

# Demystifying the role of a state ownership in corporate governance and firm performance: Evidence from the manufacturing sector in Malaysia\*

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## Abstract

*The aim of this research is to examine the role of state ownership in corporate governance and firm performance. We employed ordinary least squares and two-stage least squares regressions to analyze the effects of state ownership on firm performance. We go beyond existing research on state ownership by carefully disentangle investment objectives of state-controlled financial institutions. Such state ownership can be classified as profit-oriented and non-profit-oriented, in which the former consider return on investment to be the primary investment objective, whereas the latter prioritizes socio-economic development. We found that profit-oriented state ownership is an effective corporate governance mechanism and provides political patronage to the firm in the form of firm's specific resources and credit financing. Although non-profit-oriented state ownership firms also receive similar political patronage, they tend to be associated with inefficiencies such as the free-rider problems, bureaucracies and political intervention in firm management. We conclude that state ownership consists of heterogeneous entities with respect to corporate governance and firm performance.*

**Key words:** state ownership, institutional ownership, firm performance, corporate governance, ownership structure

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## **1. Introduction**

Corporate governance is considered to be a determinant of firm success. An effective corporate governance system plays an important role in reducing agency costs and enabling firms to operate with maximum efficiency in production, in addition to achieving economies of scale (Fama and Jensen, 1983). Efficient corporate governance systems can curb unnecessary expenses such as monitoring, business restructuring and contract enforcement. Thus, the importance of corporate governance has attracted the attention of many academic researchers over the past several decades.

Notably, there is a general consensus in the literature suggesting that the presence of institutional investors may contribute to effective monitoring in terms of firm management (Johnson et al., 1996; Woidtke, 2002; Le et al., 2006; Choi et al., 2012). In emerging economies, prior studies have focused on the role of state ownership in corporate governance and firm performance to show how state ownership differs from conventional institutional investors (Ramírez and Tan, 2004; Ang and Ding, 2006; Tian and Estrin, 2008; Saleh et al., 2009). Indeed, there have been dozens of such studies devoted to examining the relationship between state ownership and firm performance in emerging economies; however, the findings are often inconsistent and conflicting. On the one hand, a few studies have reported a non-significant relationship between state ownership and firm performance (Saleh et al., 2009; Choi et al., 2012). On the other hand, other studies have found positive effects of state ownership on firm performance in emerging economies in Asia (Ramírez and Tan, 2004; Ang and Ding, 2006; Lau and Tong, 2008; Zunaidah and Fauzias, 2008; Ghazali, 2010; Najid and Rahman, 2011). Despite the extensive studies on state ownership, we find that these studies typically begin with the premise that state ownership produces either a positive or a negative impact on firm performance; thus, these studies unanimously assume that state ownership is homogeneous and identical from entity to entity. However, the role of institutional ownership, including state ownership, may vary when institutional investors have different investment objectives and strategies (Woidtke, 2002; Le et al., 2006). Specifically, Choi et al. (2012) noted that more studies with new theoretical perspectives are required to understand the relationship between state ownership and firm performance.

In this paper, we intend to examine the role of state ownership in corporate governance and firm performance to shed light on the inconsistent and conflicting findings on the relationship between state ownership and firm performance. Our study differs from previous studies in the following ways. First, we adopt the view that state ownership is not homogenous. Second, we account for the socio-economic dimension of state ownership. Third, we consider the pros and cons of state ownership based on its institutional context. Our research approach owes

much to the view that the firm performance and business strategies of contemporary organizations are influenced by institutional setting (or environment) and the motives of firm owners (Stefanovic et al., 2010; Stefanovic and Milosevic, 2012).

We propose our hypothesis as follows: *There are systematic differences among state ownership with respect to corporate governance and firm performance.* Specifically, we contend that state ownership should not be viewed as homogeneous or identical across entities in Malaysia. The role of state ownership in corporate governance and firm performance also differ from conventional institutional ownership.

The paper is organized as follows. Section 2 presents a literature review. Section 3 describes sample, model specification, estimation strategies and measures. Section 4 reports empirical analysis. Section 5 presents empirical results and discussion. Section 6 concludes.

## 2. Literature review

In emerging economies, the investment objectives of government-linked financial institutions are somewhat different than those of international institutional investors (Tam and Tan, 2007). In Malaysia, the types of local institutional investors can be further classified into government-linked and non-government-linked financial institutions. Non-government-linked financial institutions include private mutual funds, pension funds and hedge funds managed by local institutional investors; these resemble international institutional investors. Conversely, government-linked financial institutions in Malaysia are widely recognized to be controlled by the government. Equity ownership in corporate sectors that is held by government-controlled financial institutions is considered to be state-owned.

