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UNDERPRICING AND BOARD STRUCTURES: AN INVESTIGATION OF MALAYSIAN INITIAL PUBLIC OFFERINGS (IPOs)

Puan Yatim

UKM-Graduate School of Business, Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia

e-mail: puan@ukm.my

ABSTRACT

Using firm-level corporate governance data for 385 IPO (initial public offering) firms that sought to be listed on Bursa Malaysia from 1999 to 2008, this study examines the relationship between board structures and IPO underpricing, a performance indicator unique to the IPO context. The study finds that there has been recently a reasonably high level of underpricing in the Malaysian IPO market. Contrary to the prediction of this study, the results indicate that dual leadership structure and board reputation (i.e., multiple board memberships) are positively and significantly associated with the extent of IPO underpricing. It appears that the separation of board chair and CEO positions signals low quality for the IPO firm. Because of the risky nature of IPO firms, investors tend to favour continuity in leadership. Directors who hold outside board memberships with other firms also have a negative effect on investors' assessments of firm quality. Potential investors feel that directors with numerous board seats are inclined to become distracted in which case monitoring intensity is likely to suffer. Other board variables, namely, board independence (i.e., board composition) and board size, do not significantly link to underpricing. Finally, the study finds that both firm size and the total number of risks factors disclosed are negatively and significantly related to underpricing. Overall, these results provide evidence supporting that good corporate governance practices are likely to help potential investors identify quality IPO firms.

Keywords: initial public offerings, underpricing, signalling hypothesis, board of directors

INTRODUCTION

Studies of Asian IPOs (initial public offerings), including Malaysian IPOs, have documented that the levels of underpricing of Asian IPOs are significantly higher than those of more developed economies (e.g., Loughran, Ritter, & Rydqvist, 1994; Ritter, 2003; Yong, Yatim, & Sapian, 2001; Jelic, Saadouni, & Briston,

2001; How, Jelic, Saadouni, & Verhoeven, 2007). Explanations regarding IPO underpricing are numerous and range from an asymmetric information hypothesis (see Baron & Holmstrom, 1980; Rock, 1986; Beatty & Ritter, 1986) to a somewhat mixed behavioural theory (Loughran & Ritter, 2002). IPOs offer a unique situation of information asymmetry surrounding market value between IPO issuers and potential buyers (Rock, 1986). To overcome the problem associated with information asymmetries and adverse selection problems (Akerlof, 1970), IPO firms seek ways to signal the quality of their firms to potential investors. A well-established theoretical literature that employs signalling theory (Spence, 1973) has documented a wide range of actions taken by firms to signal firm quality. These actions include, among others, the equity retention by insiders (Leland & Pyle, 1977; Keasey & McGuiness, 1992) and the use of reputed investment bankers (Carter, Dark, & Singh, 1998a; Paudyal, Saadouni, & Briston, 1998).

Despite the growing body of literature that applies signalling theory to the IPO context, little attention has been devoted to the relationship between corporate governance variables as signals of IPO performance. Certo (2003) develops propositions on the influence of board prestige on the investor's decision-making process and concludes that the concept of board prestige is subject to further empirical investigations. Few studies have recently attempted to investigate board of directors and IPO underpricing using data from the United States (e.g., Finkle, 1998; Certo, Daily, & Dalton, 2001; Howton, Howton, & Olson, 2001). The investigation of board characteristics in the context of IPOs in Malaysia is important as extant research has primarily concentrated on either large firms or smaller corporations in developed capital markets. Underpricing theories suggest several ways by which cross-country differences in the corporate governance environment may influence underpricing. Applying this logic to an international setting, such as Malaysia, firms should underprice more when they go public in countries with weak investor protections (La Porta, Lopez-de-Salines, & Shleifer, 2000), high family ownership concentrations (Claessens, Djankov, & Lang, 2000), and less-developed markets for corporate control (La Porta, Lopez-de-Salines, & Shleifer, 1999). For the most part, the Malaysian equity market exhibits all of these institutional features, which are different from those of developed markets, making it an interesting setting in which to examine the role of board structures as a signal of IPO performance.

