

GOVERNANCE STRUCTURE, OWNERSHIP STRUCTURE AND EARNINGS PREDICTABILITY: MALAYSIAN EVIDENCE

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ABSTRACT

This study is distinct from prior research focusing mainly on the relationship of corporate governance mechanisms to earnings management or earnings informativeness because it examines the associations between governance structure, ownership structure, and earnings predictability. Using a sample of 330 firms for the period of 2008 through 2009, the findings reveal that the predictive ability of earnings is high when firms have small boards, an independent chairperson, and high shareholding by institutions. However, in contradiction to our expectation is the significant but negative effect of board independence on earnings predictability. The results also demonstrate that investors do not perceive independent audit committees, more active audit committees, competent audit committees, and a high shareholding of management as good indicators of earnings numbers with a high predictive value.

Keywords: governance structure, ownership structure, earnings predictability, 2007 requirements, Bursa Malaysia

INTRODUCTION

One of the main objectives of financial reporting systems is to provide investors, creditors, and all interested parties with relevant information to assist them in valuing a firm and evaluating managerial performance (Yuan & Jiang, 2010). As part of accounting information, earnings numbers should have qualitative characteristics to assist investors and other users of earnings information in their decision making processes (Financial Accounting Standard Board (FASB), 1980). Relevance and reliability are viewed as the two principle qualitative characteristics of earnings numbers. To be relevant, among other things, earnings numbers must have predictive value (FASB, 1980).

In agency theory, strong governance mechanisms are expected to increase the veracity of financial reports and, hence, enhance the quality of reported earnings to financial information users (Jensen & Meckling, 1976). However, the occurrence of financial reporting scandals has contributed to the loss of investors' confidence in the ability of governance mechanisms to improve the quality of earnings information (Hashim & Devi, 2007). Because investors need unbiased earnings information to estimate future cash flows, the scandals have made corporate governance reforms more essential and highlighted the crucial need for firms to enhance the quality of reported earnings.

The purpose of this study is to examine the possible effect of governance and ownership structures on earnings predictability in Malaysia after the amended listing requirements were made effective in 2008. Since the year 2008, the institutional environment in Malaysia has witnessed two important requirements: Malaysian publicly listed firms are required to have an audit committee whose members are non-executives and at least two-thirds of whom are independent. Moreover, the members should be financially literate and at least one of them should be a member of an accounting association or body (Revised Malaysian Code on Corporate Governance (MCCG), 2007).

Several aspects distinguish this study. First, this study provides empirical evidence consistent with agency theory predictions with regard to board size, board leadership, and institutional ownership in a legal and regulatory environment that is different from those in the US and Western countries. Second, most extant research employs either earnings management or earnings informativeness as a proxy for earnings quality to investigate the relationship between corporate governance and the reporting quality of earnings numbers. The authors extend such research by linking the corporate governance mechanisms of Malaysian listed firms to the predictive nature of earnings numbers. Third, related studies only examine the effect of institutional ownership (Velury & Jenkins, 2006), corporate citizenship (Laksmanna & Yang, 2009), board characteristics (Mashayekhi & Bazaz, 2010), or gender diversity (Ye, Zhang, & Rezaee, 2010) on earnings predictability. Given the importance of corporate governance mechanisms in enhancing earnings quality, the authors extend these empirical works by regressing several governance and ownership variables on earnings predictability to provide a better understanding of the predictive nature of earnings under different governance and ownership structures. Finally, most prior research conducted in Malaysia has focused mainly on whether the board chairman is also the CEO when measuring the relationship between board leadership and the quality of financial reports. The authors try to take the research a step forward by using chairman independence as a proxy for board leadership.

The rest of this paper is organised as follows. The next section reviews the literature and develops the hypotheses. Then, this paper explains the research design and sample selection procedure. The next section describes the variables tested in the analysis and presents the empirical results of the paper, and this is followed by a brief summary and conclusion the last section.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Previous Research

Earnings quality is an unobservable variable. As a result, different proxies have been used by academic researchers to infer earnings quality. These proxies include persistence, accrual quality, predictability, smoothness, timeliness, informativeness, and conservatism (Francis, LaFond, Olsson, & Schipper, 2004). As one of these proxies, earnings predictability refers to the extent to which investors can predict the future earnings and/or future cash flows of a firm. Financial reports are designed to provide relevant information for all users of accounting information, including investors. Investors use earnings information to analyse a particular firm's current performance and estimate its future prospects. Therefore, earnings numbers are viewed as high quality when they enable investors to better estimate a firm's future prospects (Hussainey, 2009). Moreover, the importance of the predictive nature of accounting earnings is manifested when taking into consideration, for instance, the use of accounting earnings in valuating a firm's equity, which requires investors to anticipate the firm's expected future cash flows (Velury & Jenkins, 2006).

It is believed that corporate governance mechanisms help align the interests of managers with those of shareholders, reduce agency costs, increase the veracity of accounting and financial information, and ensure the integrity of the financial reporting process (Cohen, Dey, & Lys, 2005; Hashim & Devi, 2007). These mechanisms are broadly categorised by researchers into internal and external mechanisms. Whereas the internal mechanisms include the board of directors, executive compensation, and managerial ownership, the external mechanisms are the threat of takeover, shareholding by outside blockholders, shareholding by institutions, and the legal system (Rahman, 2009).

