Does Board Size Matters?
New Evidence from a Two-Tier Board System

Salim Darmadi

Indonesian Financial Services Authority (OJK)
Jakarta, Indonesia

Indonesian College of State Accountancy (STAN)
Tangerang Selatan, Indonesia

ABSTRACT

The objective of this study is to examine the association between board size and firm value using the setting of a developing economy that adopts a two-tier board system. Hence, the present study extends the existing literature which heavily focuses on economies adopting unitary board structure. Employing a sample of non-financial companies listed on the Indonesia Stock Exchange (IDX), we perform regression analyses separately for the supervisory board and the management board. Using return on assets (ROA) and Tobin's Q as measures of firm value, our results support the proposition that board size and firm value are positively associated. Across different models and estimation techniques, the relationship of board size to Tobin's Q is more robust than that to ROA. Our further analysis also reveals that larger board size is more likely to be employed by larger firms, which benefit from having larger boards. It is suggested that listed companies need to carefully arrange their board structure in their efforts to maximize firm value.

Keywords: *Corporate governance; Board size; Two-tier board; Firm value; Indonesia*

45

Introduction

In the aftermath of the 1997 Asian financial crisis and a number of corporate scandals involving large corporations in various countries during the past two decades, there are increasing attempts to promote good corporate governance, which is aimed at improving the confidence of investors in capital markets. In various parts of the world, governments, regulatory agencies, or independent committees have set up corporate governance codes to be adopted, either mandatorily or voluntarily, by publicly-listed firms. One of the corporate governance mechanisms usually pointed out in such codes is the board of directors, since corporate boards play a central role in the governance of listed companies.

Board size is considered one of the important determinants of effective corporate governance (Pearce and Zahra, 1992; Dalton *et al.*, 1999). The existing empirical studies attempting to examine the association between board size and firm value demonstrate contradicting results. These studies are mostly based on a sample of firms in developed markets. Yermack (1996), based on a sample of US firms, provides evidence that a greater number of board members leads to a lower firm value. Similarly, Eisenberg (1998) also suggest such a negative relationships in the context of Finland. Mak and Kusnadi (2005) suggest that the negative association between board size and firm value seems to be a common phenomenon in many jurisdictions. An Australian study, however, reveals that board size has a significant and positive association with Tobin's *Q* (Setia-Atmaja, 2008). Coles (2008) also indicate that a positive relationship exists between board size and firm value for complex firms in the US.

The present study contributes to the literature in at least two important ways. First, this study focuses on an emerging market that adopts a two-tier board system; thereby extending the extant literature predominated by studies conducted in unitary-board systems. In unitary board structure, the board of directors plays an administrative role on the firm and consists of executive and non-executive directors. On the other hand, in two-tier board structure, firms have two types of boards in their organizational structures, namely the supervisory board and the management board. The supervisory board conducts monitoring role on the management and consists of insiders and outsiders. It represents the interest of shareholders and is totally non-

executive. The management board, whose members are top executives, conducts the day-to-day management of the firm. Studies investigating the association between board size and firm value in the context of economies with two-tier board systems are extremely rare. One of the few studies is Van Ees *et al* (2003), based on data from the Netherlands. Indonesia is one of few developing economies that adopt a two-tier board system. Due to Dutch colonisation in the past, Indonesia inherits some aspects of the Dutch business law, including its two-tier board system.

Second, this study uses the setting of a developing economy characterized by a relatively weaker institutional environment, while the existing studies is mostly conducted using the context developed economies. As found in other emerging markets, the Indonesian capital market is featured by higher ownership concentration and family control (Claessens et al., 2000), weaker legal system and investor protection, and weaker disclosure requirements (La Porta et al., 1999; Claessens and Fan, 2003). Having different institutional backgrounds, the function of boards and the relationship between board size and firm performance in the country are expected to differ, as suggested by Guest (2009). Further, Indonesia is the largest economy in Southeast Asia and the sixteenth-largest in the world. It is home to one of Asia's emerging capital markets, which continues to attract global investments.

From a sample comprising 802 observations of 304 public firms listed on the Indonesia Stock Exchange (IDX) during the period of 2005-2007, we perform multivariate regression analyses to examine the association between board size and firm value (measured by Tobin's Q and ROA). Empirical evidence obtained reveals that the size of the management board is positively related to both Tobin's Q and ROA, while the size of the supervisory board has a positive association only with Tobin's Q. Further, from correlation analysis, it is found that board size has a direct relationship with firm size, implying that larger firms tend to employ more people serving on their boards. Those larger firms are also found to benefit from having larger boards.

The remainder of this paper is organized in the following manner. The next section reviews the two-tier board system in Indonesia. Further, we present the review of prior studies and develop hypotheses, followed by the description of data and methodology. Next, empirical results are presented and further discussed. Finally, the last section concludes the paper.

TWO-TIER BOARD STRUCTURE IN INDONESIA

According to the country's Corporation Law, corporations shall have two boards in their organizational structures, namely *Dewan Komisaris* (the Board of Commissioners, subsequently "BOC") and *Direksi* (the Board of Directors, subsequently "BOD"). Each of these two boards shall have its own members, so that overlapping membership on the two boards is avoided. Unlike in unitary board structure, there is no role duality of the Chairman and Chief Executive Officer (CEO) due to separate membership.

The members of the BOC and BOD are elected by shareholders, to whom they should be responsible. The BOC is the supervisory board with at least two members representing shareholders and is headed by a president commissioner (comparable to the Chairman in unitary board structure). It has advising and monitoring roles on the BOD, thus its function is merely non-executive. The members of the BOC may be affiliated to the firm (non-independent) or from outside the firm (independent). The president commissioner may be elected from either non-independent or independent members of the BOC. Based on applicable capital market regulations, publicly-traded corporations shall have independent commissioners of at least 30 per cent of the total number of BOC members. The BOD, whose members are highest-level executives, conducts the day-to-day management of the corporation and is headed by a president director (comparable to the CEO in unitary board structure). The BOD must have at least two members and be responsible to both shareholders and the BOC.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Agency Theory and Board Size

One of the important characteristics of modern corporations is the separation between shareholders and management (Berle and Means, 1932). Since managers may have different incentives from those of shareholders, they could make decisions that are not in the best interests of the shareholders. This condition leads to a principal-agent problem, which was later formalized by Jensen and Meckling (1976) in agency theory.

