

The Interaction Effect of Ownership Structure and Board Governance on Dividends: Evidence from Malaysian Listed Firms

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Abstract: This paper investigates the nature and significance of the interaction effect of a firm's board governance on the relationship between types of ownership structure and dividends. A cross-sectional analysis of firms listed on the main board of Bursa Malaysia for the years 2002 and 2005 is utilised. Results from the direct effects reveal that government, foreign and managerial ownership are significantly related to dividends for the year 2005. However, the results are not significant for year 2002. As expected, managerial ownership is significantly positively related to dividends, implying that insider shareholdings provide greater incentives for the alignment of management and shareholders' interest resulting in higher dividends. Both government and foreign ownership show significantly negative effect on dividends. Further, ownership concentration has a significant positive effect; however, its impact is very minimum on dividends. Using moderated regression analyses, the interaction effect of ownership structure variables with board duality is insignificant in years 2002 and 2005. Interestingly, the interaction term of foreign ownership with size of independent non executive directors shows significantly positive effect for both years. The negative interaction term of board size in government-controlled firms is also consistent with what is predicted: firms with a smaller board are in a better position to cope with firm's dividend decision than firms with a larger board. This finding is consistent with recent reports on corporate governance that have stressed the importance of having smaller boards. Overall, findings from this paper reveal that good board governance, particularly board independence and board size, can enhance the monitoring role of government and foreign ownership in reducing agency costs through the payment of dividends.

Keywords: Dividends, ownership structure, corporate governance, government-controlled firms

1. Introduction

Dividend policy is an important financial decision made by management and board of directors. Dividend is a well known cash disbursement strategy for many publicly traded firms that seek to return cash or assets to their shareholders. Regular distributions of funds to shareholders force firms with value-enhancing investment projects to raise capital externally (Easterbrook 1984). Consequently, firms are regularly forced to undergo the scrutiny of the market, that is, the providers of external funds.

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The control function of dividend can be done through different types of ownership. For example, Jensen and Meckling (1976) and Jensen *et al.* (1992) suggest a monotonic positive alignment incentive of managerial ownership. However, the amount of dividends depends on the effectiveness of outside shareholders in disciplining management (Fluck 1999). This suggests that in the presence of strong shareholders, there is no need for payouts to constitute an additional control device (Goergen *et al.* 2005). Dividend is often regarded as a complement rather than a substitute for strong shareholders efforts to alleviate agency concerns (Renneboog and Szilagyi 2006).

In the case of emerging markets such as Malaysia, it has been argued in growing literature that concentrated ownership structure or group affiliations are prone to inefficient investment and generate minority shareholder expropriation¹ (see for instance, La Porta *et al.* 2002; Claessens and Fan 2002; Denis and McConnell 2003). In some cases, large controlling shareholders are alleged to have expropriated corporate wealth to the detriment of the corporations, minority shareholders and creditors (Lemmon and Lins 2003). In short, expropriation by inside shareholders is a more relevant issue in emerging countries where the legal protection of minority shareholders is relatively low (La Porta *et al.* 2000a; 2000b).

The distribution of excess cash to shareholders can be facilitated with *good*² corporate governance practices at work (La Porta *et al.* 2000b). Malaysia has also implemented corporate governance reform in the form of the *Malaysian Code on Corporate Governance 2001* (hereafter, MCCG 2001), through the amendments of regulations (i.e., the revamping of Listing Requirements of Bursa Malaysia, securities law amendments) and institutional reforms [(i.e., the establishment of the Minority Shareholders Watchdog Group (MSWG))] as well as the introduction of relevant industry best practices. In Malaysia, regulators take a multi-pronged approach, with measures designed to strengthen the role of the board of directors, enhance disclosure and transparency and improve shareholders' rights (Boo 2003).

The extent of the monitoring and control, through the involvement of majority shareholders on the board, should be reflected in reducing agency costs (Lins 2003). Recently, a body of research has examined the direct effect of ownership structure and dividends³ and corporate governance⁴ and dividends. Still, little is known about how board governance can attribute to the relationship between ownership structure and dividends in the extant literature. The purpose of this paper is, therefore, to examine the relationship between

¹ Expropriation refers to behaviours through which controlling shareholders/management transfer assets and profits from the corporation to themselves at the expense of minority shareholders. Another term used for expropriation is tunneling. Johnson *et al.* (2000) and Mitton (2002) provide examples of tunneling in developed countries and in Asian emerging economies.

² McKinsey and Company (2002) suggest that '*good*' governance include the following characteristics: (i) a majority of outside directors on the board; (ii) truly independent outside directors with no ties with management; (iii) significant shareholdings by directors; (iv) material proportion of directors' pay being stock-related; (v) formal directors' evaluation in place; and (vi) high responsiveness to investors' requests on governance issues.

³ Some examples include Maury and Pajuste 2002; Gugler 2003; Gugler and Yurtoglu 2003; Kumar 2003; Khan 2006.

⁴ Some example include Skjeltorp and Odegaard 2004; Hu and Kumar 2004; Belden *et al.* 2005; Borokhovich *et al.* 2005; Jiraporn 2005; John and Knyazewa 2006; Renneboog and Szilagyi 2006.

ownership structure and dividends, and to identify the differential effects that board governance impose on this relationship. This paper contributes to the extant literature by investigating the effects of ownership structure on dividends and the interaction effects of board governance. The findings drawn from this paper are of interest to researchers, investors and regulators as they demonstrate how each board governance variable affects the relationship between ownership structure and dividends in Malaysian post-reform corporate governance.

The paper proceeds as follows. In Section 2, related literature is reviewed and hypotheses are developed; Sections 3 and 4 present the variables, sample and methodology; and Section 5 presents the empirical results. The paper concludes in Section 6 and offers the implications and suggestions for future research.

2. Literature Review and Hypotheses

2.1 Ownership Structure

Ownership structure is important in determining the incentives of controlling shareholders to protect their own interests at the expense of the minority shareholders (e.g., Mitton 2002; Lemmon and Lins 2003). In this regard, they emphasised the need for a proper design of corporate governance features that can protect the rights of minority shareholders in emerging economies. The institutional environment in Malaysia, as it pertains to ownership structure, is quite similar among East Asian countries such as Indonesia, Thailand, Singapore and Korea. Also, the role of ownership structure varies over time periods and countries as a function of the legal system (Shleifer and Vishny 1997; La Porta *et al.* 2000a; 2000b; 2002). Several types of ownership structure are discussed in this paper.

First, recent research emphasises that highly concentrated firms give rise to conflict of interest between corporate insiders (controlling shareholders and managers) and outside investors (minority shareholders).⁵ The incidence of concentrated shareholdings (even as measured by the shareholdings of the largest shareholder) is very pronounced in Malaysia, compared to the incidence of dispersed shareholdings which is uncommon (ROSC 2005). Large share ownership provides the incentive of controlling shareholders to use their influence to maximise value, exert control and to protect their interest in the company. It is well known that control rights attached to holding a large block of shares attract a premium. This premium is usually associated with private benefits of control, that is, investments in unrelated activities, whether for diversification or for the purpose of empire building, the ability to extract rent at the expense of other minority shareholders (La Porta *et al.* 2000a; Bena and Hanousek 2006). This will then be reflected in the failure of large investors to force their managers or companies to maximise profits and pay out the profits in the form of dividends (ROSC 2005). Therefore, majority control gives the largest shareholders considerable power and discretion over the firm's important key decisions including corporate dividend decisions.

