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## Earnings Management and Board Characteristics: Evidence from Malaysia

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### ABSTRACT

*The Malaysian Code of Corporate Governance was introduced to improve the monitoring function of the board of directors, audit committee and the external audit. This study assesses the effectiveness of some board characteristics to monitor management behavior with respect to their incentives to manage earnings. We found discretionary accruals as a proxy for earnings management is negatively related to management ownership, but positively related to the existence of CEO-Chairman duality, after controlling for size, leverage and performance. The result shows multiple directorships factor is negatively related to earnings management proxy only in firms with negative unmanaged earnings. This implies multiple directorships factor is effective to detect earnings management practices to avoid losses. Examination of the data also shows that the ratio of independent board members is not significantly related to earnings management in firms with duality status.*

### ABSTRAK

*Kod Tadbir Urus Korporat diperkenalkan di Malaysia untuk meningkatkan keberkesanan fungsi pemantauan lembaga pengarah, jawatankuasa audit dan audit luaran. Kajian ini menilai keberkesanan ciri tertentu lembaga pengarah dalam memantau kelakuan pihak pengurusan berhubung dengan insentif untuk mengurus perolehan. Kajian ini mendapati akruan boleh pilih (yang menjadi proksi kepada pengurusan perolehan) mempunyai hubungan yang negatif dengan pemilikan pengurusan, dan mempunyai hubungan yang positif dengan kewujudan CEO-Pengerusi berdwi-peranan, setelah mengawal faktor-faktor saiz, leveraj dan prestasi. Hasil kajian juga menunjukkan bahawa faktor pengarah berbilang mempunyai hubungan yang negatif dengan proksi pengurusan perolehan tetapi hanya bagi syarikat yang mencatatkan perolehan tidak diurus yang negatif. Keadaan ini menggambarkan faktor pengarah berbilang adalah efektif bagi mengesan amalan pengurusan perolehan yang bertujuan untuk mengelak kerugian. Pemeriksaan ke atas data juga menunjukkan nisbah ahli lembaga pengarah bebas tidak mempunyai hubungan dengan pengurusan perolehan dalam firma yang mempunyai CEO-Pengerusi berdwi peranan.*

### INTRODUCTION

After the Asian financial crisis in 1997, business community began questioning the effectiveness of corporate governance mechanisms within an organization. The crisis is followed by the two famous cases of Enron in 2001 and Worldcom in 2002. As a result, many believe that the existing corporate governance mechanisms are not able to provide sufficient control over the utility maximization behavior of managers through the practice of earnings management. In order to improve the monitoring function of corporate governance mechanisms in Malaysia, the Code of Corporate Governance was drafted in 1999 and subsequently approved in 2000 by the Ministry of Finance. The Code outlines some necessary conditions for the structure and functioning process of the board of directors, audit committee, and external auditors in safeguarding the interest of shareholders.

This study examines the effectiveness of board of directors in mitigating earnings management practice within the regulatory and business environments in Malaysia. The study investigates several board characteristics and evaluates whether these characteristics have any relationship with the practice of earnings management. In particular, this study attempts to determine the extent to which the board of directors is able to limit the incidence of earnings management in firms with duality role status as opposed to those without duality role status. We used earnings management definition suggested by Healy and Wahlen (1999: 368) as "... managers' use of judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers." In Malaysia, the research in this area is still lacking. Internationally, there is no single published research that has addressed the issue of the effectiveness of the board in monitoring the function of chairman-managers with respect to earnings management. In this regard, this study makes a significant contribution towards understanding the interacting role of board characteristics.

Compliance to the Code is not mandatory but disclosures of corporate governance statement are mandatory. However, any deviation from the best practice has to be explained in the annual reports (*Malaysian Code of Corporate Governance 2000*). The explanation on deviations from the best practice may give a bad signal to the market because it implies a poor management of the firm. Firms that intend to build a good image have to ensure that best practices outlined in the Code are complied. Thus, the disclosure requirement of corporate governance statement is in fact a mechanism to ensure compliance with the Code.

This paper is organized as follows. The next section discusses the regulatory background of the financial reporting in Malaysia and the introduction of Malaysian Code of Corporate Governance. This is followed by a discussion of past studies and development of hypotheses about the

expected associations between some corporate governance characteristics and earnings management. Next, the research method and data collecting process are described, followed by a discussion of the empirical results and sensitivity analyses. The paper ends with a conclusion.

## FINANCIAL REPORTING ENVIRONMENT IN MALAYSIA

The approved accounting standards issued by the Malaysian Accounting Standards Board (MASB) are basically developed based on the International Accounting Standards (IAS). In the early stage of the professional development, Malaysia modeled closely the UK financial reporting system with the emphasis given on the Companies Act 1965 in regulating the reporting practices (Takhiah et al. 2003; Tan 2000). The Companies Act 1965 of Malaysia deals with fundamental rules governing procedures for incorporation, constitutional structure and dissolution of companies. The Act through the Ninth Schedule, which was revised in 1985, prescribes the minimum disclosure requirements. The directors have to present to shareholders an audited profit and loss statements, an audited balance sheet, a director's report, a statement of changes in financial position and notes to the accounts. However, the Act does not make any reference to accounting standards issued by professional accounting bodies.

During this early stage, the Malaysian Institute of Accountants (MIA) and the Malaysian Institute of Certified Public Accountants (MICPA), then known as the Malaysian Association of Certified Public Accountants (MACPA), adopted the International Accounting Standards (IAS). In addition, customized Malaysian Accounting Standards (MASs) were issued to deal with domestic accounting specific issues. By 1997, a total of 24 IASs and 8 MASs were issued. However, there was no regulatory mechanism to enforce the compliance to these standards as mandatory (Tan 2000). A review mechanism was set up by both MIA and MICPA through their own Financial Statement Review Committee that conduct thorough reviews of financial statements prepared and audited by their members. Departures from approved standards may result in a formal enquiry being conducted and action may be taken if found guilty (Tan 2000).

