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Is There a Relationship Between Corporate Governance and Value-based Financial Performance Measures? A Study of Turkey as an Emerging Market

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Abstract

The purpose of this study is to investigate the relationship of value-based performance measures – economic value added (EVA), market value added (MVA) and cash value added (CVA) – with corporate governance using data on 41 corporations listed on the Istanbul Stock Exchange-100 Index. Multiple panel regression is used covering the 1998–2007 period. The findings indicate that EVA, MVA, and CVA increase if the CEO is a member of the board at the same time, and board size does not significantly affect performance. Ownership concentration is significantly related to all performance measures except for MVA, while manager ownership is not a significant variable in increasing corporate performance. Foreign ownership is found to increase EVA but decrease MVA.

Keywords CEO duality; Corporate governance; Firm performance; Ownership structure; Value-based measures

JEL Classification: G30, G32, G34, L25

1. Introduction

Corporate scandals of the recent past involving companies such as Enron, WorldCom, Global Crossing, Tyco, etc. have irritated financial markets and have led to losses suffered by stakeholders of corporations, primarily shareholders. Corporate

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scandals and economic crises connected to these scandals have resulted in a search for ways to eliminate failures in corporate management. As a result, the concept of corporate governance has arisen. Corporate governance is a good management process by which corporations, taking into account the interests of all stakeholders at maximum, can operate according to the principles of transparency, fairness, accountability, and responsibility (Van Horne and Machowicz, 2005). Corporate governance differentiates between the rights and responsibilities of the board of directors, top managers, stockholders and other stakeholders, and arranges the relationships among the stakeholders. In addition, by determining the decision-making rules and processes within the company, corporate governance sets forth the fundamental structure in which corporate goals and policies are determined. In this fundamental structure, corporate governance defines information as to how the company can attract human capital and financial capital, how it can implement an efficient operation policy, how in the long-run, implementations of any kind to provide the stockholders with an economic value can be carried out.

Following corporate scandals and mismanagements, corporate governance has become an indispensable element for financial markets. Corporate governance practices affect a wide range of parties ranging from national economies to interest groups. As far as management is concerned, corporate governance can be defined as the structure that makes it necessary for corporations to make the required arrangements in management systems for increasing the performance of corporations and ensuring that they operate in line with these arrangements. Implementing corporate governance principles are in fact one of the fundamental requirements for companies to improve their performance. The financial success achieved by implementing these principles is an indication of creating value. Therefore, corporate governance can also be said to be targeted at increasing firm value, in other words be defined as "a management approach aimed at contributing to the firm with an emphasis on shareholder value". McKinsey and Company (2002) also state that well-managed corporations – corporations that implement corporate governance principles better – will have better performance. But what's more curious is how corporate governance practices affect the financial performance of corporations.

Many studies have examined the relationship between financial performance and the corporate governance applications of corporations (Bianco and Casavola, 1999; Black *et al.*, 2003; Kyereboah-Coleman *et al.*, 2006; Kim and Yoon, 2007; Raja and Kumar, 2007). Empirical studies cited have used various performance measures relating to corporate governance. Among the most widely used performance measures are market-to-book value ratio (Black *et al.*, 2006), Tobin's Q ratio (Weir *et al.*, 2002; Hiraki *et al.*, 2003; Kiel and Nicholson, 2003), dividend yield (Gompers *et al.*, 2003), return on assets (Zajac and Westphal, 1996; Shrader *et al.*, 1997; Himmelberg *et al.*, 1999), return on equity (Bhagat *et al.*, 1999; Hutchinson and Gul, 2004), change in cash flows (Renneboog, 2000), return on stocks (Mitton, 2002), changes in adjusted after-tax profitability (Bhagat and Black, 2000) and return on sales (Boubakri *et al.*, 2004). Considering the situation from a wider perspective,

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two groups of measures are seen to dominate the studies. The first group consists of accounting-based traditional performance measures like return on assets and return on equity, while the second group uses market-based measures along with accounting-based measures. Generally, as market related performance measures, stock returns based on stock prices or cumulative adjusted returns are considered.