They argue that "it is generally impossible for the principal and the agent at zero cost to ensure that the agent will make optimal decisions from the principal's viewpoint" (Jensen and Meckling, 1976: 5). As stated by Mak and Li (2001), while the shareholders want their wealth to be maximized, managers may have other personal interests such as salary, job security, and prestige. Various corporate governance mechanisms, including the board of directors, are intended to minimize the agency conflicts and agency costs. Studies conducted later have documented that ownership concentration appears to be the norm of corporate governance worldwide (La Porta *et al*., 1999; Claessens *et al*., 2000; Faccio and Lang, 2002). In firms whose shares ownership is concentrated in the hands of a controlling shareholder, such conflicts of interests may arise between the controlling shareholder and minority shareholders, where the former have greater opportunities to expropriate the firm's wealth at the expense of the latter (Shleifer and Vishny, 1997).

As suggested by Pearce and Zahra (1992) and Dalton *et al.* (1999), board size is considered one of the important determinants of effective corporate governance. However, different arguments are prevalent on the issue whether firms should have large or small size boards to boost their value and performance. Jensen (1993) and Lipton and Lorsch (1992) suggest that smaller boards are more effective than larger boards. They argue that larger boards could lead to coordination, communication, and decision-making problems. In addition, larger board size would lead to the disadvantaged condition where the CEO could control the board easily (Jensen, 1993). Furthermore, when board size becomes too large, the board tends to be more symbolic and is less likely to be part of management process (Hermalin and Weisbach, 2003).

On the other hand, larger board size could also bring advantages to the firm. Complex firms have greater advising requirements, and thereby they need to have a larger board (Coles *et al*, 2008; Klein, 1998). Coles *et al* (2008) define complex firms as firms that have higher diversification, larger assets, and more relying on debt financing. They also propose that members of a larger board potentially have more experiences and expertise, so that they can provide better advice to the CEO. In the context of unitary board structure, such firms also need to have more outsiders on the board to provide CEO with better advice (Hermalin and Weisbach, 1998). Early

research (e.g. Jackson, 1992) has argued that large groups are more superior to their smaller counterparts, since they have more capabilities and resources needed to solve problems.

Association between Board Size and Firm Value

A number of studies provide empirical evidence on the association between board size and firm value or firm performance. Most of these studies are based on samples of firms in countries that implement unitary board structure. Yermack (1996), using a sample comprising 452 large industrial firms in the US between 1984 and 1991, finds that an inverse relationship exists between board size and firm value, as represented by Tobin's Q. The similar finding is suggested by Mak and Kusnadi (2005), who conduct their study based on a sample consisting of 271 and 279 firms listed on the Singaporean and Malaysian Stock Exchanges, respectively. Additionally, their evidence reveals that such an inverse relationship also exists between board size and firm performance, as measured by return on assets, return on sales, and the asset-turnover ratio. Empirical evidence from Canada also reveals that a significant and negative association between board size and Tobin's Q exists (Erickson *et al.*, 2005). A study of Guest (2009) documents similar results. Employing a large sample of UK firms from 1981 to 2002, Guest (2009) shows that board size has a negative association with both ROA and Tobin's Q. Eisenberg *et al* (1998) and Bennedsen et al (2008) find that board size is negatively related to firm performance, using a sample comprising small and medium-size firms in Finland and Denmark, respectively.

Other studies, however, show contradicting results. Using a large sample of US firms between 1992 and 2001, Coles *et al* (2008) suggest that board size has a positive association with Tobin's Q in complex firms that have greater advising requirements. They argue that a complex firm would benefit from a larger board size, especially from independent directors who can provide the CEO with better advice based on their experience and expertise. Based on a sample of 35 bank holding companies in the US, Adams and Mehran (2004) also find that Tobin's Q is positively related to board size. Setia-Atmaja (2008), employing a panel data of 316 Australian firms, provides evidence that the relationship between Tobin's Q and board size is significant and positive, particularly in large and complex firms. Another Australian study by Nicholson (2006) also reveals such a positive association.

By far, evidence on the association between board size and firm value from two-tier-board economies is very rare. Van Ees *et al* (2003), employing a sample comprising 94 Dutch listed firms in 1996, run multivariate regressions separately for the supervisory board and the management board. They use two performance variables, namely accounting performance (the arithmetic average of standardized return on assets, return on sales, and return on equity) and the market-to-book value of equity. The size of the management board is found to be negatively related to both performance measures, whereas the size of the supervisory board is not significantly associated with the two measures. Additionally, Rose (2007) fails to find any significant association between the size of the supervisory board and Tobin's Q. She employs a sample of 116 firms in Denmark, a country that implements a semi-two-tier board system.

Even though the association between board composition and financial performance is not their main focus, a number of studies in the corporate governance literature have also provided empirical evidence. Their findings on the relationship between board size and firm performance are also inconclusive. Employing a sample comprising 2,601 US firms, Larcker *et al* (2007) document a positive relationship between board size and ROA. Similar to the results suggested by Nicholson (2006) and Setia-Atmaja (2008), Henry (2008) find a positive association between board size and Tobin's Q, marginally at the 10 per cent level. He uses a sample of 116 Australian listed firms and covers eleven-year financial periods from 1992 to 2002. The positive association is also documented by Switzer (2007), based on a sample of 94 Canadian small-cap firms from 1997 to 2004. Interestingly, in the context of New Zealand, Reddy *et al* (2008) provides evidence that board size is negatively related to Tobin's Q but is positively associated with ROA.

Such evidence from emerging markets is provided by Haniffa and Hudaib (2006) and Singh and Gaur (2009), among others. In the context of Malaysia, Haniffa and Hudaib (2006) drew their conclusion based on a sample comprising 437 firms listed on the Kuala Lumpur Stock Exchange from 1996 to 2000. Similar to the finding of Reddy (2008), they find that board size has a negative relationship with Tobin's Q and a positive association with ROA. Further, based a sample of Chinese and Indian firms, Singh and Gaur (2009) find no significant association between board size and firm

profitability. A later Indian study by Kumar and Singh (2013) provides evidence that board size and firm value are negatively associated.

Hypothesis Development

In the context of Indonesia, taking into account the differences in board structure, it is expected that the BOC with larger size has more members with specific experiences and expertise, which could increase the quality of the board's advising and monitoring roles on the firm's management. This condition could thereby bring about a positive influence on the firm's value. Further, the BOD with larger size is also expected to have a positive association with firm value, since more members may be needed to enhance problem solving and to undertake various strategic actions. These predictions lead us to the formulation of the following hypotheses:

H1a: *Ceteris paribus,* there is a significant and positive relationship between the number of BOC members and firm value.

H1b: *Ceteris paribus,* there is a significant and positive relationship between the number of BOD members and firm value.

H1c: *Ceteris paribus*, there is a significant and positive relationship between the total number of BOC and BOD members and firm value.