The remainder of the paper proceeds as follows. The next section briefly explains the institutional aspects of the Malaysian IPO market and the corporate governance environment. Section 3 outlines the literature upon which the examination of the role of board structures in signalling the value of IPO firms is based and develops a number of research hypotheses. Section 4 briefly describes the data and the methodology employed in the empirical analysis, which is

followed by results and a discussion of the findings. Section 6 concludes the analysis.

MALAYSIAN NEW ISSUES MARKET AND CORPORATE GOVERNANCE ENVIRONMENT

Listed firms in Malaysia are required to comply with listing requirements stipulated in the listing requirements of Bursa Malaysia. These requirements include quantitative, qualitative and special requirements. For example, quantitative requirements for listing on the Main and Second Boards of Bursa Malaysia are minimum paid-up capital of RM60 million and RM40 million, respectively; uninterrupted profit records of three and five years, respectively; and number of years in business, with a minimum of five years. Aspects such as business, competition, and industry dynamics are part of the qualitative listing requirements. For firms seeking to be listed on the MESDAQ Board (Malaysian Exchange of Securities Dealing and Automated Quotation), MESDAQ IPO guidelines require IPO firms to have a minimum paid-up capital of RM2 million (for a technology incubator company, the minimum issued and paid-up share capital is no less than RM20 million). MESDAQ companies must also have a specific profit track record. Special requirements are applicable to specific companies and sectors such as infrastructure project companies, foreign corporations, closed-end funds, exchange-traded funds, and real-estate investment trusts. For instance, an infrastructure project company (IPC) seeking a listing on the Main Market of Bursa Malaysia must have a minimum issued and paid-up capital of RM60 million. The IPC must also have at least 25% but not more than 49% of the total number of shares for which listing is sought in the hands of a minimum number of public shareholders holding not less than 100 shares each.

In August 2009, the Main and Second Boards merged and were renamed the Main Market, and the MESDAQ board was renamed the ACE Market which is the acronym for "Access, Certainty, Efficiency." The main aim of the ACE Market is to provide greater certainty and efficiency in the listing process and to make it easier for issuers to tap the capital market. The ACE Market is a sponsor-driven market and is open to companies of all sizes and from all sectors. The sponsors, who are mostly investment bankers, essentially evaluate the suitability of applicants seeking listing, conduct due diligence process for the ACE Market companies' documents as well as maintain regular contact with the companies for at least three years after listing. In conjunction with the new market structure, Bursa Malaysia also revamped its listing requirements for the Main Market and the ACE Market. One key reform to the ACE Market, apart from its being sponsor-driven and open to all companies of all sizes from all sectors, is that

there is no prescribed minimum operating history or profit track record requirement for entry into this market. This factor empowers the sponsors to assess the suitability of listing applicants.

Some specific listing requirements and regulations in the Malaysian new issues market could significantly affect the magnitude of underpricing compared to the levels of underpricing in other markets. For example, it is a common practice in the new issues market in the United States to fix the offer price the night before the offer date after market trading has been closed (Prasad, Vozikis, & Ariff, 2006). Contrarily, firms seeking to be listed in Malaysia are required to set the offer price months before the listing date, although they may be asked to revise the offer price before being approved by the market authorities. This advance offer price setting is likely to result in price volatilities because the risk of price changes is much higher (Ariff & Johnson, 1990), and the risk of mispricing the new issues is, therefore, considerable (Jelic et al., 2001).

New public issues, offers for sale and a combination or hybrid of public issues and offers for sale are common types of new issues in Malaysia. With respect to public issue, the new shares are offered for subscription to the public for the first time, which results in the paid-up capital of the company. An offer for sale refers to shares that have already been issued to original shareholders who, in turn, offer their shares for sale to the public. An offer for sale does not change the firm's paid-up capital; therefore, the proceeds received from the sale of the shares do not go to the firm. The main purpose of this type of offer is to restructure the firm's ownership distribution to meet the rules and regulations set by the market regulators.

