

BOARD STRUCTURE AND FIRM PERFORMANCE: SOME EVIDENCE FROM MALAYSIAN GOVERNMENT LINKED COMPANIES

Tee Chwee Ming*, Chong Lee Lee**

Abstract

This paper examines the impact of Green Book high performing board reform on GLCs firm performance. Based on a sample of 220 firm-year observations of listed GLCs from 2006 till 2012, this study shows that (i) there is a positive association between multiple chairmanships and firm performance, (ii) total directorships is positively associated with higher firm performance and, (iii) board connectivity is positively associated with higher firm performance. Overall, our finding suggests that multiple chairmanship and directorship to a certain extent leads to better firm performance. We conjecture that interlocked chairman and director can maximize their good business connection and networking to add value to GLCs.

Keywords: Board Structure, Government-linked Companies, Multiple Directorships

*Corresponding author. School of Business, Monash University Malaysia, Jalan Lagoon Selatan, 46150, Bandar Sunway, Selangor, Malaysia

Tel: 012 279 2503

Email: tee.chwee.ming@monash.edu, teecm72@gmail.com

**Faculty of Management, Multimedia University, Jalan Multimedia, 63100 Cyberjaya, Selangor, Malaysia

Email: llchong@mmu.edu.my

1 Introduction

The owner's interest is expected to diverge from the manager's interest if the firm's owner and manager belong to different party. This conflict of interest is further aggravated by the separation of power between ownership and control in modern private corporations (Fama & Jensen, 1983). Therefore, Jensen & Meckling (1976) propose internal monitoring as a mean to reduce agency problems within the firm. One of the internal monitoring mechanism is board structure. In 2006, the Malaysian government began to initiate a package of structural reform as part of the government linked companies (GLCs) transformation program. One of this reform, known as the Green Book best board practices introduced in 2006 deal with the issue of board effectiveness and firm performance.

This paper is motivated to examine whether there is any association between the proposed reforms by Green Book with GLC's firm performance. Recently, it was reported that GLCs top 20 largest firms have delivered a 18.2% per annum growth in net income from 2006 till 2011. Additionally, its shareholders return has recorded an impressive 13.7% growth per annum from 2004 till 2012 in comparison with 12.9% per annum for non GLCs top 20 largest firms from 2004 till 2012 (Star, 2012). Therefore, this research is timely and significant as it seeks to examine whether the GLCs' stellar performance is attributed to board structure reform. Additionally, there is a dearth of

research on GLCs and in Malaysia GLCs play a significant contribution to the domestic economy in terms of market capitalization, employment and implementation of government policy.

This paper is structured as follows. In section 2, we review the literature and develop hypothesis. Section 3 discusses research methodology. Section 4 describe and discuss the findings, while section 5 concludes this paper.

2 Literature review and hypothesis development

Kiel & Nicholson (2006) argue that the concern related to multiple chairmanships is unwarranted as it is the board that governs and not the chairman. In fact, a chairman that sits on boards that have good corporate governance practices is able to recommend its implementation to other boards. Fama & Jensen (1983) reputational capital theory suggest that good performance under the stewardship of the chairman will be rewarded by more offers of chairmanships from other firms in the future. Furthermore, a firm's legitimacy can be enhanced through multiple chairmanships as suggested by Daily & Schwenk (1996). This is because the firm's reputation is closely linked to the chairman of the board. Thus, a board that is led by a respected and prestigious chairman will send a positive message to all stakeholders on the firm's reputation and performance. Thus, based on the

above reasoning, the first hypothesis is written as follows:

Hypothesis 1: There is a positive association between multiple chairmanships and firm performance.