Second, owner-managed is also common among public listed companies in Malaysia. As mentioned by Claessens *et al.* (2000a), at the 20 per cent cut-off of control rights, about

⁵ See Shleifer and Vishny 1997; Claessens *et al.* 2000b; Claessens *et al.* 2000d; Claessens and Fan 2002; Dhnadirek and Tang 2003; Denis and McConnell 2003; Lins 2003; Earle *et al.* 2005; Lskavyan and Spatareanu 2006; Selarka 2005.

85 per cent of Malaysian listed companies have owner managers. Managerial ownership can help reduce agency costs because a manager who owns a large fraction of the company's shares bears the consequences and benefits of managerial actions that destroy and create value for the firm (Jensen and Meckling 1976). When managers own a smaller portion of company shares, they have greater incentive to pursue personal benefits and less incentive to maximise firm value. In this instance, one way to reduce the associated increase in agency costs is to increase the shares held by managers. The benefits of managerial ownership in ownership structure are highlighted under the 'convergence-of-interest' hypothesis (Jensen and Meckling 1976).

Third, government-controlled institutions also hold significant shares in Malaysian listed companies. As of December 2000, government-controlled institutions retained about 49.5 per cent shares in listed companies (EMP 2001). Large government share ownership may be related to national interest and security reasons, as reflected in the dominance of government ownership in companies operating in the telecommunications, power and transportation sectors. Government industrial policy favours certain industries citing public interest (for example, automobiles, telecommunication, power etc.). Politically, equitable distribution of corporate wealth is a key element in national development policy. These considerations have shaped the structure of government ownership of the corporate sector in Malaysia. Some of the government-controlled institutions also hold shares in unit trusts for the benefit of millions of households, as part of the policy objective of allowing indigenous people to participate in the economic growth of the country. Therefore, the motivation for government ownership includes social objectives apart from profit maximisation. Additionally, large companies in Malaysia also appear to be closely connected to influential political figures (Ghazali and Weetman 2006). Their political linkages influence the accumulation and concentration of wealth in Malaysian business (Gomez and Jomo 2002, as cited in Ghazali and Weetman 2006).

Last, foreign institutional investors are also essential in Malaysia, as their level of share ownership is quite significant (Boo 2003). In general, foreign investors hold a significant stake of shares or even a majority of shares as part of strategic investment. Multinational companies also have significant shareholdings in their subsidiaries listed on the Bursa Malaysia. In a recent report on the observance of standards and codes of corporate governance (ROSC 2005), it is reported that foreign-controlled companies in Malaysia have been paying out a high proportion of their profits in the form of dividends (and not reinvesting the profits in diversification or empire building activities). Moreover, foreign institutional investors through their share ownership, can also provide capital, managerial expertise and also exert monitoring activities on our managers. As a consequence, foreign ownership in emerging countries can improve corporate governance and enhance efficiency.

2.2 Board Governance

The effectiveness of board governance has been the focus of much empirical research, for instance, Hermlin and Weisbach (2003) provide a survey of the empirical literature on corporate boards. The boards of directors are elected by and to act on behalf of shareholders. Besides their primary control responsibilities such as hiring, setting compensation for, and monitoring top managers, they also help to provide strategic advice and to obtain legitimacy and resources (Carpenter and Westphal 2001; Hillman and Daziel 2003). With recent corporate

collapses and the ensuing regulatory reforms in many countries, the board governance landscape has changed dramatically during the past few years. A firm's corporate governance primarily consists of major mechanisms such as board of directors and ownership structure (Fama 1980; Jensen 1993; Shleifer and Vishny 1997). This paper focuses attention on three aspects of board governance, namely, board duality (separation of the board chairman and chief executive officer roles), board independence and board size.

2.3 Dividend Policy

The agency costs argument, information asymmetry between managers and shareholders and the separation of ownership and control constitutes the basic explanation as to why dividend policy matters. These arguments are based on the assumptions that managers may conduct actions in accordance with their own self-interest and which may not always be beneficial to shareholders. For example, they may spend lavishly on perquisites or over-invest to enlarge the size of their firms beyond the optimal size since managers' compensation is often related to firm size (Jensen 1986; Gaver and Gaver 1993). The agency cost argument predicts that payouts can reduce the problems associated with information asymmetry.

The agency theory, specifically free cash flow hypothesis, has been used to describe management's decision to return cash to shareholders. It has been suggested that when given large amounts of cash, managers could over-invest in negative net present value (hereafter, NPV) projects to the detriment of their shareholders (Easterbrook 1984; Jensen 1986). To reduce such agency costs, managers can distribute this cash to shareholders, thereby increasing value of the firm. Cash distribution in the form of dividends reduces the likelihood that managers will over-invest, that is, invest in negative NPV projects.

2.4 Hypotheses Development

2.4.1 Ownership Concentration and Dividends

Research on ownership structure is prevalent in emerging countries because they generally have high ownership concentration where controlling shareholders exert *de facto* control⁶ (Golson 2000; Faccio and Lang 2002). High ownership concentration, coupled with relatively poor investor protection, suggests that the primary corporate governance problem in emerging countries is the conflict between the controlling and minority shareholders (Shleifer and Vishny 1997; La Porta *et al.* 2000b). In concentrated ownership firms, shareholder-manager conflicts are significantly reduced since the managers and the ultimate owners are usually the same (La Porta *et al.* 1999). Large controlling shareholders could expropriate corporate wealth from other minority shareholders and enjoy private benefits instead of distributing dividends to shareholders (La Porta *et al.* 2000a; Faccio *et al.* 2001). On the other hand, large shareholders could find less need for using dividends as a disciplining mechanism if they have strong board representation (Renneboog and Szilagyi 2006). Given the institutional environment in Malaysia, this study expects a negative relationship for ownership concentration and dividends.

⁶ *De facto* control occurs when a person or a legal entity owns, directly or indirectly, an absolute majority of voting rights (i.e., more than 50 per cent) or holds enough voting rights to have *de facto* control.

H1(a): There is a negative relationship between ownership concentration [as measured by the Herfindahl Index 5 (HI5)] and dividends.

2.4.2 Government Ownership and Dividends

It is documented in the extant literature that government also owns and controls a large number of publicly traded firms in many countries around the world (La Porta *et al.* 1999; Gugler 2003). Therefore, having a government-controlled entity as a firm's institutional investor could influence its corporate dividend decision. In government-controlled firms, the government acts on behalf of the citizens (the ultimate owners) who are not directly in control. In such firms, "a double principal-agent (conflict) even exists" (Gugler 2003: 1301). A government-controlled entity also serves as a domestic institutional investor for a country's capital market. The institutional investors should play a significant role in monitoring corporate managers (McConnell and Servaes 1990; Crutchley *et al.* 1999), therefore reducing agency costs. However, government-controlled firms may respond to signals from the government to enhance national welfare or other non-profit considerations, which may not relate well to a goal of value maximisation. Therefore, economic theory predicts that government-controlled firms, as domestic institutional investors, may be inefficient and uninformed due to national objectives that are more important than wealth maximisation (Vernon 1979).

The presence of government ownership may impede management's propensity to distribute dividends because government-controlled firms may distribute dividends only to reflect the government's commitment to initiate the financial market. Therefore, it can be argued that government-controlled firms are less active monitors of corporate governance which leads to a lower dividend level of the firm. This study states the following hypothesis in the alternative form:

H1(b): There is a negative relationship between government ownership and dividends.