As one of the internal mechanisms, the board of directors is expected to monitor and control the behaviour of managers to ensure they act on the shareholders' behalf and protect shareholder investments (Hendry & Kiel, 2004). To be effective, the Cadbury Committee Report (1992) recommends the board be comprised of a majority of independent directors, who are likely to bring independent judgments. Furthermore, Bursa Malaysia requires listed firms to

have at least two directors or one-third of their board size be independent directors. Independent directors effectively monitor firm activities, constrain managerial self-interest behaviour, and reduce agency costs stemming from divergence in the interests of managers and shareholders (Fama & Jensen, 1983; Jensen & Meckling, 1976). Aligning the interests of the two parties and reducing agency costs should have many desirable consequences. One of these consequences is the enhancement in the ability of earnings to predict future cash flow.

Considerable attention has been given to the role of independent directors in curbing earnings management activities and increasing the usefulness of earnings to interested parties. For example, by using earnings management as a proxy for earnings quality, Firth, Fung and Rui (2007), Johari, Saleh, Jaffar and Hassan (2008), Kang and Kim (2012), Sahlan (2011), and Wang and Campbell (2012) document a lesser likelihood of earnings management when the proportion of independent directors is high. Moreover, Anderson, Gillan and Deli (2003), Cho and Rui (2009), Dimitropoulos and Asteriou (2010), Niu (2006), and Petra (2007) find that the informativeness of earnings improves as the proportion of independent directors increases.

In addition to independence, board size is another factor that influences the effectiveness of board oversight duties. Small boards are favoured due to them being easier to ordinate, quicker in making decisions, less likely to have free-rider problems, and less likely to oppose innovation (Dimitropoulos & Asteriou, 2010; Gulzar & Wang, 2011; Mohamad, Rashid, & Shawtari, 2012). They also facilitate the influential exchange of ideas between a firm and its directors and mitigate the coalition costs among board members (Vafeas, 2000). Kang and Kim (2012) and Rahman and Ali (2006) note that large boards, relative to small boards, are less effective in reducing managerial manipulation of earnings numbers and enhancing earnings quality. Moreover, Cho and Rui (2009) and Vafeas (2000) find that the earnings numbers of firms with small boards are more informative.

The Chief Executive Officer (CEO) arguably increases his personal utilities in lieu of shareholders' wealth and dominates other directors in the decision-making process when he holds the board chairman position, which is called CEO duality (Jensen, 1993; Liu, 2012; Ponnu, 2008). In the earnings informativeness literature, academic researchers empirically document a deterioration in the usefulness of earnings numbers when vesting the two powers of chairperson and CEO to one individual (e.g., Anderson et al., 2003; Firth et al., 2007; Gul & Lai, 2002). Moreover, Gulzar and Wang (2011); Prencipe and Bar-Yosef (2011); and Saleh, Iskandar, and Rahmat (2005) conclude that combining the two roles (i.e., chairperson and CEO) exacerbates the potential for earnings

management by firm managers, thus impairing the quality of reported earnings. The Malaysian Financial Committee on Corporate Governance (FCCG) recommends that the role of chairman be separated from that of CEO. If the two roles are combined, strong independent elements must be presented. Given that the majority of publicly listed firms in Malaysia complied with the recommendation of the role separation, rather than CEO duality, the authors examine whether the presence of an independent chairman will lead to earnings numbers with high predictive value.¹

In addition to the board of directors, the Cadbury Report (Cadbury Committee Report, 1992) recommends that all listed firms establish an audit committee comprised solely of non-executive members. To increase the veracity of the external audit process and hence improve the accuracy of a firm's financial reports, Anderson et al. (2003) assert that audit committee members must be completely independent from the firm management. In contrast to non-independent members, it is believed that independent members have greater incentive to pursue good corporate governance and behave in a way consistent with shareholders' interests (Mohamad et al., 2012; Sori, Hamid, Nasir, Yusoff, Hashim, & Said, 2008). These assertions are in agreement with the stream of research that documents that firms with a greater number of independent members serving on the audit committee produce informative earnings numbers (Anderson et al., 2003; Bryan, Liu, & Tiras, 2004; Chang & Sun, 2009; Siagian & Tresnaningsih, 2011). They are also in line with the literature that finds fewer earnings management activities when there is a high percentage of independent audit committee members (Bradbury, Mak, & Tan, 2006; Chtourou, Bédard, & Courteau, 2001).

It is postulated that the independence of the audit committee will not lead to high quality earnings unless the committee is active (Chtourou et al., 2001; Lin, Hutchinson, & Percy, 2009). Furthermore, to be effective in overseeing the financial reporting process and internal control, the Blue Ribbon Committee (1999) suggests that audit committees hold frequent meetings for their members. Consistent with this notion, Anderson et al. (2003) and Firth et al. (2007) provide evidence that firms whose audit committees hold frequent meetings report informative earnings numbers. Additionally, Chtourou et al. (2001) find that audit committees whose members meet regularly reduce the management's ability to manipulate earnings and therefore enhance earnings quality.