In order to establish a regulatory mechanism, the Financial Reporting Act, 1997 was passed, under which the MASB was formed. The Financial Reporting Act (1997) sets out regulations about the financial reporting. It gives statutory power to the Malaysian Accounting Standards Board (MASB) to issue reporting standards and made compliance to the standards mandatory. The MASB was given the authority to issue, review, revise or adopt accounting standards. With the establishment of MASB, all IASs previously adopted are reviewed and revised or replaced by standards known as MASB accounting standards. Both the Financial Reporting Act 1997 and the Companies Act 1965

(Amended) make mandatory the compliance to MASB approved accounting standards. As in the case of IASS, the MASB accounting standards mainly prescribe principles that companies must adhere for the purpose of financial reporting. Unlike in the U.S. and U.K., however, where companies have to follow detailed rules, MASB standards do not prescribed detailed rules to be closely adhered with by the profession. MASB accounting standards provides flexibilities for managers to use their discretions in determining the reported earnings. Consequently, this flexibility creates an ambiguity among the practitioners in the implementation of a specific standard, hence, leads to more earnings management practices (Ball, Kothari & Robin 2000).

It is within the framework discussed above, accounting choices are selected. The selection of accounting choices to a large extent determines the quality of financial reporting. Choices of accounting methods and estimates enable the management to determine the level of income. Since the accounting income is often used in the contract between managers and shareholders, managers are predicted to have a strong intention to manipulate income numbers that would benefit them (Watts and Zimmerman 1986). For example, managers are found managing earnings upward to achieve a minimum level for bonus payment (Healy 1985). Since the manipulation is made within the boundary of permitted accounting treatments, this phenomenon cannot be classified as non-compliance or fraudulent reporting that can trigger actions by the authority. Therefore, it is the role of the board to ensure compliance with the standard as well as the choice of accounting methods and estimates that best reflect the underlying economic events.

## CHARACTERISTICS OF BOARD OF DIRECTORS

The responsibility to ensure compliance of accounting standards rests on the directors of the firm. Section 166A(3) of Companies Act 1965 clearly states that “[T]he directors of a company shall ensure that the accounts of the company and, if the company is a holding company for which consolidated accounts are required, the consolidated accounts of the company, laid before the company at its annual general meeting, are made out in accordance with applicable accounting standards.” The MASB (S. 165 (15c) adds that directors must also make a statement that the accounts are prepared in accordance to the approved accounting standards. However, this provision was made only after an amendment to the Companies Act in 1998. In addition, directors are required to state whether provisions, write-downs, and write-offs were adequately made and whether there are material, and unusual events or transactions which would render the amounts stated in the accounts.

In order to ensure compliance with the statutory requirements discussed above, the Securities Commission (SC) of Malaysia has issued a guideline dealing with the disclosure policy, obligations after listing and matters related

to accounting standards and valuation or revaluation of assets. The guideline requires companies to comply with accounting standards and the minimum disclosure requirement in the Companies Act 1965. Companies listed on the Bursa Malaysia (formerly known as Kuala Lumpur Stock Exchange) are also required to comply with the Listing Requirements. Similar to the SC requirements, the annual audited accounts have to be prepared according to approved accounting standards and the Ninth Schedule of Companies Act 1965. With effect from July 1999, other additional requirements are introduced such as submission of quarterly reports and disclosures of certain transactions including material contracts, breakdown of shareholders, and properties held.

In summary, directors are responsible to ensure financial statements are prepared according to approved accounting standards. It is noted that the applicability of accounting standards is very flexible. The management may choose an acceptable accounting method or estimate that is appropriate for the need of the organization. In this respect, the compliance with the accounting standards may not necessarily mean that financial statements are free from manipulation. Thus, the compliance of accounting standards as required in the SC Guidelines and the Bursa Malaysia Listing Requirements may reduce the propensity to manage earnings but may not eliminate the entire practice of earnings management. Therefore, it is important that the board of directors carry out its monitoring role effectively in order to ensure that financial reporting provides quality information to users by reflecting proper underlying economic substance of the company transactions.

In order for the board of directors to function effectively, certain characteristics are suggested within the structure of corporate governance. Efforts to develop better guidelines for the corporate governance in Malaysia have been intensified in the late 1990s. One of the Malaysian government initiatives was to introduce corporate governance into the regulatory framework with the objective of enhancing accountability and transparency by the management of company. The Finance Committee Report on Corporate Governance issued on 25 March 1999 sets out the Malaysian Code on Corporate Governance. The Code of Corporate Governance was gradually enforced on the listed firms by Bursa Malaysia in 2001 (Kuala Lumpur Stock Exchange changed its name to Bursa Malaysia in 2004).

The major component of the principles and best practices of good governance includes some benchmarks of board of director's characteristics (Table 1). The five main characteristics of board of directors refer to board composition, board size, directors' ownership, number of directorships and duality status of the chairman and CEOs. The extent to which these principles and best practices are effective in enhancing the credibility and quality of corporate reporting is still an empirical question. Therefore, this study attempts to examine this issue within the Malaysian context. The question remains

whether board of directors with certain characteristics can mitigate management to avoid losses. This study attempts to examine the relationship between the characteristics of board of directors and earnings management within the Malaysian environment. The study seeks to test whether independence of members of the board and other board characteristics can limit earnings management in firms with duality status compared to firms without duality status.

## LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

An important role of the board of directors (BOD) is to eliminate conflicts  
TABLE 1. Some best practices benchmarks of board of directors

Characteristics	Description of best practices
Chairman and Chief Executive Officer	There should be a clearly accepted division of responsibilities at the head of the company, which will ensure a balance of power and authority, such that no one individual has unfettered powers of decision. Where the roles are combined there should be a strong independent element on the board. A decision to combine the roles of Chairman and Chief Executive should be publicly explained.
Board size	Every board should examine its size, with a view to determining the impact of the number upon effectiveness. (There is no prescribed numbers of directors should be on the board).
Board composition	Non-executive directors should be persons of caliber, credibility, and have the necessary skill and experience to bring an independent judgment to bear on the issues of strategy, performance and resources including key appointments and standards of conduct. To be effective, independent non-executive directors need to make up at least one-third of the membership of the board.
Number of directorships	There is no prescribed limit on the number of directorships a manager can have. However, the nominating committee is advised to assess the suitability of the candidates based on the person's other commitments, resources and time available.
Director's ownership	There is no exact figure determined as the maximum ownership of the board of directors. However, significant ownership implies non-independence (para 4.23).