Notably, there are two schools of thoughts on state ownership with respect to firm performance. The first school of thought reasons that state ownership is not an effective governance mechanism in Malaysia for several reasons. First, the ethnic-biased economic policy in Malaysia has created free-rider problems because Malay investors are protected under the establishment of the Permodalan Nasional Berhad (PNB) trust fund (Suto, 2003). Because the Malaysian government views state ownership as an instrument through which it may be involved in economic activities, state ownership prioritizes socio-economic objectives in the investment strategies of financial institutions rather than maximizing firm value. Second, the bureaucratic structure in government-controlled financial institutions may be costly because the government per se is the agent of its citizens (Woidtke, 2002; Tam and Tan, 2007). Thus, the role of state ownership in corporate governance has been questioned because the interests of the agent (the government) do not necessarily dovetail with the interests of the citizens. Third, it is a common practice

for the Malaysian government to appoint firm management based on political and social objectives (Saleh et al., 2009; Najid and Rahman, 2011). A major problem with this type of practice is that management teams and boards of directors may not be appointed based on qualifications. Similar arguments also can be detected in an European emerging economy. Lahovnik and Malenković (2011) argue that the decline of state ownership in the ownership structure leads to state-owned enterprises to adopt good corporate governance practices in Slovenia. In short, state ownership is unlikely to become an effective corporate governance mechanism to help monitor firm management.

Whereas the first school of thought focuses on corporate governance, the second school of thought alternatively reasons that corporations receive political patronage from state ownership in emerging economies with high levels of government intervention. With respect to Malaysia, the government has played a strategic role in internal resource configurations to achieve national economic objectives (Öniş, 1991; Furuoka, 2007; Gomez, 2009). In turn, government intervention has caused economic agents (or corporations) to secure protection from market competition. Stated differently, economic agents with a close relationship to the government may obtain industry-specific resources to outperform competitors in local industry. For instance, state ownership in the ownership structure of a firm may provide it with a political link to participate in state-led development projects (Zunaidah and Fauzias, 2008). Consistent with such arguments, Fraser et al. (2006) analyzed the period from 1990 to 1999 in Malaysia and discovered that firms with state ownership have better access to capital financing. They concluded that political linkage might represent investment opportunities for firms, which would, in turn, have a positive impact on firm performance.

Voluminous empirical studies have emerged that investigate the relationship between state ownership and firm performance in emerging economies. However, these empirical studies yield conflicting results. On the one hand, several studies have found that state ownership does not affect firm performance (Saleh et al., 2009; Choi et al., 2012). Specifically, Saleh (2009) found that state ownership does not contribute to the performance of intellectual capital in the firms. On the other hand, other studies have discovered a positive and statistically significant relationship between state ownership and firm performance (Ramírez and Tan, 2004; Ang and Ding, 2006; Lau and Tong, 2008; Zunaidah and Fauzias, 2008; Ghazali, 2010; Najid and Rahman, 2011). For instance, Ang and Ding (2006) discovered that state ownership has a positive relationship with firm performance and concluded that state ownership leads to better firm management in Singapore.

Whereas most of the studies reviewed above suggest that state ownership exerts a positive influence on firm performance, the evidence is far from conclusive. The main contention of our paper is that the conflicting evidence signifies that state ownership should no longer be viewed as homogeneous and monolithic. Our

perspective owes much to the view that there may be heterogeneity in institutional ownership because of systematic differences in investment objectives (Woidtke, 2002; Le et al., 2006). According to Lau and Tong (2008), state ownership in Malaysia is the sum of the corporate ownership held by seven government-linked financial institutions that are controlled by the Malaysian government. Subsequently, state-controlled financial institutions can be classified as either profit-oriented or non-profit-oriented, depending on their investment objectives; the former consider return on investment to be the primary investment objective, whereas the latter prioritizes the achievement of socio-economic development.

