The Effect of Board Structure and Institutional Ownership Structure on Earnings Management

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ABSTRACT

The study examines the role of outside directors and institutional shareholders in constraining the earnings management activities. A sample of 613 firms from construction, industrial products and consumer products sectors were selected from the main board. The time period covered for this study was from year 2001 to 2003. Modified Jones Model with cross sectional approach was employed in this study. The finding shows that magnitude of earnings management in Malaysian listed firms has approximately 16% of prior year total assets. Most firms manage the earnings upward rather than downwards. No relationship was observed between the degree of earnings manipulation and the proportion of outside directors and institutional shareholders. However, there is weak evidence to show that outside directors have some effect in curbing the earnings management in the construction sector. Adding more outside directors in the board and having institutional shareholders may not be able to reduce earnings management practices if the ownership of a firm is highly concentrated and the process of selecting outside directors is not clearly stated and transparent.

Keywords: Board structure, institutional ownership, earnings management

INTRODUCTION

Earnings often represent firm performance and it conveys firm values to investors (Larry *et al*., 2004). However these reported earnings may be managed by managers as the Generally Accepted Accounting principles (GAAP) allow alternative

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accounting methods to be used by firms. Earnings management is legal if the reported earnings are adjusted in line with GAAP such as changing the methods for inventory valuation and depreciation. Earnings management becomes fraudulent activities when it falls outside the bound of GAAP like accelerating revenue recognition and deferring expenses recognition. In general, earnings management is defined as the alteration of firm's reported economic performance either to mislead shareholders or to influence contractual outcomes (Healey and Wahlen, 1999). The most prominent examples of earnings management fraudulent are WorldCom, Enron and Refco cases. These corporate scandals have created doubt on the true and fair accounting practices exercised by firms. B. Xie *et al*. (2003) provide evidence that outside directors are able to constrain earnings management activities. R. Chung *et al*. (2002) argue that institutional shareholders have implication on earnings management.

The purpose of this paper is to examine the separate and joint effect of board structure and institutional ownership structure on earnings management. The paper also looks into the role of outside directors and institutional shareholders in construction, industrial products and consumer products sectors with earnings management.

EARNINGS MANAGEMENT WITH BOARD STRUCTURE AND INSTITUTIONAL OWNERSHIP STRUCTURE

Earnings Management

Discretionary accruals represent the extent of earnings management. Discretionary accruals reflect subjective accounting choices made by managers (R. Chung *et al*., 2002). The magnitude of discretionary accruals is indicated as a percentage of assets of a firm. The higher the value of discretional accruals, the greater the earnings is manipulated. Earnings management may take the form of either income-increasing or income-decreasing accounting choices. Income-increasing manipulation means positive discretionary accruals whereas income-decreasing indicate negative discretionary accruals.

Managers would like to manage the earnings to increase their private gain. Healey (1985), McNicholas and Wilson (1988), Gaver *et al*. (1995), Houlthausen *et al*.(1995) and Balsam (1998) provide evidence that management who are contractually bound to achieve target earnings have greater tendencies to manage earnings. Furthermore, managers might use earnings management before or after the period of initial public offering (Aharony *et al*., 2003; Teoh *et al*., 1998). The rationale for manipulating earnings is to increase issuing stock price. Lu Jianqiao (1999) shows that loss-making companies conduct remarkable earnings management.

Incentives to engage in earnings management could be mitigated through effective corporate governance mechanisms such as board structure, ownership structure, advisor structure and capital structure. Besides internal factors, good corporate governance practice is also guided by the requirements of Registrar of Companies (ROC), Securities Commission (SC), Bursa Saham Kuala Lumpur (BSKL), Bank Negara, Foreign Direct Investment Committee (FIC) and Ministry of Finance (MOF). However, having a good set of rules and regulations do not guarantee good corporate governance practices unless regulatory authorities effectively enforce these requirements.

Board Structure and Earnings Management

Board of directors play an important role in establishing good practices in a company. Directors are in charge of monitoring management to protect shareholders' interest. Directors have to ensure the interest of shareholders and managers are aligned. The conflict of interest between shareholders and managers will arise if managers used earnings management to obtain private gains (Healey, 1985) or to reduce likelihood of dismissal when performance is low (Weibach, 1998).

The Board Committee comprises of executive directors (inside directors) and non-executive directors (outside directors including independent non-executive). The role of independent non-executive directors is to bring independent judgment to the Board. The need for independent non-executive directors is to provide a check-and-balance to the activities of executive directors. Independent non-executive directors are supposed to monitor management activities on behalf of shareholders. The findings of Dechow *et al*.(1996) and Beasley (1996) imply that higher proportion of outside directors in the Board Committee is associated with greater confidence in the firm's financial reporting system. Earnings management is less likely to occur in companies whose board has more independent directors (Biao Xie *et al*., 2003; Mather.P and Ramsay A, 2006; Beatriz Garsia Osma., 2008;. Bikki J. and Tsui J., 2009.

