

# Corporate Governance Mechanisms, Whistle-Blowing Policy and Earnings Management Practices of Firms in Malaysia

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**Abstract**—This study examines whether corporate governance (CG) mechanisms in firms that have a whistle-blowing policy (WHBLP) are more effective in constraining earnings management (EM), than those without. A sample of 288 Malaysian firms for the years 2013 to 2015, amounting to 864 firm-years were grouped into firms with and without WHBLP. Results show that for firms without WHBLP, the board chairman tenure would minimize EM activities. Meanwhile, for firms with WHBLP, board chairman independence, board chairman tenure, audit committee size, audit committee meeting and women in the audit committees are found to be associated with less EM activities. Further, it is found that ownership concentration and Big 4 auditing firms help to reduce EM activities in firms with WHBLP, while not in firms without WHBLP. Hence, functional and effective governance can be achieved by having a WHBLP, which is in line with agency and resource dependent theories. Therefore, this study suggests that firms should have a WHBLP in place, and policymakers should come up with enhanced criteria to strengthen the mechanisms of WHBLP.

**Keywords**—Corporate governance, earnings management, whistle-blowing policy, audit committee, board of directors

## I. INTRODUCTION

SUBSEQUENT to various global accounting scandals and fraud, researchers argued that EM practice is the major reason for these scandals [1], [2]. This is because the flexibility of accounting standards allows management to manipulate earnings within the confines of the law and exploit the accounting standards. Subsequently, it will force the management to indulge in reporting inaccurate accounting information or engaging in fraud [3], [4]. Therefore, it is believed that the occurrence of EM practices motivates managers to commit more fraud in the future rather than just manage the earnings [5], [6].

The practice of EM has shifted the attention and efforts of researchers to CG [7]-[13]. The agency theory and prior researchers have suggested that the mechanisms of CG, e.g., board of directors (BOD), ownership and audit committee (AC) may reduce agency problems and EM practices [14]-[16]. However, it is argued that CG mechanisms in Asia are not strong enough to mitigate agency problems [10], [11]. This is due to the conflict of interest (either between managers and

shareholders or between major and minor shareholders), and information asymmetry in most organizations [15]. Further, there is a big gap on the effectiveness of CG mechanisms as many of the board members have full-time jobs in other corporations and rely on the CEO to provide them with relevant firm-specific information in monitoring managers' decisions [17].

An important question that arose after the series of earnings scandals was "why firms' accountants, auditors and external auditors did not report the wrongdoing sooner?", so that large collapses, such as Enron, could have been avoided [18]. This may indicate that CG mechanisms are not an effective mechanism for decision control unless it restricts the discretion of the top managers [14]. When directors have easier access to information, CG mechanisms will effectively restrict EM activities [19]. Hence, it is very important for the board to seek information from the lower-level managers regarding the top managers' decisions and activities [14]. Thus, policies to support and strengthen the link between CG mechanisms and the internal audit function are needed [20].

WHBLP is argued to be an essential part of the internal control system [21], [22]. Hence, formulating a WHBLP will improve the monitoring role of CG mechanisms [22]-[28]. Importantly, previous studies have extensively investigated the ability of CG mechanisms in mitigating EM. However, the results are not compatible [29], [30], creating the need to investigate further the monitoring role of CG in mitigating EM [31], particularly in developing countries such as Malaysia. Consequently, this study suggests that functional and effective governance can be attained by having a WHBLP, which may significantly reduce EM activities. Many CG codes, including the Malaysian Code of Corporate Governance (MCCG) have required firms to formulate the WHBLP; however, there is little empirical evidence that support the importance of the requirement.

Precisely, the objective of this study is to examine whether CG mechanisms in firms that have a WHBLP are more effective in constraining EM than those without. To the best knowledge of the researchers, this is the first empirical study that implements the agency and resource dependent theories in examining whether the monitoring role of CG mechanisms in firms that have WHBLP curbs EM practices. Therefore, this study would assist the policymakers and other stakeholders in improving the role of CG. It is suggested that policymakers encourage firms to have an effective WHBLP. Moreover, policymakers need to legislate provisions that can regulate

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WHBLP and at the same time protect honest whistle-blowers from negative reactions from other parties.