Thus far, we have identified two types of state ownership based on their primary investment objectives. We propose that profit-oriented state ownership is likely to produce a positive influence on firm performance for the following reasons. First, profit-oriented state investors are likely to perform professional monitoring of firm management regardless of whether their investment horizons are oriented to the short or long term. This argument centers on the fact that institutional investors are typically professional investors who have the ability and oversight skills to monitor firms. When profit-oriented state investors adopt a long-term horizon (or buy-and-hold) as an investment strategy, they have economic incentives to assume a monitoring role in corporate governance (Le et al., 2006). However, the possibility of profit-oriented state investors adopting short-term (or quick entry-and-exit) investment strategies raises the question of whether they intend to engage in such monitoring activities and whether they will be inclined to liquidate their shareholdings to safeguard their investment should the firm's prospects appear to deteriorate. This concern is less relevant in emerging economies such as Malaysia, Singapore and Indonesia because a prior study has shown there is high ownership concentration in the hands of governments in these countries consistently (Claessens and Fan, 2002). Additionally, profit-oriented state investors have difficulty selling their shares in open markets because of low market liquidity in emerging economies (Lesmond, 2005). The rationale is that the liquidation of a large number of shares typically results in a discount and depresses share prices (Le et al., 2006). As a result, profit-oriented state investors are forced to monitor firm management to safeguard their investment. Second, profit-oriented state investors have incentives to promote good corporate governance practices (e.g., board independence and independent audit committee) because the poor performance of their funds will lead to more pressure and monitoring from the contributors (Woidtke, 2002). Stated differently, management of profit-oriented state-controlled financial institutions functions similar to management of conventional institutional investors in which the primary objective is investment returns. Third, state ownership in emerging economies with a high degree of state intervention – such as Malaysia – provides political patronage to firms in the form of access to capital financing and political support to participate in government-directed projects (Fraser et al., 2006; Zunaidah

and Fauzias, 2008). In short, profit-oriented state ownership is likely to exert a positive influence on firm performance.

However, we expect that non-profit oriented state ownership does not have a significant relationship with firm performance in Malaysia. State-controlled financial institutions that prioritize socio-economic objectives do not view investment returns as primary objectives and the Malaysian government thus uses non-profit-oriented state ownership as an instrument to achieve national socio-economic objectives (Suto, 2003; Tam and Tan, 2007). For example, the sovereign wealth fund of Malaysia, the Khazanah Nasional Berhad, clearly announces that raising the country's competitiveness in government-directed strategic investment is one of its primary investment objectives. A similar relationship is found in the joint venture between the Nippon Steel Corporation (Japan) and the Malaysian government that resulted in the establishment of Perwaja Steel, which was able to achieve certain non-significant technological advancement (Wong, 2011). Wong (2011) explains that the Malaysian government was reluctant to inject the correct resources to enhance overall production systems because the allocation of resources was subject to political bargaining and because national industrial policies were biased to only a few business entities. Thus, socio-economic objectives tend to dominate the agenda of non-profit-oriented state ownership. In turn, free-rider problems, bureaucracies and political preferences in appointing management are also prominent in non-profit-oriented state ownership because of the absence of the profit-making objective (Woidtke, 2002; Saleh et al., 2009; Najid and Rahman, 2011). Corporations that receive political patronage in terms of capital financing and specific industry resources, however, may show positive to firm performance (Fraser et al., 2006; Zunaidah and Fauzias, 2008). Considering the advantages of political patronage and deficiencies of non-profit-oriented state ownership, we suggest a non-significant relationship between non-profit-oriented state ownership and firm performance.

Until now, we have considered state ownership in Malaysia, which differs from the conventional institutional ownership in advanced economies. We expect, however, that institutional ownership other than state ownership is an effective corporate governance mechanism. First, long-term institutional investors are likely to engage in firm monitoring to enhance the firm's long-term value (Le et al., 2006). Second, by contrast, firm management is subject to pressure of the short-term institutional investors who may liquidate their shares when the firm's prospects deteriorate (Le et al., 2006). The rationale is that the exit of short-term institutional investors would depress share prices in a discount. Third, institutional investors have the ability to monitor firm management through voice activism (Chung and Talaulicar, 2010; Choi et al., 2012). For example, institutional investors could build a shareholder coalition to strengthen firm monitoring, criticize management policy through the media or negotiate directly with firm management. Thus, we expect that institutional ownership to have a positive impact on firm performance.

### 3. Data and methodology

#### 3.1. Sample and data

This study uses a sample of publicly traded firms listed on the 'Industrial Product Index' in Bursa Malaysia (the Malaysian Stock Exchange) from 2004-2006. We excluded financially distressed companies because they have incentives to engage in earnings management, which may be a concern for the reliability of financial information. Specifically, we only include firms listed on the Main Market of Bursa Malaysia and exclude those firms listed on the MESDAQ Market. The rationale is that firms listed on the MESDAQ Market are mainly small-cap stocks that are associated with low liquidity. In addition, Francis (2013) reported that the small-cap stocks listed on the MESDAQ board have difficulty gaining the investment interest of institutional investors, including state-controlled financial institutions. Notably, the year 2006 was selected as the final year in this study to avoid periods of global financial crisis during 2007-2009 for two reasons. First, our sample period, which is stable economic periods, can mitigate potential biased in market-based performance measure (i.e., Tobin's Q) in this study (He and Wang, 2009). Second, prior studies have shown that the Malaysian government tends to provide high levels of firm's specific resources to political-connected firms during financial crisis and thus alter the impact of state ownership on firm performance (Johnson and Mitton, 2003; Bliss and Gul, 2012). In total, our sample comprises 192 firms or 576 firm-year observations over the three-year sample period.