2.4.3 Foreign Ownership and Dividends

Foreign institutional investors have greater general international business experience that enable them to effectively deal with the costs and uncertainties associated with accepting equity partners (Hennart 1991; Padmanabhan and Cho 1996). Cook and Jeon (2006) found that higher foreign ownership is associated with a greater dividend in Korea. Thus, they conclude that foreign investors play a prominent role in a firm's financial policy in emerging markets. In another study, Lee *et al.* (2006) found evidence that foreign institutions seem to have a significant response to dividend increases. Consistent with the agency theory, foreign investors who are well-informed and hold a substantial share can play their monitoring role on management and reducing the agency costs, and therefore, firms are more likely to increase dividends (Easterbrook 1984; Jensen 1986). This study states the following hypothesis in the alternative form:

H1(c): There is a positive relationship between foreign ownership and dividends.

2.4.4 Managerial Ownership and Dividends

According to agency theory, managerial ownership has a potential to align the interest between managers and shareholders (Jensen and Meckling 1976). A few recent studies

have examined how managerial ownership could influence dividend policy.⁷ In situations of high managerial ownership where managers obtain effective control of the firm, managerial ownership and corporate dividends are negatively related because of managerial entrenchment. Therefore, the entrenched managers voluntarily commit high dividends as a protection against disciplinary sanctions by outsiders (Hu and Kumar 2004). Managers who are subject to more effective external monitoring are also forced to declare higher dividends (Fluck 1999). On the other hand, Schooley and Barney (1994) found a significant non-monotonic relationship between managerial ownership and dividend yield.

Meanwhile, Chen and Steiner (1999) show evidence of substitution-monitoring effects between managerial ownership, debt and dividend policy. Their findings suggest that while managerial ownership provides incentives to increase dividends of companies with potentially severe agency problems, it exacerbates the conflict between shareholders and debtholders. Further, Fenn and Liang (2001) document evidence suggesting that managerial share ownership furnishes incentives to increase dividends at companies with potentially the most severe agency problems. Based on the above, it can be argued that managerial ownership is expected to have a positive effect on firms' dividends because of their intention to evade outside shareholders' monitoring and/or due to incentives of positive alignment effect. This study states the following hypothesis in the alternative form:

H2d: There is a positive relationship between managerial (insider) ownership and dividends.

2.5 The Interaction Effects of Ownership Structure with Board Governance on Dividends
In the presence of high agency costs of free cash flow, the corporate board can play a greater role in influencing dividends. The board of directors is the 'heart' of corporate governance as shareholders have delegated authority to the board to oversee and control decisions made by upper management (Fama and Jensen 1983). According to agency theory, firms might minimise agency costs by establishing appropriate monitoring systems and using the corporate board to effectively supervise managers (Byrd and Hickman 1992; Fama and Jensen 1983). As described in empirical literature, there are various recommendations and rules for governance reforms (Fama and Jensen 1983a, 1983b; The Cadbury Committee 1992; MCCG 2000; KLSE 2001). This study characterises the corporate board as strong when a firm adopts best governance practices. The strong governance practices considered in this study include non board duality, greater board independence and smaller board size.

2.5.1 Ownership Structure and Board Duality on Dividends

According to agency theory, duality weakens the board's independence in making decisions because the Chief Executive Officer (CEO) acquires more control and power; therefore it promotes CEO entrenchment (Bozec and Dia 2007). On the contrary, duality can also be seen as a positive advantage to the firm because it provides a unified firm leadership (Finkelstein and D'Aveni 1994). The separation of roles between Board Chairman and CEO has also been recommended by the MCCG (2001). Accordingly, Ghazali and Weetman (2006) argue that the Chairman plays a crucial role in encouraging debates on issues brought

⁷ See, for example, Fenn and Liang (2001); Howe *et al.* (2003); Farinha (2003b); Hu and Kumar (2004).

to the board and ensuring that resolutions are decided by votes, thus those roles can be performed better if the Chairman is an independent director. In line with the above arguments, this study proposes the following hypothesis in the alternative form:

H2: The negative (positive) association between ownership structure and dividends is stronger (weaker) for firms with board duality.

2.5.2 Ownership Structure and Board Independence on Dividends

High profile corporate scandals have been linked to weaknesses in governance and has led to calls for regulatory reforms. As a result, the rules of corporate governance have been restructured to require more outside directors, with more meaningful participation from them and create a notion that outside directors are better monitors (Belden *et al.* 2005). It is argued that firms with larger shares of independent outside directors on their boards pay higher dividends that reduce agency costs (Belden *et al.* 2005; Borokhovich *et al.* 2005). In this regard, some recommendations have been made to reduce the size of the board and to appoint a higher proportion of independent directors (Bozec and Dia 2005). Fama and Jensen (1983) argue that manager-monitoring activities of the board will be more effective when they are dominated by independent outside directors. The lack of empirical research for the predicted relationship between ownership structure and board independence calls for the applicability of the moderating effect on the ownership structure and dividends relationship. This study proposes the following hypothesis in the alternative form:

H3: The negative (positive) association between ownership structure and dividends is weaker (stronger) for firms with board independence.

2.5.3 Ownership Structure and Board Size on Dividends

Conceptualising the board of directors from the agency theory framework has been very useful to explain the way boards are structured and how they function (Pearce and Zahra 1991; Hermalin and Weisbach 2003). The board contributes to alleviating agency costs to the firm by monitoring and rewarding top executives to ensure wealth maximisation to the shareholders (Bozec and Dia 2007). When too many directors are serving on the board, directors are then less effective in monitoring managers, thus agency problems increase. On the other hand, a small board is more effective as it limits directors' incentives to shirk, it is easier to monitor each member and decisions can be made more quickly (Haniffa and Hudaib 2006). As controlling shareholders are in power to decide whether and how the firm's profits are distributed, the corporate board should predominantly ensure that all shareholders are equally treated per unit of equity in the firm (Bena and Hanousek 2006). This study then proposes the following hypothesis in the alternative form:

H4: The negative (positive) association between ownership structure and dividends is stronger (weaker) for firms with larger board size.

3. Sample and Data

The current study was conducted subsequent to the implementation of the Malaysian Code of Corporate Governance (MCCG) through the amendments in Bursa Malaysia Listing Requirements, announced in January 2001. Since then, it is documented that with various best practices and recommendations, the listed companies in Malaysia have improved their

corporate governance environment (KLSE-PricewaterhouseCoopers 2002; Haniffa and Hudaib 2006; Yatim *et al.* 2006). The sample years 2002 and 2005 are chosen to represent one and four years of the MCCG becoming mandatory through a revamp of Bursa Malaysia listing requirements, with the expectation that there might be a difference observable in later years compared to the earlier year.

The focus of this study is on non financial public listed firms on the Main Board⁸ of Bursa Malaysia whose annual report is available for years 2002 and 2005. The Main Board companies are significantly larger in terms of size and sales. Firms in the Second Board are eligible to transfer their listing to the Main Board upon fulfilling regulations and listing criteria of the Main Board. All finance-related firms, banks, insurance, unit trusts and utilities companies have been excluded from the sample due to their difference in the regulatory requirements, financial reporting standards and compliance (Claessens *et al.* 2002; Renneboog and Trojanowski 2005b; Yatim *et al.* 2006). Finally, this study was left with a sample of 406 firms covering more than half of Malaysian listed non financial companies and representing a broad range of industry sectors.