Ferris, Jagannathan, & Pritchard (2003) *busyness hypothesis* suggest that busy director is a major governance issue to regulators and shareholders. This is because holding multiple directorships and over-commitment is likely to jeopardize his/her performance. Lipton & Lorsch (1992) noted that time factor as a major constraint for busy directors to discharge their fiduciary role effectively to shareholders. Therefore, shareholders do not view busy directors favorably. For example, Fich & Shivdasani (2006) report a positive 2-day significant of 3.8% cumulative abnormal return (CAR) when a busy director resigns from the board. Additionally, busy directors are associated with weak firm governance, which indirectly leads to poor firm performance. Furthermore, firm governance will be weakened by higher agency costs and a compliant board (Bebchuk & Fried, 2004; Reeb & Upadhyay, 2010). The Green Book (2006) caps maximum directorships to five listed firms. Therefore, based on the above argument, we formulate the second hypothesis as follows:

Hypothesis 2: There is a negative association between number of directorships and firm performance.

However, there are prior studies that suggest that a director holding multiple directorships in various listed firms may be advantageous from the perspective of business connection. First, interlocked directors provide excellent connection that adds value to the organization they serve in. For example, directors can use their business connections to negotiate the sourcing of capital and business contracts at a favorable rate to the firm. Therefore, a well-connected firm can maximize its business networking to improve firm performance (Kiel & Nicholson, 2006). Second, Zahra & Pearce (1989) suggest the role of boundary spanners by providing communication to and from external environment, thus enhancing firm performance. Based on the above argument, hypothesis 3 is formulated as follows:

Hypothesis 3: There is a positive association between board connectivity and firm performance.

3 Research methodology

3.1 Data sources and sample

Our sample of study only focuses on Government Linked Companies (GLCs). This is because we seek to examine whether GLC firm performance is significantly associated with the board reformation as proposed by Green Book (2006). The period of study is from 2006 till 2012. The sectors covered are consumer, industrial product, trading and services, construction, technology, properties and plantation. Financial services and regulated utilities sectors are

excluded from the sample of study as their financial statements differ from other sectors. Based on the above criteria, our sample of study consists of 33 listed firms in Bursa Malaysia. After deleting missing observations, our pooled sample of study consists of 220 firm-year observations. The data on directorships and board structure is hand-collected from the annual report of each of the GLC firm, while financial data are extracted from Osiris financial database. We winsorize the top and bottom of 1% of all the variables to reduce the influence of extreme outliers.

3.2 Research model

Following prior board structure literature, ordinary pooled least squares (OLS) model will be used to test the three hypotheses (Bhagat & Bolton, 2008). The industry's heterogeneity is controlled for by including industry dummies. Additionally, yearly variation is accounted for by introducing year dummies. This study uses robust standard error clustered by firm to correct for both serial correlation and heteroskedasticity in the pooled dataset.

3.3 Research variables

The selection and measurement of the dependent, experimental and control variables are explained and justified as follows based on prior literature and empirical findings. The dependant variable is return on asset, ROA and Tobin Q. ROA is computed as the net income before extraordinary items scaled by book value of total assets (Bebchuk, Cremers, & Peyer, 2011). Tobin Q is computed by the sum of book value of total assets and market value of equity less book value of equity divided by total assets (Doidge, Karolyi, & Stulz, 2004). Prior studies show a significant association between ROA and Tobin Q with board structure of the firm (Bhagat & Bolton, 2008; Chowdhury & Wang, 2009; Shin & Seo, 2011).

Based on Green Book (2006) recommendations, our framework includes four experimental variables. First, multiple chairmanship is introduced as a dummy variable, whereby it is coded as 1 if the chairman has other chairmanship in other firms, 0 otherwise. Second, total directorships are computed by the sum of all directorships held by each of the director in the board. Additionally, as a robustness test, we include a dummy variable whereby, it is coded as 1 if the firm has any director holding more than 5 directorships, 0 otherwise. Third, the board's degree of networking is represented by board connectedness. A zero score means all directors in the board do not have other directorships in other firms, while larger number indicates a board with good connections and networking. We follow Kiel & Nicholson (2006) method of computation and are shown below.

Board connectedness = (Total directorships-Board size)/Board size

A number of control variables are included in the framework. Due to the variability in GLC's size, market capitalization and board size are used as

control variables. We also include additional control variables namely, board independence, audit committee independence and nomination and compensation committee and senior director. Table 1 provides the full definition and computation of dependent, experimental and control variables.