Table 1: Primary investment objectives of government-controlled financial institutions in Malaysia

Government-controlled financial institutions	Primary investment objective
Employees Provident Fund (EPF)*	Investment returns
Kumpulan Wang Amanah Pencen (KWAP)*	Investment returns
Lembaga Tabung Angkatan Tentera (LTAT)*	Investment returns
Lembaga Tabung Haji (LTH)**	Investment returns
Ministry of Finance Malaysia	Socio-economic development
Permodalan Nasional Bhd (PNB) <sup>+</sup>	Socio-economic development
Khazanah Nasional Bhd <sup>++</sup>	Socio-economic development

Notes: \*/\*\*/+/\*\* denotes public pension fund/ Moslem pilgrimage fund/trust fund and sovereign wealth fund.

Source: Authors' deliberations

Our primary data sources are (1) Datastream and (2) annual reports published on Bursa Malaysia. Annual reports provide comprehensive and reliable ownership and corporate governance information because Bursa Malaysia's listing requirements impose a mandatory requirement that the listed firms disclose the 30 largest shareholders in their ownership structures. Financial data and equity prices are extracted from Datastream.

To identify the heterogeneity of state ownership in Malaysia, we obtained the primary investment objective of state-controlled financial institutions from their official websites. For example, the investment objective of Permodalan Nasional Bhd (PNB) is to increase the presence of Malay ownership in corporate sectors and Malay professionals in wealth management industries. As a result, PNB could not exercise effective firm monitoring and enhance firm performance (Tam and Tan, 2007). The primary objectives of the government-controlled financial institutions are presented in Table 1. Clearly, state-controlled financial institutions be classified into two categories. The first group consists of state-controlled financial institutions, i.e., Moslem pilgrimage and public pension funds, that view return on investment as their primary objective. The second group consists of state-controlled financial institutions, i.e., the Ministry of Finance, Permodalan Nasional Berhad and Khazanah Nasional Berhad, that do not include return on investment as a primary objective.

### 3.2. Model specification and estimation methods

We built the regression model specification based on the corporate governance and firm performance literature. Although our main objective is to examine the relationship between state ownership and firm performance, we include independent variables and control variables to ensure that the model specifications are correct. Specifically, corporate governance variables, i.e., ownership concentration, state ownership, profit-oriented state ownership, non-profit-oriented state ownership, institutional ownership, foreign ownership, CEO duality and board independence, are included in the regression models. Following previous studies (Lau and Tong, 2008; Chen et al., 2011), we utilize ordinary least squares (OLS) with year-fixed-effect models to control for the effects of time and avoid potential bias in the observed relationship. Two model specifications are presented in equations (1) and (2). In model 1, state ownership is assumed to be homogeneous across entities, as is commonly interpreted based on current corporate governance studies. In model 2, we classify state ownership into profit-oriented state ownership and non-profit-oriented state ownership, according to the objective of our study.

$$\begin{aligned} \text{Ln}Q_{it} = & \beta_0 + \beta_1 \text{TOP1}_{it} + \beta_2 \text{Gov}_{it} + \beta_3 \text{Inst}_{it} + \beta_4 \text{Frg}_{it} + \beta_5 \text{Dual}_{it} + \\ & + \beta_6 \text{BOD}_{it} + \text{Control Variables}_{it} + \varepsilon_{it} \end{aligned} \quad (1)$$

$$\begin{aligned} \text{Ln}Q_{it} = & \beta_0 + \beta_1 \text{TOP1}_{it} + \beta_2 \text{GovP}_{it} + \beta_3 \text{GovN}_{it} + \beta_4 \text{Inst}_{it} + \beta_5 \text{Frg}_{it} + \\ & + \beta_6 \text{Dual}_{it} + \beta_7 \text{BOD}_{it} + \text{Control Variables}_{it} + \varepsilon_{it} \end{aligned} \quad (2)$$