In addition to promoting independence and activity, an audit committee whose members are competent and qualified is expected to be more active in overseeing the process of financial reporting and internal controls (Blue Ribbon Committee, 1999). It is believed that audit committee members with extensive accounting backgrounds are the most likely to understand accounting figures,

effectively communicate with managers and external auditors, and enhance the ability of the audit committee to constrain the opportunistic propensity of the management with regard to earnings information (Chang & Sun, 2010, Mohamad et al., 2012). Bryan et al. (2004); Chang and Sun (2010); and Hossain, Mitra, Rezaee, and Sarath (2011) find that audit committee members with financial expertise and accounting experience are more likely to detect the opportunistic behaviour of earnings management and improve the quality of financial reporting. Davidson, Xie, and Xu (2004) note a stock price increase for firms whose audit committees have financial expertise and accounting experience.

It is argued that in addition to being sophisticated, institutional investors are capable monitors as well (Velury & Jenkins, 2006). In the active monitoring hypothesis, institutional investors with large shareholdings are viewed as long-term investors who have an incentive and motivation to closely monitor and control management activities (Jung & Kwon, 2002). In addition, these investors are capable of gathering and interpreting financial statements and detecting deliberate misstatements by top managers (Chung, Firth, & Kim, 2005; Velury & Jenkins, 2006). In tandem with this notion, earnings informativeness studies provide evidence of an association between informative earnings numbers and a high equity ownership by institutional investors (Jung & Kwon, 2002; Korczak & Korczak, 2009; Sarikhani & Ebrahimi, 2011; Velury & Jenkins, 2006). Park and Shin (2004) note that the presence of financial intermediaries and active institutional shareholders on the board of directors reduce the probability of engaging in income-increasing discretionary accruals by controlling shareholders when unmanaged earnings are below the target. Similarly, Koh (2007) find that long-term institutions monitor the opportunistic actions of managers in firms with the motivation of manipulating earnings to meet or beat earnings benchmarks.

In addition to institutional ownership, managerial ownership is considered an important device of ownership structures for mitigating the conflict between managers and shareholders (Gulzar & Wang, 2011; Liu, 2012). Moreover, having firm managers have a large stake of shares would diminish the managers-shareholders moral hazard problem and reduce the probability of managers engaging in non-optimal activities (Jensen & Meckling, 1976). As the conflict between the two parties is removed, information asymmetry would decline and the quality of financial statements would improve (Warfield, Wild, & Wild, 1995). Consistent with these assertions, academic researchers provide evidence of less earnings management activities when managers hold more shares in a firm (Bradbury et al., 2006; Saleh et al., 2005). Vafeas (2000) concludes that firms whose insiders own a large stake of shares exhibit a high quality of earnings information. Correspondingly, Zhao, Davis, and Zhou (2008) note that the likelihood of reporting informative earnings numbers increases with high managerial ownership of equity.

Hypotheses Development

On the basis of the previous research discussed above, the authors test the following hypotheses to answer the question of whether the presence of an effective governance structure and ownership structure will lead to earnings numbers with high predictability:

- H1: Board independence is positively related to earnings predictability.
- H2: Board size is negatively related to earnings predictability.
- H3: Board leadership is positively related to earnings predictability.
- H4: Audit committee independence is positively related to earnings predictability.
- H5: The frequency of audit committee meetings is positively related to earnings predictability.
- H6: The competency of the audit committee is positively related to earnings predictability.
- H7: Institutional ownership is positively related to earnings predictability.
- H8: Managerial ownership is positively related to earnings predictability.

RESEARCH DESIGN

Sample Selection

This study consists of all firms listed on the Main and Second Board of Bursa Malaysia with information available on all corporate governance and financial variables of interest for the two years 2008 and 2009. Following earnings quality studies, financial and unit trusts firms are excluded from our sample due their different financial reports and being more regulated. Moreover, this study eliminates companies with other than 31 December fiscal year end to increase the homogeneity of the sample. This leaves us with a final sample of 660 observations for 330 companies across two years. The authors transform variables with extreme values to mitigate the possible influence of outliers on the estimate of coefficients (Tabachnick & Fidell, 1996)². Table 1 summarises and presents the sample selection procedure whilst Table 2 shows the distribution of sample firms according to industrial classification.

