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Corporate Governance, Financial Reporting, and Performance: Evidence from Türkiye

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Abstract
In the wake of recent economic crisis, the role of corporate governance has increased scrutiny both in developed and emerging countries. This paper contributes to the corporate governance and the relationship with financial reporting and firm performance. The data set includes panel data that covers rating and financial details of 22 large companies spanning from 2007 to 2011 and fundamental stock information from Istanbul Stock Exchange. Using random effects model, pooled IV and Hausman-Taylor panel IV model, the paper concludes that corporate governance is a crucial factor in explaining the stock return and changes in market value of Turkish firms. The corporate governance scores have positive effect on stock return of the company. In the pooled IV model, a percentage point increase in the corporate governance score results in 1.58 and 3.49 percentage point increase of 1 month and 3 months' stock return, respectively. Similarly, in the pooled IV model, a percentage point increase in the corporate governance score causes 2.96 percentage points increase in Tobin's Q growth rate within 3-month period.
Keywords: Corporate Governance, Financial Reporting, Performance, Türkiye

Introduction

Following the recent economic crisis, governance structures of the firms increased its scrutiny in Türkiye. The companies experienced the use of managers' rights for their son purpose. This is caller the principal agent problem which exists because of managers use of the shareholders' rights for their own purposes, thus pursue their own goals (Meckling & Jensen, 1976). The root of corporate governance lies in agency theorem. Corporate governance directly aims to minimize the agency cost and diverge the social and private returns on corporate activity. The discussion mainly originated on the agency problem of Jensen and Meckling (1976) which implies that the governance can affect managers to take an action to

maximize the short returns other than long returns (DeAngelo & Rice, 1983; Dechow & Sloan, 1991; Murphy & Zimmerman, 1993). In the capital markets with weak institutions and concentrated ownership, corporate governance is associated with more than a simple agency problem.

Corporate governance is a culture and should be deployed within the company. Seven fundamental principles of corporate governance are called as CRAFTED (Argüden, Ilgaz, & Erşahin, 2007). The company's that adopts governance principles are consistent, have responsible actions, accountable, fair to all stakeholders, transparent in the name of informing its stakeholders, effective and those principles should be deployed within the company. With this perspective, the companies that adopts the governance principles should have sound and accountable reporting mechanism. From this point of view, the investors may perceive the companies adopted CRAFTED principles should have higher financial performance. The data of the financial performance of the companies acquired from their financial reports. The adoption level of the companies measured by the ratings based on their corporate governance principles performed by official rating companies. This study questions whether the companies that has higher corporate governance rating has higher amount of financial performance based on the data obtained from financial reports.

The growing literature on corporate structures of Türkiye shows that the corporate governance debate is mostly formed in three main areas: minority shareholders' and creditors' rights, enforcement of law and regulations, and ambiguities and weaknesses in legal/regulatory framework (Ararat & Uğur, 2003). In addition to the importance of the regulation aspects in corporate governance cannot be underestimated, the effect of those regulations on a value of the firm should be bared. Existing literature on financial effects of corporate governance in firms shows that better corporate governance results with better financial situation. Yurtoğlu (2000a) finds out that the holding company structure affects the economic performance of the Turkish firms; including profitability, return on assets, dividend payments and investment decisions. Concentrated ownership and pyramidal structures have been opposed to lower return on assets, lower market to book ratios and lower dividends. As Ararat and Uğur (2003) stated that the capital market of Türkiye is a slightly though for a company to adopt its corporate structure, due to its low liquidity, high volatility, excessive cost of capital and limited new capital formation.