The 2001 revised listing requirements of Bursa Malaysia provide greater obligation for publicly listed companies to enhance Malaysia's corporate governance regime. Specifically, the amended 2001 listing requirements outline the requirements for financial reporting disclosures on corporate governance matters and continuing listing obligations. For example, listed issuers must ensure that their boards are independent (i.e., a greater number of independent directors on boards and a separation of responsibilities between the board chair and the CEO). In addition, restrictions on directorships are also imposed, allowing a director to sit on not more than 25 company boards[1]. Other than the audit committee, which has been mandatory since 1993, the *Malaysian Code on Corporate Governance* also recommends that the board of directors establish remuneration, nomination and risk management committees. As part of the internal control and risk management measures, in their annual reports, listed firms are required to address and disclose matters concerning internal control, such as identifying principal risks and ensuring the implementation of appropriate systems to manage those risks.

THEORETICAL BACKGROUND AND HYPOTHESES

At the centre of the signalling theory is information asymmetry (Spence, 1973; Leland & Pyle, 1977). In the context of IPOs, signalling theory suggests that the issuing firm is more informed about its future growth and profitability than any other market participants, thus creating information asymmetry (Anderson, Beard, & Born, 1995; Keasey & Short, 1997). From the perspective of the owners of the IPO firms, they (the owners) must effectively demonstrate to potential investors the value of their firms so that they are able to maximise the price at which they can sell their shares.

The quality of a firm's management and its board has always been widely regarded by practitioners, such as venture capitalists and financial analysts, as an important measure of firm quality. Firms going public are often young and immature and do not have an established track record of operating performance or other publicly available information that investors can use to assess the firm's value. Therefore, the firm's managers/owners are concerned with the value of the corporate governance structures as a signal of firm quality. Furthermore, management is the source of the highest quality information regarding the firm's future performance potential (Lawless, Ferris, & Bacon, 1998).

High-quality firms have favourable private information about their future prospects that will be at least partially revealed at some future date (Garfinkel, 1993). Consistent with the signalling theory, high-quality IPO firms may employ good corporate governance mechanisms to communicate their superior quality to potential investors. A central tenet of the signalling theory is that the signal must be observable and known in advance (i.e., occur prior to stock offers). This allows market participants to effectively utilise the signal. Another important characteristic of the signalling theory is that the signal must be costly and difficult to be imitated by lower quality IPO firms. IPO firms with favourable private information underprice their shares to signal high quality. Underpricing, in effect, represents money which is "left on the table" for the IPO firm (i.e., the transfer of wealth from issuing firm shareholders to the first day investors as a function of the difference between the money raised and the market value of the newly issued shares at the close of the first trading day) (Tully, 1999).

Underpricing presents a direct transfer of wealth from initial shareholders to new investors, but its extent can be reduced by a number of governance-related signals that may potentially enhance firm value (Certo et al., 2001). Agency literature acknowledges that independent boards can effectively curb managerial decisions that may lower shareholders' wealth (see, for example, Fama, 1980; Fama & Jensen, 1983; Byrd & Hickman, 1992; Brickley, Coles, & Terry, 1994). Thus, based on the signalling hypothesis, high-quality IPO firms are likely to

have independent board and to communicate this non-financial and observable information to investors, which may, therefore, allow for less underpricing (Espenlaub & Tonks, 1998). The preceding arguments lead to the study's first hypothesis:

> H_1: Greater board independence is negatively associated with IPO underpricing.

Boards that have chairpersons who also serve as firm CEOs are likely to have power concentrated in the hands of top management. This concentration of power can exacerbate potential conflicts of interest between future shareholders and managers of IPO firms and limit the effectiveness and independence of the boards. Consistent with Jensen (1993), who suggests that having different individuals hold the positions of CEO and board chair may be advantageous from a monitoring perspective, this study tests the following hypothesis:

> H_2: The dual leadership structure is negatively associated with IPO underpricing.