Source: Malaysian Code of Corporate Governance 2000.

between principal and agents (Fama & Jensen 1983). Conflicts exist when the principal or shareholders wish to get maximum wealth, whereas the agents or top managers wish to maximize their own compensation, wealth and rewards. Therefore, monitoring and controlling are devices to eliminate the conflicts (Fama & Jensen 1983; Jensen & Meckling 1976).

#### INDEPENDENCE OF BOARD OF DIRECTORS

The components within the board are essential ingredients for effective monitoring. The appointment of managers as directors (i.e. insiders) is important because they have more information about the organization compared to outside directors. However, domination by insiders may lead to transfer of wealth to managers at the expense of the stockholders (Beasley 1996; Fama 1980). Therefore, outside directors are appointed on the board mainly to obtain independent monitoring mechanism over the board process thereby reducing agency conflicts and improve performance (Craven & Wallace 2001). Consistent with this theory, results in prior studies suggest that outside directors are positively related to abnormal stock return (Rosentein & Wyatt 1990) and performance (Dalton et al. 1999) and negatively related to fraudulent reporting (Beasley 1996). Similarly, there is a negative relation between outside directors and earnings management (Klein 2002).

However, there are critics on the role of non-executive directors on the board. Some believe that they perform little role in monitoring the board because lack of real independence, time, as well as enough information (Gilson & Kraakman 1991; Patton & Baker 1987). We delineate the issue of non-executive directors by examining the role of independent and non-executive directors on the board. Of course, to be effective, independent non-executive directors should have both, strong incentives to monitor the board, and the capabilities to identify earnings management (Peasnell et al. 2000a). The need to maintain director's reputation in the competitive market for directors provides incentive for independent non-executive directors to monitor the board, failing which would increase the likelihood of dismissal (Fama 1980). In addition, there is no tangible benefit that accrues to the independent non-executive directors from earnings management. Peasnell et al. (2000a) report that independent non-executive directors have the capabilities to detect earnings management since most of them are familiar with financial reporting issues by holding senior management positions in other firms.

Therefore, we test the relation between the independent non-executive directors on the board and earnings management within the Malaysian context. The Companies Act 1965 requires every company to have at least two directors without any stated requirement on the composition of the board. A survey by KLSE/Price Waterhouse in 1998 shows almost half (49%) of the companies

have two independent directors and 23% have three independent directors. Directors independence is assessed from two perspectives: 1) the executive power (being part of the management); and 2) significant shareholding (para 4.23 Malaysian Code of Corporate Governance). The listing requirement in Malaysia clearly defines independent director as a director who is independent from the management, free from any business or other relationship which could interfere with the exercise of independent judgment. Therefore, the hypothesis stated in alternative form is as follows:

H<sub>1</sub>: *Ceteris paribus*, the ratio of non-executive and independent directors to total board members are negatively related to earnings management

#### CEO DUALITY

Another strand of research examined the role of CEO who is also the chairman of the firm. Prior research studies such as Gul and Leung (2004), Booth et al. (2002) and Ho and Wong (2001) refer this phenomenon as CEO duality, whereby one person assumes two roles (as a CEO and as a chairman). Agency theory suggests separation of duties may lead to efficient monitoring over the board process (Fama and Jensen 1983; Jensen 1993). In the absence of a separation between the chairman role (as oversight and governance mechanism) and the CEO role (as decision management) the monitoring function of the board over earnings management may be jeopardized because the CEO has more discretion to manipulate financial reports (Finkelstein and D'Aveni 1994). In such a firm, the CEO has more power over the board and firm without being supervised and evaluated by a chairman.

However, empirical findings do not consistently show a negative impact from duality. It was found that the change in duality status does not influence the market (Balinga, Moyer & Rao 1996). While Daily and Dalton (1997) found CEO duality status does not have significant effect on performance, Worrel, Nemec and Davidson (1997) document a negative relationship between CEO duality and firm performance, which is consistent to agency theory. In contrast to agency theory but consistent to organization theory, Finkelstein and D'Aveni (1994) suggest that some boards prefer duality because of coordination problem if CEO and chairman are separated. In addition, there will be less interference in the management of the firms with duality status and these firms can depend on strong boards to provide sufficient checks (Haniffa & Cooke 2002). However, Brickley et al. (1997) argue that while agency costs of having a CEO and chairman duality is eliminated, separation of the leadership structure introduces another cost i.e. cost associated with controlling the behaviour of non-CEO chairman. The issue of whether a strong board can monitor the behaviour of CEO-Chairman will be deliberated later in this paper.

In summary, it is still an empirical question of whether duality reflects poor



corporate governance in a firm that may result in higher earnings management in Malaysia. Due to the importance of this issue, the new Malaysian Code of Corporate Governance did not encourage the practice of CEO duality. As the best practice, both roles should be clearly separated (para 4.18 Malaysian Code of Corporate Governance). Since the investigation in this study is on the monitoring function of the board over earnings management and not the relationship between duality and performance, we follow agency theory for the prediction. Check and balance mechanism is important to detect earnings management. Consistent with agency theory, prior research studies predict a positive relationship between CEO-duality and earnings management (Xie et al. 2003). Hence, we hypothesize the following:

H<sub>2</sub>: *Ceteris paribus*, CEO duality is positively related to earnings management

#### SIZE OF BOARD OF DIRECTORS

Prior studies also suggest that there is a relation (although mixed) between firm performance and size of the BOD (Pierce & Zahra 1992). Smaller boards are argued to be more effective because they have less difficulty coordinating efforts (Jensen 1993; Yermack 1996; Eisenberg, Sundgren & Wells 1998).