The World Bank's template for Türkiye shows the difference of Türkiye from other countries by the main categories of the corporate governance principles (OECD, 2004) (Appendix A). Türkiye's rank in the transparency in the world is the fourth less transparent country (PricewaterHouseCoopers, 2001). With its poor investor protection in Turkish capital market, to avoid the negative outcomes the firms should focus on their corporate structure like structure of executive board or the auditor (Shleifer & Vishny, 1997). The separation of chairman and general manager positions in these firms are reflected positively on the firm performance (Kula, 2005). Türkiye had faced many crises for the last 20 years triggered by both domestic upheavals of political and economic nature and global events. This is closely resulted with economic/political instability of Türkiye and most importantly the investors' perception of the corporate governance structure of Türkiye. Throughout the period of mid-1990s, Türkiye had low shares of global foreign direct investment and off shores by the Turkish residents. Such a dynamic indicates that the investors had confidence problem to invest in Türkiye. Another milestone in the economy of Türkiye is 2001 crisis. It is resulted with the decrease in the stock market of Türkiye by 31.8 percent implying a huge and hard to recover ratio. the poor investor protection in a market, such as Turkish market, consequently

resulted with the development of mechanisms like concentrated dividends, mandatory dividends and legal reserve requirements. Turkish corporate governance structure is summarized as concentrated ownership, pyramidal structured and low investor protected (Durukan, Özkan, & Dalkılıç, 2005). Given such a key role of the corporate governance and its perception by investors this study aims to contribute to the discussion on corporate governance in Türkiye. It uses corporate governance ratings to quantify the perceptions of the investors on quality of corporate governance and investigates an empirical link with firm's stock returns.

Alignments of information and incentives are ultimately related to corporate governance of the companies. Both from the investors' point of view and the companies' perspective, insufficient and unclear information may increase the volatility of the market; mislead the investors leading to a poor allocation of the resources. Historically, in Türkiye, companies provided relatively weak disclosures; however, in an anticipation of the new legislation in 2013, they will have to adopt a largely improved disclosure requirement, which aims to make the companies more transparent. Some of the companies have already complied with new rules. It is believed the changes in the disclosure system make their corporate governance structure stronger. In line with the policy, the evidences support that good governance has a positive impact on corporate performance (Bhagat & Bolton, 2008).

This study focuses on a straightforward concentration: "Do the Turkish companies with better corporate governance receive higher valuation in the Turkish stock market?". This study is unique and contributes to the literature in several ways. First contribution is of technical, albeit crucial nature. I tackle the problem of endogeneity of corporate governance. Despite recent evidence of the endogeneity in corporate governance, empirical studies investigating the impact of corporate governance have largely ignored this issue (Adams, Hermalin, & Weishbach, 2008) (Wintoki, Linck, & Netter, 2010). Therefore, treating corporate governance and its components such as board composition or CEO activity as an exogenous variable lead to a bias in parameter estimates. Other econometric problems could aggravate the problem such as heterogeneity, simultaneity and reverse causality in the estimation framework. Thanks to the applied econometric modeling, this paper contributes to the literature to analyze the causal relationship between corporate governance and the stock returns.

Secondly, the usage of the new data set makes the study to be distinguished. The data is acquired from SAHA that routinely rates Turkish companies in the corporate governance aspect since 2007. The data is used in this study consists of 22 companies for different 4 years' scale; 2007-2011. The usage of panel model brings the opportunity to assess whether the differences in the corporate governance rating is correlated with the higher valuation in the stock market in the different time windows.

Lastly, the effect of the corporate governance on the stock value changes is examined by using different time windows which consists of three different time windows. To track the changes in the valuation, the time windows consist of one month, three months and twelve months' period. Such fragmentation enables us to track before and after the corporate governance ratings are announce, thus visualizing the effect of the rating on the investor in a clearer manner.

The remaining part of the paper is organized as the description of the data, the methodology, the results and the conclusion.

Data

To measure the corporate governance ratings of the Turkish companies, the study uses the corporate governance ratings which are most recent, publicly available. The corporate governance rating data compiled by SAHA (Corporate Governance and Credit Rating Services Inc.) and consists of 22 firms for 2007-2011 periods, calculated in a yearly basis. To study the causal relationship between corporate governance and the firm value, I aggregated another set of the data related to firm value. Firm value is analyzed in two aspects, namely, stock returns in the market and the Tobin's Q. Stock return data are borrowed from Istanbul Stock Exchange (ISE) official website. As to solve the endogeneity problem and the variation of the announcement time of the corporate governance rating, time windows used for the stock returns (Morey, Gottesman, & Godridge, 2009). So, the stock return data is varied between 1- 3- 12 months' periods. See Figure 1 for the descriptive statistics of the corporate governance ratings.