Fama and Jensen (1983) contend that multiple board appointments can signal director quality. Fama and Jensen (1983), Gilson (1990), Kaplan and Reishus (1990) and Vafeas (1999) suggest that the number of directorships held by a director might be a proxy for reputational capital, which such individuals view as high-quality directors. Moreover, prestige and reputation of directors can be earned through their accumulated skills, experiences, social connections and corporate networks (Certo, 2003). Higgins and Gulati (2003) add that the experience of organisational leaders legitimises IPO firms to critical resource-holders and has a positive impact on the success of their IPOs. Prestigious boards also help reduce gaps in managerial resources and legitimise top management teams (TMT) and boards of directors, which contribute to lower underpricing and increase the size of the IPO (Finkle, 1998; Certo et al., 2001; Cohen & Dean, 2005). Collectively, these studies demonstrate that young firms use multiple board memberships as a signal of firm quality and that this is likely to be negatively related to IPO underpricing. As such, the following hypothesis is, therefore, tested:

> H_{3a}: Greater board reputation is negatively associated with IPO underpricing.

Although board reputation is an important signal of firm value for IPO firms, Shivdasani (1993), and Shivdasani and Yermack (1999) argue that the benefits of outside directorship levels can be non-linear, declining for the highest directorship levels because serving on numerous boards can result in overworked

directors and ineffective oversights (Core, Holthausen, & Larcker, 1999). Consequently, following prior studies (Cohen, J. & Cohen, P., 1983; Certo et al., 2001), this study considers the possibility of a non-linear relationship between board reputation and underpricing by taking the square of the number of directorships held by outside directors as another measure of board reputation. The following hypothesis is, therefore, tested:

> H_{3b}: The relationship between board reputation and IPO underpricing is non-linear.

Jensen (1993), Eisenberg, Sundgren and Wells (1998), and Mak and Kusnadi (2005) find that large boards are associated with lower firm value, suggesting that smaller boards are more cohesive, provide better monitoring, and cost less to co-ordinate. In contrast, Beiner, Drobetz, Schmid and Zimmermann (2006) report a direct relationship between board size and firm value as larger boards potentially bring more experience and knowledge and offer better advice (Dalton, Daily, Johnson, & Ellstrand, 1999). Carter, Dark, and Singh (1998b) and Certo et al., (2001) find that board size and initial day underpricing are inversely related. Howton et al., (2001), however, failed to find a significant relationship between initial day returns and board size. Harris and Raviv (2008) and Boone, Field, Karpoff and Raheja (2007) suggest that larger boards provide optimal monitoring when managers' opportunities to consume private benefits are high. Despite contrary empirical evidence, larger boards may be beneficial to IPO firms in reducing uncertainties associated with young firms. This study, therefore, suggests the following hypothesis:

> H_4: A larger board of directors is negatively associated with IPO underpricing.

METHODOLOGY

Data

The sample of IPO firms for this study is based on Malaysian firms that made initial public offerings of equity securities and whose prospectuses were accessible online between October 1999 and February 2008 from Bursa Malaysia's website (www.klse.com.my). The following types of firms are excluded from the study: (1) firms making offerings of securities that are unavailable for subscription by the general public and (2) unit trusts whose governance structures may not be comparable to other types of firms due to the nature of these securities. A total of 385 firms met the selection criteria and were included in the study.

Variables

When the offer price is lower than the price of the first trade, the stock is considered to be underpriced; that is, the stock experiences a high initial return. The offer price and the closing price of the first day of public trading for each IPO stock are obtained from the firm's prospectus and from the DataStream database. Following the lead of previous empirical work (Certo et al., 2001; Yong et al., 2001; Jelic et al., 2001), underpricing, the dependent variable, is calculated as:

$$\frac{(P_1 - P_0)}{P_0}$$

where
P_1 = the closing price on the first day of trading for a newly listed stock; and
P_0 = the offer or issue price of the firm's stock

The hypothesized variables used in this study are board independence, dual leadership structure, board reputation, board reputation squared and board size. This study also incorporates several control variables established in prior research to influence IPO underpricing. These variables include firm size, firm age, underwriter reputation, director shareholdings, total risk factors, and prior profitability. The hypothesized variables and control variables are described below in Figure 1.