However, larger boards are also claimed to have information and expertise advantage over smaller boards (Pierce & Zahra 1992). In bankruptcy context, failed firms are found to have smaller boards than survivor firms (Chaganti et al. 1985). In a study using meta analysis to aggregate results across 27 studies with 20,620 firms, Dalton et al. (1999) found that firm size has a positive relationship with firm performance. They argue that larger board has more external linkage, ability to extract critical resources such as funding, and expertise or experience in running the business and these attributes could lead to higher performance. Since Dalton's et al. (1999) study used aggregated results across many studies, it serves as an important landmark in determining the direction of board size-performance relationship.

Our study explores the role of BOD size in mitigating earnings management. Consistent to resource dependence theory and Dalton et al. (1999), we hypothesize that there should be a negative relation between the size of the board and earnings management practices in Malaysia, as follows:

H<sub>3</sub>: *Ceteris paribus*, the size of the board is negatively related to earnings management

#### MULTIPLE DIRECTORSHIPS

The market for directors provides incentives for outside directors to be a good monitor over the management of a firm (Fama 1980). The reward is the offer of additional directorships. Therefore, Beasley (1996) used multiple directorships as a measure of the reputation of a director in monitoring

managers. From this point of view, multiple directorships should be negatively related to earnings management.

On the other hand, multiple directorships may also results in less time for effective monitoring (Morck, Shleifer & Vishny 1988), thus more earnings management can be expected. However, the maximum number of directorships that a director can hold without jeopardizing his/her ability to monitor is not mentioned anywhere in the literature. In line with this argument, Bursa Malaysia issued Practice Note 13 (PN13) in 2002. The Practice Note states that for a listed firm, the maximum number of directorships is ten in public listed firms and fifteen in private limited firms. Therefore, the probability to find a director with excessively many directorships is expected to be lower only after the introduction of this requirement in 2002. Hence, with the maximum number of directorships being imposed, the negative effect of multiple directorships is expected to be reduced.

We include this variable to test whether multiple directorships do in fact influence earnings management. Since the period under study is before the implementation of PN13, multiple directorships can influence earnings management in both ways, thus the following hypothesis:

H<sub>4</sub>: *Ceteris paribus*, multiple directorships is related to earnings management

#### MANAGERIAL OWNERSHIP

Jensen and Meckling (1976) argue that separation between stock ownership and control over public firms creates conflict of interests between managers and stockholders. The conflict arises when managers have the incentives to increase their own wealth (for example through maximization of bonuses) at the expense of shareholders. As the proportion of managerial equity ownership increases, the interests of the shareholders and managers start to converge. Consistent with this theory, Demsetz and Lehn (1985) found a positive relationship between firm performance and managerial ownership structure. In addition, Warfield, Wild and Wild (1995) found a negative relationship between managerial ownership and earnings management. Result in Beasley (1996) reveals that as outside directors' ownership increases, financial statement fraud decreases.

It is a duty of the chief executives and directors of a listed company to disclose their interests in the company to the SC failing which may result in a criminal sanction of up to RM1 million or imprisonment of up to 10 years, or both (Section 99B of the Securities Industry Act 1983). As such, the data on directors' ownership is readily available from annual reports. The following hypothesis is therefore developed:

H<sub>5</sub>: *Ceteris paribus*, managerial ownerships is negatively related to earnings

management

#### EARNINGS MANAGEMENT TO AVOID LOSSES

Burgstahler and Dichev (1997) in the U.S. and Norman, Takiah and Mohd Mohid (2003) in Malaysia have examined the distribution of earnings and found there is discontinuity around zero. The result indicates there is a tendency for managers in Malaysia to use accruals in order to avoid reporting losses and earnings decreases. This study extends the findings by examining whether certain board characteristics can limit or promote such behavior. We identified firms that have negative unmanaged earnings (earnings – discretionary accruals). These firms are expected to have a strong incentive to manage earnings upward in order to report a positive earnings figure. We examine whether good board characteristics work as effective mechanisms in these firms compared to firms that have weaker incentives to manage earnings. In other words, we test whether managerial incentives have a moderating effect on the relationship between board characteristics and earnings management practices. We expect the relationship between board characteristics and earnings management proxy is stronger in firms with strong managerial incentives to manage earnings compared to firms with weak incentives. Thus, we hypothesize the following:

H<sub>6</sub>: *Ceteris paribus*, the relationship between board characteristics and earnings management is stronger in companies with negative unmanaged earnings than in those with positive unmanaged earnings.

#### INTERACTION BETWEEN CEO DUALITY AND OTHER BOARD CHARACTERISTICS

The Code also requires that in the case when both CEO and chairman roles are combined, the board should have strong independent members and it should be publicly explained. Therefore, we also test this requirement, whether independent members and other board characteristics can limit earnings management in firms with duality status. This interaction factor may be the explanation for inconsistent results found in previous research studies (such as Daily & Dalton 1997; Worrel, Nemec & Davidson 1997).

There could be other strong board characteristics exist in firms with CEO duality status and serve as an effective monitoring mechanism over the board. Under this situation, it could lead the study to find no significant relationship between CEO duality status and earnings management proxy because strong board characteristics may have successfully eliminated earnings management. In contrast, firms may not require having strong board characteristics when CEO and chairman roles are separated because sufficient control mechanism is already in place. This substitutability role of board characteristics is discussed in Pierce and Zahra (1992) and Agrawal and Knoeber (1996). Therefore,

H<sub>7</sub>: *Ceteris paribus*, the relationship between board characteristics and earnings management is stronger in companies with CEO duality than in those without CEO duality status.

## RESEARCH METHOD AND DATA

Earnings can be managed using real transactions such as asset sales and/or accelerating or deferral of revenue and expenses using accounting methods and estimates (Peasnell et al. 2000b). The effect of the latter method accumulates in accruals. One advantage of using accruals to manage earnings is that it is difficult and costly for the users to unravel accounting numbers in order to make economic decisions. Therefore, accruals are more likely to be used by managers to manage earnings than structuring actual transactions. We follow recent research studies in earnings management by focusing on accruals manipulation (Klein 2002; Xie et al. 2003). We use the definition by Healy and Wahlen (1999) throughout the paper that earnings management reflects opportunistic behavior of the management. Nevertheless, we acknowledge that some accounting choices and estimates may be used to signal private information.