One issue often raised in corporate governance studies is the endogeneity of ownership variables, which is commonly found in Anglo-Saxon economies (Demsetz and Villalonga, 2001). An implication of endogeneity is that reverse causation may occur, in which increased firm performance leads to an increase in ownership variables. However, Gugler and Weigand (2003) found that a high ownership concentration context renders the endogeneity of ownership variables less relevant in empirical research. Although high concentrations of ownership in Malaysia may be a reason to assume the exogeneity of ownership variables, we use a two-stage least squares (2SLS) approach to address the endogeneity issue because no available empirical studies show that ownership variables in Malaysia are exogenous. The 2SLS approach can show whether the identified causal relationship in the ordinary least squares (OLS) approach is consistent (or spurious). Following previous studies (Hermalin and Weisbach, 1991; Loderer and Martin, 1997; Grosfeld, 2009), we utilized lagged ownership variables as instrumental variables in 2SLS.

### **3.3. Measure**

Prior research has established the utility of Tobin's Q to measure firm performance in emerging economies (Claessens et al., 2002; Young et al., 2008). Tobin's Q is a market-based valuation measure of firm performance because it is affected by the valuation judgments of investors and by the psychology of the markets (Demsetz and Villalonga, 2001). We measured Tobin's Q as the ratio of the market value of common stocks plus the book value of preferred stocks and total debts to total assets. Following Thomsen et al. (2006), we performed a logarithmic transformation of Tobin's Q to correct for a right-skewed distribution.

We adopted several corporate governance variables that are widely used in empirical studies in emerging economies, i.e., ownership concentration, state ownership, institutional ownership, foreign ownership, CEO duality and board independence. Consistent with prior studies, we measured ownership concentration as the percentage of voting rights owned by the largest shareholder (Lefort and Urzúa, 2008; Grosfeld, 2009). The rationale is that the largest shareholder often becomes a controlling shareholder that has a strong influence over firm management in emerging economies. In addition, voting rights signify how market investors evaluate the incentive for the largest shareholders to mitigate agency problems in firms.

We measured state ownership as the percentage of corporate ownership held by government-controlled entities (Xu and Wang, 1999; Saleh et al., 2009; Choi et al., 2012). Because our primary objective is to show that state ownership is not homogeneous and not identical across ownership entities, we classified state ownership into profit-oriented state ownership and non-profit-oriented state ownership (see Table 1). We measured profit-oriented state ownership as corporate ownership held by government-controlled financial institutions whose primary

investment objective is return on investment. We classified other state ownership as non-profit-oriented state ownership to reflect the socio-economic dimensions of such firms.

Relying on prior studies, we measured institutional ownership as the percentage of corporate ownership held by financial institutions such as pension funds, mutual funds, insurance companies and banks (Lins, 2003; Le et al., 2006; Choi et al., 2012); however, state ownership is excluded from this measurement. Although Lins (2003) and Choi et al. (2012) included state-controlled pension funds in institutional ownership, we excluded state-controlled pension funds and the Moslem pilgrimage fund from institutional ownership to reflect that state ownership differs from institutional ownership.

Table 2: Operationalization of variables

Variable	Notation	Definition
Firm performance	LnQ	Logarithmic transformation of Tobin's Q. Tobin's Q is the ratio of the market value of common stocks plus the book value of preferred stocks and total debts to total assets.
Ownership concentration	TOP1	The percentage of voting rights owned by the largest shareholder.
Profit-oriented state ownership	GovP	Corporate ownership held by government-controlled financial institutions whose primary investment objective is return on investment.
Non-profit-oriented state ownership	GovN	Corporate ownership held by government-controlled financial institutions whose primary investment objective is not return on investment.
State ownership	Gov	State ownership including profit and non-profit-oriented state ownership.
Institutional ownership	Inst	Equity ownership held by financial institutions (excluding state ownership).
Foreign ownership	Frg	The percentage of ownership held by foreign multinational companies and financial institutions.
CEO duality	Dual	Dummy variable that takes a value of '1' if the CEO and chairperson of the board of directors are same person and '0' otherwise.
Board independence	BOD	The proportion of independent directors on the board of directors.
Firm size	Size	Total assets.
Corporate investment	Inv	Capital expenditure on property, plant and equipment scaled by total sales.
Leverage	DTA	The ratio of total debts to total assets.

Source: Authors' deliberations

Choi et al. (2012) contended that foreign investors generally have a technological competitive advantage and may transfer firm-specific knowledge to local firms. In addition, foreign investors with large shareholdings have incentives to encourage local firms to develop technological resources. Moreover, foreign ownership may also be an effective corporate governance mechanism in emerging economies (Bayrakdaroglu et al., 2012), and we expect foreign ownership to positively influence firm performance. We measured foreign ownership as the percentage of shareholdings owned by foreign multinational companies and financial institutions (Choi et al., 2012).