## II. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

One of the key issues in most organizations is the conflict of interest between managers (usually the controlling shareholders) and owners (normally the minority shareholders). This has therefore led to the need to explore the mechanisms that are effective at reducing such conflict of interest [14]. According to agency theory, CG mechanisms help to solve agency problems [14]. Moreover, from the perspective of the resource dependence theory, the CG mechanisms are strategic tools which help to connect external resources to a firm. Consequently, previous studies have extensively examined the influence of BOD mechanisms (e.g., chairman's independence and tenure, and board size, meeting, independence, and gender diversity) and AC mechanisms (e.g., AC size, meeting, independence, gender diversity, expertise, and multiple directorships) on EM. However, the results are not consistent [29], [30]. For example, previous studies did not provide clear conclusions about the effectiveness of boards in reducing EM [30]. Similarly, empirical findings on the relationship between AC independence and EM are conflicting [32]. In the context of Malaysia, the ACs of Malaysian listed firms have not yet achieved huge success in their monitoring duty [4]. Even in firms that have implemented the MCCG, the AC has not been effective in constraining EM [33]. Since previous studies have not established a definitive relationship between the AC mechanisms and EM, more future studies are recommended [29], [33], [34].

Based on above situation, it can be said that lack of access to relevant information could affect the independent directors, who depend on managers and audit for information [17], [35], to uncover and rectify EM [36]. Thus, the outside directors, as a whole, may not achieve an enhancement in governance practices per se, particularly in jurisdictions where the labor market concerning outside directors may not be effectively developed [36]. Even in developed nations, in the case of Enron for example, all members of the AC were independent with financial experts but in spite of this, they were not provided with sufficient information [37]. The lack of access to relevant information hinders the AC from effectively monitoring EM activities in the firm. Consequently, the effectiveness of CG mechanisms could increase only when directors have easier access to information [19]. Hence, firms have to employ other mechanisms to reduce the agency problems [11] where the board should seek information from lower-level managers about the top managers' decisions and performance [14]. At present, firms around the world are encouraged to develop policies for their internal control system, such as WHBLPs [21], [22], as it provides valuable information that can improve organizational effectiveness [38] and achieve good CG practices.

In Asia, some jurisdictions, such as in Indonesia, Japan, Singapore, Thailand and Malaysia have required firms to formulate WHBLP that allows employees, especially internal

and external auditors, to directly access and freely talk to independent directors about their concerns on illegal or unethical conduct, without fear of retaliation. Interestingly, [27] found that the bulk of the whistle-blowing accusations identified are not only related directly to fraud, but also EM practices. This means that WHBLP is an effective mechanism to mitigate EM besides fraudulent behaviour [27]. Reference [39] found that accounting students are more likely to engage in whistle-blowing for some acts relating to EM (e.g., early shipments and unfair loans). Similarly, [40] found a marginal relationship in explaining intentions for respondents to whistle-blow in situations of EM (e.g., early shipments and bad debts). Practically, without the WHBLP, the management of a firm can hide the EM practices that give rise to information asymmetry between the shareholders and managers, besides misleading the shareholders' judgment on financial information. Thus, with WHBLP in place, it may enhance the role of CG (BOD and AC) to detect and mitigate EM and protect the investors' and stakeholders' interests.

A sound commitment to a firm's WHBLP can largely tie the interests of managers to that of other stakeholders [41]. Many firm frauds were revealed not only by external auditors or analysts, but also by the employees who have access to accounting information [42]. Therefore, the WHBLP, as one mechanism of CG, may improve the flow of information to directors, especially, independent directors, and thus help them detect EM. Otherwise, managers may manipulate earnings while the internal auditors fail to report the unethical practices in a firm [43]. Therefore, with an effective WHBLP in place, external and internal auditors, among others, will easily communicate and raise any issues related to financial reporting quality to directors or any other stakeholders, especially about managers' involvement in EM activities. Thus, by having an effective WHBLP, CG mechanisms would be more effective in detecting EM practices. Therefore, the hypotheses are stated as follows:

H1. CG mechanisms are more effective in firms that have a WHBLP than in those without.