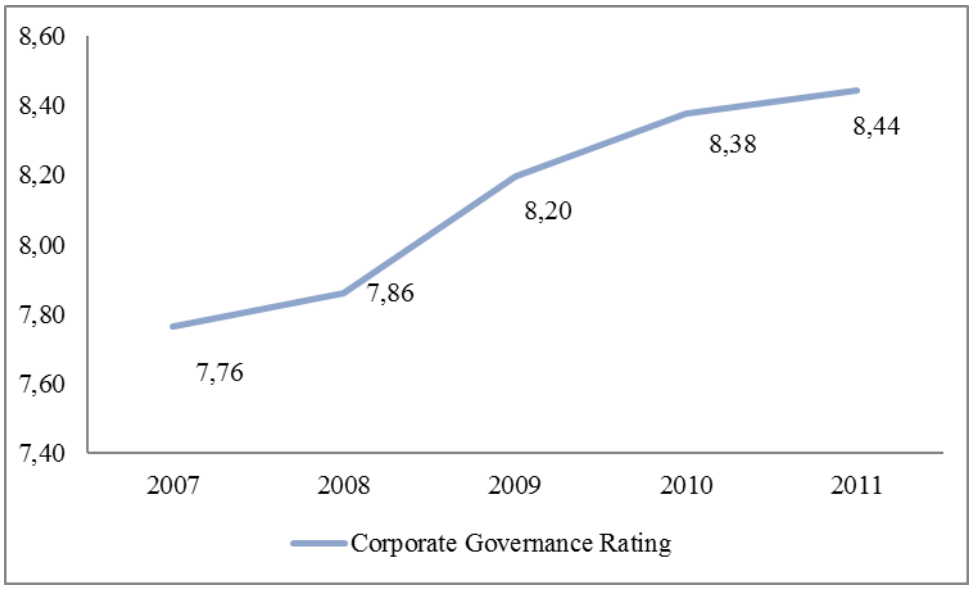

Figure 1. Distribution of consolidated corporate governance ratings with respect to years

As shown on Figure 1 over between 2007 and 2011 the consolidated corporate governance rating steadily increased. The change in rating is especially prominent in 2011. Overall, it seems that the quality of corporate governance in the sampled firms has significantly increased which may imply, *inter alia*, an endogeneity. In other words, the firms participating the survey self-select the level of corporate governance. Once again, if not accounted properly this can cause serious econometric problems discussed earlier.

SAHA, Corporate Governance and Credit Rating Services Inc., corporate in 2005 as the first local corporate governance rating institution in Türkiye, that apply both micro and aggregated analysis to evaluate corporate governance. They calculate the rating as the combination of the significance of shareholders for the company, the public disclosure and transparency of the company, the relations with stakeholders and the general credibility of the board of directors. What is important SAHA rates the company not only based on the reports that the company provide but also the information gathered from other resources.

The ratings are assigned to values between 1 and 10 in accordance with the principles of corporate governance as well as to the four mentioned criteria – shareholders rights, public disclosure and transparency, stakeholders' involvement, and board of directors. The ratings

vary between 1 and 10, valid for 12 months. To be listed on the ISE the passing benchmark is 6. Table 1 shows the rating groups and the definitions of each group.

Table 1.
SAHA ratings and the definitions. (SAHA, 2011).

Rating	Definition
9 - 10	The company performs **very good** in terms of Capital Markets Board's corporate governance principles. It has, to varying degrees, identified and actively managed all significant corporate governance risks through comprehensive internal controls and management systems. The company's performance is considered to represent best practice, and it had almost no deficiencies in any of the areas rated.
7 - 8	The company performs **good** in terms of Capital Markets Board's corporate governance principles. It has, to varying degrees, identified all its material corporate governance risks and is actively managing the majority of them through internal controls and management systems. During the rating process, minor deficiencies were found in one or two of the areas rated.
6	The company performs **fair** in terms of Capital Markets Board's corporate governance principles. It has, to varying degrees, identified the majority of its material corporate governance risks and is beginning to actively manage them. Management accountability is considered in accordance with national standards but may be lagging international best practice. During the ratings process, minor deficiencies were identified in more than two of the areas rated.
4 - 5	The company performs **weakly** because of poor corporate governance policies and practices. The company has, to varying degrees, identified its minimum obligations but does not demonstrate an effective, integrated system of controls for managing related risks. Assurance mechanisms are weak. The rating has identified significant deficiencies in a number (but not the majority) of areas rated.
<4	The company performs **very weakly** and its corporate governance policies and practices are overall very poor. The company shows limited awareness of corporate governance risks, and internal controls are almost non-existent. Significant deficiencies are apparent in the majority of areas rated and have led to significant material loss and investor concern.