However, Yun W. Park and Hyun Han Shin (2004), Norman M.S. *et al*. (2005) and Kam P.M. (2007) find that outside directors do not reduce the incidence of earnings management. In addition, Rashidah A.R and Fairuzana H.M. (2006) found that earnings management is positively related to the size of the board of directors. These evidence indicate that outside directors may lack the financial sophistication to detect earnings management or sense of ownership to the firm they monitor. Bhagat and Black (2000) and Klein (1998) argue that the relationship between the proportion of outside directors and long term financial performance has not been supported in empirical research.

Ownership Structure and Earnings Management

Ownership structure of a firm can be categorised into two groups: proportion of shares owned by insiders and outsiders; proportion of shares owned by institutional versus individual shareholders.

For the insider and outsider shareholders category, Dahliwal, Salamon, and Smith (1982) found that managerial ownership is negatively associated with earnings manipulation. Managerial ownership is a variable that might reduce the agency costs as the motivations of managers are aligned closely to the objectives of other shareholders.

Institutional investors are large investors, other than natural person, who exercise discretion over investment of others. Organizations which are considered as institutional investors are insurance companies (life and non-life), pension funds, investment trusts (including unit trusts), financial institutions (including banks, finance companies, building societies and credit cooperatives), investment companies, and other nominee companies associated with the above categories of institutions (Lang and McNichols,1997). Institutional investors have the opportunity, resources and ability to monitor, discipline and influence a manager's decision in the firm (Monks and Minow, 1995). McConnell and Servaes (1990) support the above statement and report a significant relationship between the value of a firm and the percentage of share owned by institutional shareholders. Richard, Michael and Jeong-Bon Kim (2002), Pin Seng Koh. (2005) and Bita Mashayekhi (2008) argued that institutional share ownership may have implications for earnings management as they are able to influence the company's management. The results indicate that institutions with large shareholdings play an active role in monitoring managerial opportunism in managing the reported earnings. This is because when the institutions invest in the long term period, they are more concerned about the underlying profitability of the companies and be wary of the use of discretional accruals to manage the earnings.

METHODOLOGY

Modified Jones Model is utilized in this paper to estimate the discretionary accruals which represent the extent of earnings management. This model is selected because it has been found to be the most powerful, widely used and accepted model in detecting the earnings management practice (Dechow *et al*. 1995; DeFond and park, 1997; Teoh *et al*., 1998). Sample selection is based on the main board firms of Bursa Malaysia from three main sectors: consumer products, industrial products and construction.

Estimation of Discretionary Accruals

Total accruals can be decomposed into discretionary and non-discretionary accruals. Discretionary accruals reflect subjective accounting choices made by managers whereas non-discretionary accruals depend on the level of activity of the firm (R. Chung *et al*., 2002). Teoh *et al*. (1998a&b) dissect discretionary accruals into current and non-current components. They found that discretionary accruals in the Modified Jones Model are primarily present in current (e.g. account receivables) rather than non-current (e.g. depreciation) items. Current accruals model is more likely to improve the test because systematic earnings management via the depreciation is likely to have limited potential (Beneish, 1999). Therefore, this paper focuses on the firm's current working capital accruals or discretionary current accruals. The discretionary current accruals are utilized as a proxy for earnings management. The paper looks into both directions of earnings management which are income-increasing and income-decreasing choices. To capture these two directions, absolute value of discretionary current accruals is being used, as suggested by literature (Bartov, 2001).

Current accruals (CA) are the change in non-cash current assets less the change in current liabilities. The change in non-cash current assets and current liabilities will be obtained for year 2001, 2002 and 2003 respectively. Total current accruals are the sum of both discretionary and non-discretionary accruals. To identify the non-discretionary accruals, the study needs to estimate ordinary least square regressions of current accruals on the change in revenue from the previous year.

In this paper, Modified Jones Model parameters are estimated by using the ordinary least square regression:

$$CA_{jt} / TA_{j, t-1} = \alpha_1 (1/ TA_{j, t-1}) + \alpha_2 (\Delta REV_{jt} / TA_{j, t-1}) \qquad (1)$$

Where, for industry j in year t: CA_{jt} = current accruals; $TA_{j, t-1}$ = lagged total assets; ΔREV_{jt} = change in revenues.