DATA AND METHODOLOGY

Sample Description

We collect data for the financial years 2005, 2006, and 2007, for the reason that these years are considered the most recent normal periods when this research starts. Our initial sample consists of all firms listed on the IDX as at 31 December of respective years.[1] We exclude the financial sector from our sample since the sector is highly regulated and has significantly different characteristics. Further, firms with a negative book value of equity are considered not eligible to be included in the sample. Our final sample comprizes an unbalanced panel of 802 firm-year observations, which consist of 251, 259, and 292 firms from the financial years 2005, 2006, and 2007,

respectively. There are 304 unique firms captured in our final sample, across eight non-financial sectors on the IDX. The data are mainly obtained from several editions of the *IDX Watch*.[2] Some of the data on directorship, ownership structure, and firm age are also obtained from the annual reports or financial statements of the sample firms, which are downloadable from the IDX's website. Table 1 shows the selection procedure (Panel A) and industry breakdown (Panel B) of our final sample.

Table 1 : Sample description

Description	2005	2006	2007	Total
Panel A: Sample selection process				
IDX's listed firms as at 31 December	336	344	383	1,063
Financial firms	(62)	(65)	(68)	(195)
Firms with negative book value of equity	(23)	(20)	(23)	(66)
Sample firms	251	259	292	802
Panel B: Industry breakdown				
Agriculture	9	10	14	33
Basic and chemical	49	50	50	149
Consumer goods	33	33	33	99
Infrastructure, utilities, and transportation	16	19	22	57
Mining	12	11	14	37
Miscellaneous	40	36	40	116
Property, real estate, and building construction	30	33	43	106
Trade, service, and investment	62	67	76	205
Sample firms	**251**	**259**	**292**	**802**

Variable Measurement

The dependent variable is firm value. Previous studies on the relationship between board size and firm value use different proxies for firm value, such as Tobin's *Q* (Coles *et al*, 2008; Setia-Atmaja, 2008; Yermack, 1996), ROA (Eisenberg *et al*, 1998), and both Tobin's *Q* and ROA (Mak and Kusnadi,

2005). In this study, firm value is measured by both Tobin's *Q* and ROA. Tobin's *Q* is included in regression models using its natural log value (Hirsch, 1993). Following previous studies (e.g. Adams and Ferreira, 2009), we include ROA in the regression using its value (not natural log), since the figures of ROA could be either positive or negative.

In addition to board size, we include control variables that consist of four corporate governance structure variables (the proportion of independent variables, largest shareholder ownership, blockholders ownership, and family ownership) and three firm-specific variables (firm size proxied by total assets, leverage, and firm age). Table 2 summarises the operationalization of our research variables.

Family ownership is a dichotomous variable, which equals 1 if the firm is family-controlled and 0 otherwise (Wang, 2006). We are able to identify several categories of the controlling shareholder of sample firms (using 20 per cent cut-off), namely the government, foreign companies, financial institutions, individuals, unlisted companies, and another listed company. Similar to Faccio and Lang (2002), we determine a firm to be family-controlled when its controlling shareholder is an individual or a private, unlisted company. When a firm is controlled by another listed company, we trace the ultimate shareholder of the parent company.

Table 2 : Description of research variables

Variables	Acronym	Operationalization
Dependent variables		
Tobin's *Q*	LNTOBINQ	Natural log of the ratio of market value to the book value of assets; market value is calculated as the book value of assets minus the book value of equity plus the market value of equity
Return on assets	ROA	Net income divided by total assets
Independent variables		
Board size		
Size of BOC	LNBOC	Natural log of the number of BOC members
Size of BOD	LNBOD	Natural log of the number of BOD members
Size of BOC and BOD	LNBOARD	Natural log of the total number of BOC and BOD members

Corporate governance structure		
Proportion of independent commissioners	INDEP	Proportion of independent commissioners to the number of BOC members
Largest shareholder ownership	LARGEST	Proportion of common shares held by the largest shareholder
Blockholders ownership	BLOCK	Proportion of common shares held by blockholders (shareholders who own 5 per cent or more)
Family ownership	FAMILY	Dichotomous with 1 if the firm is family-controlled and 0 otherwise
Firm-specific characteristics		
Firm size	LNASSET	Natural log of the book value of assets
Leverage	LEVRG	Ratio of total liabilities to total assets
Age	LNAGE	Natural log of firm age

Methodology

The following models are employed to examine the association between board size and firm value. We conduct regressions separately for the BOC and BOD. Additionally, we also employ regressions using the total number of BOC and BOD members as the explanatory variable.

$$Firm\ value = \beta_0 + \beta_1 Log\ (Board\ size) + \delta_1 Corporate\ governance\ structure + \varepsilon \qquad (1)$$

$$Firm\ value = \beta_0 + \beta_1 Log\ (Board\ size) + \delta_1 Corporate\ governance\ structure + \delta_2 Firm\text{-}specific\ characteristics + \varepsilon \qquad (2)$$

We mainly employ ordinary least squares (OLS) estimation techniques in this study, for the reason that the corporate governance mechanisms are considered exogenous rather than endogenous (Weir *et al.*, 2002). Additionally, Coles *et al.* (2008) argue that the fixed-effect technique is not appropriate since most of the variations occur in the cross-section instead of in the time-series. OLS is used in some previous studies addressing the relationship between corporate governance structure and firm value, such as Bozec (2005), Cheng *et al* (2008), Haniffa and Hudaib (2006), and Mak and Kusnadi (2005). However, it is believed that the fixed-effect regression has its own advantages, due to its ability to control for unobservable firm heterogeneity over the time-series in a panel data set (Hausman and Taylor,

1981). A number of such studies employ fixed-effect estimations in their analysis, such as Adams and Mehran (2004), Guest (2009), Henry (2008), and Yermack (1996). In the present study, we also perform fixed-effect regressions in our further robustness checks.

EMPIRICAL RESULTS AND DISCUSSIONS

Descriptive Statistics

Table 3 reports the descriptive statistics of firm value, corporate governance structure, and firm-specific characteristics of our sample firms. ROA of the firms varies greatly, with the average of 3.24 per cent. The market value of the firms is generally higher than their book value of assets, which can be seen from the average Tobin's *Q* of 1.53, with the median of 1.09. Total assets and leverage also show wide ranges, with Indonesian Rupiah (IDR) 2,906 billion and 0.50 on average, respectively. The mean (median) of firm age is 26.82 (25) years.