One of the categories that is integrated into assessment is shareholders' rights. It is widely known that Türkiye has mostly family owned corporations which strengthen the shareholders position in corporate governance. La Porta et al (1998) rates Türkiye two out of six in a 40-country assessment with respect to shareholder rights. During the calculations of the corporate governance scores, SAHA focuses on those issues; the usage of the shareholders' rights easier, getting informed and analyzed, minority of shareholders' rights, voting rights, dividend right, transitions of the shares. The other category of the corporate governance ratings is public disclosure and transparency. While the transition of the accounting standards and the transparency issue is a hot topic in Türkiye, the ratings are done per tools and rules to public disclosure, informing public about the relationship between company, shareholders,

board of directors and the management, financial reports, independent auditing and insider trading. The other rating category is stakeholders which are protected by laws. The analysis features the information about company policies related to stakeholders, the effect of the stakeholders to the management of the company, human resources policy of the company, the protection policy of the company, ethical rules, social responsibility and the relations with customers and suppliers. The last rating component of the corporate governance ratings is board of directors which is designed to evaluate the main functions, responsibilities, management part of it. Also, it includes the assessing of financial rights of board of directors, its structure and independency.

The study also uses the IV framework by introducing two IVs CEO MBA and Big 4 Audit. The first one takes the value 1 if the CEO had completed MBA or executive MBA program. The idea here is that managers who have such training are more likely to be exposed to the modern principles of corporate governance. The second IV takes the value 1 if an external audit was conducted by Deloitte, PricewaterhouseCoopers (PwC), Ernst & Young or KPMG. The intuition is that firms with higher quality of external audit are likely to receive and implement better recommendations on corporate governance. Whether the CEO has MBA or not and whether the company is audited by Big 4 audit companies or not, they do not directly affect outcome variables. Rather the impact is channeled via corporate governance. For example, it is very unlikely that during sharp stock price movements investors bothered to check the CEO's autobiography or the name of the external auditor in the previous years. The other variables are listed in Table 2.

Table 2.
List of variables

Variables	Description
Assets	Book value of assets as of 2007, 2008, 2009, 2010, 2011
Total liabilities	Book value of liabilities as of 2007, 2008, 2009, 2010, 2011
Current liabilities	Book value of current liabilities as of 2007, 2008, 2009, 2010, 2011
Long-term liabilities	Book value of long-term liabilities as of 2007, 2008, 2009, 2010, 2011
Revenues (sales)	Total revenues as of 2007, 2008, 2009, 2010, 2011
Profit before taxes	Profit before tax for 2007, 2008, 2009, 2010, 2011
Earnings per share	Earnings per share (common stock) for 2007, 2008, 2009, 2010, 2011
Stock price	Mean of closing bid and ask prices for a common stock
Sector	Sector of the firm
Debt	Debt to equity ratio of the firm for 2007, 2008, 2009, 2010, 2011
Corporate governance score	SAHA annual corporate governance score

Finally, to control for sector characteristics, I use a modified version of the Global Industry Classification Standard industry taxonomy that is routinely used in the previous research on finance.