In recent years, a more constructive, value-adding relationship between management and stakeholders has been regarded as a requirement for corporate success. Companies need to consult their stakeholders more to establish their strategies and shape their future. Creating value is not regarded as an end in itself, but as a means towards corporate success based on good governance fulfilling the needs of all stakeholders as much as possible. As a result of the developments in financial theory in recent years, ''value maximization'' has begun to be regarded as the eventual objective of corporations. With the increasing perception of value creation as an important objective for all stakeholders, the performance measures of corporations have been transformed and value-based performance measures like economic value added (EVA), market value added (MVA) and cash value added (CVA) have been developed. Accounting-based performance measures do not consider the cost of invested capital either in terms of risk-free rate and risk premium. Therefore, maximizing earnings or return is not necessarily and implication of shareholder value maximization. Value-based performance measures are intended to eliminate the distortions in accounting data to provide comparability across time, firms and industries. After eliminating the distortions in accounting data, evaluations as to whether companies are creating or destroying shareholder wealth are possible and more insightful valuations can be provided (Venanzi, 2010). Value-based performance measures can also be used to assess the efficiency and performance of managers within the context of corporate governance. Lehn and Makhija (1996) find that companies with high EVAs and MVAs have lower CEO turnover rates than companies with relatively low EVAs and MVAs. In this study too, EVA, MVA and CVA are used as measures of performance in the search for the relationship between corporate governance principles (chief executive officer-duality, size of the board of directors (SOTB), ownership concentration, manager ownership, foreign ownership) and performance.

The study consists of five parts. In the following section, a summary of the studies that have investigated the relationship between corporate governance and corporate performance is presented. In Section 3 the econometric methodology and model structure are presented. Section 4 covers the results of the econometric models. The last part concludes the study with general remarks.

2. Literature Review

In the literature, many variables including manager ownership, structure and SOTB, ownership structure, ownership concentration, foreign ownership, the existence of audit committees and the independence of the board of directors are used in relation to corporate governance. Various performance measures are used in the

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studies. In this part of the study, a summary of the studies based on the relationship between financial performance and corporate governance variables is given. The results of some of the studies on the relationship between classical performance measures and corporate governance variables are presented in Table 1.

There have been a limited number of studies done using performance measures like EVA, MVA, etc. Coles *et al.* (2001) analyzed 144 US corporations based on the regression of data from 1984 to 1988. The cited study attempts to explain the changes in EVA and MVA by corporate governance variables like leadership structure, structure of the board, ownership structure of the board, CEO compensation, and CEO ownership. Analyses result in a positive relationship between leadership structure and EVA, but negative relationships of MVA with foreign ownership and

Table 1 Some studies based on the relationship between corporate governance and firm performance

CEO duality	Sridharan and Marsinko (1997)	Positive relationship between CEO duality and firm performance
	Chaganti *et al.* (1985)	No relationship between CEO duality and firm performance
Board size	Kyereboah-Coleman *et al.* (2006); Pearce and Zahra (1992); Dehaene *et al.* (2001)	Positive relationship between board size and firm performance
	Mak and Kusnadi (2005); Mollah (2007); Yermack (1996)	Negative relationship between board size and firm performance
	Connelly and Limpaphayom (2004)	No relationship between board size and firm performance
Own. C.-10	Berle and Means (1932)	Positive relationship between ownership concentration and firm profitability
	Demsetz and Lehn (1985); Demsetz and Villalonga (2001)	No significant relationship between ownership concentration and profitability
	Yurtoglu (2000)	Negative relationship between ownership concentration and firm performance
	Citak (2007)	Positive relationship between ownership concentration and market-to-book value ratio
Man-own	Jensen and Meckling (1976); Hiraki *et al.* (2003)	Positive relationship between manager ownership and performance
	Himmelberg *et al.* (1999)	No significant relationship between manager ownership and performance
For.-own	Aydın *et al.* (2007); Dwivedi and Jain (2005)	Positive relationship between foreign ownership and performance

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CEO compensation. However, the study finds no clear relationship between either EVA or MVA with board structure and CEO ownership. In their study, in which they use EVA and MVA as performance measures, Baliga *et al.* (1996) investigate the relationship between CEO duality and performance on 500 corporations but find no clear relationship between these variables. El Mir and Seboui (2008) attempt to explain the relationship between EVA and created shareholder value by using corporate governance principles. Their research findings suggest that corporate governance principles are of importance in explaining the relationship between these two variables. In their study on 219 Canadian firms, Adjaoud *et al.* (2007) use accounting-based measures and value-based measures (like EVA and MVA) together. The study finds no significant relationship between corporate governance variables and accounting-based performance measures, while it finds a significant positive relationship between corporate governance variables and EVA and MVA.