We included two variables for corporate governance practices in the model: CEO duality and board independence. We measured CEO duality dichotomously, i.e., CEO duality takes the value of '1' if the CEO is also the chairperson of the board of directors and '0' otherwise (He and Wang, 2009; Ramdani and Witteloostuijn, 2010; Bayrakdaroglu et al., 2012). Board independence was measured as the proportion of independent directors on the board of directors (Haniffa and Hudaib, 2006; van Essen et al., 2012).

Finally, we controlled for corporate investment, capital structure and firm size in our analyses. Corporate investment, measured as the total capital expenditure on property scaled by total sales, may positively influence firm performance (Demsetz and Villalonga, 2001). We measured firm size using total assets (Bayrakdaroglu et al., 2012; Choi et al., 2012). Finally, we measured the firm's leverage ratio (capital structure) as the ratio of total debt to total assets (Bayrakdaroglu et al., 2012).

The operationalization of variables is summarized in Table 2.

## **4. Empirical analysis**

### **4.1. Descriptive statistics**

Tables 3 and 4 present the descriptive statistics and correlation matrices of the variables used in this study. During the sample period, the mean value of state ownership is 5.53%, whereas the mean values of profit-oriented state ownership and non-profit-oriented state ownership are 3.93% and 1.60%, respectively. These results suggest that the firms in our study, on average, have a higher percentage of profit-oriented state ownership compared to non-profit-oriented state ownership. Regarding control variables, the ratio of the average debt to total assets is only approximately 25%, which indicates low leverage levels.

The correlation matrices indicate that several governance variables are significantly correlated, which indicates potential multicollinearity in the regression models (see Table 4). For example, institutional ownership and CEO duality are significantly correlated with ownership concentration ( $p < 0.01$ ). Thus, we performed collinearity

diagnostics and found that none of the variance inflation factors between independent variables reach the threshold value of 3.0, which suggest there is no multicollinearity in the models.

Table 3: Descriptive statistics

Variables	Mean	SD	Min	Max
LnQ	-0.22	0.26	-1.18	1.14
TOP1	37.40	15.09	5.78	89.19
Gov	5.53	8.55	0.00	45.72
GovP	3.93	7.08	0.00	45.72
GovN	1.60	4.93	0.00	38.64
Inst	6.04	8.15	0.00	41.34
Frg	3.89	6.63	0.00	39.10
Dual	0.28	0.45	0.00	1.00
BOD	0.40	0.10	0.00	0.83
Inv	0.08	0.12	0.00	1.09
Size	664.93	4409.18	2.01	103155.49
DTA	0.25	0.28	0.00	3.67
No. of obs.	576			

Source: Author's calculation

Table 4: Correlation matrices

	1	2	3	4	5	6	7	8	9	10	11
LnQ	1										
TOP1	0.08**	1									
GovP	0.13*	-0.03	1								
GovN	0.01	-0.04	-0.02	1							
Inst	0.08	0.13*	0.17*	-0.02	1						
Frg	0.04	-0.04	0.04	0.01	0.20*	1					
Dual	-0.05	0.12*	-0.09**	-0.10**	-0.02	-0.05	1				
BOD	0.07	-0.02	0.04	-0.04	-0.09**	-0.00	-0.16*	1			
Inv	-0.00	0.01	-0.02	0.06	0.08	-0.01	-0.03	0.00	1		
Size	-0.04	0.05	0.09**	-0.00	0.08	0.16*	-0.05	0.06	-0.03	1	
DTA	0.33*	-0.03	0.06	-0.01	-0.08	-0.01	0.08 <sup>+</sup>	-0.02	-0.02	0.09	1

Notes: <sup>+</sup> p < 0.10; \*\* p < 0.05; \* p < 0.01

Source: Author's calculation

Interestingly, profit-oriented and non-profit-oriented state ownerships are both negative and significantly correlated with CEO duality (p<0.05), which indicates

that state ownership encourages the separation of the duties of the CEO and chairperson of the board of directors.

## 4.2. Regression results

We implemented OLS and 2SLS regression analyses to examine the consistency of results and endogeneity problem.