Using the coefficients which are α_1 and α_2 from the regression in Eq. (1), the paper estimates each sample firms' non-discretionary current accruals ($NDCA_{it}$). Estimation for the non-discretionary current accruals for firm i at time t, $NDCA_{it}$ as:

$$NDCA_{it} = \alpha_1 (1/ TA_{i, t-1}) + \alpha_2 [(\Delta REV_{it} - \Delta AR_{it})/TA_{i, t-1}] \qquad (2)$$

Where, for firm i in year t: $NDCA_{it}$ = non-discretionary current accruals; $TA_{i, t-1}$ = lagged total assets; ΔREV_{it} = change in revenues; ΔAR_{it} = change in trade receivables.

Then estimate the discretionary current accruals (DCA_{it}) as the remaining portion from current accruals. The model is as below:

$$DCA_{it} = [CA_{it} / TA_{i, t-1}] - NDCA_{it} \qquad (3)$$

Modified Jones Model is estimated using the cross sectional approach. For the cross sectional approach, the coefficient of α_1 and α_2 of Eq. (1) are industry and year specific rather than firm specific by time series method. The cross sectional model and the time series rely on different assumptions. The cross sectional model assumes that the correlation between non-discretionary and accrual determinants are determined by industry membership and current economic situation whereas the time series model assumes the correlation is determined by firm specific characteristics. Bartov *et al*. (2001) provide evidence that cross sectional approach performs better than time series. Compared to the time series accruals model, the cross sectional model has several advantages: (a) it generates a larger sample size to facilitate hypothesis testing; (b) the number of observations per model is greater for the cross sectional model, which enhances the efficiency and precision of the estimates; (c) the time series model suffers potential survivorship bias as it generally requires a minimum of 10 years observations to achieve a reasonable level of estimation efficiency (Dechow, *et al*. 1995); and (d) given the lengthy time period required by the time series model, it is possible for the model to be misspecified due to non-stationarity.

Measurement of Outside Directors and Institutional Shareholders

In the Malaysian Code on Corporate Governance, outside director refers to an independent director who does not have close significant family and business relationships with management and he or she is not a significant shareholder. This paper defines the outside directors (OUT) as independent non-executive directors as reported in the companies' annual report. Dummy variable of one is used to indicate the board structure which has at least 1/3 of independent directors and zero otherwise. The requirement of at least 1/3 of independent directors in the board by the Code as it provides the most effective board balance and no individual or small group of individuals can dominate the board's decision.

Ownership structure is measured through the proportion of shares owned by institutional shareholders to total outstanding shares. Institutional shareholders who have significant related party transactions with holding company such as subsidiary and affiliated companies are excluded. Organizations with strict fiduciary responsibility such as financial institutions, EPF, SOCSO, investment trust (including unit trust), insurance and assurance companies, Lembaga Urusan Tabung Haji, Permodalan Nasional Berhad and other nominee companies which are associated with the above categories of institutions are taken into consideration. Information is accessed from the company's annual report.

Control Variables

Based on prior research, earnings management might be influenced by other factors in addition to outside directors and institutional ownership. For the board's independent monitoring, the paper includes firm size to control for possible negative correlation between firm size and discretionary accounting choices (Christie, 1990). Book value of total tangible assets is selected as the proxy of firm size. B. Xie *et al*. (2003) document that firm size is significantly and negatively correlated with discretionary current accruals. This shows that larger firms are less prone to earnings management compared to smaller firms. However, Ronen and Sadan (1981) and Moses (1987) found a positive sign between these two variables. They argued that large firms which have huge earnings fluctuations attract public scrutiny. Watts and Zimmerman (1990), argue that large firms have more political cost. Therefore to reduce political attention, managers are more likely to manage the earnings. Based on the above documented evidence, the association between firm size and earnings management is inconclusive.

The board size is also considered in this paper as prior research showed that larger board size is associated with lower level of discretionary current accruals, this is because larger boards might comprise of greater number of experienced directors. However the result is inconclusive.

Board activity is selected as proxy by the number of board meetings. The study only included face to face board meetings as it is the only information available in annual report. Vafeas (1998) documented that written consent of the board involve less director action compare to face to face meeting and it is less favorable for effective monitoring.

However, for institutional ownership, control variables included size, leverage and cash flow from operating activities. Book value of total assets is being used as a proxy for firm size. A leverage ratio is used to proxy for a firm's debt covenant violation. Leverage is measured by the ratio of total liabilities to total assets (Cotter, 1998; Whittred and Zimmer, 1986). Press and Weintrop (1990) suggest that managers would favorably manage the earnings when their companies are highly leveraged.

In this study, cash flow from operating activities is also used as one of the control variables. Dechow (1994) discovered a negative relationship between cash flows and accruals. It is expected that firms with high level of cash flows are less likely to manage the accruals. The value of cash flows is estimated by dividing the cash flows from operating activities to lagged value of total assets.