3. Research Design and Methodology

3.1. Sample

In this paper, the relationship between corporate governance and firm performance is investigated on the basis of value-based performance measures, and the data set covers the period 1998–2007. The data set is constructed using annual financial statements and company yearbooks published by the Istanbul Stock Exchange (ISE) via their official website. Banks and financial sector institutions are excluded from the analyses. Since ISE 100 is the major index representing ISE in a broad sense, companies included in ISE-100 are the ones used in this study. In order to reach more reliable parameter estimates, and hence to obtain more accurate results, panel data set is used. For the sake of using a balanced panel and excluding financial companies, 59 companies are eliminated leaving 41 companies for the analyses.

3.2. Variables Used in the Study

Since the use of EVA, MVA and CVA brings all interest groups and the corporation together around the goal of creating shareholder value, theoretically these measures are expected to move in parallel with corporate governance practices. In a study investigating the relationship between corporate governance implementation and firm performance, we believe that value-based measures can reflect the performance of a corporation better than accounting-based measures. Therefore, value-based measures are used in this study. EVA, MVA and CVA are used as three different value-based performance measures, while CEO duality, SOTB, ownership concentration, manager ownership, and foreign ownership are the explanatory variables in the study. The determination of the variables is based on the literature (Sridharan and Marsinko, 1997; Demsetz and Villalonga, 2001; Hiraki *et al.*, 2003; Dwivedi and Jain, 2005; Kyereboah-Coleman *et al.*, 2006). All the variables used in the study are shown in Table 2.

As a performance measure suggested by Stern Stewart & Co., EVA is a measure that is based on residual incomes of corporations (Grant, 2003). EVA considers

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Table 2 Explanatory variables and control variables used in the study

[1]In the calculation of WACC, annual interest rates applied by the Development Bank of Turkey to medium-term investment loans were used as cost of borrowing. Capital Asset Pricing Model was used to calculate the cost of equity. Using risk-free rate of return (Rf), expected return on the market (Rm), market risk premium (Rm − Rf) and the beta coefficient of the stock (β), the cost of equity (ke) was calculated based on CAPM. The model used is as follows: $Ke = Rf + (Rm - Rf) \times \beta$. First of all, beta coefficients of corporations required for cost of equity calculations were calculated using the Finnet Portfolio Advisor program. Average simple interest rates on treasury bills of the corresponding periods were used to represent risk-free rate of returns. These data were gathered via the website of the Central Bank of Turkey. [2]Gross cash investment was obtained by adding depreciable assets to non-depreciable assets. Economic depreciation was calculated as follows (where n stands for the economic life): Economic depreciation = $[WACC/(1 + WACC)n - 1] \times$ depreciable assets. On the other hand capital load was calculated as the multiplication of WACC by Gross Cash Investment.

Dependent variables	EVA	(Return on invested capital-weighted average cost of capital) × Invested capital[1]	EVA
	MVA	Total market value-total invested capital	MVA
	CVA	Gross cash flow-economic depreciation-capital load[2]	CVA
Explanatory variables	CEO-duality	1 when CEO is also the chairman of the board of directors and 0 otherwise (dummy variable)	DUAL
	Size of the board	Logarithm of the number of members in the board of directors	SOTB
	Ownership concentration	The proportion of total ownership of people or institutions with more than 10% share to the total capital of the firm (%)	OC-10
	Manager ownership	The percentage of shares owned by CEO and board members (%)	MAN-O
	Foreign ownership	Amount of foreign capital/total equity	FOR-O
Control variables	Leverage ratio	Total debt/total assets	LR
	Firm size	Logarithm of total assets	F-SIZE

financial performance on the basis of after-tax net operating income, investments in assets required to generate this income and the cost of investments (Brewer *et al.*, 1999). Described in simpler terms, EVA is based on a corporation's case of generating an income at least as much as the cost of capital. Since EVA considers both the cost of debt (which is a direct cost item) and the cost of equity (which is an indirect cost item), analytically it differs widely from traditional accounting measures (Grant, 2003). Another measure used in performance measurement within the framework of the value-based management approach is MVA. Shawn (1994) suggests that MVA is the best measure for assessing value creation – the primary objective of a corporation. Many value-based management practitioners