Methodology

Accumulated data on corporate governance and firm characteristics feature both cross-sectional variation and time variation. Thus, the methodology of the study relies on panel data models. Such models offer several appealing features that are critical for reliability and robustness of the findings. First, panel models can tackle the issue of unobserved heterogeneity in firm characteristics. In any cross-section of firms there may be many firm attributes that are hard to capture using survey or other primary data collection methods. For example, it is very likely that the quality of corporate governance is correlated with overall corporate attitude toward changes in business practices or ethical standards of the board members. Omitting such a variable from the estimation framework causes a problem. The estimated coefficients become biased and inconsistent estimates of corporate governance on stock return or firm value. In other words, the difference between this estimator's expected value and the true value of the parameter being estimated is not a zero and not moving to zero with increased number of observations. Secondly, an obvious advantage of panel data an extra source of variation that provides richer information about a firm leading to a more efficient estimation. Thirdly, panel data allow assessing dynamic adjustment to changes in corporate governance. In time series setting, one should have a lengthy observation to deduct a dynamic effect. Usually, such data about corporate governance are hard to obtain due to frequent changes in firm ownership and business practices. In contrast, under panel settings a researcher can observe and analyze dynamic adjustment to certain events or policy interventions only with several waves of data and sufficient number of firms.

Two panel models are estimated: pooled and random effects. The standard errors of pooled panel model are corrected for serial correlation at a firm level. Next, the robust Hausman test is conducted by first running a fixed effects linear model. Under the null hypothesis, the firm effects are random, and estimators from fixed and random effects linear models are similar and consistent. Under the alternative, these estimators are significantly different. The test fails to reject the null hypothesis leading to estimation of random effects to obtain parameter estimates for all observables, including dummy variables.

Another critical methodological challenge associated with estimation of corporate governance is an endogeneity of corporate governance. It is frequently argued that variation in corporate governance could be model using firm characteristics included as right hand side variables in the estimated equation.

In other words, endogeneity problem arises when those unobservable characteristics influence treatment choice, level of corporate governance, resulting in a biased parameter estimate of treatment effects. More formally,

$$Y_i = \theta * CG_i + \varepsilon_i$$

where Y_i is an outcome variable, such as stock return or changes in firm valuation; CG is a corporate governance rating; θ is treatment effect (the effect of corporate governance rating on stock return/firm value); and ε_i is a random disturbance term. The difference in outcomes

between a firm with a given rating of corporate governance and this firm with a different rating of corporate governance can be summarized as follows:

$$E[Y_i|CG_i = 1] - E[Y_i|CG_i = 0] = \theta + E[\varepsilon_i|CG_i = 1] - E[\varepsilon_i|CG_i = 0]$$

where CG_i is, dummy variable indicating a treatment, a certain rating of corporate governance, θ treatment effect and $E[\varepsilon_i|CG_i = 1] - E[\varepsilon_i|CG_i = 0]$ is a measure of selection bias. In random experiments, this expression is equal to 0. However, in studies that use observational data, this expression can easily deviate from zero. To estimate an unbiased estimate of θ, which is the effect of corporate governance, this study uses two approaches: conditional independence and instrumental variable (IV) technique. The conditional independence approach decomposes the disturbance term ε_i into a linear function of observable characteristics $\mathbf{X}$ and π_i is a residual that is uncorrelated with $\mathbf{X}$, a vector of observable firm characteristics:

$$\varepsilon_i = \varphi X_i' + \pi_i$$

Further, estimation of

$$\mathbf{Y_i} = \boldsymbol{\alpha} + \boldsymbol{\theta} * \mathbf{CG_i} + \boldsymbol{\varphi}\mathbf{X_i'} + \boldsymbol{\pi_i} \quad (1)$$

will produce consistent estimate of θ if π_i is uncorrelated with X_i'. Technically, equation (1) could be estimated using pooled and random effects models described earlier.

The assumption that π_i is a residual that is uncorrelated with $\mathbf{X}$ is relatively strong. As discussed earlier, its violation may lead to endogeneity problem. In fact, the endogeneity of corporate governance has received a more detailed attention in recent literature. Studies by Schultz et al. (2010) and Love (2011) report that the level of corporate governance is endogenously selected by firms, and apparently, significant relations produced by OLS and panel models by previous research are the result of spurious correlations.

Given such empirical evidence, we apply more powerful the IV technique. An unbiased estimate of θ is obtained via the following set of equations:

$$Y_i = \theta * CG_i + \varphi X_i' + \pi_i \quad (2)$$

$$CG_i = \vartheta * IV_i + \rho X_i' + \omega_i \quad (3)$$

where (1) is a structural equation, (2) is a first-stage equation. IV is an instrumental variable. To obtain an unbiased estimate of θ, equations (1) and (2) should satisfy two conditions:

(i) $\vartheta \neq 0$, so, the instrument IV is correlated with the treated variable CG_i

(ii) $Cov\,(IV_i\,\pi_i) = 0$ so, the instrument is correlated with the outcome only through its effect on CG_i.