Table 1. Variables definition

Variables	Definition
<i>Dependent variable: Firm performance</i>	
Return on asset (ROA)	Net income divided by the book value of total assets
Tobin's Q (Q)	(Book value of total assets + market value of equity less book value of equity)/by total assets
<i>Experimental variables</i>	
Multiple chairmanship (MC)	Code as 1 if the firm chairman holds at least one chairmanship in other listed firm, 0 otherwise
Total directorships (TD)	Number of directorships held by the firm director
CAP (CAP)	Code as 1 if the firm has director that holds more than five directorships in other listed firm, 0 otherwise
Board connectivity (BC)	Board connectivity = (Total directorships – Board size)/Board Size
<i>Control variables</i>	
Board independence (BIND)	Percentage of independent director in the board of director
Audit committee independence (AUD)	Percentage of independent director in the audit committee
Nomination and compensation committee independence (COMP)	Percentage of independent director in the nomination and compensation committee
Senior director (SD)	Code as 1 if the firm has at least one senior independent director, 0 otherwise
Firm size (MCAP)	Log of market capitalization
<i>Other variables</i>	
Year dummy (YEAR)	Code as 1 for the specific year, 0 otherwise
Industry dummy (IND)	Code as 1 for the specific industry, 0 otherwise

3.4 Regression framework

The regression framework used to test the three hypotheses is presented as follows.

$$ROA_{i,t} = \alpha + \beta_1 MC_{i,t} + \beta_2 TD_{i,t} + \beta_3 CAP_{i,t} + \beta_4 BC_{i,t} + \beta_5 BS_{i,t} + \beta_6 BIND_{i,t} + \beta_7 AUD_{i,t} + \beta_8 COMP_{i,t} + \beta_9 SD_{i,t} + \beta_{10} \log(MCAP)_{i,t} + (YEAR) + (IND) + e_{i,t}$$

$$Tobin Q_{i,t} = \alpha + \beta_1 MC_{i,t} + \beta_2 TD_{i,t} + \beta_3 CAP_{i,t} + \beta_4 BC_{i,t} + \beta_5 BS_{i,t} + \beta_6 BIND_{i,t} + \beta_7 AUD_{i,t} + \beta_8 COMP_{i,t} + \beta_9 SD_{i,t} + \beta_{10} \log(MCAP)_{i,t} + (YEAR) + (IND) + e_{i,t}$$

Table 2. Descriptive statistics

Variables	Mean	Median	Max.	Min.	Std. dev.
<i>Panel A: Firm performance</i>					
ROA (%)	4.60	3.77	25.16	-10.60	6.55
Tobin Q	1.22	1.05	2.95	0.00	0.60
<i>Panel B: Board structure</i>					
Multiple chairmanship (MC)	0.98	1.00	1.00	0.00	0.11
Total directorships (TD)	12.22	10.00	24.00	6.00	4.59
Directorship cap (CAP)	0.44	0.00	1.00	0.00	0.49
Board connectivity (BC)	0.47	0.33	3.00	0.00	0.54
<i>Panel C: Control</i>					
Board size (BS)	8.35	9.00	12.00	5.00	1.56
Board independence (BIND) (%)	50.38	43.00	75.00	33.00	58.89
Audit committee independence (AUD) (%)	72.67	75.00	100.00	50.00	17.45
Nomination and compensation committee independence (COMP) (%)	62.27	60.00	100.00	33.00	20.13
Senior director (SD)	0.31	0.00	1.00	0.00	0.46
Market capitalization (MCAP) (RM) (000)	7541000	825951	69841900	4894	599785

See table 1 for variables definition

Table 3. Correlation among ROA, Tobin Q, multiple chairmanship, total directorship, director cap, board connectivity, and control variables