Data on different types of ownership structure and board governance were obtained from individual company annual reports. These annual reports are available and downloadable from the website of the exchange (<http://announcements.bursamalaysia.com>). DataStream financial database also provides all types of annual financial data, assets and liabilities. Some measures were then transformed into logarithm and used as dependent variables. The logarithm was used to control for the skewed nature of data. The following section describes the operationalisation of variable measurements and model specification.

3.1 Dependent Variables

3.1.1 Dividends

Dividend policy is primarily measured by dividend yield (dividend-to-price ratio). The dividend yield is the dividend per share (DPS) divided by the average closing market price per share (MPS), that is, $DYLD = DPS / MPS$. The dividend yield is used rather than the dividend ratio (dividends-to-earnings) for two reasons. First, the denominator in dividend yield is a market measure (share price) compared to an accounting measure (net income). Second, it is to avoid problems of negative dividend ratios resulting from negative earnings or excessively high dividend ratios resulting from income being close to zero (Schooley and Barney 1994). Several other studies have also employed dividend yield as a measure of dividend policy (see Chang and Rhee 1990; Han *et al.* 1999; Ho *et al.* 2004).

3.2 Independent Variables

3.2.1 Types of Ownership Structure

The types of ownership structure are represented by four measures: namely ownership concentration, government, foreign, and managerial ownership. Since year 2000, public

⁸ The Main Board companies have a minimum paid-up capital of Ringgit Malaysia (RM) 60 million while the second board companies are those that have a minimum paid-up capital of RM 40 million. The sample does not consider the second board firms listed in Bursa Malaysia due to their different paid-up capital and different listing requirements.

listed companies are required to publish in their annual report an analysis of the top thirty shareholders⁹ and share distribution. The basis for measuring ownership structure variables are through direct ownership of shares by each types of ownership.

3.2.2 Ownership Concentration

Following Khan (2006), ownership concentration was measured by the Herfindahl Index 5 (HI5) that is the squared sum of shares in the hands of largest five shareholders as follows:

$HI5 = \sum_{i=1}^5 \gamma_i^2$, where γ_i is the total percentage of shares owned by the largest five shareholders i , and $i = 1, 2, \dots, 5$.

3.2.3 Government Ownership¹⁰

To measure government ownership (*GOWN*), the sum of all shares held by government-controlled companies in the list of thirty largest shareholders was identified.

3.2.4 Foreign Ownership

The percentage of total shares held by foreign shareholders was also identified in the same manner. To calculate total percentage of foreign shareholdings (*FWN*), the sum of all shares in the hands of foreign shareholders in the list of thirty largest either held through nominee companies or other corporate foreign share holdings was identified.

3.2.5 Managerial Ownership

A number of studies have used directors' shareholdings as a proxy for managerial ownership (see Morck *et al.* 1988; Chen *et al.* 2003). Managerial ownership (*MOWN*) is measured as the total percentage of shares directly held by non independent executive directors in the company. Following Ghazali and Weetman (2006), this study does not include the shares held by independent non executive (outside) directors because they are expected to play a monitoring role and limit managerial opportunism.

3.3 Moderating Variables

3.3.1 Board Chairman and Chief Executive Officer (CEO) Duality

The separation of roles for the Board Chairman and the CEO was measured as a dummy variable (*DUALITY*). This is to represent whether or not the CEO also serves as the Chairman of the Board (Gani and Jermias 2006). If there is a separation, the variable takes the value of 1 and 0 otherwise.

⁹ In compliance with the Companies Act 1965 and Listing Requirements of Bursa Malaysia 2001, all listed companies disclose their substantial shareholders including their thirty largest shareholders in their annual reports. The government controlled companies and foreign ownership percentage is based on the thirty largest shareholders.

¹⁰ Government ownership comprises the companies whose shares are held by federal/state government investment agencies, federal/state government trust agencies and federal pension funds that include Khazanah Nasional Berhad (the investment arm of the Ministry of Finance), Permodalan Nasional Berhad (manages various national unit trusts), Employees Provident Funds (EPF), Pilgrimage Board Fund (Lembaga Tabung Haji) and the Military Pension Fund (Lembaga Tabung Angkatan Tentera).

3.3.2 Board Independence

Board independence employed in this paper refers to the size of independent non executive (outside) directors as measured by the total numbers of independent non executive (outside) directors on the board (*IND*). Independent non executive directors are outside directors whose principal occupations are not with the company as indicated in the proxy statements (Chen *et al.* 2003). The role of an independent non-executive director is to provide an outsider's contribution and oversight to the board of directors (Hanrahan *et al.* 2001, cited in Fatim *et al.* 2006). Weisbach (1988) suggests that some outside directors could have current or potential business ties to firm, providing them with incentives to align with management.

3.3.3 Board Size

The size of the board of directors might also affect corporate dividends and firm value through the relative influence of the CEO on various board sizes (Gani and Jermias 2006). Jermias (1996) argues that larger boards are less effective and more susceptible to the influence of the CEO. The board size variable (*BSIZE*) represents the total number of directors on the board as reported in the company's annual report.

3.4 Control Variables

3.4.1 Firm Size

Larger companies may have better growth opportunities and access to financing opportunities. Larger companies may have a greater analyst following and thus have more information available to reduce information asymmetry and a wider share spread and ownership profile. Accordingly, many past studies have used total assets¹¹ as a proxy for firm size. Another proxy for firm size that is commonly used in previous research is market capitalisation. This study employed logarithm function of market capitalisation (*LOGMCAP*) as the indicator of firm size. This paper considers market capitalisation as an alternative measure of firm size. Measuring firm size with asset and market capitalisation appears to be standard in the literature (see, Schaefer 1998).

3.4.2 Firm Age

The age of the company also has an effect on the distribution of shareholdings. Older companies, having gone through many business cycles could have a wider shareholder distribution. This paper used age of listing (*AGE*) as a proxy for company age rather than the year of incorporation.

3.4.3 Leverage

Leverage could influence a firm's choice of dividends because debt can also be used to alleviate potential free cash flow problems (Jensen 1986). Moreover, some debt contracts include protective covenants limiting the dividend a firm is allowed to make in order to prevent the expropriation of debt holders by shareholders (Renneboog and Trojanowski 2005b). Leverage influences dividends through monitoring activities by debt holders, and

¹¹ See, for example, Holderness *et al.* 1999; Booth *et al.* 2002; Hu and Kumar 2004; Belden *et al.* 2005; Renneboog and Szilagyi 2006; Krivogorsky 2006 and Gani and Jermias 2006, among others.

this paper measured it as total debt divided by total assets to proxy for financial leverage (*LEVERAGE*).

3.4.4 Profitability

Earnings per share (EPS) is used as a measure of a firm's profitability (see Kumar and Sopariwala 1992; Ahmed and Khababa 1999; Kaufmann *et al.* 2000; Al-Malkawi 2005). EPS is also considered to be "*the market's pre-eminent measure of firm performance*" (Kaufmann *et al.* 2000: 219).

3.4.5 Industry Sectors

Companies in different industry sectors differ with respect to the degree of free cash flow problems and, consequently, corporate dividends (Moh'd *et al.* 1995). Past studies define industries by using various levels of industry classification numbers. For example, Holderness *et al.* (1999) used 1-digit SIC codes to classify industries. Industry differences were controlled using industry categorisation provided by Bursa Malaysia. Since the study sample includes firms operating in a variety of sectors, controlling for industry-specific effects assures the reliability of the results (Renneboog and Trojanowski 2005b). This paper employed three main industry sectors in the equation, namely trade and services, industrial products and consumer products to control for differences in industry sectors.