Board size is of interest in the present paper. Our descriptive statistics show that the mean (median) of board size is 4.23 (4) people for the BOC. For the BOD, the mean (median) is 4.48 (4) people. When the members of the BOC and BOD are combined, board size of the sample firms ranges from 4 to 23 people. In terms of the proportion of independent commissioners, it is found that the sample firms have 37 per cent of the number of BOC members to be independent, on average. As mentioned in Section 2, Indonesian capital market regulations require publicly-listed firms to have independent commissioners of at least 30 per cent of the number of BOC members. It is important to note that a small number of our observations do not clearly state the independence of their BOC members. For these firms, we determine that they have no independent members on the BOC. Our descriptive statistics also support the finding of Claessens *et al* (2000), who document that high ownership concentration exists in most corporations listed on East Asian capital markets. We find that the average ownership fractions of the largest shareholder and blockholders are 49 and 71 per cent, respectively. Further, Claessens *et al* (2000) also indicate that listed firms in East Asian markets are mainly family-controlled. Consistent with this finding, it is found that 54 per cent of firms in our sample are family-controlled.

Table 3 : Descriptive statistics

Variables	Mean	Median	Standard Deviation	Minimum	Maximum
ROA (per cent)	3.24	2.70	11.08	−89.50	93.65
Tobin's Q	1.53	1.09	2.59	0.12	65.40
Number of BOC members	4.23	4	1.84	1	12
Number of BOD members	4.48	4	1.87	1	14
Number of BOC and BOD members	8.71	8	3.26	4	23
Proportion of independent commissioners	0.37	0.33	0.12	0.00	1.00
Largest shareholder ownership	0.49	0.50	0.21	0.05	1.00
Blockholders ownership	0.71	0.75	0.18	0.05	1.00
Family-controlled firm (dummy)	0.56	1	0.50	0	1
Total assets (billion Indonesian Rupiah)	2,906	673	7,624	7	82,059
Leverage	0.50	0.52	0.23	0.00	1.00
Firm age	26.82	25	15.35	3	123

We report the mean values of ROA and Tobin's Q as functions of board size in Figure 1. Data series in Graphs (1) and (2) of Figure 1 are reported separately for the BOC and BOD. Such figures in previous studies, such as Eisenberg *et al.* (1998), Mak and Kusnadi (2005), and Yermack (2009), suggest major declines in firm value for firms with larger board size. Our figure reports the opposite. In the context of Indonesia, it seems to be clear that increased firm value (based on either ROA or Tobin's Q) appears to exist as the number of people sitting on the board increases. When firm value is measured based on ROA, the optimal board size is achieved when the board sizes are eight and more than ten for the BOC and BOD, respectively. This implies that higher firm value is likely to belong to firms with larger size of the BOC and BOD. Using Tobin's Q as a measure of firm value, we also obtain similar results. The average Tobin's Q reaches its maximum value when the number of people holding seats on either BOC or BOD is eight.

The graphs show sample means of firm value for different sizes of the BOC and BOD. Return on assets (ROA) and Tobin's Q are used as measures of firm value in Graphs (1) and (2), respectively.

ROA

Graph (1)

Tobin's Q
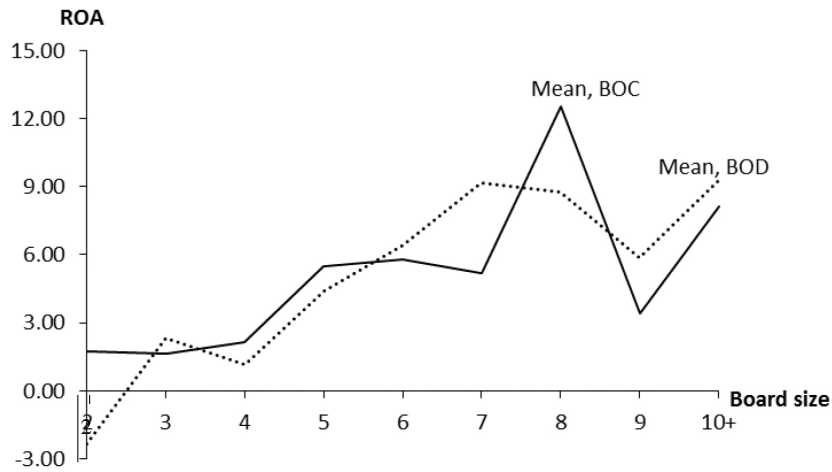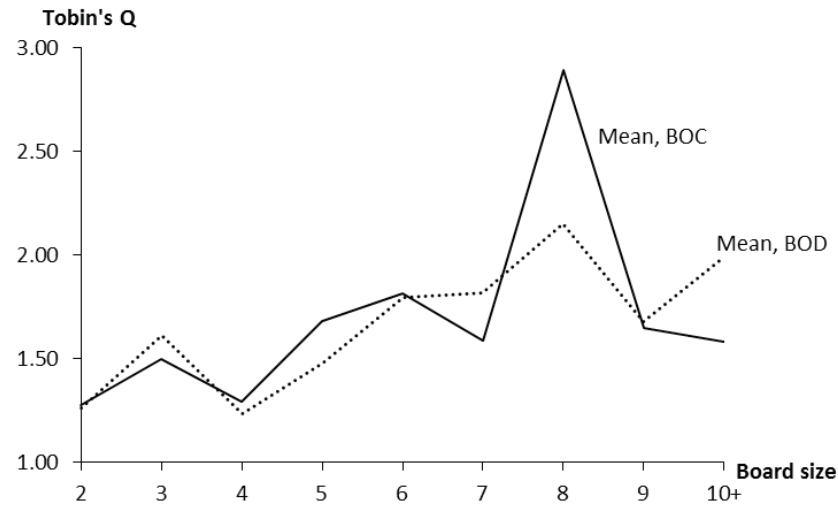
Graph (2)

Figure 1 : Board size and firm value of Indonesian listed firms

Correlation Analysis

Table 4 reports correlation coefficients between variables included in our models. It is found that board size (LNBOC and LNBOD) is positively correlated with both measures of firm value (ROA and LNTOBINQ). This implies that larger board size is positively associated with a higher level of firm value. This finding will be further tested in the multivariate analysis. In terms of firm size (LNASSET), larger firms tend to show higher valuation than their smaller counterparts. On the other hand, family-controlled firms have a significantly lower level of ROA and Tobin's *Q*. The family-controlled firms tend to be smaller firms, which can be seen from the significant negative correlation between FAMILY and LNASSET.

It seems to be a common phenomenon among Indonesian listed firms that larger firms tend to have a significantly greater number of people holding seats on the BOC and BOD. This can be seen from strong correlations between LNASSET and both LNBOC and LNBOD, at 0.56 and 0.62 respectively. Further, due to the relatively strong and positive correlation between LNBOC and LNBOD, firms with larger BOC size are likely to have larger BOD size as well. Larger firms may need more people serving on the boards to deal with a higher level of business complexity. Further, they may have more financial resources to hire more people on the boards. In contrast, family-controlled firms have significantly smaller board size, which can be seen from significant negative correlations between FAMILY and both LNBOC and LNBOD.