Regression Models for Outside Directors

The following regression model is used to test the hypothesis that outside directors are effective in constraining earnings fraud:

$$ABDCA_{it} = ß_0 + ß_1\, OUT_{it} + \varepsilon_{it} \tag{4}$$

$ABDCA_{it}$ = absolute value of discretionary current accruals of firm i in year t; OUT = measurement of board monitoring quality for firm i in year t using the composition of outside directors as a proxy. This variable is measured using dummy variable that take the value of one if the outside directors composition is 1/3 or more than 1/3 of the board size and zero otherwise. In estimating the model in Eq. (4), $ß_1$ is expected to be significantly negative. Control variables of number of board meeting (MEET), board size (BSIZE) and the firm size (FSIZE) will be inserted into the following model:

$$ABDCA_{it} = ß_0 + ß_1\, OUT_{it} + ß_2\, MEET_{it} + ß_3\, BSIZE_{it} + ß_4\, FSIZE_{it} + \varepsilon_{it} \tag{5}$$

Regression Models for Institutional Shareholders

In general, institutional shareholders are proactive in monitoring firms in which they have invested large amount of funds. Institutional shareholders maintain frequent communication with their portfolio firm's senior management and participate in monitoring activities. Hence the relationship between institutional shareholders with earnings management is expected to be negatively correlated. The linear regression between institutional ownership and earnings management is as follows:

$$ABDCA_{it} = ß_0 + ß_1\, OWN_{it} + \varepsilon_{it} \tag{6}$$

$ABDCA_{it}$ = absolute value of discretionary current accruals of firm i in year t; OWN = measurement of institutional ownership monitoring for firm i in year t using the percentage of institutional shareholders as a proxy. In estimating the model in Eq. (6), $ß_1$ expects to be significantly negative. Control variables are included into the model to control for any confounding outcomes. The variables are the firm size (FSIZE), leverage level (LEV) and cash flow (CF). The model for evaluating the control variables is as below:

$$ABDCA_{it} = ß_0 + ß_1\, OWN_{it} + ß_2\, FSIZE_{it} + ß_3\, LEV_{it} + ß_4\, CF_{it} + \varepsilon_{it} \tag{7}$$

Regression Model for Board Structure and Institutional Ownership Structure

The multilinear regression for the joint influence of board and institutional monitoring on the earnings management is as follows:

$$ABDCA_{it} = ß_0 + ß_1\, OUT_{it} + ß_2\, MEET_{it} + ß_3\, BSIZE_{it} + ß_4\, FSIZE_{it} + ß_5\, OWN_{it} \\ + ß_6\, LEV_{it} + ß_7\, CF_{it} + ß_8\,(OUT_{it} \cdot OWN_{it}) + \varepsilon_{it} \tag{8}$$

The moderator variable $OUT_{it}.OWN_{it}$ is included in this equation so that the interaction effect of board structure and institutional ownership can be captured. The level of earnings management activities is expected to be negatively correlated with the number of outside directors, institutional ownership and the moderator variable $OUT_{it}.OWN_{it}$.

RESULTS

Descriptive Statistic

Table 1 summarizes the specific definition and expected sign for the variables. Table 2 provides summary statistic for the variables for total sample which come from construction, consumer products and industrial products sectors. The mean and median for absolute discretionary accruals (ABDCA) is 16.2% and 6.8% respectively. Three hundred and fifty firms conducted income-increasing discretional current accruals (INDCA) whereas two hundred and sixty three firms with income-decreasing discretional current accruals (DEDCA). The results are consistent with Beneish (2001) that firms are more likely to manage the earnings upward rather than downwards. The average INDCA for total sample is 15.43% whereas DEDCA is -17.23%. OUT is defined as proportion of outside directors in a board with mean and median of 36.83% and 33.33% respectively. The results comply with the requirement made by Malaysian Code on Corporate Governance which require at least one third (33.33%) of independent directors in a board. The mean and median for number of board meet (MEET) is 5 times. Section 4.44 of the Code states that it is difficult to make a company in control if board meets less than four times. Therefore average 5 times of meeting meets the requirement. Board size (BSIZE) for overall sample range from 3 to 17 persons with the mean and median of 8 directors in a board. There is no requirement which strictly determine the number of directors in a board. Firms just have to ensure there are sufficient numbers of directors in a board to conduct monitoring jobs. Log of total assets (LogASSET) ranges from 3.338 to 7.366.

The mean (median) of institutional shareholding is 12.35% (8.91%) with a range from 0% to 99.45%. The percentage of institutional shareholding is relatively low compared to that documented in developed countries that have more than 25% (R. Chung *et al*., 2002; P.S. Koh, 2003). Financial leverage ratio (LEV) has a mean of 58.18% with the median of 40%. The ratio is higher than the 33% documented by Shireenjit *et al*. (2003) in a Malaysian study. The cash flow performance (CF) of sampled firms (refer Table 1) has a mean of -49.87% which implies on average, net cash used in operating activities is negative.