4. Methodology and Empirical Model

Multiple regression analysis is appropriate in this study because the data are cross-sectional and thus do not suffer from autocorrelation problems. The moderated multiple regression analysis is a commonly used statistical technique for studies predicting the effect of moderator variables on dependent variables (Gerdin and Greve 2004; Gani and Jermias 2006). In addition, Hartmann and Moers (1999) argue that moderated regression analysis is the appropriate statistical technique by which to test hypotheses involving interaction terms because it is "*a specific application of multiple regression analysis, in which the regression equation contains an interaction term*" (Hartmann and Moers 1999: 293). Interaction effect occurs when the moderator variable, a second independent variable, changes the *form* or the *strength* of the relationship between another independent variable and dependent variable (Hair *et al.* 1998).

The empirical model used in this study can be described as follows:

Model 1:

$$Div_i = \beta_0 \pm \sum_{i=1}^4 \beta_i OS_i \pm \sum_{j=1}^3 \beta_j BG_j \pm \sum_{k=1}^7 \beta_k Control_i + \varepsilon_i$$

Model 2:

$$Div_i = \beta_0 \pm \sum_{i=1}^4 \beta_i OS_i \pm \sum_{j=1}^3 \beta_j BG_j \pm \sum_{i=1}^4 \beta_i OS_i \times \sum_{j=1}^3 \beta_j BG_j \pm \sum_{k=1}^7 \beta_k Control_i + \varepsilon_i$$

= intercept

= dividend policy of firm i determined by dividend yield

= types of ownership structure; where i = ownership concentration as measured by the Herfindahl index 5 ($HI5$), government ownership, foreign ownership and managerial ownership

= board governance where j = role duality, size of independent non-executive (outside) directors on board, ratio of board independence and board size

= control variables where k = firm size, firm age, leverage, profitability and industry sectors

= error term

5. Empirical Results

5.1 Descriptive Statistics

Pair-wise Pearson correlation coefficients for main variables are provided in Tables 1a and 1b. It indicates that multicollinearity¹² is not a problem, as the correlations are relatively low¹³. An analysis of residuals, plots of the studentised residuals against predicted values and the Q-Q plot are conducted to test for homoscedasticity and linearity assumptions. Results of standard tests on skewness and kurtosis indicate no problem with the normality assumption¹⁴. The standardised residuals were plotted against predicted dependent values and the independent variables. Judge *et al.* (1988) have suggested that any observations that have standardised residuals greater than ± 4 should be deleted in order to reduce the undue effects of the outliers and the problems of heterocedasticity (non-constant variance). However, none of the observations were eliminated for each year data through this procedure. Finally, the study used a Q-Q plot to check for normality of residual. Since the residual points were fairly close to a straight line, the distribution of residuals was fairly normal. Additionally, regression analysis was robust with respect to misspecification of the probability law of residuals (Chatterjee and Price 1991). In sum, the two models did not violate basic OLS assumptions and could be used for testing the expected hypotheses.

¹²Two other alternative tests also can be used to detect multicollinearity. First, variance inflation factor (VIFs) scores reveal no problems with multicollinearity if all scores are less than 10 (Chatterjee and Price 1991). Second, by calculating the Condition Index (Besley *et al.* 1980). If the Condition Index is less than 30, it indicates weak relations among the independent variables (Besley *et al.* 1980). Therefore, it appears that multicollinearity is not a problem. Results from the two tests are not reported here.

¹³According to Gujarati (2003), multicollinearity could be a problem when the correlation exceeds 0.80. However, this study considers that multicollinearity problem exists when the correlation exceeds 0.5.

¹⁴Normality tests based on skewness, kurtosis and Kolmogorov-Smirnov test (K-S test) were also conducted. However, the results are not reported here. The data is said to be normal if the standard skewness is within ± 1.96 and standard kurtosis is ± 3.0 . The transformation technique for certain variables by using logarithm was also undertaken.

Table 1a: Pearson correlation matrix of variables used in the study for the year 2002

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. DYLD	1	0.321**	0.111*	-0.010	-0.053	-0.012	0.083	0.223**	0.176**	-0.067	-0.022	0.050	0.040	-0.024	0.137**
2. V1_HIS		1	0.259**	0.018	-0.154**	-0.078	-0.004	0.201**	0.261**	-0.070	-0.029	0.011	0.026	-0.030	0.125*
3. V2_GOWN			1	0.016	-0.157**	-0.109*	0.139**	0.241**	0.241**	0.051	0.003	0.029	0.022	0.027	-0.027
4. V3_FOWN				1	-0.088	-0.058	0.062	0.146**	0.199**	0.149**	-0.021	0.051	0.061	-0.001	0.033
5. V4_MOWN					1	0.146**	-0.096	-0.127*	-0.228**	-0.280**	0.039	0.052	-0.100*	0.074	0.002
6. M1_DUALITY						1	-0.034	-0.083	-0.030	-0.101*	0.007	-0.045	-0.094	0.029	-0.049
7. M2_IND							1	0.554**	0.162**	0.049	0.077	-0.033	0.080	-0.095	0.011
8. M3_BSIZE								1	0.300**	-0.079	0.158**	-0.013	-0.005	-0.020	0.061
9. LOGMCAP									1	0.171**	-0.034	-0.020	0.185**	-0.087	-0.081
10. AGE										1	-0.019	-0.017	-0.075	-0.053	-0.012
11. LEVERAGE											1	-0.064	0.027	-0.022	-0.022
12. EPS												1	0.027	-0.062	0.014
13. TS													1	-0.304**	-0.208**
14. IP														1	-0.239**
15. CP															1

Notes:

** Correlation is significant at the 0.01 per cent level (2-tailed).

* Correlation is significant at the 0.05 per cent level (2-tailed).

Table 1b: Pearson correlation matrix of variables used in the study for the year 2005

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. DYLD	1	0.121*	-0.021	-0.043	0.145**	-0.019	0.024	0.131**	0.218**	-0.147**	0.026	-0.075	-0.033	-0.013	0.059
2. V1_H15		1	0.273**	-0.021	-0.259**	-0.065	0.052	0.145**	0.268**	-0.004	-0.010	-0.125*	0.031	-0.053	0.118*
3. V2_GOWN			1	-0.023	-0.103*	-0.068	0.062	0.136**	0.213**	-0.008	0.058	-0.075	-0.006	-0.054	0.040
4. V3_FOWN				1	-0.048	0.003	0.054	0.063	0.224**	0.113*	0.008	0.037	0.078	-0.008	-0.022
5. V4_MOWN					1	0.064	-0.081	-0.058	-0.147**	-0.304**	-0.043	-0.003	-0.063	0.018	0.047
6. M1_DUALITY						1	-0.097	-0.121*	-0.015	-0.125*	-0.111*	0.052	-0.068	0.020	-0.035
7. M2_IND							1	0.573**	0.199**	0.109*	0.021	-0.012	0.061	-0.037	0.015
8. M3_BSIZE								1	0.255**	-0.072	0.056	-0.052	0.035	-0.014	-0.025
9. LOGMCAP									1	0.119*	0.022	-0.041	0.150**	-0.064	-0.036
10. AGE										1	-0.013	-0.011	-0.075	-0.053	-0.013
11. LEVERAGE											1	-0.052	0.005	0.000	-0.008
12. EPS												1	0.111*	0.002	-0.015
13. TS													1	-0.304**	-0.206**
14. IP														1	-0.236**
15. CP															1

Notes:

** Correlation is significant at the 0.01 per cent level (2-tailed).

* Correlation is significant at the 0.05 per cent level (2-tailed).