Application of the IV technique also provides an opportunity to discuss the causal effect of corporate governance on stock returns while a conditional independence approach limits us to the discussion of the partial correlation – a significant difference from the policy implication

perspective. The main challenge of the IV technique though is finding a variable that satisfies conditions (i) and (ii).

Apart from Black et al. (2006a), Bhagat and Bolton (2008) and Suvankulov and Öğücü (2012) the exiting studies assume that the variation in corporate governance is exogenous. Black et al. (2006a) use unique features of Korea's corporate governance rules to generate a strong instrumental variable. In particularly, Korean firms with assets over 2 trillion Korean won are subject to elevated corporate governance requirements. In other words, corporate governance is instrumented in the study with size variable. Bhagat and Bolton (2008) attempt to use CEO-tenure-to-age, availability of treasury stocks, presence of active CEO on board and financial distress Altman's Z score as instruments for corporate governance.

This study follows Suvankulov and Öğücü (2012) approach by introducing 2 instrumental variables CEO MBA and Big 4 Audit. The first one takes the value of 1 if the CEO as of the beginning of the year had completed MBA or executive MBA program. The idea here is that managers who went through such training were more likely to be exposed to modern principles of corporate governance.

The second instrumental variable takes the value of 1 if an external audit for 2007 was conducted by Deloitte Touche Tohmatsu, PwC, Ernst & Young, or KPMG. The intuition is that firms with higher quality of external audit are likely to receive and implement better recommendations on corporate governance. It is believed that CEO MBA and Big 4 Audit do not directly affect outcome variables rather the impact is channeled via corporate governance.

Both CEO MBA and Big 4 Audit turned out to have correlation with the corporate governance score. The adjusted R-square in the first stage regression is 0.78. The instruments easily pass tests of over identifying restrictions that is the joint null hypothesis that the excluded instruments are valid instruments, i.e., uncorrelated with the error term and correctly excluded from the estimated equation (Sargan, 1958). Further, both instruments pass Hahn and Hausman (2002) test for weak instrument. Finally, overall estimation framework passes the Cragg-Donald (1993) test for model identification, and the Anderson-Rubin test for the joint significance of possible endogenous variables.

Findings

The analysis includes two dependent variables; stock return and Tobin's Q. Each dependent variable is regressed in different time frames. As stated in Table 2 and 3, the 1 month- 3 months- 12 months' effect of corporate governance ratings on stock returns and Tobin's Q is assessed and have convincing results.

Table 2.
Corporate governance score and stock return, IV and random effects model results

Variables	Stock Return Percentage Points					
	1 month		3 months		12 months	
	IV Model	Random Effects Model	IV Model	Random Effects Model	IV Model	Random Effects Model
Corporate Governance Score	1.579**	0.167	3.485***	2.185***	4.212	5.429**
ISE-30 Return	0.429**	0.480**	0.797***	0.816***	1.178***	1.168***
Consumer Staples Sector	1.387	1.108	-0.447	-0.147	-24.411	-24.876
Energy Sector	-19.052***	-13.566	-15.938**	-13.666	-14.708	-16.593
Financials Sector	3.872	2.230	-6.228	-9.687	12.374	16.440
Industrials Sector	5.301	-1.778	5.785	1.482	-3.652	-1.345
IT&Telecom Sector	9.055	3.764	14.614	11.660	-35.465	-33.667
Materials Sector	15.972***	21.831	-11.759**	-7.477	-8.970	-12.426
Log of Assets	-2.102	-1.736	-0.696	0.747	-11.668	-13.785
EPS	4.187**	1.799	5.436**	4.309	-6.077	-5.660
Sales Growth	1.585	1.403	-0.734	-1.676	13.955*	15.355
Debt to Equity Ratio	-0.846*	0.047	-0.916*	-0.812	-6.178**	-5.821
Observations	67	67	60	60	43	43
R squared	0.187		0.510		0.638	
Number of ID		22		21		19