Table 5: Regression estimates

Variable	Model 1		Model 2	
	Regression Coefficient (absolute t-statistics)			
TOP1	0.002 (2.627)*	0.002 (2.618)*	0.002 (2.628)*	0.002 (2.624)*
Gov	0.003 (2.189)**	0.002 (1.622) <sup>+</sup>		
GovP			0.003 (2.357)**	0.003 (1.993)**
GovN			0.001 (0.482)	-0.000 (-0.041)
Inst	0.003 (1.997)**	0.002 (0.956)	0.002 (1.861) <sup>+</sup>	0.001 (0.771)
Frg	0.001 (0.964)	0.002 (1.252)	0.002 (0.982)	0.002 (1.291)
Dual	-0.038 (-1.666) <sup>+</sup>	-0.040 (-1.751) <sup>+</sup>	-0.039 (-1.705) <sup>+</sup>	-0.041 (-1.810) <sup>+</sup>
BOD	0.208 (2.111)**	0.200 (2.032)**	0.201 (2.039)**	0.191 (1.933) <sup>+</sup>
Inv	-0.016 (-0.188)	-0.010 (-0.116)	-0.010 (-0.121)	-0.002 (-0.024)
Size	-0.000 (-1.823) <sup>+</sup>	-0.000 (-1.790) <sup>+</sup>	-0.000 (-1.860) <sup>+</sup>	-0.000 (-1.830) <sup>+</sup>
DTA	0.310 (8.711)*	0.309 (8.662)*	0.309 (8.659)*	0.307 (8.595)*
Method	OLS	2SLS	OLS	2SLS
R <sup>2</sup>	0.399	0.152	0.401	0.154
F-statistic	9.703	9.172	8.973	8.512
No. of obs.	576	576	576	576

Notes: <sup>+</sup> p < 0.10; \*\* p < 0.05; \* p < 0.01; dependent variable = Log (Tobin's Q)

Source: Author's calculation

The estimates of the panel OLS and 2SLS analyses are shown in Table 5.

## 5. Results and discussion

The OLS estimation results in model 1 show that state ownership exhibits a positive and statistically significant relationship (p < 0.05) with firm performance. This finding is consistent with many prior studies (Ramírez and Tan, 2004; Ang and Ding, 2006; Lau and Tong, 2008; Zunaidah and Fauzias, 2008; Ghazali, 2010; Najid and Rahman, 2011). By contrast, the OLS results of in model 2 are in conformity with

our contention in this study. In other words, profit-oriented state ownership has a positive relationship ( $p < 0.05$ ) with firm performance, whereas non-profit-oriented state ownership has a non-significant relationship with firm performance. The 2SLS estimation method also shows consistent findings on the causality of profit-oriented and non-profit-oriented state ownership in the OLS results. Taken together, we found evidence of the heterogeneity of state ownership with respect to firm performance, thus our hypothesis is supported. We interpret this result to indicate that profit-oriented state ownership can be an effective corporate governance mechanism that effectively monitors firm management and simultaneously offers a firm the capability of exploiting political patronage and accessing more resources and business opportunities. By contrast, non-profit-oriented state ownership is not an effective corporate governance mechanism for monitoring firm management. Although firms can derive political patronage from non-profit-oriented state ownership, these benefits are neutralized by the negative effect of inefficiencies stemming from free-rider problems, bureaucracies and political interventions in corporate affairs.

The OLS and 2SLS regressions offer mixed evidence on the causality of institutional ownership on firm performance. The OLS regression indicates that institutional ownership has a positive and significant relationship with firm performance in models 1 and 2. The 2SLS estimation method, however, indicates that there is a non-significant relationship between firm performance and institutional ownership, which suggest that better firm performance leads to an increase in institutional ownership in the ownership structure. For this reason, we interpret these results to indicate that institutional ownership demonstrates a relationship with firm performance, but not necessarily a causal relationship in Malaysian context. Our finding corroborates previous research that showed ownership structure is endogenous in the United States (Demsetz and Villalonga, 2001), but in contrast to Gugler and Weigand (2003) who found that ownership structure is exogenous in Germany.

We find evidence that ownership concentration has a positive and statistically significant relationship ( $p < 0.01$ ) with firm performance. This result contradicts to prior studies that found a negative relationship between ownership concentration and firm performance (Haniffa and Hudaib, 2006; Grosfeld, 2009). Our finding can be explained by the fact that concentrated ownership enable the largest shareholders to have high levels of discretions to make better strategic decision and strengthen firm monitoring in technology-based industries.

With respect to corporate governance practices, CEO duality shows a negative and significant relationship ( $p < 0.10$ ) with firm performance, whereas board independence demonstrates a positive and significant relationship with firm performance in the OLS and 2SLS estimated results presented in models 1 and 2. These results suggest that good corporate governance practices – in this case, separating the CEO

and the chairperson of the board of directors and board independence – can enhance firm monitoring and positively influence firm performance.