Table 2 presents summary descriptive statistics for the sample years 2002 and 2005. Focusing on the dependent variables, it can be seen that the mean for dividend yield has increased between the intervening years, which possibly indicates the effect of overall economic improvement. On board governance variables, it can be seen that the average of total numbers of independent non executive (outside) directors of Malaysian listed companies is three, ranging from zero to eight. The average number of independent directors also has increased from 2.96 in 2002 to 3.03 in 2005. This could be attributed to the recommendations of the MCCG (2001) which requires at least one-third of the directors to be independent directors. An alternative explanation is that loss making companies are more likely to appoint more independent directors as part of the restructuring that was still ongoing after year 2001. In terms of average board size, Malaysian listed companies have on average eight directors on the board, which is within the size recommended by Lipton and Lorsch (1992) for board effectiveness. Additionally, the number of firms with role duality has decreased slightly from 32 per cent to 31 per cent, supporting the recommendations of the MCCG (2001) to separate the roles of the Chairman and CEO.

Interestingly, it is worth noting that the mean of ownership structure variables show some particular patterns. The mean percentage of the Herfindahl index 5, *HI5*, shows that the mean percentage of ownership concentration is about 57 per cent which implies that more than 50 per cent of shares ownership is concentrated in hands of five largest shareholders among Malaysian firms. Further, government ownership variable has a mean percentage of 6.63 per cent in 2002 and 5.86 per cent in 2005, that is, ranging from 0 per cent to 79.18 per cent and 0 per cent to 78.46 per cent for the years 2002 and 2005, respectively. Of particular interest is the observation that foreign ownership has increased on average from 4.54 per cent to 6.12 per cent. The increase in foreign shareholdings could be partly due to new governance initiatives by the government to build up investor confidence after being badly affected by the Crisis. During the Asian Financial crisis, Malaysia had been removed from the *Morgan Stanley Capital Index* which affected the flow of foreign funds badly. Finally, managerial ownership on average shows a slight decrease from 7.51 per cent to 7.32 per cent for the years 2002 and 2005, respectively. The reduction in managerial ownership could be due to similar reasons of corporate governance regulations.

5.2 Results of Hierarchical Regression Analyses

Tables 3a and 3b present the hierarchical regression results of ownership structure and board governance variables on dividends (*DYLD*) after controlling for the effect of firm size, age, leverage, earnings and industry sectors. For dividends, the *F*-statistics for Model 3 is significant at the 5 per cent level for the year 2002. However, the result is insignificant for the year 2005. The explanatory power of full model (Model 3) in Tables 3a and 3b is slightly higher in year 2002 compared to year 2005 with R^2 being 15.5 per cent and 14.8 per cent, respectively. The difference in R^2 in year 2002 and 2005 indicate the model goodness-of-fit and the amount of explained variation. As for Model 2, the change in R^2 is 6.6 per cent and 4.3 per cent for the years 2002 and 2005, respectively. The change in R^2 in Model 3 is 2.0 per cent and 0.6 per cent for the year 2002 and 2005, respectively.

As shown in Model 3 of Tables 3a and 3b, the ownership concentration measure of the Herfindahl index 5 (*HI5*) provides a significantly positive effect (with $p < 0.01$) on dividends for both years, thus not supporting *H1(a)*. Since the coefficient on *HI* is too small, its

Table 2: Summary descriptive statistics of the year 2002 and 2005

Sample N = 406	Minimum		Maximum		Mean		Standard deviation		Skewness		Kurtosis	
	2002	2005	2002	2005	2002	2005	2002	2005	2002	2005	2002	2005
DYLD	0	0	1.903	7.714	0.0735	0.1217	0.2088	0.5008	5.675	11.538	36.763	155.919
V1_HIS	14.669	152.523	9814.865	9631.460	3219.344	3265.759	1979.200	198.923	0.552	0.546	-0.296	-0.346
V2_GOWN ^a	0	0	79.180	78.460	6.633	5.863	12.019	1.525	3.325	3.737	13.158	17.194
V3_FOWN ^b	0	0	76.010	76.800	4.537	6.119	8.801	9.921	4.269	3.267	23.959	13.783
V4_MOWN ^c	0	0	68.800	64.830	7.509	7.315	12.826	12.561	2.279	2.165	5.084	4.384
M1_DUALITY ^d	0	0	1	1	0.32	0.31	0.467	0.462	0.774	0.835	-1.408	-1.308
M2_IND	0	0	8	6	2.96	3.03	0.973	1.008	0.963	0.454	2.718	0.820
M3_BSIZE	4	4	20	15	8.11	7.91	2.224	2.135	0.957	0.626	2.654	0.367
MCAP (in million)	0	0	13851120	20999980	633071.94	793561.49	1633598.1	2147541.317	5.392	5.468	33.135	35.394
LOGMCAP	0	0	7.141	7.322	5.158	5.293	1.116	0.778	-3.200	-1.904	13.328	14.715
AGE	0	3	41	44	14.51	17.51	12.089	12.089	0.730	0.730	-0.805	-0.805
LEVERAGE	0	0	1.273	1.347	0.267	0.215	0.711	0.202	12.617	1.079	171.155	2.042
EPS	0	0	2.260	2.820	0.154	0.160	0.264	0.248	4.230	6.126	23.982	53.852
TS ^d	0	0	1	1	0.21	0.21	0.407	0.407	1.434	1.434	0.057	0.057
IP ^d	0	0	1	1	0.26	0.26	0.438	0.438	1.107	1.107	-0.779	-0.779
CP ^d	0	0	1	1	0.14	0.14	0.348	0.345	2.078	2.108	2.329	2.455

Notes:

- ^a comprises 295 and 282 companies in year 2002 and 2005, respectively. However, only 27 and 21 companies held shares > 25% in 2002 and 2005.
^b comprises 304 and 342 companies in year 2002 and 2005, respectively. However, only 9 and 19 companies held shares > 25% in 2002 and 2005.
^c comprises 318 and 326 companies in year 2002 and 2005, respectively. However, only 42 and 46 companies held shares > 25% in 2002 and 2005.
^d denotes dummy variable.

Table 3a: Results of hierarchical regression analyses examining the effects of ownership structure and board governance on dividend yield for the year 2002

Independent variables	DV: Dividend yield					
	Model 1		Model 2		Model 3	
	B	S.E.	B	S.E.	B	S.E.
(Constant)	-2.421**	1.227	-1.716	1.262	-2.120***	1.273
LOGMCAP	0.923***	0.229	0.584**	0.240	0.392	0.247
AGE	-0.019*	0.010	-0.012	0.011	-0.006	0.011
LEVERAGE	-0.036	0.172	-0.023	0.167	-0.121	0.169
EPS	0.484	0.463	0.468	0.451	0.486	0.448
TS	0.272	0.336	0.285	0.328	0.393	0.330
IP	0.264	0.310	0.233	0.302	0.245	0.300
CP	1.239***	0.380	0.968***	0.373	0.919***	0.372
V1_HI5			0.000***	0.000	0.000 ^a ***	0.000
V2_GOWN			0.003	0.010	-0.001	0.011
V3_FOWN			-0.012	0.014	-0.017	0.014
V4_MOWN			0.000 ^a	0.010	0.002	0.010
M1_DUALITY					0.157	0.258
M2_IND					-0.029	0.149
M3_BSIZE					0.182***	0.069
R ²	0.069		0.135		0.155	
Adjusted R ²	0.052		0.110		0.124	
ΔR^2	0.069		0.066		0.020	
F-statistics	4.193***		7.494***		3.104**	
Df	398, 7		394, 4		391, 3	

Note:

*, ** and *** indicate significance at the 0.1, 0.05 and 0.01 per cent levels, respectively.