Figure 1
Description of Explanatory Variables

Variables	*Description*
Board Independence	Percentage of non-executive directors on boards.
Dual Leadership Structure	A binary variable of 1 if a firm separates the positions of CEO and board chair, 0 if otherwise.
Board Reputation	The total number of board directorships held by non-executive directors at other firms.
Board Reputation Squared	Square term of the total number of board directorships held by non-executive directors at other firms.
Board Size	Total number of directors on the board.
Firm Size	Proceeds received from issuing new shares in Ringgit Malaysia.
Log (Firm Size)	Logarithm transformation of IPO proceeds.
Firm Age	Number of years from the year of incorporation to the year of shares offered.

(*continued*)

Figure 1 (*continued*)

Variables	*Description*
ln (Firm Age)	Natural log transformations of one plus the firm's age (the difference between the IPO year and the incorporation year).
Underwriter Reputation	A binary variable of 1 if a firm's share offer is underwritten by either AmInvestment Bank Bhd, or CIMB Investment Bank Bhd, or Aseambankers Malaysia Bhd, 0 if shares offered are underwritten by other investment bankers.
Director Shareholdings	Percentage of shares held by officers and directors of the firm.
Total Risk Factors	Total number of risk factors disclosed in a firm's prospectus.
Prior Profitability	Return on assets in the year prior to the share offer.

Empirical Method

This study relies on hierarchical multiple regression models to simultaneously test the hypotheses in Section 2. The variables are entered in stages, and the change in R^2 is examined at each stage. The order for entering each variable is primarily determined by theoretical concerns in relation to the reported relationships between variables involved and IPO performance.

RESULTS

Descriptive Statistics and Correlations

Table 1 provides descriptive statistics for the independent, dependent, and control variables used in the study. Panel A reports descriptive statistics for continuous variables, and Panel B presents those for dichotomous variables. Table 2 outlines the listing year, listing boards and types of share offers. The majority of IPO firms seek listing on the Second Board followed by the MESDAQ Board of Bursa Malaysia. More than half of the number of firms (55%) in the sample list their shares on the exchange in year 2003, 2004 and 2005. The most common type of offer is public issues. Of particular interests to the study are the results for the underpricing and the board variables. In contrast to other studies on Malaysian IPOs, this study documents a significantly lower average amount of underpricing at 28%, although it ranges from –72.0% (the lowest) to 194.0% (the highest). Recent studies on Malaysian IPOs report the average underpricing to be from 62.1% (the lowest) (Paudyal et al., 1998) to 102% (the highest) (How et al., 2007).

Table 1
Descriptive Statistics for Variables Used in the Study (N = 385)

Panel A: Continuous Variables					
Variables	*Minimum*	*Maximum*	*Mean*	*Std. Deviation*	*Median*
Board Independence	0.20	1.00	0.53	0.15	0.50
Board Reputation	1	52	7.11	6.16	5.00
Board Size	4	16	7.08	1.72	7.00
Firm Size (IPO Proceeds) (RM)	2,400,000	3,131,208,000	53,764,660	193,665,404	19,560,000
*log(*Firm Size) (Total Assets)	14.69	21.86	16.95	0.98	16.79
Firm Age	2	41	6.36	6.62	3.00
ln(Firm Age)	0.69	3.71	1.49	0.78	1.10
Director Shareholdings (%)	0.11	89.05	57.34	16.08	59.44
Total Risk Factors	6	38	19.20	6.21	19.00
Prior profitability (%)	–0.28	74.09	11.38	8.53	9.64
Underpricing (%)	–71.72	194.12	28.37	43.65	17.50
Panel B: Dichotomous Variables					
Variables	*Yes*	*%*	*No*	*%*	
Dual leadership	273	70.9%	112	29.1	
Underwriter Reputation	203	52.7%	182	47.3%	