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regard MVA as one of the most prominent measurement methods of value-based management (John *et al.*, 2000). Another dependent variable used in our study is CVA. A new method that has recently emerged in the measurement of financial performance, CVA is a value-based measure developed by American advisory institutions (Knight, 1998). The basic rationale behind developing CVA as a financial performance measure is the opinion that cash flows are to be benefited at every stage of corporate performance measurement. CVA does not take into account returns, but emphasizes cash flow as the major factor in decision-making processes (Heidari, 2003).

Variable DUAL in this study reflects the state of whether or not the CEO is also the chairman of the board of directors. As a dummy variable, DUAL takes on the value of either 1 or 0. SOTB stands for the number of members in the board of directors and its logarithm is included in the model. The proportion of total ownership of people or institutions with more than a 10% share of the total capital of the firm is defined in percentage terms and represented by the variable OC-10. The percentage of shares owned by the CEO and board members is represented by the variable MAN-O. The expectation that foreign ownership will positively affect the performance of firms in developed countries has led to including the variable FOR-O as the ratio of foreign capital amount to equity in our model. We also use leverage ratio (LR) and firm size as control variables in this study (Kim and Yoon, 2007; Moustafa, 2007).

3.3. Econometric Methodology and Model Structure

Regression estimates based on non-stationary data can be misleading. Therefore, the series must be primarily tested for stationarity in all econometric studies (Granger and Newbold, 1974). The stationarities of series are searched for by unit root tests. In other words, whether or not the series has unit roots is investigated. Since panel data models are used in this study and the data set has a time dimension, unit root existence is investigated by panel unit root tests. Maddala and Wu (1999) suggest that using panel unit root tests yields statistically better results compared to the results of unit root tests like Philips-Perron, which are based on a single time series. The most widely used recent tests for investigating the stationarity of panel data are the Levin, Lin and Chu *t*-test (LLC *t*) developed by Levin *et al.* (2002) and the Im, Peseran and Shin *w*-test (IPS *w*) developed by Im *et al.* (2003). The *t*-test developed by Levin *et al.* (2002) to examine the common unit root processes and the *w*-test developed by Im *et al.* (2003) are used in this study for checking the stationarity of the series.

How much the changes in financial performance measures can be explained by corporate governance variables is analyzed by multiple panel regression models, which integrate the time and cross-section dimensions of the data set. Panel data requires panel regression models for statistically more successful results. Therefore, considering EVA, MVA and CVA variables as financial performance measures, three different panel regression models are constructed.

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4. Empirical Results

Three panel regression models constructed to determine the effects of explanatory variables on financial performance measures are analyzed. The decision to use either the fixed effects model or the random effects model in regression analyses is made utilizing statistical methods. Three panel regression models are analyzed and the results are assessed.

In general, standardized data are used in the panel model structure, while raw data are used for descriptive statistics to ensure that no information is lost. On the other hand, since the panel model used includes both cross section and time series dimensions, in analyzing the data structure, descriptive statistics are calculated and assessed in panel data form. Descriptive statistics are presented in Table 3.

The results of the LLC *t*-test and the IPS *w*-test that analyze panel stationarity are presented in Table 4. Common unit root processes are examined by the LLC *t*-test while individual unit root processes are examined by the IPS *w*-test, and as seen in Table 4, the results of analyses indicate no unit root for any variable ($p < 0.01$). In other words, the LLC *t*-test and the IPS *w*-test results indicate stationarity of the series. Consequently, following unit root tests the series of the variables used in modeling the relationship between corporate governance and financial performance are proven to be stationary. Therefore, these variables are appropriate for modeling and forecasting.

In this study both the fixed effects model and the random effects model are used in constructing the panel regression models. The decision for using the fixed effects and random effects models in this study is based on the Hausman test (Wooldridge, 2002; Greene, 2003). The equations in which EVA, MVA, and CVA are the dependent variables are defined as model A, B, and C, respectively, in panel A, B, and C of Table 5. Hausman test results of these three models are presented along with panel regression results in Table 5.