Table 1 Variables description and expected direction for earnings management

Variable	Description and measurement	Predicted Direction
Dependent variable		
Earnings management (EM)	Discretional (abnormal) current accruals • absolute discretional current accruals (ABDCA)	
Hypothesis variables		
Outside directors (OUT)	• A dummy variable of 1 if the outside directors consist of at least 1/3 of total board size, 0 otherwise.	-ve
Institutional shareholders (OWN)	• Percentage of shares owned by institutional shareholders to total outstanding shares.	-ve
Control variables		
LogASSET	Natural log of book value of total tangible assets	-ve
BSIZE	Board size	-ve
MEET	Number of board meet	-ve
LEV	Financial leverage (total liabilities / total assets)	+ve
CF	Cash flow performance (cash flow from operating activities/total lagged assets)	-ve

Table 2 Descriptive statistics for the total sample

Variables	Mean	Standard Deviation	Median	Minimum	Maximum
ABDCA (N=613)	0.1620	0.5338	0.0680	0.0002	9.3925
INDCA (N=350)	0.1543	0.5179	0.0783	0.0015	9.3925
DEDCA (N=263)	-0.1723	0.5551	-0.0541	-0.0002	-6.2487
OUT	0.3683	0.1013	0.3333	0	0.8750
MEET	5.30	2.514	5	0	33
BSIZE	7.97	2.071	8	3	17
LogASSET	5.5711	0.5493	5.4880	3.338	7.366
OWN	0.1235	0.1288	0.0891	0	0.9945
LEV	0.5818	1.4378	0.4000	0.0046	24.8678
CF	-0.4987	9.9852	0.0575	-209.0105	1.0647

OUT is Proportion of outside directors; ABDCA is the absolute discretionary current accruals; INDCA is the income-increasing discretionary current accruals and DEDCA is income-decreasing discretionary current accruals.

Correlation Analysis

The correlation analysis helps to ascertain whether there is any multicollinearity problem among the independent variables. Based on standard criteria, the correlation value of less than 0.7 would not pose any serious multicollinearity problems and affect the validity of the findings. Table 3 shows that none of the correlation value exceeds 0.7. Hence there was no serious multicollinearity problem among the independent variables.

Table 3 Pearson correlation for independent variables

	ABDCA	OUT	MEET	BSIZE	LogASSET	OWN	LEV	CF	OUTOWN
ABDCA	1								
OUT	-0.042	1							
MEET	0.031	0.004	1						
BSIZE	-0.077	-0.198**	-0.103*	1					
LogASSET	-0.116**	-0.112**	-0.019	0.331**	1				
OWN	-0.041	-0.140**	0.043	0.280**	0.245**	1			
LEV	0.337**	-0.066	0.344**	-0.201**	-0.236**	0.086*	1		
CF	-0.169**	0.032	-0.039	0.109**	0.216**	0.052	-0.367**	1	
OUTOWN	-0.041	0.437**	-0.006	0.052	0.096*	0.631**	-0.082*	0.041	1

Note: Table 1 for variable definitions; * significant at 0.05 level; ** significant at 0.01 level; based on a two-tailed test

Regression Results for Board Structure

Table 4 provides the univariate ordinary least square regression results with absolute discretionary current accruals (ABDCA) as the dependent variable and outside directors (OUT) as the independent variable. Overall, OUT has a negative sign which is in line with expectation but not statistically significant. This implies that proportion of outside directors has no relationship with the level of earnings management. On sectorial basis, construction sector reports a weak negative relationship which is only significant at the 0.1 level.

Table 5 shows the multiple regression results for board structure. Overall, the estimated coefficient for OUT is negative and consistent with the expected sign but has weak evidence at 0.1 level with the t-value of -1.561. Among the control variables, only the firm size (LogASSET) portrays strong evidence which is significant at 0.001 level with the negative expected sign. This is consistent with the notion that larger firms are more scrutinized than smaller firms and hence has less incidence of earnings management.