In general, the results are mostly significant in 1 month and 3-month time, however in 12-months period, it is resulted that market does not find the corporate governance rating

significant for stocks. Table 3 shows the results of the various independent variables' effects on stock returns for IV and random effects models. Overall, the corporate governance scores do have a positive effect on stock return of the company. In the IV model, a unit increase in the corporate governance scores results with 1.579 and 3.485 percentage point increase in the 1 month and 3 months' stock return, respectively. As expected, EPS has positive correlation and debt-to-equity ratio has negative relationship with stock return as expected. In terms of sectors, it seems that energy stocks performed worst. The effects are statistically significant. This is not a surprising result given the fact that the timeframe covered economic crisis. For other sectors, I find no robust and statistically significant associations.

In the random effects model, although the corporate governance score loses its significance for 1 and 3 month models, parameter estimates are closely resembled one in the IV framework indicating on robustness of the findings. For the stock return in 1 month period, in 3 month and 12 month periods, a unit increase in the corporate governance score, stock return increases 2.185 and 5.429 percentage points, respectively. The other independent variables such as asset size of the company, EPS, debt-to-equity ratio lose its significance in the random effect model. Also, sector specific effects are no more significant in the random effects model across all time windows.

Table 3.
Corporate governance score and Tobin's Q growth rate, IV and random effects model results

Variables	**Tobin's Q Growth Rate Percentage Points**					
	1 month		**3 months**		**12 months**	
	IV Model	**Random Effects Model**	**IV Model**	**Random Effects Model**	**IV Model**	**Random Effects Model**
Corporate Governance Score	1.802**	0.702	2.963***	1.915***	2.971	3.626
ISE-30 Return	0.522***	0.506***	0.727***	0.731***	1.197***	1.194***
Consumer Staples Sector	-0.466	-1.045	-6.445	-6.298	-26.035	-26.293
Energy Sector	-15.413***	-11.264	-11.634***	-10.913	-28.011	-26.063
Financials Sector	4.816	4.841	-3.809	-7.713	-10.254	-8.180
Industrials Sector	4.455	-0.683	4.900	1.843	-12.783	-11.837
IT&Telecom Sector	5.607	1.496	12.605*	10.241	-28.943	-27.929
Materials Sector	19.690***	23.199*	-2.183	-0.099	1.968	-0.023
Log of Assets	-3.290	-3.144	-0.955	0.854	-3.746	-4.841

EPS	3.364*	1.806	2.184	1.644	-1.545	-1.277
Sales Growth	2.489	2.618	1.391	0.161	7.738	8.461
Debt to Equity Ratio	0.511	0.693	0.019	-0.211	-6.137***	-5.998
Observations	67	67	59	59	46	46
R squared	0.260		0.530		0.609	
Number of ID		22		20		19

Second analysis is the effects of various independent variables on the Tobin's Q growth rate as percentage points. In Table 4, it is visualized that corporate governance score does not have effects on Tobin's Q growth rate in 12-month time. The announcement of the corporate governance ratings tends to be forgotten by the market players in 12-month time both in IV and random effects model. In the IV model, the corporate governance score information received by the public market players better in 3-month time. In IV model, a unit increase in the corporate governance score follows 2.963 percentage points increase in Tobin's Q growth rate. In random effects model, a unit increase in the corporate governance score follows 1.915 percentage points increase in Tobin's Q growth rate.

Discussion and Conclusion

This paper utilizes a unique, new data from SAHA (Corporate Governance and Credit Rating Services Inc) that consists of 22 companies for different time scale 2007-2011 and attempt to assess whether changes in corporate governance are associated with stock performance and firm value. Corporate governance has received a more focused attention since the recent financial turmoil that led to global economic crisis - harshest since late 20s of the last century. In fact, some of the academicians and industry practitioners argue that flaws in corporate governance in the banking and non-banking financial sectors led to oversupply of affordable capital, the overload of fraudulent and openhanded mortgages to unqualified borrowers with a substantial risk of failure to pay that consequently undermined the entire structure of the financial sectors. The well-known results were shattering: sharp fall of real estate markets, extensive deterioration in economic growth rates, and surge in structural unemployment, lethargic labor markets, and diminished flows of trade and capital across advanced and emerging economies.