^a denotes the proportion is less than 0.0001, the 0.000 is reported in the table.

impact is very minimum on dividends. Of particular interests are the results of government, foreign and managerial ownership on dividends. The results show the insignificant relationship of government, foreign and managerial ownership on dividends in year 2002, but have a significant effect on dividends in 2005. The significant positive relationship of managerial ownership with dividends imply that insider shareholdings provide greater incentives for the alignment of management and shareholders' interest resulting in higher dividends. Therefore, the result supports *H1(d)*. The result also suggests that managerial ownership does play an active monitoring role in Malaysia, one of the emerging economies to mitigate potential managerial discretionary behaviour and *free cash flow* problem. As expected, government ownership shows a negative significant effect ($p < 0.05$) on dividends in the year 2005, indicating that dividends decrease as government ownership increases, thus supporting *H1(b)*. However, the significantly negative relationship of foreign ownership with dividends does not support *H1(c)*.

Table 3b: Results of hierarchical regression analyses examining the effects of ownership structure and board governance on dividend yield for the year 2005

Independent variables	DV: Dividend yield					
	Model 1		Model 2		Model 3	
	B	S.E.	B	S.E.	B	S.E.
(Constant)	-2.850**	1.364	-4.848***	1.427	-5.051***	1.471
LOGMCAP	1.389***	0.256	1.621***	0.275	1.560***	0.282
AGE	-0.056***	0.013	-0.042***	0.014	-0.039***	0.014
LEVERAGE	0.408	0.771	0.662	0.759	0.570	0.764
EPS	-0.741	0.633	-0.619	0.626	-0.575	0.627
TS	-0.616	0.428	-0.554	0.421	-0.537	0.424
IP	-0.116	0.393	-0.110	0.386	-0.107	0.386
CP	0.513	0.484	0.412	0.480	0.443	0.482
V1_HIS			0.000**	0.000	0.000**	0.000
V2_GOWN			-0.036**	0.015	-0.037**	0.015
V3_FOWN			-0.030*	0.016	-0.031*	0.016
V4_MOWN			0.043***	0.013	0.043***	0.013
M1_DUALITY					-0.157	0.338
M2_IND					-0.173	0.188
M3_BSIZE					0.139	0.089
R ²	0.099		0.142		0.148	
Adjusted R ²	0.083		0.118		0.118	
ΔR^2	0.099		0.043		0.006	
F-statistics	6.253***		4.959***		0.949	
DF	398, 7		394, 4		391, 3	

Notes:

*, ** and *** indicate significance at the 0.1, 0.05 and 0.01 per cent levels, respectively.

* denotes the proportion is less than 0.0001, the 0.000 is reported in the table.

5.3 Results of Moderated Regression Analyses

To investigate further whether board governance has a moderating effect on the relationship between types of ownership structure and dividends, the interaction terms as a control device is considered. Model 2, from Tables 4a and 4b shows regression results involving the moderating effects of board governance with ownership structure on dividends for the year 2002 and 2005. The interaction results of Model 2 in Tables 4a and 4b, taken together, are used to determine whether the interaction hypotheses in the study are supported. If board governance variables significantly interact with ownership structure, either in the form or strength of relationships, the conclusion will be that the board governance variables have an interaction effect on the relationship between types of ownership structure and dividends.

Results from the interaction effect of board duality with all predicted variables in the year 2002 and 2005 provide insignificant results, thus, not supporting H2. Interestingly and

Table 4a: Results of moderated regression analyses between ownership structure and board governance on dividends for the year 2002

Dependent variable: Dividend yield	Model 1 (Direct effect)	Model 2 (Interaction effect)		
		A	B	C
(Constant)	-2.120***	-2.205*	-1.460	-1.441
<i>Control variables</i>				
LOGMCAP	0.392	0.398*	0.459*	0.515**
AGE	-0.006	-0.006	-0.006	-0.005
LEVERAGE	-0.121	-0.117	-0.104	-0.129
EPS	0.486	0.526	0.486	0.533
TS	0.393	0.394	0.440	0.448
IP	0.245	0.262	0.196	0.241
CP	0.919***	0.936***	0.816**	0.931**
<i>Ownership structure</i>				
V1_HI5	0.000 ^a ***	0.000***	0.000 ^a	-0.000 ^a
V2_GOWN	-0.001	-0.001	0.053	0.097**
V3_FOWN	-0.017	-0.015	-0.096***	-0.104*
V4_MOWN	0.002	-0.003	0.017	-0.032
<i>Board governance</i>				
M1_DUALITY	0.157	0.470	0.144	0.141
M2_IND	-0.029	-0.027	-0.338	-0.027
M3_BSIZE	0.182***	0.180***	0.178***	0.017
<i>Interaction with duality (M1)</i>				
V1 X M1		-0.000 ^a		
V2 X M1		-0.018		
V3 X M1		-0.012		
V4 X M1		0.010		
<i>Interaction with board independence (M2)</i>				
V1 X M2a			0.000 ^a	
V2 X M2a			-0.018*	
V3 X M2a			0.025**	
V4 X M2a			-0.005	
<i>Interaction with board size (M3)</i>				
V1 X M3				0.000 ^a *
V2 X M3				-0.011**
V3 X M3				0.009*
V4 X M3				0.005
R ²	0.155	0.158	0.176	0.177
Adjusted R ²	0.124	0.118	0.138	0.139
Δ R ²	0.155	0.003	0.021	0.022
F-statistics	5.110***	0.334	2.516**	2.636**
Df	391, 14	387, 4	387, 4	387, 4

Notes:

*, ** and *** indicate significance at the 0.1, 0.05 and 0.01 per cent levels, respectively.

^a denotes the proportion is less than 0.0001, the 0.000 is reported in the table.

Models 2A to 2C are those that incorporate interaction effects.

Table 4b: Results of moderated regression analyses between ownership structure and board governance on dividends for the year 2005

Dependent variable: Dividend yield	Model 1 (Direct effect)	Model 2 (Interaction effect)		
		A	B	C
(Constant)	-5.051***	-4.865***	-4.001**	-5.906***
<i>Control variables:</i>				
LOGMCAP	1.560***	1.584***	1.598***	1.600***
AGE	-0.039***	-0.039***	-0.042***	-0.041***
LEVERAGE	0.570	0.628	0.545	0.472
EPS	-0.575	-0.491	-0.555	-0.527
TS	-0.537	-0.567	-0.596	-0.565
IP	-0.107	-0.094	-0.158	-0.174
CP	0.443	0.480	0.337	0.398
<i>Ownership structure</i>				
V1_HI5	0.000 ^a *	0.000 ^a	0.000 ^a	0.001
V2_GOWN	-0.037**	-0.038**	-0.055	0.004
V3_FOWN	-0.031*	-0.032*	-0.137**	-0.126**
V4_MOWN	0.043***	0.032*	0.010	0.052
<i>Board governance</i>				
M1_DUALITY	-0.157	-1.208	-0.247	-0.219
M2_IND	-0.173	-0.189	-0.518	-0.165
M3_BSIZE	0.139	0.148*	0.127	0.241
<i>Interaction with duality (M1)</i>				
V1 X M1		0.000 ^a		
V2 X M1		0.016		
V3 X M1		0.009		
V4 X M1		0.026		
<i>Interaction with board independence (M2):</i>				
V1 X M2			0.000 ^a	
V2 X M2			0.005	
V3 X M2			0.036**	
V4 X M2			0.011	
<i>Interaction with board size (M3):</i>				
V1 X M3				-0.000 ^a
V2 X M3				-0.005
V3 X M3				0.012*
V4 X M3				-0.002
R ²	0.148	0.154	0.160	0.161
Adjusted R ²	0.118	0.115	0.121	0.122
Δ R ²	0.148	0.006	0.011	0.013
F-statistics	4.869***	0.640	1.283	1.490
Df	391, 14	387, 4	387, 4	387, 4