Table 3 Descriptive statistics

Variables	Mean	SD	Minimum	Maximum
EVA	−1 540 235	5 897 635	−4 708 843	2 717 75
MVA	3 918 647	4 402 301	−5 946 908	6 523 516
CVA	−5 926 902	3 832 697	−5 309 955	1 800 595
DUAL	0.0051502	0.221495	0.000000	1.000000
SOTB	7.274678	1.838783	4.000000	15.00000
OC-10	62.18077	1.597908	2.508000	96.41000
MAN-O	7.6743	16.5865	0.0000	76.9000
FOR-O	12.0248	18.4435	0.0000	67.0090
LR	0.475871	0.214856	0.057261	135.4350
F-SIZE	8.489858	0.648159	6.150009	9.938925

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Table 4 LLC *t* and IPS *w* panel unit root test results

	Levin, Lin and Chu *t*-test		Im, Pesaran and Shin *w*-test	
Variables	Test statistic	*p*-value	Test statistic	*p*-value
EVA	−29.0236	0.000	−9.47944	0.000
MVA	−1082.98	0.000	−4.80396	0.000
CVA	−37.7567	0.000	−10.1049	0.000
DUAL	−2.86319	0.000	−2.04108	0.000
SOTB	−23.5566	0.000	−4.45882	0.000
OC-10	−220465	0.000	−14206.7	0.000
MAN-O	−2.8798	0.000	−7.0876	0.000
FOR-O	−12.7765	0.000	−6.0986	0.000
LR	−9.89569	0.000	−5.23368	0.000
F-SIZE	−8.36552	0.000	−5.89220	0.000

Based on a test statistic of 18.96 and a corresponding *p*-value of 0.0020, results of the Hausman test performed on the model for EVA suggest using the fixed effects model in regression estimation. On the other hand, based on a test statistic of 5.33 and a corresponding *p*-value of 0.3771, the Hausman test resulted in favor of the random effects model for the relationship between MVA and corporate governance variables. Similar to the model for EVA, Hausman test results suggest using the fixed effects model for CVA (Hausman test statistic = 18.57 and *p*-value = 0.0023). As seen in panel A of Table 5, the model for the relationship between EVA and corporate governance variables is statistically significant at the 1% level of significance (*F*-statistic = 5.11 and *p*-value = 0.0002), while the model for the relationship between MVA and corporate governance variables is statistically significant at the 10% level of significance (*F*-statistic = 1.94 and *p*-value = 0.0887) as seen in panel B. Finally, panel C indicates that the model for CVA is statistically significant at the 1% level of significance (*F*-statistic = 3.35 and *p*-value = 0.0062).

Evaluating all three models shown in the panels of Table 5, we conclude that the variable DUAL, representing whether or not the CEO is also the chairman of the board of directors, has statistically significant and positive relationships with each EVA, MVA and CVA. In other words, CEO duality is found to affect corporate performance positively. Variable DUAL is found to affect CVA of corporations the most among three performance measures (coefficient = 30.641). On the other hand, the variable DUAL affects EVA of corporations the least out of EVA, MVA and CVA (coefficient = 1.234). These findings are consistent with those of Coles *et al.* (2001), but contradict those of El Mir and Seboui (2008). The findings of Sridharan and Marsinko (1997), and Bhagat and Bolton (2008) suggest positive relationships of DUAL with different traditional performance measures such as Tobin's Q, abnormal returns, return on assets, return on equity, and after tax profit.

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Table 5 Panel regression results of the equations between value-based financial performance measures and corporate governance (model A, B, and C)

The first row of each panel shows estimated coefficients, the second row shows *t*-statistics and the third row shows *p*-values indicating the significance of coefficients.