This study reports evidence that corporate governance is a crucial factor in explaining the stock return and changes in market value of Turkish firms. the corporate governance scores do have a positive effect on stock return of the company. In the IV model, a unit increase in the corporate governance scores results with 1.579 and 3.485 percentage point increase in the 1 month and 3 months' stock return, respectively. Similarly, in IV model, a unit increase in the corporate governance score causes 2.963 percentage points increase in Tobin's Q growth rate within 3-month period. The findings remain robust across various model specifications despite the limited size of the dataset. Estimated relationships are in line with some of the exiting studies that include Gompers, Ishii, and Metrick (2003), Black (2001), Black et al. (2006a), Bhagat and Bolton (2008) and Suvankulov and Öğücü (2012) although the methodology used in this study is largely superior to those used in most of these research articles.

Moreover, successful implementation of the instrumental variable framework indicates the relationship is likely to be causal. Intuitively, to the large degree such causal relationship could be explained with the concept of investor protection. It is well reported in the literature that better corporate governance safeguards the rights and liberties of the firm owners leading to larger securities markets at a country level, less concentrated share ownership, and higher share prices. Detailed discussion of the topic could, for instance, be found at Glaeser et al. (2004).

The fact that the reported relationship is causal is a critical contribution to the existing literature. It has been recently argued in the literature that well-endowed firms with higher market values can adopt better corporate governance standards limiting exogenous variation in the variable (e.g., see Demsetz and Lehn, 1985), Alternatively, firms may also adopt good corporate governance standards to signal that the firm's management are up to the task. Once again this may be problematic since in such cases the parameter estimate would measure an effect of the signal rather than the one of corporate governance. Finally, there is also an omitted variable bias due to which one can wrongly conclude that governance directly predicts share price whereas the true relationship is caused by the missing variable, Fortunately, the results from the panel and instrumental variable models described earlier are well aligned both for stock returns and Tobin's Q. It does appear that an improvement in the quality corporate governance of Turkish firms causes increase in both dependent variables although the magnitude of the effect varies across the range of time windows.

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Appendix

	Yes	No	N/A	Incomplete
I Rights of shareholders				
Protect shareholder rights	X			
Shareholders have the right to participate in, and to be sufficiently informed on, decisions concerning fundamental corporate changes	X			
Shareholders should have the opportunity to participate effectively and vote in general shareholder meetings	X			
Capital structures and arrangements that allow disproportionate control	X			
Markets for corporate control should be allowed to function in an efficient and transparent manner				X
Shareholders should consider the costs and benefits of exercising their voting rights			X	
II Equitable treatment of shareholders				
The corporate governance framework should ensure the equitable treatment of all shareholders, including minority and foreign shareholders	X			
Insider trading and abusive self-dealing should be prohibited	X			
Board members and managers should be required to disclose material interests in transactions or matters affecting the corporation				X
III Role of stakeholders in corporate governance				
The corporate governance framework should recognize the rights of stakeholders			X	
The corporate governance framework should permit performance-enhancement mechanisms for stakeholder participation			X	
The corporate governance framework should permit performance-enhancement mechanisms for stakeholder participation			X	
Stakeholders should have access to relevant information			X	
IV Disclosure and transparency				

	Yes	No	N/A	Incomplete
The corporate governance framework should ensure that timely and accurate disclosure is made on all material matters				X
Information should be prepared, audited, and disclosed in accordance with high quality standards of accounting, financial and nonfinancial disclosure, and audit				X
An independent audit should be conducted by an independent auditor	X			
Channels for disseminating information should provide for fair, timely, and cost-effective access to relevant information by users	X			
V The responsibility of the board				
Board members should act on a fully informed basis, in good faith, with due diligence and care, and in the best interests of the company and the shareholders	X			
The board should treat all shareholders fairly	X			
The board should ensure compliance with applicable law and take into account the interests of stakeholders	X			
The board should fulfill certain board functions	X			
The board should be able to exercise objective judgment on corporate affairs independent from management				X
Board members should have access to accurate, relevant, and timely information	X			

Source: OECD, 2004. OECD Principles of corporate governance.