGI), the author finds positive relation between CGI and firms' performance by using Tobin's Q measurement and also firms' cash dividend policy is also relevant for better governed firms. However, the author suggests that at the time of financial crisis the firms that have good governance policies paid fewer dividends than the firms with lower corporate standards.

The above mentioned studies assert that there is a positive relationship between corporate governance and firm performance. On the other hand, the paper presented by [1] contradicts with their findings. When they analyzed Japanese firms, they found that the firms with lower corporate governance score performed well compared to the better governed firms. Nevertheless, they suggest that this may be due to high valuation of good governed firms and lower

valuation of weak governed firms because of their higher risk exposure. However, the excess returns become irrelevant when size and book-to-market value were adjusted.

When looking at the researches prepared in the Turkish side, three investigated case have been analyzed. One of them is [16]. The paper focused on the relations of corporate governance index to three main index of Borsa Istanbul. They found that there is a strong positive correlation between corporate governance index return and the three main indexes' return of Borsa Istanbul by using Granger causality test.

Reference [11] used CAPM model to estimate expected returns of 28 Turkish firms that included in corporate governance index. The method of estimate is for 5-days expected returns of companies beginning from the date they disclosed that they had the minimum corporate governance score. What the result of this study indicates that 60% of firms included in governance index provided positive return for a few days after the rating disclosure. However, the author also points that this positive returns were not significant and the effect of disclosure tends to be declining over the next few days. On the other hand, the rest 40% of companies tend to loose from the first day of disclosure and concludes that investors do not put significant emphasis on firms with governance score regarding investment decisions.

Reference [10] studied firms listed in Corporate Governance Index (CGI) in Turkey. The authors examined the performance of the firms that have CGI rating score and compared these firms' performance after and prior to CGI initial point. They found that there is significant change in the firms' Return on Assets, Return on Equity and Asset Turnover rate within the scope of time investigated.

Another study by [7] was on investigating corporate governance indicators of listed Turkish banks. These indicators were the same as previous researches; ownership, board structure and disclosure practices. To compare corporate governance practices and banks performance, ROA and share prices were used. They conclude that the banks with lower corporate governance rating produced higher return,- and the banks with higher rating had lower return. They argue that this is because of lower rating firms bear higher risk, so deliver higher return for investors. This conclusion is in line with the findings of [1].

Since the response of stock prices found to be positively reacted to good corporate governance in most of previously written papers (some of them mentioned above), it also desirable to look the responsiveness of Turkish stock prices from another perspective which is to compare change in corporate governance and change in stock return over the five-year period by using panel data analysis.

## III. DATA AND METHODOLOGY

This paper will explore the relation between annual variation in firms' corporate governance rating and their share prices over the five-year period, from 2009 to 2013, by using panel data analysis. Then, the study will form a portfolio for the firms that have five year corporate governance history and compare their return with the market portfolio (i.e. BIST 100

index) with the aim of finding whether firms with good corporate governance rating performed well or not. In addition to this, the study will also investigate performance of firms (Again for five-year period, from 2004 to 2008) prior to start of the corporate governance rating to see how firms performed against the market portfolio before being rated.

There are 48 listed and 6 non-listed companies were scored by their corporate governance practices and are included Corporate Governance Index (CGI). Governance ratings were taken from rating firms which authorised by Capital Market Board of Turkey. Firms are rated on a scale of 7 to 10, with 10 being the best score. The rating principles and weight of each are given within the following framework: Shareholders' rights (25%), Public disclosure and transparency (25%), Interest groups (Stakeholders) (15%) and Board of Directors (35%). The firms under examination must comply with principles. Apart from individual corporate governance rating, Borsa Istanbul set up an index of corporate governance index (which is called XKURY or as mentioned before CGI) that included all rated firms in 2007.

Since 48 listed companies are scored by the authorities, only 26 of them have five-year history of governance rating. For this reason only 26 firms will be used for the analysis purposes. 26 firms' corporate governance ratings were collected from the Corporate Governance Association of Turkey and share prices of firms were taken from Borsa Istanbul. When looking at market capitalization, these 26 firms account for about 22% of the total index, BIST 100 as of May 2014. However, it should also be noted that the remaining firms, which are not listed in corporate governance index, also apply corporate governance practices due to regulatory requirements despite not being listed in CGI. Some of these firms include Turkey's giant holding companies and banks.

As it is pointed out before, this paper differs from the previous paper that investigated corporate governance and firm performance or stock performance in Turkey. The dissimilarity arises from the comparison of data. It will explore how stock prices react to change in corporate governance rating each year from 2009 to 2013. Finally, the paper discovers relation between share price performances of firms with the market portfolio to see whether these firms are outperformed or underperformed the market. It should also be noted that the comparison will be based on annual return in stocks and annual variation in firms governance score.