The control variables yielded few interesting findings. Firm size produces a marginal impact on firm performance, although the relationship is significant ( $p < 0.10$ ). Firm leverage yields a positive and statistically significant relationship ( $p < 0.01$ ) with firm performance, suggesting that debt might be a corporate governance mechanism that mitigates agency costs (Gul and L. Tsui, 1997). Finally, corporate investment does not have a relationship with firm performance.

## 6. Conclusions

The results suggest, in conformance with our working hypothesis, that there are systematic differences among state ownership with respect to corporate governance and firm performance. We find that profit-oriented state ownership exhibits a positive relationship with firm performance, whereas non-profit-oriented state ownership show a non-significant relationship. We interpret that corporate governance and firm performance differ due to heterogeneity of state ownership. Additionally, we find that institutional ownership is endogenous, whereas state ownership variables are exogenous. We conclude that state ownership also differ from institutional ownership because the causation of institutional ownership on firm performance is spurious.

This study makes the following contributions to the literature. First, our paper represents the first attempt to substantiate the heterogeneity of state ownership, which should not be neglected in corporate governance studies. By arguing that state ownership enables firms in emerging economies to receive political patronage but that state ownership differs in terms of corporate governance and primary investment objectives, we offer an alternative framework for conceptualizing state ownership as either profit-oriented or non-profit-oriented state ownership. Second, we find empirical evidence of the endogeneity of institutional ownership with respect to firm performance. Thus, the endogeneity of ownership variables should not be overlooked, although a prior study suggests that a high ownership concentration context makes the endogeneity of ownership variables less relevant.

Our paper is subject to two limitations. First, the generalizability of our findings may be more relevant to technology-based industries because our study was based on a sample of 192 publicly listed manufacturing firms. The rationale is that different business and industry settings may show differing impacts of ownership variables. One natural extension of our study is to conduct comparative analyses on different industries settings, e.g., technology-based and mature industries, because information asymmetry and technology intensity may affect ownership structure. Second, because

our empirical setting was based in Malaysia, which is a state-led economy, the generalizability of our findings on state ownership may be greater for similar types of emerging economies. Extending this research to emerging economies with high levels of government intervention remains an avenue for future research.

Our research has important implications for development policy and investment communities in emerging economies with high levels of government intervention. Our findings suggest that state ownership that prioritizes socio-economic objectives are adversely affected by political intervention and bureaucracies and thus leads to poor corporate governance. Thus, policy makers should develop new practices to reduce bureaucracies and political intervention to enhance corporate governance role of state ownership. Second, investment communities should recognize the heterogeneity of state ownership with respect to corporate governance and firm performance. This is particularly important when investment communities view good corporate governance to be an important criteria in their investment.

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## Demistifikacija uloge državnog vlasništva u korporativnom upravljanju i rezultatima poslovanja tvrtki: Dokaz iz proizvodnog sektora Malezije

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### Sažetak

Svrha ovog istraživanja je ispitati ulogu državnog vlasništva u korporativnom upravljanju i rezultatima poslovanja tvrtki. Primijenili smo običnu regresiju kvadrata i dvofaznu regresiju najmanjih kvadrata da bismo analizirali učinak državnog vlasništva na performansu tvrtki. Idemo dalje od postojećih istraživanja učinka državnog vlasništva pažljivim razmatranjem ciljeva ulaganja financijskih ustanova pod kontrolom države. Takvo državno vlasništvo može biti klasificirano kao profitno i neprofitno orijentirano državno vlasništvo u kojoj prva orijentacija uzima u obzir povrat na investicije kao glavni cilj ulaganja, dok druga daje prioritet socioekonomskim ciljevima. Utvrdili smo da je profitno orijentirano državno vlasništvo efektivan mehanizam za korporativno upravljanje i osigurava političko pokroviteljstvo tvrtkama da pristupe svojim specifičnim sredstvima i kreditnom financiranju. Dok neprofitno orijentirano državno vlasništvo također dobiva slično političko pokroviteljstvo, sklono je povezivanju s nedostacima, kao što su problemi "slobodnog jahača" (free-rider problems), birokratska i politička intervencija u menadžmentu tvrtki. Zaključujemo da je državno vlasništvo heterogeni subjekt u odnosu na korporativno upravljanje i rezultate poslovanja tvrtki.

**Ključne riječi:** državno vlasništvo, institucionalno vlasništvo, rezultati poslovanja tvrtki, korporativno upravljanje, vlasnička struktura

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