This table reports correlations between variables included in our models. Pearson correlations are reported on the lower-left section, while Spearman correlations are indicated on the upper-right. See Table 2 for variable definitions. *, **, and *** denote statistical significance (two-tailed) at the 10, 5, and 1 per cent levels, respectively.

Table 4 : Correlation analysis between variables

	ROA	LNTOBINQ	LNBOC	LNBOD	INDEPCOM	LARGEST	BLOCK
ROA		0.320***	0.177***	0.313***	0.039	0.131***	0.080**
LNTOBINQ	0.221***		0.214***	0.226***	0.038	0.175***	0.090**
LNBOC	0.158***	0.217***		0.510***	0.068*	0.005	−0.045
LNBOD	0.242***	0.222***	0.517***		0.013	0.068*	−0.004
INDEPCOM	0.070**	0.028	−0.003	0.019		0.058*	−0.070**
LARGEST	0.102***	0.166***	−0.001	0.077**	0.055		0.491***
BLOCK	0.147***	0.109***	−0.034	0.013	−0.050	0.527***	
FAMILY	−0.139***	−0.159***	−0.181***	−0.170***	0.008	−0.040	−0.060*
LNASSET	0.290***	0.217***	0.563***	0.602***	0.122***	−0.011	−0.125***
LNAGE	0.245***	0.036	0.264***	0.312***	0.020	0.043	0.041
LEVRG	−0.171***	0.128***	0.117***	0.100***	−0.038	−0.027	0.102***

	FAMILY	LNASSET	LNAGE	LEVRG
ROA	−0.196***	0.307***	0.266***	−0.257***
LNTOBINQ	−0.163***	0.276***	−0.027	0.095***
LNBOC	−0.170***	0.543***	0.265***	0.098***
LNBOD	−0.160***	0.601***	0.291***	0.088**
INDEPCOM	0.050	0.110***	−0.060*	−0.049
LARGEST	−0.026	−0.027	0.032	−0.038
BLOCK	−0.116***	−0.137***	0.042	0.105***
FAMILY		−0.180***	−0.150***	−0.008
LNASSET	−0.181***		0.273***	0.161***
LNAGE	−0.164***	0.323***		0.109***
LEVRG	−0.016	0.168***	0.132***	

Regression Analysis

We further conduct OLS regressions to test the relationship between board size and firm value. Before running the regressions, the models are tested first to make sure that they do not suffer from multicollinearity, heteroskedasticity, and autocorrelation problems. From the results of bivariate analysis presented in Table 4, correlations between independent variables are generally low. As indicated by Gujarati (2003), a multicollinearity problem may exist when the correlation between two independent variables is greater than 0.80. Our models may be also subject to potential heteroskedasticity and autocorrelation problems. To deal with these, we use Newey-West heteroskedasticity and autocorrelation-consistent standard errors and variances, as suggested by Brooks (2008).

BOC Size and Firm Value

Table 5 reports the results of OLS regressions of firm value on BOC size and other variables. From Model (1) of Table 5, it is found that BOC size is positively related to ROA. However, when firm-specific characteristics variables (firm size, firm age, and leverage) are included in the model, the relationship becomes insignificant. Differently, the association between BOC size and Tobin's Q is highly significant in both Models (3) and (4). Even though Hypothesis 1a is supported, the relationship of BOC size to ROA is less robust than that to Tobin's Q. The positive association between BOC size and firm value is consistent with a number of previous studies, such as Henry (2008), Nicholson (2006), and Setia-Atmaja (2008) in the context of unitary board structure. Additionally, our results contradict Van Ees *et al* (2003), who find that the size of the supervisory board is not significantly related to firm performance in the Netherlands.

This seems to suggest that a greater number of BOC members would better monitor the firm's management and provide them with more and better advice, thus firm value could be enhanced. In the Indonesian capital market, listed firms mostly have concentrated ownership structure, which may lead to agency issues due to potential expropriation by the controlling shareholder at the expense of minority shareholders. Given this condition, a large BOC may be needed to enhance monitoring, as well as to prevent opportunistic behaviour by the controlling shareholder.

Underlying the finding of Coles *et al.* (2008), larger firms that have relatively complex business operations tend to have greater advising requirements. As suggested by Dalton *et al.* (1999), larger board size may potentially bring more expertise and experiences, thereby higher-quality advice could be provided. Another possible interpretation is that larger board size is more likely to belong to larger firms, which are inclined to perform significantly better.

This table reports the regression of firm value on BOC size, corporate governance structure, and firm-specific characteristics. See Table 2 for variable definitions. Robust *t*-statistics, based on heteroskedasticity- and autocorrelation-consistent standard errors, are in parentheses. *, **, and *** denote statistical significance (one-tailed) at the 10, 5, and 1 per cent levels, respectively.

Table 5 : OLS regressions of firm value on BOC size and other variables

Independent variables	Dependent variable			
	ROA		Log (Tobin's *Q*)	
	(1)	(2)	(3)	(4)
Intercept	–11.357***	–22.893***	–0.656***	–0.595***
	(–2.837)	(–4.976)	(–4.057)	(–2.388)
LNBOC	4.117***	–0.598	0.326***	0.255***
	(4.851)	(–0.564)	(5.812)	(3.594)
INDEP	7.132***	3.232	0.158	0.177
	(2.419)	(1.213)	(0.789)	(0.594)
LARGEST	–0.961	–2.310	0.254**	0.273**
	(–0.290)	(–0.725)	(2.099)	(2.302)
BLOCK	9.761**	13.786***	0.232*	0.218*
	(2.019)	(2.894)	(1.641)	(1.619)
FAMILY	–1.629**	–0.857	–0.113***	–0.118***
	(–1.938)	(–1.045)	(–2.482)	(–2.639)
LNASSET		1.998***		0.040**
		(5.409)		(1.798)
LNAGE		3.451***		–0.113**
		(5.195)		(–2.093)
LEVRG		–11.944***		0.305***
		(–5.864)		(2.610)
Industry dummy	Yes	Yes	Yes	Yes
Year dummy	Yes	Yes	Yes	Yes
Number of observations	802	802	802	802
R^2	0.109	0.233	0.192	0.217
F-statistics	6.880***	13.972***	13.378***	12.755***

BOD Size and Firm Value

In Table 6, we report the results of OLS regressions of firm value on BOD size and other variables. Our results generally support Hypothesis 1b that BOD size is positively related to firm value, thus contradicting the finding of Van Ees *et al* (2003) that indicate a negative association between the size of the management board and firm performance of Dutch corporations. Our finding supports Carpenter *et al.* (2001) and Haleblian and Finkelstein (1993), who report a positive association between top management team size and firm performance.