Table 4 Board of director univariate regression results

$$ABDCA_{it} = ß_0 + ß_1 OUT_{it} + \varepsilon_{it}$$

Regressions	Constant	OUT	R^2	F	Durbin Watson
All (N=613)	0.202 (4.548)^	-5.26^{-02} (-1.035)	0.002	1.071	2.012
Construction (N=106)	0.177 (5.723)^	-5.36^{-02} (-1.460)*	0.142	2.131*	2.258
Consumer Products (N=171)	9.100^{-02} (4.728)^	-1.23^{-02} (-0.572)	0.002	0.327	1.747
Industrial Products (N=336)	0.260 (3.272)^	-6.50^{-02} (-0.715)	0.002	0.511	2.032

Note: Numbers in parentheses represent t-values
Variables are defined as follow:
ABDCA = Absolute discretionary current accruals
OUT = Dummy variable equal to one if proportion of outside directors are equal or more than 1/3 of total board size
* significant at 0.1
** significant at 0.05
*** significant at 0.01
^ significant at 0.001

On sectorial basis, OUT is only significant in the construction sector at 0.05 level with the expected negative sign. It supports the hypothesis that the presence of outside directors is able to reduce the likelihood of manager to manage earnings. Apart from that, control variable for number of board meetings (MEET) is also highly significant (t=3.345) in the construction sector at 0.001 level. However the positive sign of MEET is inconsistent with the expected sign. The evidence found that some of the firms which have high frequency of board meetings are due to their on-going restructuring scheme. Another possible evidence is that board meeting might be attended by most of the inside directors rather than outside directors.

Coefficient of LogASSET in consumer products and industrial products sectors show the expected negative sign. The LogASSET is highly significant at 0.01 level with the t-value of -2.725 in consumer products sector and -2.514 in industrial products sector. It supports the notion that large firms are subjected to more scrutiny and able to reduce earnings management practice.

Table 5 Board of director multiple regression results

$$ABDCA_{it} = ß_0 + ß_1\,OUT_{it} + ß_2\,MEET_{it} + ß_3\,BSIZE_{it} + ß_4\,FSIZE_{it} + ε_{it}$$

Regressions	Constant	OUT	MEET	BSIZE	LogASSET	R^2	F	Durbin Watson
All (N=613)	0.878 (3.745)^	-8.06^{-02} (-1.561)*	5.019^{-03} (0.585)	-1.33^{-02} (-1.192)	-0.103 (-2.489)^	0.020	1.979****	3.059
Construction (N=106)	5.172^{-02} (0.300)	-7.97^{-02} (-2.164)**	1.600^{-02} (3.345)^	-2.99^{-03} (-0.306)	1.253^{-02} (0.378)	0.135	3.925***	2.492
Consumer Products (N=171)	0.264 (2.775)***	-1.75^{-02} (-0.800)	8.230^{-03} (1.490)	4.583^{-03} (1.040)	-4.48^{-02} (-2.725)***	0.062	2.759**	1.769
Industrial Products (N=336)	1.580 (3.649)^	-9.67^{-02} (-1.059)	-9.10^{-03} (-0.573)	-2.67^{-02} (-1.573)	-0.187 (-2.514)***	0.033	2.785**	1.975

Note: Numbers in parentheses represent t-values
Variables are defined as follow:
ABDCA = Absolute discretionary current accruals
OUT = Dummy variable equal to one if proportion of outside directors are equal or more than 1/3 of total board size
MEET = Number of board meet
BSIZE = Board size
LogASSET = Firm size measured by the natural log of book value of total assets
* significant at 0.1
** significant at 0.05
*** significant at 0.01
^ significant at 0.001

Regression Results for Institutional Ownership Structure

The results for the univariate regression for the institutional ownership variable are shown in Table 6. Overall, the institutional ownership variable (OWN) has negative relationship with earnings management but not statistically significant at 0.05 level. On sectorial basis, OWN variable only provides weak evidence in the construction sector with the expected sign of negative at 0.1 level.

Table 7 reports the multiple regression results for institutional ownership. Using the full sample of 613 firms, institutional ownership (OWN) has expected negative sign, however the result is not statistically significant (t=-0.104) at 0.05 level. The findings indicate that in contrast to the evidence in developed markets, institutional shareholders in Malaysian firms are not an effective mechanism to constrain the earnings management. However, financial leverage (LEV) coefficient is highly significant (t=7.508) with the expected positive sign to ABDCA. This evidence is consistent with previous research on discretionary accruals choices (Dechow *et al*. 1995; DeFond and Park, 1997; Becker *et al*., 1998) which expect that managers of the firms are more likely to adopt aggressive earnings management when the firms approach their accounting-based debt covenant.

On sectorial basis, construction sector has a negative and significant (0.05 level) coefficient for the OWN variable. It supports the hypothesis that substantial institutional shareholding is able to mitigate the incidence of earnings management. The control variable of LogASSET in construction sector is marginally significant at 0.1 level with a positive sign, inconsistent with the expectation. However in the consumer products sector, LogASSET has a negative expected sign and statistically significant at the level of 0.05. Besides that, industrial products sector has a significant expected negative sign in LEV coefficient at 0.001 level.