Prior research often partitions total accruals into accruals that result from managerial discretion (discretionary) and those which are not (non-discretionary). The partitioning components of total accrual (TACC) into non-discretionary accruals (NDAC) and discretionary accruals (DAC) for firm  $i$  can be summarized as follows:

$$TACC_i = NDAC_i + DAC_i \quad (1)$$

Total accruals for firm  $i$  are computed as the difference between income before tax and extraordinary ordinary items (EARN) and operating cash flows (OCF):

$$TACC_i = EARN_i - OCF_i \quad (2)$$

This study utilizes the model referenced by many accruals management studies, that is, Jones (1991) model. This model explicitly control for firms' performance. In addition, among competing models, Dechow, Sloan and Sweeney (1995) and Guay, Kothari and Watts (1996) provide evidence that this model outperform other models in detecting induced manipulations. This expectation model for non-discretionary accruals is given in the following equation:

$$TACC_i / A_{i-1} = \alpha_1(1/A_{i-1}) + \alpha_2(\Delta REV_i / A_{i-1}) + \alpha_3(PPE_i / A_{i-1}) + v_i \quad (3)$$

However, there are several drawbacks of the model that are worth noting. One of the main disadvantages of the original Jones (1991) is survivorship bias. Time series estimation needs only firms with sufficient time-series data to be included in earnings management research. For example, Jones (1991) selects firms with at least 10 time series data points for estimation. This requirement leads earnings management studies to select only well established firms (usually large in size), while earnings management may also exist in newly established and small firms.

In addition to the survivorship bias, there are other concerns about the original time-series formulation. In summary, it includes: 1) serial correlated residuals, that is self-reversing property of accruals that may induce specification problems to the Jones and modified Jones models (Peasnell 2000b); 2) the coefficient estimates on the change in revenue ( $\Delta REV$ ), and the property, plant and equipment (PPE) variables are unlikely to be stationary over time; and 3) there are also confounding effects in the estimation periods, which are unrelated to earnings management (Dechow et al. 1995; Guay et al. 1996).

Therefore, to deal with the survivorship bias and non-stationary of data over time, this study adopts a cross-sectional version of Jones (1991) model as suggested by DeFond and Jiambalvo (1994), Subramanyam (1996), and Peasnell et al. (2000a and 2000b). The above equation is estimated cross-sectionally for each industry portfolio utilizing all firms listed on the KLSE industrial classifications (Rees, Gill & Gore 1996; Subramanyam 1996; Young 1995; Kasznik 1999). The abnormal accruals (DAC) are determined as the prediction errors ( $u_i$ ). These abnormal accruals are also identified as the proxy for earnings management in the hypotheses.

The cross-sectional version of the models improves the power of the model to detect manipulation due to increased observations (Jeter & Shivakumar 1999; Bartov, Gul & Tsui 2001). The cross-sectional regression in each industry portfolio also eliminates industry-specific effects when the accruals behavior and the impact of the economy vary across industries. However, the cross-sectional version of the models has several weaknesses, for example, it is less probable that the models will capture: 1) mean reversion in accruals; 2) dynamic accrual management strategies; and 3) industry-wide earnings management (Peasnell et al. 2000b).

One main difference of this study from previous studies is in the use of net PPE level at the end of the period because the gross value of PPE is not available from the database. To get a gross PPE, it is necessary to undertake a lengthy process of calculation from the information available in the actual annual report, which is not available in many cases. Furthermore, depreciable buildings are reported together with non-depreciable land as one-line item in the notes. Nevertheless, Culvenor, Godfrey and Byrne (1999) find that the net

PPE is a good surrogate for the gross PPE for earnings management research. DAC is then regressed on identified factors in the previous section. We run one regression on board of director variables controlling for size, leverage and performance (descriptions about all variables are shown in Table 2).

Hypotheses are tested using a multivariate regression model. We include *Extbrd* as the ratio of independent non-executive directors to total members on the board, to measure the independence of the board. Since the Code specifies firms to disclose the type of board members in the financial reports, the data is extracted manually from the annual reports. The duality as represented by *Duality* is a dummy variable, being 1 for firms with duality status, and 0 otherwise. The size of the board (*Sizebrd*) is measured by the actual number of members on the board. We use the effect of multiple directorships using *Multidir*. This variable is measured as the ratio of members on the board

TABLE 2. Variables definition and operationalization

Variables	Definition	Operationalization	Expected association
1. Size	A proxy for political cost	Log 10 of total assets	-
2. Perform	Operating performance	Return on total assets at t-1	+
3. Lev	Leverage	Log 10 of the debt to total assets ratio	+
4. Duality	CEO-Chairman duality	Dummy variable being 1 for firms with CEO-Chairman duality and 0 otherwise	+
5. Extbrd	A proxy for board independence	External members to total board members	-
6. Sizebrd	The size of board of directors	Total number of directors on the board	-

with multiple directorships (more than two directorships) to total members. We do not use a more precise measure such as the average number of directorship held by the members because the information may not be appropriately disclosed. Thus, we have doubt about the completeness of the data. Management ownership (*Mgtown*) is measured as the actual percentage of total ownership held by the management.

Control variables are also included in these models as earnings

management represented by *DAC* are found to be related to size, performance and leverage (Young 1998). Consistent with political cost hypothesis (Watts & Zimmerman 1986), larger firms are expected to adopt more income decreasing accruals to reduce political vulnerability. Thus, *DAC* is predicted to have a negative relationship with size.