Similar to the results presented in Table 5, it is found that the relationship of BOD size to Tobin's *Q* is more robust than that to ROA. From Models (3)

and (4) of Table 6, we provide evidence that BOD size is strongly related to Tobin's Q at the 1 per cent level. Further, Model (1) suggests that BOD size is also strongly associated with ROA. However, when firm-specific characteristics are included in the model, the association turns marginally significant at the 10 per cent level.

Hence, the empirical evidence supports Jackson's (1992) proposition on the superiority of larger groups to smaller ones, because the large groups have greater opportunities to acquire more capabilities and resources that are required to enhance problem-solving capacity. Our results also imply that larger board size may be required by companies to better deal with the complexity of their business operations; thereby firm value could be increased. Larger board size may also enable such firms to distribute a large number of managerial tasks to more people, so that each person holding seats on the BOD could perform their jobs in a more specific scope. This job specialization may in turn boost financial performance of the firm. Another possible interpretation is that larger BOD size tends to be employed by larger firms, which are inclined to have significantly higher firm value.

This table reports the regression of firm value on BOD size, corporate governance structure, and firm-specific characteristics. See Table 2 for variable definitions. Robust *t*-statistics, based on heteroskedasticity- and autocorrelation-consistent standard errors, are in parentheses. *, **, and *** denote statistical significance (one-tailed) at the 10, 5, and 1 per cent levels, respectively.

Table 6 : OLS regressions of firm value on BOC size and other variables

Independent variables	Dependent variable			
	ROA		Log (Tobin's Q)	
	(1)	(2)	(3)	(4)
Intercept	−13.647***	−23.480***	−0.631***	−0.556**
	(−3.322)	(−4.957)	(−3.966)	(−2.208)
LNBOD	5.939***	1.450*	0.320***	0.255***
	(5.334)	(1.326)	(5.346)	(3.594)
INDEP	6.720***	3.650*	0.131	0.103
	(2.363)	(1.374)	(0.654)	(0.520)
LARGEST	−1.734	−2.486	0.217**	0.245**
	(−0.522)	(−0.789)	(1.771)	(2.050)

BLOCK	10.053***	13.660***	0.237**	0.215*
	(2.089)	(2.863)	(1.654)	(1.577)
FAMILY	−1.484**	−0.769	−0.119***	−0.124***
	(−1.730)	(−0.918)	(−2.629)	(−2.793)
LNASSET		1.706***		0.035*
		(4.459)		(1.570)
LNAGE		3.321***		−0.113**
		(5.336)		(−2.115)
LEVRG		−11.896***		0.315***
		(−5.830)		(2.686)
Industry dummy	Yes	Yes	Yes	Yes
Year dummy	Yes	Yes	Yes	Yes
Number of observations	802	802	802	802
R^2	0.132	0.234	0.192	0.216
F-statistics	8.575***	14.076***	13.373***	12.680***

Large Boards for Large Firms

Further, we combine the number of people sitting on both the BOC and BOD, enabling our results to be compared to such findings in the context of unitary board structure. Using natural log of the total number of BOC and BOD members (LNBOARD), we report the results in Table 7. Overall, Hypothesis 1c is supported. Similar to our findings in Tables 5 and 6, board size positively affects firm valuation based on Tobin's Q, as indicated in Models (3) and (4). From Model (1) of Table 7, it is found that the association between board size and ROA is insignificant. One of the possible interpretations is a strong correlation that exists between LNBOARD and LNASSET, where the correlation coefficient is 0.665 and significant at the 1 per cent level. Thus, when LNASSET is excluded from the model, as shown in Model (2), the positive relationship of board size to ROA is significant at the 5 per cent level. Similar to our abovementioned findings, we conclude that board size is positively and significantly associated with firm valuation, but its relation to ROA is less robust compared to that on Tobin's Q. Again, this seems to imply that larger boards potentially have more knowledge, expertise, and experiences provided by its members, which may in turn improve firm valuation.

Following Coles *et al.* (2008), we include one additional independent variable in Models (2) and (4) of Table 7, namely the interaction of board

size (LNBOARD) and firm size (LARGE). We define large firms to be those whose book value of assets is greater than IDR 1,000 billion. LARGE is a dichotomous variable equalling 1 if the firm is considered large and 0 otherwise. Hence, LARGE is an alternative proxy for firm size other than LNASSET. It seems to be clear that our results support Coles *et al.* (2008). In both Models (2) and (4), the interaction of board size and firm size shows a positive and significant association with firm value at the 1 per cent level. As such, this study provides evidence that board size is significantly associated with firm valuation in large firms. This seems to suggest that large firms require larger board size to better deal with the complexity of their business operations, thus larger board size contributes to improving their valuation. In other words, large firms would benefit from having larger boards.

This table reports the regression of firm value on board size, corporate governance structure, and firm-specific characteristics. See Table 2 for variable definitions. Robust *t*-statistics, based on heteroskedasticity- and autocorrelation-consistent standard errors, are in parentheses. *, **, and *** denote statistical significance (one-tailed) at the 10, 5, and 1 per cent levels, respectively.

Table 7 : OLS regressions of firm value on board size and other variables

Independent variables	Dependent variable			
	ROA		Log (Tobin's *Q*)	
	(1)	(2)	(3)	(4)
Intercept	−23.764***	−20.301***	−0.917***	−0.630***
	(−5.133)	(−5.413)	(−3.567)	(−3.073)
LNBOARD	0.618	2.591**	0.411***	0.279***
	(0.461)	(1.824)	(4.444)	(3.594)
LNBOARD x LARGE		1.463***		0.083***
		(3.470)		(3.620)
INDEP	3.508*	4.491*	0.143	0.071
	(1.316)	(1.498)	(0.721)	(0.434)
LARGEST	−2.346	−2.038	0.252**	0.263***
	(−0.744)	(−1.011)	(2.145)	(2.385)
BLOCK	13.712***	12.873***	0.204*	0.247**
	(2.874)	(5.418)	(1.493)	(1.899)
FAMILY	−0.794	−0.905	−0.115***	−0.114***
	(−0.961)	(−1.215)	(−2.624)	(−2.796)
LNASSET	1.835***		0.016	
	(4.588)		(0.658)	

LNAGE	3.374***	4.055***	–0.122**	–0.119***
	(5.173)	(5.569)	(–2.271)	(–2.990)
LEVRG	–11.946***	–10.939***	0.307***	0.301***
	(–5.881)	(–6.831)	(2.667)	(3.438)
Industry dummy	Yes	Yes	Yes	Yes
Year dummy	Yes	Yes	Yes	Yes
Number of observations	802	802	802	802
R^2	0.232	0.210	0.227	0.239
F-statistics	13.964***	12.284***	13.555***	14.485***

Robustness Checks

In our sensitivity analysis, we repeat all regressions in Tables 5 and 6 using alternative dependent variables. As proxies for firm valuation, we use return on sales or ROS (as an alternative to ROA) and the price-to-book ratio (as an alternative to Tobin's Q). The data of ROS and the price-to-book ratio are also obtained from several editions of the *IDX Watch*. Our results remain similar to those reported. Board size is found to be positively related to both ROS and the price-to-book ratio. The association with ROS is also found to be less robust than that with the price-to-book ratio. The influence of board size on ROS appears to be insignificant when firm-specific characteristics are included in the model.