Table 1
Sample selection procedure

Criteria	No. of firm-years
All companies listed on the Main and Second Board of Bursa Malaysia at 31 December 2010.	1854
Less	
Financial companies.	(392)
Companies with no 31 December fiscal year end.	(702)
Companies with insufficient financial data.	(50)
Companies with insufficient corporate governance data.	(50)
Final sample	660

Table 2
Distribution of the sample firms

No.	Sector	No.of companies	Percentage (%)
1	Consumer product	120	18
2	Industrial products	254	38
3	Construction	32	5
4	Trading/services	154	24
5	Properties	12	2
6	Plantation	40	6
7	Technology	20	3
8	Hotels	19	3
9	Mining	9	1
	Total	660	100

Model Specification and Estimation

The predictability of earnings reflects the ability of investors to estimate future cash flows. The significance of the predictive value of earnings figures appears in the use of accounting numbers in equity valuation, which requires the anticipation of expected future cash flows (Velury & Jenkins, 2006). Moreover, because the discounted present value of future cash flows is used by investors to value a particular firm, a strong future cash flows-current earnings relation can help investors assess the valuation of a firm via current earnings numbers (Ye et al., 2010). Recently, a number of studies have introduced earnings predictability as a proxy for earnings quality (e.g., Atwood, Drake, & Myers; 2010; Velury & Jenkins, 2006; Ye et al., 2010). In the studies, earnings numbers are considered high quality if they enable investors to anticipate the firm's future prospects.

Earnings predictability is tested using the slope coefficient from a baseline regression between future cash flows and current earnings that captures the ability of earnings numbers to predict future cash flows. The baseline earnings predictability model is presented as follows:

$$CFO_{it+1} = \beta_0 + \beta_1 EARN_{it} + \varepsilon_{it}. \quad (1)$$

where CFO_{it+1} is cash flows from operation for firm i in year $t + 1$ divided by the beginning of total assets. $EARN_{it}$ is net income before extraordinary items for firm i in year t divided by the beginning of total assets. A positive and significant sign for β_1 implies more predictive earnings, whereas a negative and significant sign for β_1 implies less predictive earnings.

To test whether governance and ownership structures influence earnings predictability, this study extends the baseline regression by adding six governance variables (i.e., board independence, board size, board leadership, audit committee independence, audit committee meetings, and audit committee competency) and two ownership variables (i.e., institutional and managerial ownership) to Equation 1. The authors interact each one of these variables with current earnings to empirically examine the incremental effect of the variables on the relationship between current earnings and future cash flows. The pooled cross-sectional model is presented as follows:

$$CFO_{it+1} = \beta_0 + \beta_1 EARN_{it} + \beta_2 EARN_{it} * BDIND_{it} + \beta_3 EARN_{it} * BDSIZE_{it} + \beta_4 EARN_{it} * CHIND_{it} + \beta_5 EARN_{it} * ACIND_{it} + \beta_6 EARN_{it} * ACMEETING_{it} + \beta_7 EARN_{it} * ACQLFD_{it} + \beta_8 EARN_{it} * IOWN_{it} + \beta_9 EARN_{it} * MOWN_{it} + \beta_{10} EARN_{it} * SIZE_{it} + \beta_{11} EARN_{it} * DEBT_{it} + \beta_{12} EARN_{it} * LOSS_{it} + \beta_{13} YEAR_{it} + \varepsilon_{it} \quad (2)$$

where for each firm (i) and each year (t), $BDIND$ is board independence, $BDSIZE$ is board size, $CHIND$ is board leadership, $ACIND$ is audit committee independence, $ACMEETING$ is audit committee meetings, $ACQLFD$ is audit committee competency, $IOWN$ is institutional ownership, $MOWN$ is managerial ownership, $SIZE$ is firm size, $DEBT$ is firm debt, $LOSS$ is firm loss, $YEAR$ is year fixed effect, and other variables are previously defined.

With respect to the above model, one-year-ahead operating cash flows (CFO_{it+1}) is the dependent variable, and the experimental variables are the interaction of current earnings ($EARN_{it}$) with characteristics of the board of directors, characteristics of the audit committee, and the ownership structure. Given that earnings predictability is not only influenced by governance and ownership structures, three control variables, namely, debt, size, and loss, are introduced into the model to isolate the possible effect of corporate governance variables on the predictive ability of earnings. Based on research on earnings

quality (see among others Boubaker & Sami, 2011; Chang & Sun, 2010; Ghosh & Moon, 2010; Korczak & Korczak, 2009), the authors combine these control variables with current earnings to assess whether the coefficient of current earnings is higher or lower due to a control variable effect.³

With the exception of β_3 , which is estimated to have a significant and negative value, the estimated coefficients on β_2 , β_4 , β_5 , β_6 , β_7 , β_8 , and β_9 are expected to be significant and positive. The positive and significant coefficients indicate that firms with independent boards, independent chairmen, independent audit committees, active audit committees, competent audit committees, high shareholding by institutions, and high shareholding by executive directors are more likely to report highly predictive earnings. By contrast, the negative coefficient implies that the earnings numbers of firms with large boards are not expected to have the ability to predict future cash flows. The authors test for heteroskedasticity using the White Test. The results of the test indicate a heteroskedasticity problem in our model. To address this problem, the authors adopt the Estimated Generalised Least Squares (EGLS) regression suggested by Wooldridge (2003).

Measurements of Variables

Earnings quality researchers have viewed earnings predictability as an imperative measure of earnings quality. Following Atwood et al. (2010), Velury and Jenkins (2006), and Ye et al. (2010), the authors measure earnings predictability as the slope coefficient from a regression of one-year-ahead operating cash flows (CFO_{it+1}) on current earnings ($EARN_{it}$). The authors also expect the estimated coefficient on β_1 to be positive and significant (see Equation 1). The positive and significant coefficient implies earnings of high predictability.