Table 6 Institutional ownership univariate regression results

$$ABDCA_{it} = β_0 + β_1 OWN_{it} + ε_{it}$$

Regressions	Constant	OWN	R^2	F	Durbin Watson
All (N=613)	0.183 (6.125)^	-0.170 (-1.016)	0.002	1.032	2.014
Construction (N=106)	0.168 (7.375)^	-0.242 (-1.847)*	0.032	3.413*	2.057
Consumer Products (N=171)	8.106^{-02} (6.773)^	6.419^{-04} (0.010)	0.000	0.000	1.741
Industrial Products (N=336)	0.237 (4.409)^	-0.218 (-0.699)	0.001	0.489	2.033

Note: Numbers in parentheses represent t-values
Variables are defined as follow:
ABDCA = Absolute discretionary current accruals
OWN = Percentage of shares owned by institutional shareholders to total outstanding shares
* significant at 0.1
** significant at 0.05
*** significant at 0.01
^ significant at 0.001

Table 7 Institutional ownership multiple regression results

$$ABDCA_{it} = \beta_0 + \beta_1\, OWN_{it} + \beta_2\, FSIZE_{it} + \beta_3\, LEV_{it} + \beta_4\, CF_{it} + \varepsilon_{it}$$

Regressions	Constant	OWN	LogASSET	LEV	CF	R²	F	Durbin Watson
All (N=613)	0.266 (1.212)	-1.70-02 (-0.104)	-3.06-02 (-0.773)	0.116 (7.508)^	-2.51-03 (-1.136)	0.117	20.176^	1.993
Construction (N=106)	-0.115 (-0.612)	-0.335 (-2.327)**	5.035-02 (1.512)*	1.896-03 (0.073)	0.119 (0.565)	0.058	1.564	2.002
Consumer Products (N=171)	0.280 (3.228)***	4.024-02 (0.621)	-3.80-02 (-2.339)**	1.159-02 (0.374)	-6.77-04 (-0.033)	0.033	1.409	1.753
Industrial Products (N=336)	0.430 (1.037)	5.403-02 (0.180)	-5.56-02 (-0.744)	0.119 (5.571)^	-1.89-03 (-0.638)	0.123	11.612^	2.003

Note: Numbers in parentheses represent t-values
Variables are defined as follow:
ABDCA = Absolute discretionary current accruals
OWN = Percentage of shares owned by institutional shareholders to total outstanding shares
LogASSET = Firm size measured by the natural log of book value of total assets
LEV = Financial leverage
CF = Cash flow performance
* significant at 0.1
** significant at 0.05
*** significant at 0.01
^ significant at 0.001

Regression Results for Board Structure and Institutional Ownership Structure

Table 8 shows the multiple regression results for the joint effect of board and institutional monitoring on earnings management. In the overall sample, all the explanatory variables show the expected signs. Although OUT and OWN variables have expected negative sign, the results are not significant at the 0.05 level. Therefore for the sample analyzed, outside directors and institutional shareholders have no relationship with the practice of earnings management. Some possible explanations for this result are that outside directors and institutional shareholders might lack the financial sophistication to detect earnings management. Further, both parties may be a passive group in monitoring the firms. Also the presence of a large number of managerial shareholders may make it difficult for outside directors and institutional shareholders to effectively curb the earnings management.

Control variable for financial leverage (LEV) has expected positive sign and statistically significant at 0.001 level. The finding supports the notion that managers exercise the earnings management when the firms are closer to default on debt covenants (Press and Weintrop, 1990). Board meetings (MEET) also show expected negative sign which is significant at 0.05 level. The result is consistent with that reported by Vafeas (1998) which indicates that when boards meet more often they able to improve financial performance and reduce the incidence of earnings management. It gives an idea that an active board may be a better monitoring mechanism than an inactive board. Overall, all the independent variables are able to explain 12.5% of the variation in the mean of ABDCA.

From the regressions across the sectors, construction sector provides weak evidence in OUT variable with the expected sign of negative at 0.1 level. LEV has a negative sign which is not in line with expectation and marginally significant at 0.1 level. MEET variable having a positive sign which is also not in line to the expected sign, however the result is highly significant at 0.001 level. This is because some of the firms are undergoing a restructuring scheme, therefore the number of board meetings are more frequent.

For the consumer products sector, firm size (LogASSET) has a huge impact on earnings management. LogASSET variable portrays a negative expected sign which is significant at 0.01 level. However, MEET variable has a positive sign which is not consistent with expectation and is significant at 10 percent level.

In the industrial products sector, MEET variable achieves the expected negative sign and is statistically significant at 0.001 level. In addition, LEV also shows a significant (0.001 level) positive sign.