Further, a robustness check is also conducted by using fixed-effect regression techniques. The regressions of firm value on board size and other variables based on firm fixed effects are reported in Table 8. Again, we find that the relationship of board size to Tobin's Q is more robust than that to ROA. In both Models (3) and (4) of Table 8, board size is significant at the 10 and 5 per cent levels, respectively. This implies that the market may perceive firms with larger board size as better performers than their peers. On the other hand, in both Models (1) and (2), board size is found not to be significantly associated with ROA. Thus, considering firm fixed effects, accounting-based performance may not be significantly affected by the number of people holding seats on the board.

This table reports the fixed-effect regression of firm value on board size, corporate governance structure, and firm-specific characteristics. See Table 2 for variable definitions. Robust *t*-statistics, based on White diagonal standard errors and covariance (degree of freedom corrected), are in parentheses. *, **, and *** denote statistical significance (one-tailed) at the 10, 5, and 1 per cent levels, respectively.

Table 8 : Fixed-effect regressions of firm value on board size and other variables

Independent variables	Dependent variable			
	ROA		Log (Tobin's *Q*)	
	(1)	(2)	(3)	(4)
LNBOARD	−3.369	−3.529	0.302*	0.382**
	(−0.819)	(−0.833)	(1.377)	(2.161)
INDEP	3.128	4.054	−0.090	−0.169
	(0.952)	(1.166)	(−0.596)	(−1.049)
LARGEST	6.910*	7.918*	0.227	0.226
	(1.312)	(1.495)	(0.812)	(0.872)
BLOCK	−4.891	−4.378	−0.025	−0.037
	(−1.143)	(−1.039)	(−0.077)	(−0.128)
FAMILY	−0.547	−0.491	−0.188**	−0.170**
	(−0.425)	(−0.359)	(−1.854)	(−1.719)
LNASSET		1.860		−0.214
		(0.990)		(−1.142)
LNAGE		−16.479		2.081***
		(−0.793)		(3.123)
LEVRG		−11.782***		0.158
		(−2.363)		(0.623)
Intercept	Yes	Yes	Yes	Yes
Year dummy	Yes	Yes	Yes	Yes
Number of observations	802	802	802	802
R²	0.693	0.702	0.829	0.841
F-statistics	3.567***	3.674***	7.664***	8.253***

CONCLUDING REMARKS

The present paper investigates the relationship between board size and firm value, employing a sample of Indonesian listed firms. Previous studies addressing the relationship between board size and firm value have been conducted mostly in the context of unitary board governance systems. This study contributes to the corporate governance literature by examining such an issue in a developing economy that has a two-tier board system. Our results may be also relevant for other economies that share a similar institutional environment to that of Indonesia.

We use the OLS estimation technique to test our hypothesis separately for the BOC and BOD. ROA and Tobin's *Q* are used as proxies for firm value. Our evidence reveals that the sizes of both the BOC and BOD are positively

related to firm value, which is measured by ROA and Tobin's *Q*. Hence, our results challenge empirical evidence provided by a number of studies indicating a negative relationship. This seems to suggest that larger boards potentially have more capabilities and resources that benefit the firms. From the agency theory viewpoint, larger board size seems to contribute to enhanced monitoring on the management or controlling shareholder; thereby improving firm value. Large boards may also enable firms to deal with the complexity of their business operations.

Further, we conduct regressions analysis using firm fixed effects, which provides evidence that board size is significantly affecting Tobin's *Q* but not ROA. As such, we conclude that the positive relationship of board size to Tobin's *Q* is more robust across different models and regression techniques. We also provide evidence that larger firms benefit much from having larger boards. This seems to suggest that larger firms generally need a greater number of people to handle their complex business activities and their valuation thereby could be enhanced.

Our results may bring about practical implication for either listed companies or investors. It is suggested that listed companies need to carefully arrange their board structure in their efforts to maximize firm value. For example, larger firms will need larger boards so that they can benefit from a wider array of expertise and perspectives provided by board members. For investors, our evidence may provide additional insights in setting expectations regarding the value of listed companies. The present study is also subject to some limitations. Our focus in this study is Indonesian non-financial firms listed on the IDX in the financial years 2005-2007. As such, future studies may need to address such an issue in the context of banks and other financial firms. A longer time span may also be needed to provide more powerful insights into the association between board size and firm value.

Notes

Indonesia previously had two stock exchanges, namely the Jakarta Stock Exchange (JSX) and the Surabaya Stock Exchange (SSX). In December 2007, upon the implementation of capital market demutualisation, the SSX was merged into the JSX to operate as a single entity, namely the Indonesia Stock Exchange (IDX).

The *IDX Watch* is an annual capital market directory published by *Bisnis Indonesia*, a prominent business newspaper in the country. Prior to 2007, its name was the *JSX Watch*.

Author Biography

Salim Darmadi is an analyst at the Indonesian Financial Services Authority (OJK). He is also a research associate at the Indonesian College of State Accountancy (STAN).

Acknowledgements

References

Adams, R. and Ferreira, D. (2009) Women in the Boardroom and Their Impact on Governance and Performance: *Journal of Financial Economics*, 94(2), 291-309.

Adams, R. and Mehran, H. (2004) Board Structure, Banking Firm Performance and the Bank Holding Company Organizational Form. Stockholm School of Economics Working Paper.

Bennedsen, M., Kongsted, H. C. and Nielsen, K. M. (2008) The Causal Effect of Board Size in the Performance of Small and Medium-Sized Firms: *Journal of Banking & Finance*, 32(6), 1098-1109.

Berle, A. A. and Means, G. C. (1932) *The Modern Corporation and Private Property*. Macmillan: New York.

Bozec, R. (2005) Boards of Directors, Market Discipline and Firm Performance, *Journal of Business Finance and Accounting*, 32(9-10), 1921-1960.

Brooks, C. (2008) *Introductory Econometrics for Finance*, 2nd edition. Cambridge University Press: Cambridge.

Carpenter, M. A, Sanders, W. G. and Gregersen, H. B. (2001) Bundling Human Capital with Organizational Context: The Impact of International Assignment Experience on Multinational Firm Performance and CEO Pay, *Academy of Management Journal*, 44(3), 493-511.