The annual return for each firm and for the indexes calculated as:

$$R_{(t_0, t_1)} = \frac{P_{t_1} - P_{t_0}}{P_{t_0}} \quad (1)$$

In (1), R represent the return from the initial to final period, means holding period ( $t_0, t_1$ ) and  $P_{t_0}$  denotes year beginning share price or index price.  $P_{t_1}$  denotes year-end share price or index price.

The share prices used in the analysis process were adjusted. Historical share prices were adjusted downward by the amount of dividend paid by companies and for stock splits.

#### A. The Model Specification and Results

Having reviewed literature on the issue of corporate governance and stock prices, the study's hypothesis about linkage between corporate governance rating and stock prices is:

*Hypothesis: There is a relationship between corporate governance rating and stock prices or stock performance in Turkey.*

A panel data regression model were used to estimate relationship between variation in corporate governance rating and variation in firms' share prices or stock returns over the five-year period from 2009 to 2013. In the model, share prices are set as dependent variable and corporate governance ratings are set as independent variables.

Reference [19] states that in panel data analysis, when the observation of time series and cross-sectional data occurred at the same time, the estimation will be more accurate to the researchers. Further, panel data analysis gives solutions of economic determinants that cannot be solved only by cross-sectional data or time series data.

In this study, there are 26 observations (firms) and five-year periods. Unit and time effects were taken as panel data model. To decide which of the following model to use, whether Fixed-Effects regression model or Random-Effects model, Hausman test statistics is performed.

After running Hausman test, the p-value is 0,891. This value indicates that the parameters should be estimated using Random-Effect models in the panel data regression.

For Random-Effects regression model the following form of equation will be written as:

$$SP_{it} = \beta_0 + \beta_1 * CG_{it} + u_{it}, \quad (2)$$

$$i = 1, \dots, 26$$

$$t = 2009, \dots, 2013$$

In (2), where, SP denotes stock prices and CG represents corporate governance ratings. Subscript  $i$  denotes cross-sectional element and  $t$  represent time-series element.  $u$  is the error term that combines together the errors of cross-sectional data and the errors of times series with cross-sectional data.

Finally, the estimated model would be like this:

$$SP_{it} = 0.212(0.251) + 4.036(0.439) * CG_{it} + u_{it} \quad (3)$$

$$i = (1, \dots, 26)$$

$$t = 2010, \dots, 2013$$

The numbers in the parentheses in (3) indicate the significance of coefficients. According to these figures the model's parameters are not significant. The obtained value of  $R^2$  is 0,006, which means that only 0,06% change in stock prices can be explained by corporate governance rating score in this model. Similarly, there is no auto-correlation and heteroscedasticity found in the model used. Hence,

governance rating of firms is not statistically significant in explaining the movement in stock performance.

TABLE I  
PANEL DATA REGRESSION RESULTS

Dependent Variable: SP?			
Method: Pooled EGLS (Cross-section random effects)			
Date: 01/14/15 Time: 16:21			
Sample: 2010 2013			
Included observations: 4			
Cross-sections included: 26			
Total pool (balanced) observations: 104			
Swamy and Arora estimator of component variances			

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.212197	0.183718	1.155017	0.2508
CG?	4.036420	5.196126	0.776813	0.4391

Random Effects (Cross)	Coefficient
_ANADOLUEFES—C	-0.059882
_ARCELIKAS--C	0.011213
_ASYABANK—C	-0.118064
_COCACOLA—C	0.027318
_DENTASAMBALAJ--C	0.081950
_DOGANHOLDING--C	-0.089997
_DOGANYAYINHOLDING—C	-0.072044
_HURRIYETGAZETESI--C	-0.131197
_ISFINANSALKIRALAMA--C	-0.058297
_LOGOYAZILIM--C	0.026603
_OTOKAR—C	0.071093
_PARKELEKTRIK--C	0.017929
_PETKIMPETROKIMYA--C	-0.045375
_SEKERBANK—C	-0.031441
_TAVHAVALIMANI--C	-0.026599
_TOFASTURKOTOMOBIL—C	0.097330
_TUPRASRAFINERI--C	-0.004974
_TURCASPETROL--C	-0.094135
_TURKPRYSMIANKABLO--C	-0.063428
_TURKTELEKOMINIKASYON—C	0.009639
_TURKTRAKTOR--C	0.752652
_TSKB—C	0.035495
_VAKIFYATIRIM--C	-0.090032
_VESTELELEKTRONIK--C	-0.119485
_YYGAYRIMENKUL--C	-0.087792
_YAPIKREDIBANKASI--C	-0.038477

Effects Specification	S.D.	Rho
Cross-section random	0.315200	0.0924
Idiosyncratic random	0.987711	0.9076

Weighted Statistics			
R-squared	0.005938	Mean dependent var	0.272740
Adjusted R-squared	-0.003808	S.D. dependent var	0.981082
S.E. of regression	0.982949	Sum squared resid	98.55116
F-statistic	0.609300	Durbin-Watson stat	1.576126
Prob(F-statistic)	0.436859		

Unweighted Statistics			
R-squared	0.005425	Mean dependent var	0.323557
Sum squared resid	108.0955	Durbin-Watson stat	1.436962

### B. Do Firms with Corporate Governance Ratings Outperform the Market Portfolio?

To analyse stock performance of firms with corporate governance ratings, the return of firms were calculated and taken as a portfolio and then compared to the market portfolio – i.e. return of BIST 100 Index's returns.