According to debt covenant hypothesis, firms near to violate their debt covenant are expected to adopt income-increasing accruals in order to avoid covenant violation (DeFond & Jambalvo 1994; Watts & Zimmerman 1986). Therefore, *DAC* is expected to have a positive relationship with a measure of the proximity to debt covenant. The variable often used as proxy is leverage (Duke & Hunt 1990). In this study, we include *Lev* (debt to total assets ratio) in the multivariate regression.

Although Jones (1991) model explicitly controls for firm performance through  $DREV_i$ , Dechow et al. (1995) and Kasznik (1999) suggest that firm performance tends to have a positive relation with *DAC*. Without appropriately controlling for performance, *DAC* may simply reflect changes in the sample firm's performance. Thus, performance (*Perform*) measured as the prior period's operating profit before tax divided by the book value of total assets at the end of the period is included in the analysis.

The model is as follows:

$$\text{Model: } DAC_i = \alpha_1 + \alpha_2 \text{Size}_i + \alpha_3 \text{Perform}_i + \alpha_4 \text{Lev}_i + \alpha_5 \text{Duality}_i + \alpha_6 \text{Extbrd}_i \\ + \alpha_7 \text{Sizebrd}_i + \alpha_8 \text{Multidir}_i + \alpha_9 \text{Mgtown}_i + e_i$$

Data required for *DAC* estimation was collected from Datastream, while corporate governance data was collected based on actual published annual reports downloaded from the Internet. The link to published annual reports is available from the Kuala Lumpur Stock Exchange (KLSE) announcements web site. We use data from year 2001 soon after the disclosure about Malaysian Code of Corporate Governance was mandated. We acknowledge that the non-adoption of the code in this year may influence the results. We then match *DAC* data from Datastream with the corporate governance data manually collected. This procedure yields 561 firms with complete data. The industry distribution of this final data set is presented in Table 3. Since the distribution shows some industry concentration, the effect was controlled in the estimation of *DAC*. In addition, we also test the stability of the multiple regression result utilizing industry dummy variables. Consistent with prior studies (for example, Peasnell et al. 2000a; 2000b), we exclude firms in the Finance industry since the industry is highly regulated and the behavior of accruals differs from other industries.

## RESULTS

The estimation of DAC was made according to industry portfolio separately. The mean coefficient on DREV is 0.146 with all industries exhibit a positive association to DAC. For the PPE, the mean coefficient is  $-0.193$  with five out of seven estimations have a negative association to DAC. These results are consistent with DeFond and Jiambalvo (1994). The descriptive statistics of DAC are given in Table 4.

Average DAC stood at  $-0.007$ , while the median is 0.016 from prior year's total assets. Examination of the skewness and kurtosis shows significant non-normality exists. This conclusion is reached after testing the distribution

TABLE 3. Industry distribution of the data

Industry	Data included in the analysis
Construction	58
Consumer products	92
Industrial products and technology	194
Plantation and mining	33
Properties	60
Trading and services	124
Total	561

using the Jarque-Bera test. Winsorizing the data to the same value at 1% and 99% as well as trimming the top and bottom 1% of the data decrease the Kurtosis significantly but the non-normality problem remains. Therefore, in order to use the estimated DAC, we use normalization procedure described in Cooke (1998) following Van der Waerden approach. This procedure effectively assigns ranks to non-normal data and transforms ranks with numbers on normal distribution.

Table 4 also shows the descriptive statistics of the continuous variables

TABLE 4. Descriptive statistics of continuous variables (n=561)

Variables	Mean	Median	Standard Deviation
DAC	-0.007	0.016	0.166
Size	5.460	5.345	0.592
Perform	-0.002	0.022	0.096
Lev	-0.912	-0.808	0.716
Extbrd	0.589	0.571	0.191
Sizebod	7.560	7.000	2.168
Multidir	0.568	0.667	0.317
Mgtown	0.103	0.020	0.158

Note: All variables are defined in Table 2.



used in the regression. It appears from the Table that about 57% to 59% of the board members are non-executive from an average total number of the board members, between seven to eight persons. More than half of these members have multiple directorships. The data also shows that nearly 45% of the firms have their chairman who also acts as CEO (duality). This result is lower compared to the results in U.S. studies. In the U.S., Brickley et al. (1997) and Xie et al. (2003) found more than 80% of their sample firm-years have CEO duality.

Correlations between independent variables are given in Table 5. The association between two continuous variables is assessed using Pearson correlation, between a continuous variable and a binary variable using point biserial correlation and between two binary variables using Phi correlation (Welkowitz, Ewen & Cohen 1991).

Table 5 shows that there are some significant correlations among the independent variables. The highest correlation is between Perform and Lev is  $-0.519$  ( $p < 0.050$ ), suggesting better performing firms have lower leverage. The correlation between Extbrd and Duality is also significant (with correlation coefficient  $-0.396$ ). This correlation shows that as the ratio of independent members on the board increases, the occurrence of CEO duality decreases. This result implies that with more effective external monitoring, the internal monitoring mechanisms also improve. We include these variables in one regression since the correlation is not too strong (lower than 0.700). However, Variance Inflation Factor (VIF) tests were carried out.

Table 6 shows the multivariate regressions of DAC on the independent variables described earlier. All models exhibit a significant relationship between

TABLE 5. Correlations of independent variables (n=561)

	Size	Perform	Lev	Duality	Extbrd	Sizebod	Multidir	Mgtown
Size	1.000							
Perform	0.218***	1.000						
Lev	-0.182***	-0.519***	1.000					
Duality	-0.149***	-0.043	0.070	1.000				
Extbrd	0.136***	-0.018	-0.034	-0.396***	1.000			
Sizebod	0.325***	0.332***	-0.219***	-0.111***	0.000	1.000		
Multidir	0.193***	0.075	-0.124***	-0.094**	0.059	0.100**	1.000	
Mgtown	-0.192***	0.114**	-0.014	0.118***	-0.161***	0.036	-0.122***	1.000

DAC and Size, Perform and Lev. This result supports earlier studies that more income decreasing accruals is associated with larger sized firms i.e. political costs hypothesis, and more income increasing accruals is associated with lower leverage firms i.e. debt covenant hypothesis (Zmijewski & Hagerman

1981; Lilien & Pastena 1982; Skinner 1993). The coefficients are between  $-0.168$  and  $-0.501$  for Size, and between  $0.176$  and  $1.312$  for Lev, all of which have  $p < 0.010$ . Theoretical foundations for these predictions are found in Watts and Zimmerman (1986). We acknowledge that Jones (1991) model may not fully capture the changes in accruals that are related to the changes in performance. Thus, we incorporate a variable to control for this effect in all regressions. Consistent to our concern, it appears from the result that Perform is positively related to DAC.