Variables	Tobin Q	ROA	MC	TD	BS	CAP	BIND
Tobin Q	1						
ROA	0.468***	1					
MC	0.189*	0.048	1				
TD	0.086	0.070	0.130	1			
BS	0.113	0.199*	0.245**	0.418***	1		
CAP	0.159	0.194*	0.100	0.575***	0.537***	1	
BIND	0.078	0.085	0.033	-0.116	-0.079	-0.115	1
AUD	0.018	0.059	-0.179	0.139	-0.056	0.036	0.05
COMP	-0.044	-0.069	-0.066	0.198*	-0.019	-0.148	-0.073
MCAP	0.292***	0.247**	0.225**	-0.028	0.433***	0.139	0.142
BC	0.026	-0.046	0.016	0.842***	-0.108	0.329***	-0.097
SD	-0.165	0.275**	-0.171	0.175	0.263**	0.030	-0.035

Variables	AUD	COMP	MCAP	BC	SENIOR
AUD	1				
COMP	0.272**	1			
MCAP	0.111	-0.273**	1		
BC	0.134	0.163	-0.249*	1	
SD	0.606	0.210*	0.055	0.023	1

p values are given in parentheses.

* Indicates significance at the 10% level

** Indicates significance at the 5% level

*** Indicates significance at the 1% level

See Table 1 for variables definition

Table 4. Regression results on the association between board structure, control variables and ROA

Dependent variable: ROA	1	2	3	4	5
Constant	6.943 (1.43)	4.613 (0.77)	2.855 (0.489)	4.677 (0.73)	1.468 (0.17)
MC	2.910*** (3.55)				3.682*** (4.10)
TD		0.040*** (2.95)			0.614*** (3.85)
CAP			2.524* (1.89)		3.107* (1.91)
BC				0.128** (2.10)	5.673*** (4.51)
BS	0.216 (0.32)	0.199 (0.32)	-0.263 (-0.37)	0.263 (0.40)	-1.40 (-0.75)
BIND	0.007* (1.93)	0.008** (2.00)	0.008** (2.47)	0.007* (1.93)	0.007* (1.67)
AUD	0.022 (0.63)	0.016 (0.49)	0.006 (0.19)	0.017 (0.53)	0.007 (0.19)
COMP	-0.029 (-0.75)	-0.029 (-0.73)	-0.014 (-0.36)	-0.028 (-0.71)	-0.018 (-0.47)
SD	3.953*** (2.52)	3.770*** (2.50)	4.037*** (2.80)	3.776** (2.50)	4.309*** (2.82)
MCAP	0.410 (1.37)	0.453 (1.50)	0.539* (1.87)	0.442 (1.46)	0.513 (1.60)
Industry	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.1442	0.1427	0.1656	0.1422	0.1781
Prob (F-stat)	0.000***	0.000***	0.000***	0.000***	0.000***
Obs.	220	220	220	220	220

The definition and measurement of experimental and control variables are explained in Table 1. The robust *t*-statistics in parentheses are adjusted for clustering at the firm-level. ***, **, and * denote the 1%, 5%, and 10% levels of significance, respectively.

4 Results and discussion

4.1 Descriptive Statistics

Table 2 present the summary statistics for the sample of study. Panel A lists descriptive statistics for firm performance, whereby the mean (median) for ROA and Tobin Q is 4.6% (3.77%) and 1.22 (1.05) respectively. Panel B shows that the mean (median) for total directorships is 12.22 (10) and mean (median) for board connectivity is 0.47 (0.33). Panel C presents the mean (median) for control variables. The board size mean (median) is 8.35 (9.00) and this figure is below the recommendation of Green Book (2006). The board independence mean (median) is 50.35% (43.00%), audit committee independence mean (median) is 72.67% (75.00%) and nomination and remuneration committee independence mean (median) is 62.27% (60%) exceed the minimum compliance set by Green Book for GLCs.

4.2 Correlation

Table 3 reports the bivariate statistical correlations for listed GLCs for the period 2006 till 2012. Tobin Q is positively correlated with ROA, multiple chairmanships and market capitalization, while ROA is positively correlated with board size, directorship cap, market capitalization and senior director. VIF results of all variables indicate no multicollinearity problem as all VIF figures are less than 10.