There are three types of board compositions in Malaysia: independent non-executive directors, non-independent non-executive directors, and executive directors. Contrary to executives, independent directors are directors who are not officers of a firm and are independent of both the management and the controlling shareholders. Non-executive directors (gray directors) are directors who do not have any executive responsibilities in a firm but own stock in the firm or related firms (Malaysian Code on Corporate Governance, 2000). Because non-independent non-executive directors are not viewed completely as independent directors, the authors measure board independence (BDIND) as the proportion of independent directors to the total number of directors on a board.

In accordance with Anderson et al. (2003), Dimitropoulos and Asteriou (2010), Firth et al. (2007), and Vafeas (2000), the authors proxy board size (BDSIZE) as the total number of directors on the board. Unlike previous studies

that were focused mainly on whether the CEO and board chairman positions are occupied by one person, the authors use the independency of the board chairman as a broader measurement of board leadership. Specifically, the authors use a binary variable, which takes the value of 1 when the board chairman is an independent director to represent board leadership (CHIND) (and 0 otherwise). This measurement is based on the premise that in addition to the ideal chairman not being a current or former CEO of the firm he must also be independent from the firm's management (Carrott, 2008; Felton & Wong, 2004). Moreover, it is argued that the independence of the chairman enables the board to discharge its oversight duties, particularly with regard to the CEO (Jensen, 1993).

The new regulation requires Malaysian publicly listed firms to have an audit committee with members who are non-executives and at least two-thirds of whom are independent (Revised MCGG, 2007). Given that, under this amended listing requirement, all audit committee directors are non-executives, the authors measure audit committee independence (ACIND) as the proportion of independent directors to the total number of directors on an audit committee. In accordance with Bryan et al. (2004) and Rahman and Ali (2006), the authors use the number of audit committee meetings held annually as a proxy for audit committee meetings (ACMEETING). Under the new regulations, Malaysian firms are required to have at least one audit committee member who is a member of an accounting association or body (Revised MCGG, 2007). The authors, therefore, use the proportion of audit committee directors who are members of an accounting association or body to the total number of directors serving on the audit committee as a proxy for audit committee competence (ACQLFD).

Wahab, How and Verhoveuven (2007) argue that the equity ownership of the five largest institutional investors⁴ amounts to 70% of the total institutional shareholdings in public firms listed on the Main Board of Bursa Malaysia. As such, the authors measure institutional ownership (IOWN) as a continuous variable representing the proportion of the five largest institutional investors' ownership of shares to the total number of shares issued. It is argued that executive directors have the power to control most decisions in their firms (Saleh, Rahman, & Hassan, 2009, Velury & Jenkins, 2006). Therefore, the authors use the proportion of direct equity ownership by executive directors to the total number of shares issued to represent managerial ownership (MOWN). This measurement has also been adopted by other recent Malaysian studies (e.g., Wahab, How, & Verhoeven, 2008; Wahab, Haron, Lok, & Yahya, 2011).

The earnings numbers of larger firms are expected to have the ability to predict future earnings and cash flows because large firms are usually subjected to scrutiny by financial analysts and to market views. The authors use the natural log of the book value of the total assets of the firm to measure the firm's size

(SIZE). The authors also expect a positive relationship between firm size and earnings predictability. Leverage is representative of debt riskiness or default risk, which might deteriorate the predictive ability of earnings numbers. In light of the debt covenant hypothesis, the managers in firms that are close to violating their debt covenants are the most likely to adopt an income-increasing discretionary accruals method to avoid debt covenant violation (Sweeney, 1994; Watts & Zimmerman, 1978). Accordingly, the authors expect debt (DEBT) to have a negative relationship with earnings predictability. The authors also measure debt by dividing the long-term debt by the total assets.

The managers of loss-making firms perceive that their compensation for running the firms depends on the earnings figures reported by them. Therefore, they are expected to manage earnings numbers opportunistically to avoid reporting negative earnings, which might affect their remuneration value. Involvement in non-ethical earnings management activities would definitely deteriorate investors' ability to predict future cash flows. The authors use a binary variable that takes the value of 1 for loss-making firms and 0 for other firms as a proxy for loss (LOSS). In addition, the authors expect a negative relationship between loss and earnings predictability. Finally, a year dummy variable (YEAR) is used to capture the fixed year effect. A binary variable with a value of 1 for 2008 and 0 for 2009 is used to represent the year dummy variable. However, the authors make no predictions for this variable.

RESULTS

Descriptive Statistics

Table 3 presents the descriptive statistics of the continuous variables, whereas the distribution of companies with board leadership and LOSS is reported in Table 4. The means of one-year-ahead operating cash flows (CFO_{t+1}) and current net income ($EARN_{it}$) are found to be 6.7% and 3.4% of total assets, respectively. The minimum and maximum values of board independence (BDIND) are 16.7% and 85.7%, respectively. On average, most sample firms have approximately 44% independent directors. Although the one-third requirement is achieved, the mean of 44% indicates that insiders dominate the board composition of firms in Malaysia. The mean board size (BDSIZE) is eight directors, with a minimum of 4 and a maximum of 17. This average is within the range recommended by Jensen (1993) and Lipton and Lorsch (1992) for an effective board. On average, 34% of sample firms have independent chairmen (CHIND).