		DUAL	SOTB	OC-10	MAN-O	FOR-O	LR	F-SIZE	
Perf. measure	C	b1	b2	b3	b4	b5	b6	b7	Hausman
Panel A									
EVA	−39.021	1.234	0.046	−0.016	−0.027	.0724	7.885	4.069	18.96
	−4.13	0.56	0.11	−0.32	−1.17	0.35	2.37	4.65	0.0020
	0.000	0.057	0.915	0.074	0.244	0.072	0.019	0.000	Fixed E
Number of observation: 244; R^2 (%): 10.81; *F*-statistic: 5.11; *p*-value: 0.0002									
$EVA_{it} = \alpha_{it} + \beta_1 DUAL_{it} + \beta_2 SOTB_{it} + \beta_3 OC\text{-}10_{it} + \beta_4 MAN\text{-}O_{it} + \beta_5 FOR\text{-}O_{it} + \beta_6 LR_{it} + \beta_7 F\text{-}SIZE_{it} + \epsilon_{it}$									
Panel B									
MVA	84.359	5.585	−3.64	−0.158	0.187	−3.641	−29.77	−18.12	5.33
	2.13	0.33	−1.09	−0.40	1.06	−1.09	−1.17	−2.71	0.3771
	0.033	0.073	0.277	0.692	0.290	0.027	0.024	0.007	Random E
Number of observation: 244; R^2 (%): 0.0440; *F*-statistic: 1.94; *p*-value: 0.0887									
$MVA_{it} = \alpha_{it} + \beta_1 DUAL_{it} + \beta_2 SOTB_{it} + \beta_3 OC\text{-}10_{it} + \beta_4 MAN\text{-}O_{it} + \beta_5 FOR\text{-}O_{it} + \beta_6 LR_{it} + \beta_7 F\text{-}SIZE_{it} + \epsilon_{it}$									
Panel C									
CVA	−186.61	30.641	0.952	0.298	0.242	−0.566	28.51	16.55	18.57
	−3.00	2.12	0.33	0.87	1.58	−0.42	1.30	2.87	0.0023
	0.003	0.035	0.742	0.038	0.113	0.671	0.018	0.005	Fixed E
Number of observations: 244; R^2 (%): 0.0735; *F*-statistic: 3.35; *p*-value: 0.0062									
$CVA_{it} = \alpha_{it} + \beta_1 DUAL_{it} + \beta_2 SOTB_{it} + \beta_3 OC\text{-}10_{it} + \beta_4 MAN\text{-}O_{it} + \beta_5 FOR\text{-}O_{it} + \beta_6 LR_{it} + \beta_7 F\text{-}SIZE_{it} + \epsilon_{it}$									

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None of the models constructed reveals statistically significant relationships between size of the board and performance measures (p-values; 0.915 [EVA], 0.277 [MVA], 0.742 [CVA]). This result means whether the board is large or not has no significant effect on any of the value-based performance measures. Coles *et al.* (2001) and Adjaoud *et al.* (2007) find no significant relationship of size of the board with EVA and MVA either. From this perspective our findings seem to be consistent with the literature. However, El Mir and Seboui (2008) find a significant and negative relationship. Studies on the size of the board, using traditional performance measures, yield contradictory results. There are studies that find positive relationships of size of the board with traditional performance measures (Pearce and Zahra, 1992; Dalton *et al.*, 1998), while some studies find negative relationships (Jensen, 1993; Yermack, 1996; Mak and Kusnadi, 2005; Mollah, 2007). A study on Turkish corporations finds no evidence that a large board of directors impacts negatively upon corporate performance (Kaymak and Bektas, 2008).

Demsetz and Lehn (1985) find no significant relationship between ownership concentration and firm profitability, while Berle and Means (1932) find a positive relationship between these variables. Yurtoglu (2000) concludes that ownership concentration has a negative effect on corporate performance, while Citak (2007) and Baek *et al.* (2004) suggest positive relationships of ownership concentration with market-to-book value and Tobin's Q. Contradictory conclusions are reached on the relationship between ownership concentration and performance. Similarly in our study it is not clear in what way concentrated ownership affects corporate performance. Table 5 shows that the proportion of total ownership of people or institutions with more than a 10% share of the total capital of the firm (OC-10) is significantly related to both EVA and CVA. However, the relationship is negative for EVA (regression coefficient of OC-10 = −0.016) while it is positive for CVA (regression coefficient of OC-10 = 0.298). In other words, concentrated ownership can be said to increase corporate performance on the basis of CVA and to decrease corporate performance on the basis of EVA. Panel B of Table 5 reveals a negative but statistically insignificant relationship between ownership concentration (OC-10) and MVA. It is clear that ownership concentration has no significant effect (p-value = 0.692) on market performance represented by MVA.