In conclusion, the monitoring role of outside directors and institutional shareholders in constraining the level of earnings management in Malaysian firms seem to be not as effective as that documented in developed countries. Nevertheless, the outside directors monitoring role still have some impact in reducing the earnings management practice in the construction sector.

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Table 8 Board and Institutional Ownership Structure Multiple Regression Results

$$ABDCA_{it} = \beta_0 + \beta_1 OUT_{it} + \beta_2 MEET_{it} + \beta_3 BSIZE_{it} + \beta_4 FSIZE_{it} + \beta_5 OWN_{it} + \beta_6 LEV_{it} + \beta_7 CF_{it} + \beta_8(OUT_{it} \cdot OWN_{it}) + \varepsilon_{it}$$

Regression	Constant	OUT	MEET	BSIZE	LogASSET	OWN	LEV	CF	OUTOWN	R2	F	Durbin Watson
All (N=613)	0.384 $(1.645)^*$	-3.50^{-02} (-0.521)	-1.91^{-02} $(-2.187)^{**}$	-1.92^{-03} (-0.176)	-2.77^{-02} (-0.676)	-1.75^{-02} (-0.066)	0.128 $(7.603)^\wedge$	-2.14^{-03} (-0.960)	2.888^{-02} (0.088)	0.125	$10.783^\wedge$	1.994
Construction (N=106)	3.335^{-02} (0.177)	-7.98^{-02} $(-1.590)^*$	1.914^{-02} $(3.638)^\wedge$	-6.00^{-03} (-0.591)	2.503^{-02} (0.705)	-0.216 (-0.662)	-5.31^{-02} $(-1.823)^*$	7.903^{-02} (0.385)	3.169^{-02} (0.094)	0.190	2.842^{***}	2.644
Consumer products (N=171)	0.233 $(2.378)^{**}$	-4.17^{-02} (-1.368)	1.073^{-02} $(1.851)^*$	6.933^{-03} (1.435)	-4.44^{-02} $(-2.577)^{***}$	-0.121 (-1.064)	4.348^{-02} (1.317)	-7.59^{-03} (-0.367)	0.155 (1.132)	0.078	1.709^*	1.798
Industrial products (N=336)	0.743 $(1.678)^*$	-9.49^{-03} (-0.079)	-5.42^{-02} $(-3.237)^\wedge$	-1.36^{-02} (-0.719)	-4.61^{-02} (-0.610)	0.210 (0.469)	0.151 $(6.262)^\wedge$	-6.97^{-04} (-0.234)	-6.95^{-02} (-0.115)	0.151	$7.267^\wedge$	2.012

Note: Numbers in parentheses represent t-values
Variables are defined as follow:
ABDCA = Absolute Discretionary Current Accruals
OUT = Dummy variable equal to one if proportion of outside directors are equal or more than 1/3 of total board size
MEET = Number of board meet
BSIZE = Board size
LogASSET = Firm size measured by the nature log of book value of total assets
OWN = Proportion of shares owned by institutional shareholders to total outstanding shares
LEV = financial leverage
CF = cash flow performance
* significant at 0.1
** significant at 0.05
*** significant at 0.01
^ significant at 0.001

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CONCLUSIONS

Overall, this study finds no evidence between the degree of earnings management with the proportion of outside directors and institutional shareholders in the industrial products and consumer products sectors. However, the findings provide weak evidence that outside directors can constrain the earnings management in the construction sector. This might be because construction sector is one of the sectors which has been badly affected by the economy downturn which resulted in significant non-performing loans. Hence this sector has been closely scrutinized by the authorities and shareholders.

There are a few possible explanations for the inefficient monitoring by outside directors and institutional shareholders in curbing the earnings management in Malaysia. Outside directors may lack the financial expertise required to detect the earnings management, therefore they would find it difficult to assess or analyse certain information. It means the board's effectiveness at monitoring the financial reporting process depends on the ability of outside directors to understand earnings management methods. In addition, outside directors in Malaysia may not be fully independent in the board. The outside directors may be close friends of the non-independent directors or the people in the board. Also the presence of dominant managerial shareholders may make it difficult for outside directors and institutional shareholders to effectively constrain the earnings management practices. Furthermore, passive or complacent attitude of outside directors and institutional shareholders may also lead to ineffective monitoring process in a firm.

The study observed that adding more outside directors and institutional shareholders in a firm may not improve the governance practices especially in firms with highly concentrated equity ownership. Apart from that, the process to select outside directors is not clearly stated and transparent, thus making it difficult to enforce good corporate governance practices.

Based on the findings of this study, it is recommended that the relevant authorities should focus on the equity ownership and the process of appointing external directors. This is especially relevant during economic downturns when firms may not performing and thus resort to manage their earnings to portray a better picture so as to maintain their share prices and their job security.

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