Table 3
Descriptive statistics for continuous variables

Variables	N	Min	Max	Mean	Standard deviation	Skewness	Kurtosis [#]
CFO _{t+1}	660	-0.662	0.546	0.067	0.102	-0.123	6.729
EARN _t	660	-0.475	0.390	0.034	0.083	-0.716	5.621
BDIND	660	0.167	0.857	0.439	0.108	0.727	0.526
BDSIZE	660	4	17	7.55	1.842	1.011	2.642
ACIND	660	0.333	1.000	0.849	0.163	-0.271	-1.622
ACMEETING	660	1 ⁵	12	4.94	1.102	1.890	6.412
ACQLFD	660	0.000	1.000	0.342	0.176	0.869	2.818
IOWN	660	0.000	0.745	0.045	0.083	3.660	20.606
MOWN	660	0.000	0.969	0.085	0.139	2.160	5.113
SIZE (in million RM)	660	22.9	43,407	1,220.8	3,515.9	7.563	69.573
DEBT	660	0.000	0.710	0.098	0.124	1.858	3.749

Notes: CFO_{t+1}: one-year-ahead operating cash flows scaled by the beginning of total assets; EARN_t: current earnings scaled by the beginning of total assets; BDIND: the percentage of independent non-executives directors on the board; BDSIZE: total number of directors on the board; ACIND: the percentage of independent members on audit committee; ACMEETING: number of audit committee meetings; ACQLFD: the percentage of competent members on audit committee; IOWN: the percentage of the five largest institutional investors ownership; MOWN: the percentage of executives direct ownership; SIZE: total assets; DEBT: dept to total assets ratio; # Variables with skewness values more (less) than 1.96 and kurtosis values more (less) than 2 are transformed using either Van der Waerden or natural logarithm.

Table 4
Distribution of dummy variables

Variables	No		Yes	
	Frequency	Mean	Frequency	Mean
CHIND	437	66.212	223	33.788
LOSS	509	77.12	151	22.88

Note: CHIND: dummy variable (1 if the board is headed by independent chairman; 0 otherwise), LOSS: dummy variable (1 for loss firms, 0 otherwise).

With regard to audit committee characteristics, the mean audit committee independence (ACIND) is approximately 84.9% and has a maximum of 100%, which could be attributed to the new regulations in the Malaysian Code of Corporate Governance (MCCG) 2007, which recommends that at least two-thirds of audit committee members be independent. On average, most of the sample firms hold four meetings even though the highest number of conducted audit committee meetings is 12. The mean audit committee competence (ACQLFD) is 34.2%, with a maximum of 100%, which implies that firms in Malaysia comply with the amended requirement of having at least one in three audit members be a member of an accounting association or body. As for ownership structures, on average, the five largest institutional investors hold approximately 5% of total outstanding shares of the sample firms. Executive directors, by contrast, have an average direct shareholding of 8.5% of total outstanding shares.

Table 5
Spearman correlation matrix

Explanatory variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1.CFO _{t+1}	1	0.478**	-0.074	-0.036	0.287**	0.002	-0.020	0.142**	0.009	-0.061	-0.092*	-0.068	0.329**
2.EARN _{it}		1	-0.083*	-0.080*	0.554**	0.050	0.123**	0.312**	-0.082*	-0.027	-0.200**	-0.083*	-0.728**
3.EARN*BDIND			1	0.225**	0.123**	0.262**	0.083*	-0.070	-0.081*	-0.072	-0.066	-0.036	-0.037
4.EARN*BDSIZE				1	-0.012	0.169**	-0.050	-0.130**	-0.199**	-0.042	-0.334**	0.066	-0.166**
5.EARN*CHIND					1	0.067	0.048	0.121**	-0.030	-0.098*	-0.098*	-0.034	0.370**
6.EARN*ACIND						1	0.092*	0.065	-0.102*	0.035	0.019	-0.014	0.064
7.EARN*ACMEETING							1	0.057	-0.163**	0.023	0.024	0.101**	0.198**
8.EARN*ACQLFD								1	-0.156**	0.043	-0.120**	-0.074	-0.246**
9.EARN*LOWN									1	-0.169**	0.452**	0.066	-0.216**
10.EARN*MOWN										1	-0.369**	-0.017	0.058
11.EARN*SIZE											1	0.206**	-0.324**
12.EARN*BDET												1	0.019
13.EARN*LOSS													1

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

*Correlation is significant at the 0.10 level (2-tailed)

As for the control variables, the maximum (minimum) firm size is 43,407 (22.9), with an average of 1,220.8. The mean long-term debt is approximately 9.8% of total assets. Finally, on average, 151 (23%) of sample firms are considered to be poorly performing firms, as shown by losses in Table 4. Table 5 presents the correlations of the coefficients for all variables used in this study. The coefficients in Table 5 indicate that the multicollinearity problem is not a major concern in the study.