According to Jensen and Meckling (1976), if they are given a share of the company managers will better protect the rights of shareholders. Therefore, manager ownership can be thought to affect corporate performance in a positive way. However, the results of analyses do not confirm this belief for the corporations under the coverage of our study. As seen in panel A, the model for EVA shows a negative relationship (coefficient = −0.027), while the models in panels B and C show positive relationships of manager ownership (MAN-O) with MVA and CVA respectively (coefficients = 0.187 and 0.242). However, none of these three coefficients in the models are significant. Similarly, Coles *et al.* (2001) draw attention to no insignificant effect of ownership concentration on changes in EVA and MVA. Similar

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findings exist in studies carried out using different performance measures (Himmelberg *et al.*, 1999; Demsetz and Villalonga, 2001).

Viewing the relationship between corporate governance and value-based financial performance from the perspective of foreign ownership, regression coefficients except one turn out to be statistically significant in the models. The expectation that foreign ownership in developed economies will affect corporate performance is valid in the literature. This expectation is realized for a developing country like Turkey in the model for EVA in our study. The model shows a positive and statistically significant relationship between foreign ownership (FOR-O) and EVA (coefficient = 0.0724; p-value = 0.072). As seen in panel B, foreign ownership and MVA have a negative and significant relationship at the 5% level of significance. This finding is consistent with previous studies. For example, Coles *et al.* (2001) find a negative relationship. As seen in panel C there is no significant relationship between foreign ownership and CVA (p-value = 0.671).

As a control variable used in this study LR displays a positive and significant (at 5% level) relationship with EVA. Clearly, this means that as the weights of debt in the capital structures of companies under analyses increase, so do the EVAs of these companies. This finding is not consistent with that of Adjaoud *et al.* (2007). A similar relationship between LR and CVA is found in our study. As the weight of debt in the capital structure increases a higher amount of CVA will be experienced by the company (coefficient = 28.51, p-value = 0.018). As can be seen in panels A and C of Table 5, LR has the largest effect on CVA among the three performance measures. The relationship of LR with MVA is consistent with the findings of Adjaoud *et al.* (2007). LR and MVA have a negative and statistically significant relationship. Therefore, MVA is negatively affected by increases in the level of debt in the capital structure. On the other hand, authors like Black *et al.* (2003) and Kyereboah-Coleman *et al.* (2006) argue the existence of a positive and significant relationship between LR and performance measures. The finding in our study that leverage has positive relationships with EVA and CVA seem to support their claim that companies utilizing a high level of debt might experience high performance. The other control variable in our study is firm size. This variable has statistically significant relationships with all three performance measures. Firm size has positive relationships with EVA and CVA, while it has a negative relationship with MVA. According to Adjaoud *et al.* (2007) positive relationship of firm size with EVA is consistent. However, negative relationship of firm size with MVA in our study contradicts this finding. Although Coles *et al.* (2001) find a negative relationship of firm size with EVA and MVA, our findings for EVA contradict theirs, yet our findings for MVA are consistent with theirs in terms of the direction of the relationship.

5. Summary and Conclusion

This study analyzes the relationship between firm performance and corporate governance. In investigating the relationship, financial performance measures EVA, MVA

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and CVA, developed within the context of value-based management, are used as dependent variables. CEO-duality (DUAL), SOTB, ownership concentration (OC-10), manager ownership (MAN-O), and foreign ownership (FOR-O) are the explanatory variables in the study. In addition to these variables, two control variables, LR and firm size (F-SIZE), are used in to increase the significance of the regression models. Models are based on 4 100 observations, covering the 1998–2007 period, of 41 corporations that are listed in ISE. These models are constructed using panel data structure.

The findings of the study are partially consistent with theoretical expectations. Regression results indicate that EVA, MVA and CVA increase if CEO is not the member of the board of directors at the same time. Results suggest that the SOTB does not have a significant effect on corporate performance. In general this result is not consistent with theoretical expectations. Ownership concentration can be said to have significant relationships with performance measures except for MVA. Contrary to theoretical expectations, manager ownership is not found to be an important variable in increasing corporate performance within the context of value-based management. However, foreign ownership is found to increase corporate performance in terms of EVA and to decrease corporate performance in terms of MVA. We hereby conclude our study with a suggestion for future potential studies: in addition to value-based performance measures, measures like total shareholder return, cash flow return on investment, shareholder value, and shareholder value added can be taken into consideration as dependent variables.

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