4.3 Firm performance and board structure relationship

Table 4 and 5 shows the results of board structure relationship with ROA and Tobin Q. In the full model (Model 5), our first result suggests that a chairman that holds multiple chairmanships leads to higher ROA (3.68, $t=4.10$, $p < 0.01$) and higher Tobin Q (0.446, $t=1.71$, $p < 0.10$). One possible explanation is the chairman that chairs other high performing boards will be able to bring those best practices of corporate governance to the GLC firm. Additionally, the

chairman has an incentive to perform well, as it will lead to more offer of chairmanship in the future. This supports Fama & Jensen (1983) reputational capital theory.

In contrast with busyness hypothesis, our results show that total directorships are positively associated with ROA (0.61, $t=3.85$, $p < 0.01$) and Tobin Q (0.07, $t=3.47$, $p < 0.01$). A further test on directorship cap supports our preliminary result. The positive and significant dummy directorship cap coefficient suggest that a firm is likely to record higher ROA (3.10, $t=1.91$, $p < 0.05$) and Tobin Q (0.19, $t=1.91$, $p < 0.05$) if any of the firm's director holds more than five directorships. Based on our finding, we conjecture that interlocked directors can add value to the firm by maximizing their business connection and networking

with other firms. Our robustness test result supports our hypothesis when board connectivity is positively associated with higher ROA (5.67, $t=4.51$, $p < 0.01$) and higher Tobin Q (0.48, $t=3.71$, $p < 0.01$).

Additionally, there are several interesting implications from control variables results. First, board size has no significant association with firm performance, either ROA or Tobin Q. Second, high performance GLC will have higher ratio of board independence. However, subordinated committees independence does not have any significant influence on firm performance. Finally, we find that GLC with a senior independent director in the board is likely to have higher ROA (4.30, $t=2.82$, $p < 0.01$) and Tobin Q (0.22, $t=1.82$, $p < 0.10$).

Table 5. Regression results on the association between board structure, control variables and Tobin Q

Dependent variable: Tobin Q	1	2	3	4	5
Constant	0.338 (0.67)	0.030 (0.05)	0.207 (0.35)	0.055 (0.09)	0.141 (0.16)
MC	0.475* (1.87)				0.446* (1.71)
TD		0.019** (2.31)			0.071*** (3.47)
CAP			0.233* (1.67)		0.194* (1.91)
BC				0.128** (2.15)	0.485*** (3.71)
BS	0.006 (0.11)	-0.016 (-0.27)	-0.035 (-0.55)	0.014 (0.26)	-0.145 (-0.81)
BIND	0.007* (1.93)	0.008** (2.00)	0.008** (2.47)	0.007* (1.93)	0.007* (1.67)
AUD	-0.000 (-0.15)	-0.002 (-0.67)	-0.002 (-0.68)	-0.017 (-0.58)	-0.002 (-0.69)
COMP	0.003 (0.50)	0.003 (0.46)	0.004 (0.81)	0.003 (0.51)	0.003 (0.53)
SD	0.242* (1.86)	0.274** (2.34)	0.246* (1.97)	0.27** (2.31)	0.228** (1.82)
MCAP	0.071*** (2.38)	0.083*** (2.83)	0.084*** (2.77)	0.081*** (2.80)	0.086** (2.62)
Industry	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.1345	0.1435	0.1516	0.1400	0.1658
Prob (F-stat)	0.000***	0.000***	0.000***	0.000***	0.000***
Obs.	220	220	220	220	220

The definition and measurement of experimental and control variables are explained in Table 1. The robust t -statistics in parentheses are adjusted for clustering at the firm-level. ***, **, and * denote the 1%, 5%, and 10% levels of significance, respectively.

5 Conclusions

Our exploratory study on GLCs is primarily motivated by recent report by Putrajaya Committee which provided positive evidences of GLCs transformation program. Based on the Green Book (2006)

recommendation on high performing board, we hypothesize that there is an association between board structure and firm performance. Based on a sample of 220 firm year observations of GLCs listed firms we conclude the findings as follows.