Unlike the result in Xie et al. (2003), we found CEO-Chairman duality to have significant influence on earnings management. The difference in the result may be due to the high proportion of firms with duality in the U.S. (more than 80%) to the extent that it may not capture variance in the DAC. The coefficient on Duality is  $0.153$ , significant at  $p < 0.010$ . Thus,  $H_2$  is supported. This finding reflects the need to strengthen the compliance to the Code that relates to the duality status of the BOD. Although the Code clearly restricts managers from holding these two posts, duality persists in practice, and the CEO-Chairmans are managing earnings more than firms with the two roles separated.

Consistent with prior research, we found a negative coefficient on management ownership ( $-0.744$ ,  $p$ -value  $< 0.010$ ). This result supports  $H_5$ . The result suggests less earnings management practices as the managements' and shareholders' interests converge.

The relation between DAC and Extbrd is however, not significant, thus  $H_1$  is not supported. However, this result is consistent to the argument by Monks and Minow (1995) that independent non-executive directors have no significant economic ties to the firm beyond their job as directors. This implies that to be an interested and effective director, they should hold shares in the firm.

The adjusted  $R^2$  is 22.3% indicating that only a marginal portion of the variability of DAC is explained by the independent variables. This figure is however, normal for any earnings management studies utilizing discretionary accruals as proxy (Peasnell et al., 2000a). The highest Variance Inflation Factor is only 1.403 suggesting there is no serious multicollinearity problem. Kennedy (1998) suggests VIF of more than 10 indicates harmful collinearity.

Since results in Norman, Takiah and Mohid (2003) show that firms are managing earnings to avoid reporting losses, we test the relationship between board characteristics and earnings management proxy on sample partitioned according to positive and negative unmanaged earnings (UME). We measure unmanaged earnings as reported earnings before tax and extraordinary items minus DAC. We expect that earnings management to avoid reporting losses only occur in sub-sample UME less than zero. Therefore, the relationship between board characteristics and earnings management is stronger in companies with negative UME than in those with positive UME ( $H_6$ ).

TABLE 6. Results of multiple regression

	Expected sign	All				Duality = 1		Duality = 0	
		UME < 0	UME > 0	UME < 0	UME > 0	UME < 0	UME > 0	UME < 0	UME > 0
Constant	?	1.449*** (3.681)	2.168*** (5.087)	-0.423 (-0.981)	1.871*** (3.217)	1.306*** (2.507)			
Size	-	-0.226*** (-3.277)	-0.258*** (-3.380)	-0.014 (-0.193)	-0.302*** (-2.847)	-0.177** (-1.906)			
Perform	+	0.554*** (11.905)	0.945*** (18.270)	0.516*** (9.595)	0.641*** (8.437)	0.499*** (8.293)			
Lev	+	0.139*** (2.298)	0.134** (1.800)	-0.023 (-0.410)	0.255*** (2.451)	0.077 (1.026)			
Duality	+	0.153** (1.882)	0.094 (1.089)	0.021 (0.239)	-	-			
Extbrd	-	0.089 (0.421)	0.397*** (1.755)	-0.241 (-1.057)	0.395 (1.086)	-0.120 (-0.456)			
Sizebod	-	-0.009 (-0.503)	-0.016 (-0.805)	-0.000 (-0.002)	-0.003 (-0.105)	-0.014 (-0.533)			
Multidir	+/-	-0.092 (-0.771)	-0.246* (-1.992)	0.077 (0.590)	-0.055 (-0.304)	-0.087 (-0.544)			
Mgtown	-	-0.744*** (-3.045)	-0.464* (-1.500)	-0.321* (-1.393)	-0.578* (-1.618)	-1.012*** (-2.965)			
Adj R		0.223	0.567	0.321	0.238	0.203			
F-Stat		21.116***	51.801***	15.727***	12.156***	12.253***			
N	561	310	249	251	310	310			

Note: The dependent variable is discretionary accruals, ranked and normalized using Van der Waerden approach. All variables are defined in Table 2. Figures in parentheses are t-statistics except otherwise stated. \*\*\*p<0.01; \*\*p<0.05; \*p<0.10.

The sample was partitioned according to negative and positive UME results resulting in 249 firms with positive UME and 310 firms with negative UME. Two firms with UME equals zero were excluded from the analysis. The results in the second column of Table 6 show that Multidir and Size are significantly negatively related to earnings management proxy only in negative UME firms. This result suggests the experience of directors with multiple directorships only play their active role in mitigating earnings management in firms that recorded negative unmanaged earnings. This could be due to the risk of director replacement is higher in loss making firms than their profit making firms (Gilson 1990). Thus, in the market for directors, earnings management attempt would tarnish their own image and put their future at risk.

However, in contrast to our earlier expectation, we found a positive association between Extbrd and DAC in negative UME firms. The result suggests the higher the ratio of independent non-executive directors on the board, the higher the DAC. We examine this issue further in the additional analysis section.

With regards to the effectiveness of board characteristics to mitigate earnings management in firms with CEO-Chairman duality status ( $H_7$ ), the results are presented the Table 6 (column 5 and 6). Similar regression was run on the sample partitioned according to duality status of the firm. The results show that board independence is not significant in both sub-samples. This suggests the requirement stated in the Code that firms need to have a strong independent directors when duality exists is not effective to mitigate earnings management. However, we also acknowledge that strong independent members of the board may not simply be translated into the ratio of independent non-executive members to total board members. Strong members may imply dominant and active independent members. Investigation into this issue is subject to further in-depth research utilizing other methods and measurements.