Testing of Hypotheses

Table 6 presents the regression results for the effect of governance and ownership structure on earnings predictability. As shown in the table, the estimated coefficient on EARN is positive and significant, implying that Malaysian investors do make use of reported earnings to anticipate future cash flows. For our variables of interest, EARN*BDSIZE is negatively and significantly associated with one-year-ahead operating cash flows. The negative and significant relationship indicates that earnings' ability to predict future cash flows is high when the number of directors serving on the board is small. Therefore, hypothesis H2 is supported. Furthermore, the estimated coefficients of EARN*CHIND and EARN*IOWN are positively and significantly related to the one-year-ahead operating cash flows. The results imply that the earnings numbers of firms with independent chairmen and high equity ownerships of institutional investors have predictive value. Thus, hypotheses H3 and H7 are substantiated.

Contrary to the expectation, Table 6 shows a negative and significant coefficient of EARN*BDIND, which means that earnings decrease by approximately -0.075 for each percentage point increase in the independency of the board of directors. Moreover, this finding is not consistent with Mashayekhi and Bazaz (2010), who found that Iranian firms with independent directors experience more predictable earnings. The negative and significant coefficient on EARN*BDIND is justified based on independent directors' lack of expertise and knowledge of the firm's affairs, which may result in the low performance of firms. This finding is further supported by Chen and Nowland (2010), who argue that the presence of strict independent boards in Asian family-owned firms hinders the ability of family groups to create wealth through political connection. With poor performance, the reported earnings will not fairly reflect future cash flows because the probability of managers engaging in opportunistic earnings management activities is high.

Furthermore, the results show that EARN*ACIND, EARN*ACMEETING, EARN*ACQLFD, and EARN*MOWN have no significant influence on one-year-ahead operating cash flows. One reason for the insignificant coefficients of EARN*ACIND, EARN*ACMEETINGS, and

EARN* ACQLFD is that independent audit committee members are nominated and selected by family groups in Malaysia and, therefore, are less likely to take decisive action against a management that is roughly controlled by the family group. As for EARN*MOWN, the insignificant contribution is justified based on the fact that the majority of firms in Malaysia are family owned. For this reason, the expected positive contribution of managerial ownership is negated by the market's negative reaction to high shareholding by top managers (i.e., family groups in Malaysia).

Table 6
Results of EGLS regression analysis for the association between governance structure, ownership structure, and earnings predictability

Dependent variable: one-year-ahead operating cash flows (CFO _{t+1})					
$CFO_{it+1} = \beta_0 + \beta_1 EARN_{it} + \beta_2 EARN_{it} * BDIND_{it} + \beta_3 EARN_{it} * BDSIZE_{it} + \beta_4 EARN_{it} * CHIND_{it} + \beta_5 EARN_{it} * ACIND_{it} + \beta_6 EARN_{it} * ACMEETING_{it} + \beta_7 EARN_{it} * ACQLFD_{it} + \beta_8 EARN_{it} * IOWN_{it} + \beta_9 EARN_{it} * MOWN_{it} + \beta_{10} EARN_{it} * SIZE_{it} + \beta_{11} EARN_{it} * DEBT_{it} + \beta_{12} EARN_{it} * LOSS_{it} + \beta_{13} YEAR_{it} + \varepsilon_{it}$					
Explanatory variables	Expected sign	Coefficient	T-statistic	VIF before standardisation	VIF after standardisation [#]
Const	?	-0.200	-3.855***		
EARN	+	0.511	8.478***	257.415	3.749
EARN*BDIND	+	-0.075	-2.255**	27.009	1.693
EARN*BDSIZE	-	-0.091	-2.299**	1.732	1.732
EARN*CHIND	+	0.130	1.979**	2.071	2.071
EARN*ACIND	+	0.032	1.002	41.739	1.484
EARN*ACMEETING	+	-0.031	-0.941	1.214	1.214
EARN*ACQLFD	+	0.034	1.146	1.204	1.204
EARN*IOWN	+	0.082	2.034**	1.577	1.577
EARN*MOWN	+	-0.001	-0.043	1.482	1.482
EARN*SIZE	+	-0.034	-0.772	197.229	1.979
EARN*DEBT	-	-0.084	-2.925***	1.194	1.194
EARN*LOSS	-	-0.188	-	3.019	3.019
YEAR008	?	0.298	4.781***		
R ²	0.352				
Adjusted R ²	0.340				
F-statistic	27.148***				

Notes: CFO_{t+1}: one-year-ahead operating cash flows scaled by the beginning of total assets; EARN_{it}: current earnings scaled by the beginning of total assets; BDIND: the percentage of independent non-executives directors on the board; BDSIZE: total number of directors on the board; CHIND: chairman independence; ACIND: the percentage of independent members on audit committee; ACMEETING: number of audit committee meetings; ACQLFD: the percentage of competent members on audit committee; IOWN: the percentage of the five

institutional investors ownership; MOWN: the percentage of executives direct ownership; ZISE: total assets; DEBT: dept to total assets ratio; LOSS: firm loss; YEAR: fixed year effects; T-statistics are in parentheses, while Standard Betas are out of parentheses; *, **, *** indicate significant at 0.10, 0.05, and 0.01 level respectively; # board independence, audit committee independence, and firm size are standardised using Z score to mitigate multicollinearity problem.