Notes:

*, ** and *** indicate significance at the 0.1, 0.05 and 0.01 per cent levels, respectively.

^adenotes the proportion is less than 0.0001, the 0.000 is reported in the table.

Models 2A to 2C are those that incorporate interaction effects.

consistent with what is predicted, the interaction term of foreign ownership with size of independent non executive directors, $V3_FOWN \times M2_IND$, shows significantly positive effect for the years 2002 and 2005 with $p < 0.05$ and $p < 0.05$, respectively. This indicates that dividends increase in foreign ownership firms as size of board independence increases, supporting $H3$. Also, the results imply that size of board independence has a moderating effect as it changes the form of direct relationship between foreign ownership and dividends. As shown in Table 4a of year 2002, the interaction term of government ownership with size of board independence, $V2_GOWN \times M2_IND$, provides a negative significant result with $p < 0.1$. However, the result is insignificant in the year 2005.

Additionally, including the board size interaction term to government ($V2_GOWN \times M3_BSIZE$) and foreign ownership ($V3_FOWN \times M3_BSIZE$) relationships on dividends in the year 2002 provides significantly negative and positive results (both with $p < 0.05$ and $p < 0.1$). The negative and positive moderating effects of board size on government-controlled and concentrated ownership firms, respectively, are also consistent to what is predicted. Firms with a smaller board are in a better position to cope with a firm's dividend decision than firms with a larger board, which is consistent with recent reports on corporate governance that have stressed the importance of having smaller boards. This also might be due to the reason that a larger board has a representation of people with diverse backgrounds and knowledge (Bozec and Dia 2007), which suggests less efficient monitoring on managers' discretion leading to lower dividends. However, the interaction term of government ownership and board size, $V2_GOWN \times M3_BSIZE$, is insignificant in the year 2005. This suggests that board size does not have an effect on dividends in government-controlled firms in the year 2005, as compared to year 2002. As for the interaction term of foreign ownership and board size, $V3_FOWN \times M3_BSIZE$, the results still indicate the same positive significant results ($p < 0.1$) for the year 2005. Again, it is interesting to note that board size interaction term also appears to moderate the relationship between foreign ownership and dividends as predicted in $H4$.

6. Conclusion

This study investigates the interaction effect of ownership structure and board governance on dividends among Malaysian listed firms. As for the direct effect, results of concentration ownership has a significant positive effect on dividends for both years, 2002 and 2005, but with a minimum impact. Nevertheless, whether the result indicates improved corporate governance reform or non value maximising behaviour by powerful shareholders is still open to interpretation and further research. Results of government, foreign and managerial ownership on dividends show insignificant relationships in the year 2002, but the results are significant in 2005. Managerial ownership provides significantly positive effect on dividends for the year 2005, as expected. Also as predicted for government ownership, the result indicates a negative significant effect on dividends in the year 2005. In the same year, foreign ownership also shows a significantly negative relationship with dividends which is in contrast to what is predicted. On board governance variables, all variables show insignificant effect for the years 2002 and 2005. The exception is board size which shows positive significant effect for the year 2002.

Of particular interest are the results of interaction effect of ownership structure and board governance on dividends. The interaction effect of board duality with all predicted

variables in the year 2002 and 2005 provide an insignificant effect. Interestingly, the interaction term of foreign ownership with size of independent non executive (outside) directors shows significantly positive effect for the years 2002 and 2005, suggesting that size of independent non-executive (outside) directors does play a moderating role in the relationship between foreign ownership and dividends. However, the interaction effect of government ownership and size of board independence on dividends provides a negatively significant result for the sample year 2002 only.

Additionally, the inclusion of the board size interaction term to government and foreign ownership relationships on dividends in the year 2002 also provides significant results. The negative interaction effect of board size in government-controlled firms is consistent with the prediction. Firms with a smaller board are in a better position to cope with a firm's dividend decision than firms with a larger board, which is consistent with recent reports on corporate governance that have stressed the importance of having smaller boards. However, the interaction term of government ownership and board size provides an insignificant result in the year 2005. This suggests that board size does not have an effect on dividends in government-controlled firms in the year 2005, compared to year 2002. As for the interaction term of foreign ownership and board size the result indicates the same positive significant result for the year 2005, suggesting that Malaysian firms need to assess the appropriate board size depending on each individual firm's circumstances.

Overall, the findings from this study indicate that the interaction effect of board governance, particularly board independence and board size, provide an enhanced understanding to the relationships between ownership structure and dividends in Malaysia. All results are consistent after controlling for firm characteristics (size, age, leverage, etc.) that could effect cross-sectional testing. While previous research (see Chen *et al.* 2005; Khan 2006; Selarka 2006) examine the effect of ownership concentration and dividends, this study is one of the few studies that explicitly investigates the interaction effect of three known internal mechanisms of board governance on the relationship between types of ownership structure and dividends. In doing so, this study contributes to the extant literature.

The findings also have important implications. First, from a policy perspective, the results demonstrate that board independence and board size may work in tandem with government and foreign ownership to mitigate *free cash flow* problem that may arise in the direct relationship with dividends. Also, the separation role of Chair and CEO becomes less important in controlling agency conflicts. Second, although the recent reforms aim to tighten requirements for board independence, smaller board size and non role duality and thereby facilitate more effective board supervision of managers (see MCCG 2001, KLSE 2001; OECD Principles of Corporate Governance 2004; ROSC 2005), the findings from this paper reveal that the effect of the increased 'good' board governance on dividends might not be the same for all firms.

The conclusions drawn from this study should be interpreted in a limited way, which would potentially represent opportunities for further investigation in future studies. The main limitation is that the data period in the study covers only the years 2002 and 2005, which is after the implementation of the Malaysian Code of Corporate Governance through the amendments of Bursa Malaysia Listing Requirements in year 2001. The shorter period of study may not be representative of the way companies operate their business life cycle. Many reasons could result in increasing or decreasing the value of the company which are

not covered in this study. Different results may be generated if a longer period is covered. Further, a company may change its operations at any time which will lead to an increase or a decrease in value of the company.

In conclusion, with the reforms in corporate governance practices coming under increasing scrutiny in the post-reform era and an increasing demand for convergence of financial reporting standards, policymakers should not lose sight of the fact that there are existing mechanisms that provide strong incentives and motivation to the good governance practices of companies. Therefore, the benefits of increasing dividend level through enhanced board governance are not the same across all firms as their incentives vary with respect to types of ownership structure.

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