However, Lev is not significant in firms without duality status. This indicates that firms do not use accruals to increase earnings to avoid covenant violation when their CEO and Chairman roles are separated. In contrast, Lev has significantly positive relation to earnings management in the sub-sample with duality status.

## SENSITIVITY AND ADDITIONAL ANALYSES

To assess the stability of the results, regressions were run without using normal transformation stated earlier. However, the data was trimmed at the top and bottom 1%. The results of the corporate governance variables are qualitatively similar to the one reported in Table 6. Alternatively, we also use winsorizing technique to deal with outliers. Winsorizing does not eliminate outliers but

limits their effects. We winsorized the data to a point that is equivalent to the value of 1% and 99% of the ranked data. The result is also stable.

We also assess the effect outliers using RSTUDENT, COVRATIO and DFFITS based on regressions of original data. An observation is deemed to be influential and deleted if it has  $RSTUDENT > 2$ ,  $|COVRATIO - 1| \geq 3 \sqrt{p/n}$  and  $DFFITS \geq \sqrt{2(p/n)}$  where  $p$  is the number of parameter and  $n$  is the number of observations. Utilizing this procedure, we deleted 7 observations from the model. The Adj  $R^2$  increases to 25.2%. The result is qualitatively similar to the one previously reported. The effect of heteroscedasticity is controlled using White's (1980) procedure. The White's (1980) adjusted t-statistics show that all results are similar to earlier estimations.

The effect of industry concentration mentioned earlier was also assessed using industry dummy variables. Adj  $R^2$  increases to 23.3% and there are two industries, which show significant association to DAC. The most significant industry is Consumer Products, with  $-0.426$  ( $p < 0.005$ ), followed by Trading and Services ( $-0.364$ ,  $p < 0.010$ ). Construction industry variable was excluded from the regression and all other industries recorded a negative coefficient. These results may imply that compared to the construction industry, all other industries recorded more negative DAC. This could be due to firms in the construction industry may have just recovered from a crisis which gave a great impact on the industry. Therefore, these firms may experience a reversal of negative accruals as well as accumulating positive accruals in the growth period. All variables found significantly related to DAC in earlier result remain unchanged.

The Malaysian Code of Corporate Governance requires firms to have at least one-third of the board represented by independent non-executive directors (para 4.22 Malaysian Code of Corporate Governance). On average, Malaysian firms have surpassed this threshold before the Code was issued. Haniffa and Cooke (2002) report the mean (median) ratio of independent non-executive directors to total board members in 1995 is 45% (43%). Nevertheless, we test whether the magic number (one-third threshold of representation by independent non-executive directors) do have significant influence on earnings management. We use a dummy variable to represent firms with more than one-third independent non-executive directors. The result shows insignificant relationship between the dummy variable and earnings management. This suggests one-third threshold of independent non-executive directors is not an effective measure to achieve board independence.

Since we found a positive association between Extbrd and DAC in negative UME firms, we investigated this issue further. For firms with a negative UME, their DAC may be positive and negative. Positive DAC may imply their intention to avoid losses, whereas negative DAC may indicate manager's intention to

take a bath. We suspect the unexpected result could be driven by independent directors successfully limit big bath practice using DAC (higher proportion of independent directors associated with higher DAC). Therefore, we partitioned negative UME firms according to positive (217 firms) and negative (94 firms) DAC. We found results consistent with our concern. The coefficient on Extbrd is only significantly positive in firms with negative DAC (0.604,  $p < 0.010$ ). In contrast, the coefficient for Extbrd in firms with positive DAC is 0.040, not significant at conventional level. The results imply that in firms with negative DAC, the higher proportion of independent directors the higher the DAC (becoming less negative). This result manifests independent directors successfully limit big bath practices in negative UME firms.

We explore the possibility of Extbrd variable may not capture the role of independent non-executive directors when they act as majority in the board meeting. These directors may not be effective to control the board's decision when they are the minority compared to the situation when they are the majority. In addition, Klein (2002) found the most appropriate cut off level for directors' independence is at 51%. Compared to other cut off points, director's independence using the 51% level produces the highest relationship with discretionary accruals. Therefore, we test whether director's independence is better proxied by a majority representation using this cut off point (BRD51). We replaced Extbrd with BRD51 and re-run the regression. The result shows that BRD51 is not significant with coefficient 0.056 and  $p = 0.474$ . This result suggests that board's independence does not have any influence on earnings management in Malaysian firms.

## CONCLUSION

As a response to the recent financial crisis, the Malaysian Code of Corporate Governance was introduced to improve the monitoring function of the board of directors, audit committee and the external audit. This study assesses the effectiveness of some governance characteristics to monitor management behavior with respect to their incentives to manage earnings. We also examine the effectiveness of board characteristics when the incentives to avoid losses are strong. This study also extends prior research by focusing on the relationship between earnings management and board characteristics in firms with and without duality status.

We found discretionary accruals as a proxy for earnings management is negatively related to management ownership but positively related to the existence of CEO-Chairman duality. The findings indicate there is a need to strengthen these elements of corporate governance. The Bursa Malaysia has to enforce the requirement to have separate chairman and CEO roles. However,

regulators cannot force managers of firms to hold the firm's stock. Other than their own willingness to buy the firm's shares, management ownership can increase through the issuance of bonus shares and Employee Stock Option Scheme (ESOS), both of which have certain limits.

When the incentive to avoid losses is strong, the experience of managers with multiple directorships is important as a monitoring mechanism. This experience should be encouraged but monitored so that it would not result in less attention on the firm. Nevertheless, the optimum number of directorships that can limit earnings management practices is subject to future research.

The results also show that more independent directors representation on the board cannot limit the action of CEO-Chairman towards earnings management practices. These two characteristics are not substitutable. Therefore, the Code has to be more specific about the characteristics of independent directors that may have a strong influence on the action of CEO-Chairman. Otherwise, the duality role of CEO-Chairman has to be totally eliminated.

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