With regard to control variables, EARN*DEBT and EARN*LOSS are significantly associated with one-year-ahead operating cash flows with the expected direction. These results imply that the managers of leveraged and loss-making firms are more likely to engage in opportunistic earnings management activities to avoid violation of debt covenants and presenting negative earnings. Therefore, the ability of earnings to predict future cash flows in these firms is impaired. Finally, contrary to our expectation, EARN*SIZE has no significant influence on investors' ability to anticipate future cash flows.

Sensitivity Test

Two sensitivity tests are performed to ensure the sensitivity and robustness of our basic analysis discussed earlier. The first sensitivity test re-runs the primary model using OLS regression with Robust Standard Errors to overcome the heteroskedasticity problem. The unreported results for the OLS regression are approximately the same as those for the EGLS regression except that both board leadership and institutional ownership become statistically insignificant. Furthermore, in the main analysis, the authors use the percentage of direct shareholding by executive directors to represent managerial ownership. As an alternative measure, the authors re-run the model using the proportion of executive directors' direct and indirect shareholdings as a proxy for managerial ownership. For indirect ownership, the authors take into account shareholdings by executive directors in sample firms through another publicly or privately held company. The authors also consider shares owned by an executive director's family members in a sample firm or any related firms under the control of the former. Finally, the direct and indirect shareholdings of executive directors are added together to find the total managerial ownership.⁶ The unreported findings for the new measurement are not very different from those for the basic analysis.

SUMMARY AND CONCLUSION

This study further empirically examines the relationships between governance structure, ownership structure, and earnings predictability. Extant research by Mashyeksi and Bazaz (2010) and Velury and Jenkins (2006), who found corporate governance practices to significantly influence earnings predictability, motivates this study. The findings of this study have useful and practical

implications. First, investors use earnings information disclosed by firms with small boards, an independent chairman, and high shareholdings by institutional investors to estimate future cash flows. Second, investors perceive less predictive value of earnings numbers among firms with more independent directors. They do not react to earnings information released by firms with independent audit committees, active audit committees, competent audit committees, and high equity ownerships of managers. Based on the above, the findings of this study suggest that future policy initiatives in Malaysia should emphasise the need for more independent boards, more active audit committees, more competent audit committees, and active management compensation, which is likely to result in earnings numbers of high predictability.

The results of this study may be subject to several limitations that could be platforms for future research. First, due to the unavailability of data, the measurement of earnings predictability in this study is based on the pooled model for a two-year period (i.e., 2008 and 2009). A longitudinal study can be conducted to provide insight into the predictive ability of earnings numbers. Perhaps using longer time series observations to measure earnings predictability could yield better results. Second, due to an abundance of two-way interactions computed in the study, decomposing current earnings into components (i.e., cash flow from operations and total accruals) that may enhance the predictive ability of earnings numbers was not practical. The use of interaction terms requires a parsimonious set of variables to maintain the test power and interpretability. Third, this study used data from the years 2008 and 2009 to reflect the amended requirement in 2007. Because the capital market may need more time to digest the requirements and listed firms may need more time to adopt them, using data from only two years after the requirements may not fully reflect the real effect of the requirements. Finally, the endogeneity issue associated with corporate governance mechanisms is not addressed in this study. The characteristics of corporate governance variables are not necessarily independent of earnings quality. Firms with higher earnings quality might be more likely to have a good system of governance, which signals the reliability of their financial reporting process (Engle, 2005). However, the authors attempt to reduce the endogeneity problem by regressing one-year-ahead operating cash flows on lagged data of corporate governance.

Future research may use a number of years after the 2007 requirements to investigate in depth the impact of corporate governance mechanisms on earnings predictability. In addition, testing how earnings predictability is explained by the interaction of different earnings components with the governance mechanisms would be worth investigating.

ACKNOWLEDGEMENT

This research is supported by Universiti Utara of Malaysia (UUM) under the research and innovation grant.

NOTES

1. Approximately 93% of simple firm-years are found in this study to separate the positions of chairman and CEO.
2. A normal score or natural logarithm is used to transform variables with extreme values.
3. Likewise, based on the literature on earnings informativeness, there are two model specifications in earnings predictability research: (a) combining a control variable with earnings and (b) entering a control variable alone into the model without multiplying the control variable by earnings.
4. The five largest institutional investors are Employee Provident Fund (EPF), Lembaga Tabung Angkatan Tentera (LTAT), Lembaga Tabung Haji (LTH), Social Security Organisation (SOCSO) and Permodalan Nasional Berhad (PNB).
5. Baneng Holdings' audit committee held only one meeting during the financial year that ended on 31 December 2009 due to an insufficient quorum as a result of the resignation of a member of the audit committee.
6. The average executives' direct and indirect ownership is approximately 27%.

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