The results in Table 1 also show that 53% of the board members are non-executive directors. This figure is slightly lower than that previously reported, which was 63% for board of directors of mature listed firms in Malaysia (Yatim, Kent, & Clarkson, 2006). One of the reasons for the difference in the percentage of board independence is because board independence increases over time, implying that the agency's cost of equity for IPO firms will increase over time if there is no monitoring provided by alternative governance mechanisms (Berry, Fields & Wilkins, 2006). The average number of outside directorships held at other firms by outside directors is 7 with a minimum outside board membership of 1 and a maximum of 52 board memberships. The mean board reputation is lower than that reported previously, which is 2 for mature firms (Yatim, 2010). This finding is consistent with Berry et al. (2006) who find that outside board memberships decline after several years post-IPO. The board size is between 4 to 16 directors, with an average board size of 7 members. Finally, approximately 70% of the IPO firms (273 firms) separate the positions of the CEO and the board chair, a result that is similar to those documented earlier by Yatim et al. (2006), and Tam and Tan (2007), suggesting that the separation of CEO and board chair positions is common in Malaysia.

A correlation matrix of independent variables is presented in Table 3. Firm size is positively and significantly correlated with a number of variables, such as firm age and all board variables. While board variables significantly correlate with each other, their correlations do not indicate that multicollinearity is a problem.

Table 2
Year, board listed and types of offer

Panel A: Year Listed	*N*
1999	9
2000	39
2001	20
2002	50
2003	67
2004	76
2005	68
2006	28
2007	24
2008 (until February 2008)	4
Total	385

(*continued*)

Table 2 (*continued*)

Panel B: Board Listed	*N*
Main Board	109
Second Board	152
MESDAQ	124
Total	385
Panel C: Types of Offer	*N*
Public Issues	193
Offer for Sales	17
Others* (Private Placements and Special Issues)	5
Combination of Public Issues and Offer for Sales	130
Combination of Public Issues and Others	28
Combination of Offer for Sales and Others	5
Combination of Public Issues, Offer for Sales and Others	7
Total	385

Table 3
Pearson correlations between explanatory variables (N = 385)

Variables	Firm size	Firm age	Director shareholdings	Total risk factors	Profitability	Board independence	Board reputation	Board size
Firm Size	1.000	0.243**	–0.250**	0.059	–0.149**	0.201**	0.372**	0.217**
Firm Age		1.000	–0.097	–0.087	–0.130**	0.158**	0.176**	0.163**
Director Shareholdings			1.000	0.014	0.063	–0.226**	–0.205**	0.056
Total Risk Factors				1.000	0.043	0.085	0.089	–0.046
Profitability					1.000	–0.095	–0.137**	–0.211**
Board Independence						1.000	0.480**	0.086
Board Reputation							1.000	0.287**
Board Size								1.000

Note: Correlation is significant at the 0.01 level (2-tailed)

Multivariate Tests

Table 4 presents the hierarchical multiple regression results. Model 1 includes only the control variables. Model 2 reports the results of the main effects (Hypotheses 1, 2, 3a and 4) while Model 3 provides the result for the board reputation squared to account for the possibility of a non-linear relationship between board reputation and performance (Hypothesis 3b). As Table 4 shows, firm size is negatively and significantly associated with underpricing for all three

models, suggesting that larger firms tend to have lower underpricing. This finding is consistent with those documented elsewhere such as by Carter et al. (1998a) in the United States and by Filatotchev and Bishop (2002) in the United Kingdom. The coefficient for investment banker reputation is positive and significant in Model 1, indicating that IPOs underwritten by reputed underwriters are likely to have higher underpricing. Although this finding supports those reported previously (Paudyal et al., 1998; Jelic et al., 2001; Certo et al., 2001), this result appears to contradict earlier findings on the role of the underwriter in the United States (Beatty & Ritter, 1986; Megginson & Weiss, 1991; Carter et al., 1998a). Furthermore, we find that underpricing is negatively and significantly related to the total number of risk factors reported in the prospectuses, suggesting that IPO firms that provide more risk disclosures tend to be less underpriced. The regression results for other control variables, such as retained officer/director shareholdings, prior profitability (ROA), and firm age, do not strongly affect the extent of underpricing. As briefly discussed in Section 2, listing requirements are different across listing boards (i.e., Main Board, Second Board and MESDAQ), and these differences may influence the level of IPO underpricing. To avoid spurious results and to also avoid the possible effect of listing board on IPO underpricing, the listing board dummy variables are included in this analysis. The unreported results suggest that the listing board is not significantly associated with IPO underpricing.