First, GLCs chairman with multiple chairmanships is positively associated with better firm performance. Based on this finding, it is highly likely that a chairman with multiple chairmanships can institute best practices of corporate governance in the current GLC board, which leads to better performance. Moreover, in line with Fama & Jensen (1983) reputational theory, chairman has incentive to perform well as better performance can lead to more offer of chairmanship in the future. Second, total directorships are positively associated with higher firm performance. This finding is interesting as it contrast with prior literature on busyness hypothesis and Green Book recommendation on number of directorships. Our further analysis on directorship cap shows that it is highly likely that a GLC will perform better if at least one of the directors held more than five directorships. One plausible explanation is that it is the board that collectively governs the firm and its performance is not influenced by one busy director. Furthermore, less than 20% of the director held more than five directorships in GLCs. Third, our robustness test reveal interesting result when board connectivity is positively associated with firm performance. We conjecture that it is highly likely that interlocking directors maximize their business connection and networking to add value to the GLC they serve in.

Our preliminary result seems to suggest that better recent firm performance by GLCs can be attributed to certain board structure recommendations in Green Book (2006). However, our finding on total directorships and board size recommendation suggest a more judicious application of the code of governance. Finally, we would like suggest for future research to look into the compensation for top executive director in GLCs and its association to firm performance. This is because compensation and shareholding has been shown to be an effective tool in alleviating agency problems between the manager and shareholder in the firm.

References

1. Bebchuk, L.A. & Fried, J.M. (2004). Pay without performance: The Unfulfilled Promise of Executive Compensation. Cambridge: Harvard University Press.
2. Bebchuk, L. Cremers, K.J. & Peyer, U.C. (2011). The CEO pay slice. *Journal of Financial Economics*, 102, 199-221.
3. Bhagat, S. & Bolton, B. (2008). Corporate governance and firm performance. *Journal of Corporate Finance*, 14, 257-273.
4. Chowdhury, S.D. & Wang, E.Z. (2009). Institutional activism types and CEO compensation: A time-series analysis of large Canadian corporations? *Journal of Management*, 35, 5-36.
5. Daily C.M. & Schwenk C. (1996). Chief executive officers, top management teams and board of directors: congruent or countervailing forces? *Journal of Management*, 22, 185-208.
6. Doidge, C. Karolyi, G.A., & Stulz, R. (2004). Why are foreign firms listed in the U.S worth more? *Journal of Financial Economics*, 71, 205-238.
7. Fama E. & Jensen M. (1983). The separation of ownership and control. *Journal of Law and Economics*, 26, 301-325.
8. Ferris S., Jagannathan M., & Pritchard A.C. (2003). Too busy to mind the business? Monitoring directors with multiple board appointments. *Journal of Finance*, 3, 1087-1111.
9. Fich E. & Shivdasani A. (2006). Are busy boards effective monitors? *Journal of Finance*, 2, 681-724.
10. Jensen, M.C. & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3, 305-360.
11. Kiel G.C. & Nicholson G.J. (2006). Multiple directorships and corporate performance in Australian listed companies. *Corporate Governance: International Perspective*, 6, 530-546.
12. Lipton M. & Lorsch J.W. (1992). A modest proposal for improved corporate governance. *Business Lawyer*, 48, 59-77.
13. Putrajaya Committee. (2006). Green Book: Enhancing board effectiveness. Putrajaya Committee.
14. Putrajaya Committee. (2011). GLC transformation programme: Progress report. Putrajaya Committee.
15. Reeb, D. & Upahhyay, A. (2010). Subordinate board structure. *Journal of Corporate Finance*, 16,469-489.
16. Shin, J.Y. & Seo, J. (2011). Less pay and more sensitivity? Institutional investor heterogeneity and CEO pay. *Journal of Management*, 37, 1719-1746.
17. Shivdasani A. & Yermack D. (1999). CEO involvement in the selection of new board members: An empirical analysis. *Journal of Finance*, 54, 1829-1853.
18. Zahra S.A. & Pearce J.A. (1989). Boards of directors and corporate financial performance: a review and integrative model. *Journal of Management*, 15, 291-334.