The analysis is divided into two periods. The first period involves years between 2004 and 2008. In these years, firms did not have governance rating scores. The second period includes the years between 2009 and 2013. In these years, firms are rated for their corporate governance practices over the five-year' time horizon.

When the return of the market portfolio and the portfolio of rated firms compared over the first period, it can be seen from Fig. 1 that the return of portfolio of rated firms outperforms the market (i.e. BIST 100) over the five year period except 2008, which was the year that global financial crisis took place. The reason behind this poor performance is thought to be that in economic downturn firms usually behave in a cautious way to keep their cash in the firm and not inclined to pay out dividend to shareholders. However, there is no enough material and data to justify this comment.

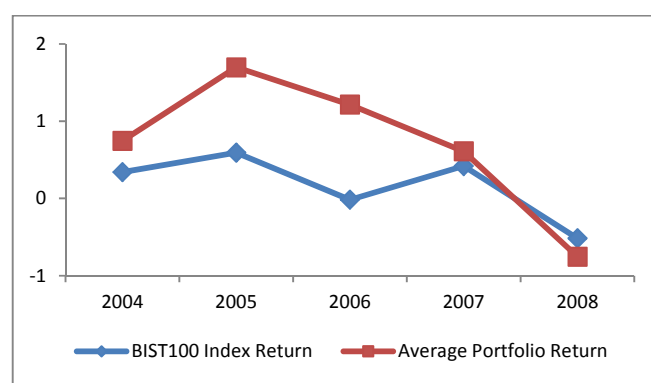


Fig. 1 Comparison of return of portfolio of rated firms and market index (BIST 100) between 2004 and 2008)-The first period

The portfolio of rated firms slightly outperformed the market portfolio in the second period (2009 and 2013) when these firms were rated according to their governance practices. However, in the second period the portfolio's return margin is slightly higher than what the market portfolio actually did (See Fig. 2). In this period, rated firms' return performance is related with the main index.

Overall, the two figures indicate that firms with governance rating perform better than market portfolio; nevertheless, higher performance level is declining over the years.

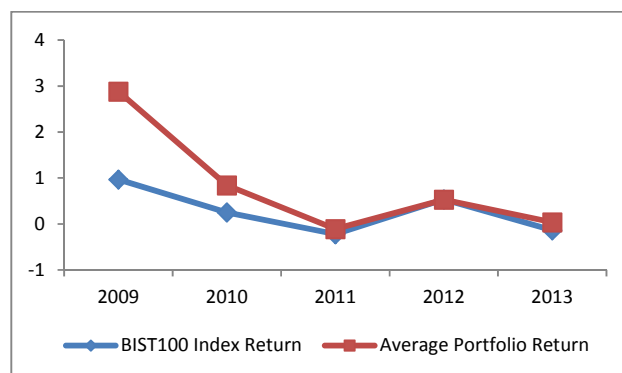


Fig. 2 Comparison of return of portfolio of rated firms and market index (BIST 100) between 2009 and 2013)-The second period

#### IV. CONCLUSION

Having done the above estimation of panel data and finding the stock price performance of the rated firms, the result of this study is not in line with the works of [9], [2], [12], [16] which found that good corporate governance lead higher performance for the firms. Though, as statistically found that there is no linkage between change in corporate governance rating and change in stock prices, the return performance of share prices over the return of main market portfolio indicate that firms' annual share returns are higher than Turkey's stock exchange return both on prior and after the firms being scored. However, the degree of stock outperformance declines over the years and become less influential at the second period when the firms have begun to be rated. Our results also conform to the work of [11] that firms with corporate governance score do not perform better when compared expected returns of the firms by using CAPM. Hence, we conclude that corporate governance rating is not an important variable to determine stock prices on its own. Other than corporate governance rating, some other influential dynamics are behind the stock price movement such as stock exchanges direction, general economic outlook, firm specific characteristics and sectorial progresses.

We should also note that this result does not mean that corporate governance rules are not important for the firms. Otherwise, they would not be listed in stock exchanges as this issue is crucial in terms of shareholders rights. As one published work of London Stock Exchange [13] points out: "*Corporate governance is responsibility of both companies and investors. Corporate governance is not simply a code or regulations to be followed but also it is about relationships and trust*".

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