Of particular interest to the study are the results for the association between underpricing and board structures. The results in Models 2 and 3 show that board independence is negatively but not significantly related to underpricing; hence, Hypothesis 1 is not supported. Recall that Hypothesis 2 predicts that the separation of board chair and CEO positions is negatively related to underpricing. The regression result, however, indicates that dual leadership structure is positively and strongly associated with underpricing, suggesting that investors view the separation of the roles of board chair and CEO as a negative signal of firm value. This result might reflect the investor's belief that a newly-listed or growth-oriented firm is better served by incumbent directors and managers who are familiar with the firm and its growth opportunities than by a more independent board leadership structure. Moreover, investors do not prefer dual leadership structure due to the risky nature of IPO firms, and the stock market values stability and continuity in executive leadership. Consequently, having a dual leadership structure is less favourable (Sridharan & John, 1998). This finding also appears to support the stewardship view, which suggests that CEO duality provides a facilitative and empowering structure considered beneficial during decision making by managers, particularly when firms decide to go public (Donaldson & Davis, 1991; 1994).

Table 4
Hierarchical multiple regression results

Variables		Models		
		1	2	3
Step 1	Firm Size	–0.188***	–0.188***	–0.190***
	Firm Age	0.053	0.047	0.047
	Investment Banker Reputation	0.079*	0.066	0.063
	Officer/Director Shareholdings	–0.019	–0.022	–0.022
	Total Number of Risk Factors	–0.089**	–0.100**	–0.097**
	Return on Assets (ROA)	–0.050	–0.042	–0.043
Step 2	Board Independence		–0.057	–0.055
	Dual Leadership		0.120**	0.111**
	Board Reputation		0.039	0.245*
	Board Size		–0.008	–0.007
Step 3	(Board Reputation)^2			–0.220
ΔR^2		0.008	0.012	0.014
ΔF		3.133**	5.714**	5.717**
Adj. R^2		0.034	0.043	0.044

Notes: The dependent variable is the underpricing ratio. Coefficients are standardised beta estimates. All regressions contain an unreported constant. $N = 385$; $^{*}p \leq 0.10$; $^{**}p \leq 0.05$; $^{***}p \leq 0.001$

Recall that Hypothesis 3a posits that board reputation is inversely related to IPO underpricing. Model 3 shows a strong positive association between board reputation (i.e., the total of other directorships held at other firms by outside directors) and underpricing. This result lends support to the argument that outside board memberships held by directors at other firms creates a negative effect on investors' assessments of firm quality (Filatotchev & Bishop, 2002)[2]. This is because directors who serve on multiple boards become so busy that they cannot monitor management adequately, consequently reducing firm performance and value. Model 3 presents the test of Hypothesis 3b, which considers the possibility of a non-linear relationship between board reputation and underpricing. As reported in Table 4, the relation between board reputation squared and underpricing appears to become negative. The coefficient, however, is not statistically significant, indicating that a non-linear relationship between board reputation and underpricing is not apparent.

Finally, the regression results in Models 2 and 3 indicate that there is a negative association between board size and underpricing, but the regression coefficients are insignificant for both models; hence, lending weak support for Hypothesis 4. It is likely that larger boards do not necessarily help reduce

uncertainty for the IPO firms, and they may not be beneficial in tapping external resources through a large number of board members. Howton et al. (2001) also document similar results for United States IPO firms that went public between 1986 and 1994.