Cheng, S., Evans III, J. H. and Nagarajan, N. (2008) Board Size and Firm Performance: The Moderating Effects of the Market for Corporate Control: *Review of Quantitative Finance and Accounting*, 31(2), 121-145.

Claessens, S., Djankov, S. and Lang, L.H.P. (2000) The Separation of Ownership and Control in East Asian Corporations: *Journal of Financial Economics*, 58(1-2), 81-112.

Coles, J.L., Daniel, N.D. and Naveen, L. (2008) Boards: Does One Size Fit All? *Journal of Financial Economics*, 87(2), 329-356.

Dalton, D. R., Daily, C. M., Johnson, J. L. and Ellstrand, A. E. (1999) Number of Directors and Financial Performance: A Meta-Analysis: *Academy of Management Journal*, 42(6), 674-686.

Eisenberg, T., Sundgren, S. and Wells, M. (1998) Larger Board Size and Decreasing Firm Value in Small Firms. *Journal of Financial Economics*, 48(1), 35-54.

Erickson, J., Park, Y. W., Reising, J. and Shin, H. H. (2005) Board Composition and Firm Value under Concentrated Ownership: The Canadian Evidence. *Pacific-Basin Finance Journal*, 13(4), 387-410.

Faccio, M. and Lang, L. H. P. (2002) The Ultimate Ownership of Western European Corporations. *Journal of Financial Economics*, 65(3), 365-395.

Guest, P. M. (2009) The Impact of Board Size on Firm Performance: Evidence from the UK. *European Journal of Finance*, 15(4), 385-404.

Haleblian, J. and Finkelstein, S. (1993) Top-Management Team Size, CEO Dominance, and Firm Performance: The Moderating Roles of Environmental Turbulence and Discretion. *Academy of Management Journal*, 36(4), 844-863.

Haniffa, R. and Hudaib, M. (2006) Corporate Governance Structure and Performance of Malaysian Listed Companies. *Journal of Business Finance and Accounting*, 33(7-8), 1034-1062.

Hausman, J. A. and Taylor, W. A. (1981) Panel Data and Unobservable Individual Effects. *Econometrica*, 49(6), 1377-1398.

Henry, D. (2008) Corporate Governance Structure and the Valuation of Australian Firms: Is There Value in Ticking the Boxes? *Journal of Business Finance and Accounting*, 35(7-8), 912-942.

Hermalin, B. E., and Weisbach, M. S. (1998) . Endogenously Chosen Boards of Directors and Their Monitoring of the CEO. *American Economic Review*, 88(1), 96-118.

Hermalin, B. E., and Weisbach, M. S. (2003). Board of Directors as Endogenously Determined Institution: A Survey of the Economic Literature, *Federal Reserve Bank of New York Economic Policy Review*, 9(1), 1-20.

Hirsch, B.T. (1993) Functional Form in Regression Models of Tobin's *q*. *Review of Economics and Statistics*, 75(2), 381-385.

Jackson, S. E. (1992). Consequences of Group Composition for the Interpersonal Dynamics of Strategic Issue Processing, in P. Shrivastava, A. Huff and J. Dutton (Eds.) *Advances in Strategic Management*, 8, 345-382, JAI Press: Greenwich, CT.

Jensen, M. C. (1993). The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems. *Journal of Finance*, 48(3), 831-857.

Jensen, M. C. and Meckling, W. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure, *Journal of Financial Economics*, 3, 305-360.

Klein, A. (1998) Firm Performance and Board Committee Structure. *Journal of Law and Economics*, 41(1), 275-304.

Kumar, N. and Singh, J. P. (2013). Effect of Board Size and Promoter Ownership on Firm Value: Some Empirical Findings from India. *Corporate Governance: The International Journal of Business in Society*, 13(1), 88-98.

La Porta, R., Lopez-de-Silanes, F. and Shleifer, A. (1999). Corporate Ownership Around the World, *Journal of Finance*, 54(2), 471-518.

Larcker, D. F., Richardson, S. A. and Tuma, I. (2007). Corporate Governance, Accounting Outcomes, and Organizational Performance. *The Accounting Review*, 82(4), 963-1008.

Lipton, M. and Lorsch, J. W. (1992). A Modest Proposal for Improved Corporate Governance. *Business Lawyer*, 48, 59-77.

Mak, Y.T. and Kusnadi, Y. (2005). Size Really Matters: Further Evidence on the Negative Relationship between Board Size and Firm Value. *Pacific-Basin Finance Journal*, 13(3), 301-318.

Mak, Y.T. and Li, Y. (2001). Determinants of Corporate Ownership and Board Structure: Evidence from Singapore. *Journal of Corporate Finance*, 7, 235-256.

Nicholson, G. J. (2006). Australian Boards and Performance: A Multi-Method Test of Three Theories of Governance. The University of Queensland Unpublished PhD Thesis.

Reddy, K., Locke, S., Scrimgeour, F. and Gunasekarage, A. (2008). Corporate Governance Practices of Small Cap Companies and Their Financial Performance: An Empirical Study in New Zealand. *International Journal of Business Governance and Ethics*, 4(1), 51-78.

Rose, C. (2005). The Composition of Semi-Two-Tier Corporate Boards and Firm Performance. *Corporate Governance: An International Review*, 13(5), 691-701.

Setia-Atmaja, L.Y. (2008). Does Board Size Really Matter? Evidence from Australia. *Gadjah Mada International Journal of Business*, 10(3), 331-352.

Shleifer, A. and Vishny, R. W. (1997). A Survey of Corporate Governance. *Journal of Finance*, 52(2), 737-783.

Singh, D. A., and Gaur, A. S. (2009). Business Group Affiliation, Firm Governance, and Firm Performance: Evidence from China and India. *Corporate Governance: An International Review*, 17(4), 411-425.

Switzer, L. N. (2007). Corporate Governance, Sarbanes-Oxley, and Small-Cap Firm Performance. *Quarterly Review of Economics and Finance*, 47(5), 651-666.

Van Ees, H., Postma, T. J. B. M. and Sterken, E. (2003). Board Characteristics and Corporate Performance in the Netherlands. *Eastern Economic Journal*, 29(1), 41-58.

Wang, D. (2006). Founding Family Ownership and Earnings Quality. *Journal of Accounting Research*, 44(3), 619-656.

Weir, C., Laing, D. and McKnight, P. J. (2002). Internal and External Governance Mechanisms: Their Impact on the Performance of Large UK Public Companies. *Journal of Business Finance and Accounting*, 29(5-6), 579-611.

Yermack, D. (1996). Higher Market Valuation of Companies with a Small Board of Directors. *Journal of Financial Economics,* 40(2), 185-211.