Another caveat worthy of note is that the explanatory power of the regressions in Table 4 are low (i.e., adjusted R^2 and changes in R^2). While some statistical significance is encountered, the economic significance of these results is problematic. A significant degree of the variance in underpricing remains unexplained, which may indicate that board structures may not be good predictors of the underpricing in Malaysian IPO markets. IPO underpricing in Malaysia is likely to contain other unobserved firm-specific components and market microstructure factors that are not fully captured by variables used in this study. Some IPOs may be underpriced when compared to others because there is greater asymmetry information, more valuation uncertainty and greater risk of after-market performance. For example, internet and technology-related IPOs could be more underpriced due to hype (Bhattacharya, Galpin, Ray, & Yu, 2009). Young and small firms also tend to have higher underpricing due to the difficulty in valuation and the uncertainty associated with these firms (Lowry, Officer, & Schwert, 2010). As indicated in Table 2, more than 70% of the firms (276 firms) in the sample sought listing on MESDAQ (32%; 124 firms) and on the Second Board (39%; 152 firms). MESDAQ-listed firms are technology-related and high-growth firms, while firms listed on Second Board are small firms. Thus, low explanatory power of the regressions reported in Table 4 is likely the result of institutional and firm-specific factors peculiar to a given domestic environment. These are not considered in this study.

CONCLUSION

This study examines the association between board characteristics of IPO firms and underpricing. Specifically, it focuses on how IPO firms, exposed to public scrutiny for the first time, use the characteristics of their board of directors as signals of their firm's value to potential investors. The results of the study suggest that dual leadership structure and board reputation (i.e., multiple board memberships) are positively and significantly associated with the extent of IPO underpricing in Malaysia. It appears that investors do not favour the separation of board chair and CEO positions due to the risky nature of IPO firms. In addition, the stock market values stability and continuity in executive leadership, and thus changes in leadership structure are less favourable. Outside board memberships held by directors at other firms also create a negative effect on investors' assessments of firm quality. It appears that there is a cost to holding numerous board seats. Directors are inclined to become distracted and, therefore,

monitoring intensity is likely to suffer. Other board variables such as board independence (i.e., board composition) and board size do not significantly link to underpricing.

While the study makes an important contribution to the IPO signalling and governance research, there are a number of limitations inherent in this study. In developing the hypotheses, the study only considers the monitoring and resource dependency roles of the board of directors. The findings of this study are limited to the very specific context of the research, namely, IPOs and the time periods and variables employed. Factors such as types of ownership, types of offer, presence of venture capitalists, growth opportunities, incentive contracts and other institutional differences (i.e., share allocations to specific investors) are likely to be related to asymmetric information problems and, thus, may affect the extent of underpricing. These factors present potential issues for future research in the IPO underpricing phenomenon in Malaysia. Corporate governance mechanisms and organisational structures are also likely to evolve as firms mature, and these changes may affect the aftermarket performance of IPOs. As such, longitudinal studies of the board evolution of post-IPOs can potentially provide insights into how firms adjust their governance and control structures to accommodate regulatory changes and strategic challenges.

In relation to policy implications, the findings of this study point to a paradox for advocates of good corporate governance practices. Recent regulatory initiatives related to principles and practices of good corporate governance may be in danger of becoming over-prescriptive of formal "box-ticking". Although good corporate governance structures are regarded as important pre-requisites (but certainly not as sufficient conditions) for investment in new stocks, major drivers of good corporate governance, such as board of directors, information and disclosure, are less valued by investors in the Malaysian IPO markets. Share prices and returns are more affected by factors such as a firm's competitive environment and future strategies rather than the firm's governance structures.

Much corporate governance research, this study included, examines the relationships between easily observable organisational structures and measurable performance outcomes but often provides little evidence or explanation about how the two are linked. By scrutinizing behavioural processes, future research may incorporate a more qualitative understanding of how corporate governance elements interact and influence investors and managers in IPO processes. A behavioural approach would help to understand issues of investing in IPO shares in developing markets and would help to explain how potential investors use corporate governance variables to value IPO stocks in these markets.

NOTES

1. A director may hold not more than 10 and 15 directorships in listed and unlisted companies, respectively.
2. This result should be interpreted with great caution as the number of board memberships held at other firms by outside directors (i.e., board reputation) may be a result of interlocking directorates. Pyramidal and familial ownerships are prevalent in East Asian companies, including those in Malaysia. Control is achieved by a chain of ownership relations and organisational arrangements such as interlocking directorates (Claessens et al., 2000; Khanna, 2000). Therefore, multiple directorships may not be a good measure of board reputation.

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