The CG mechanisms tested in this study are those related to the board (board chairman independence, chairman's tenure, board size, board meetings, board independence, and women on board), and the audit committee (AC size, AC meeting, AC independence, AC with women, AC expertise, and AC multiple directorships). Besides, ownership concentration and auditor size are also included in the model.

## III. METHODS

This study covers 300 Malaysian listed firms by following two steps: First, a firm with negative earnings in one or more years was excluded. Second, the average return on assets (ROA) for the years 2013, 2014 and 2015 were arranged in ascending order to choose 300 firms with the lowest average ROA. However, 12 firms were excluded during the process. Therefore, the final sample for the three-year period is 864 firm-year observations (from 288 firms). Further, this study applied the Modified Jones Model (MJM) by Dechow et al. [44], which have the attributes of accruals resulting from

management opportunism [45]. Hence, cross-sectional analysis using Ordinary Least squares (OLS) was run for three years using seven sectors with specific industry and year effect to estimate the coefficient value  $\alpha_1, \alpha_2, \alpha_3$  and  $\varepsilon_{it}$  from:

$$\frac{TA_{it}}{A_{it-1}} = \alpha_1 \left( \frac{1}{A_{it-1}} \right) + \alpha_2 \left[ \frac{(\Delta REV_{it} - \Delta REC_{it})}{A_{it-1}} \right] + \alpha_3 \left( \frac{PPE_{it}}{A_{it-1}} \right) + \varepsilon_{it} \quad (1)$$

where TA is the total accruals (net income minus cash flows from operations),  $A_{it-1}$  is total assets in the past year,  $\Delta REV_{it}$  is the change in revenues,  $\Delta REC_{it}$  is the change in account receivable. Further,  $PPE_{it}$  is the Gross property, plant and equipment and  $\varepsilon_{it}$  is the error term. Therefore, the coefficient value of  $\alpha_1, \alpha_2, \alpha_3$  and  $\varepsilon_{it}$  estimated by (1) was used in (2) to estimate the nondiscretionary accrual (NDA):

$$NDA = \alpha_1 \left( \frac{1}{A_{it-1}} \right) + \alpha_2 \left[ \frac{(\Delta REV_{it} - \Delta REC_{it})}{A_{it-1}} \right] + \alpha_3 \left( \frac{PPE_{it}}{A_{it-1}} \right) + \varepsilon_{it} \quad (2)$$

Lastly, the level of discretionary accruals (DA) was extracted from:

$$DA = \frac{TA_{it}}{A_{it-1}} - NDA \quad (3)$$

This study uses the absolute values of DA as used by previous studies [34], [46], [47]. First, the regression analysis was run for all firms' observations. Next, separate tests were conducted for each group (firms with and without WHBLP) to see whether or not the CG mechanisms are more effective in firms having WHBLP than those without. Furthermore, this study uses several control variables, i.e., firm size, leverage, ROA and cash flow from operations. The structural equation used is:

$$DA = \alpha + \beta_1 BCIND + \beta_2 BCTEN + \beta_3 BSIZE + \beta_4 BMEET + \beta_5 BIND + \beta_6 BFEM + \beta_7 ACSIZE + \beta_8 ACMEET + \beta_9 ACIND + \beta_{10} ACFEM + \beta_{11} ACAE + \beta_{12} ACMD + \beta_{13} Conc5 + \beta_{14} Big4 + \beta_{15} FSIZE + \beta_{16} LEV + \beta_{17} ROA + \beta_{18} NCFO + \varepsilon$$

The variables are as defined in Table I.

TABLE I  
VARIABLE DEFINITIONS AND MEASUREMENTS

Variables	Measurement
DA	The absolute value of DA using MJM
BCIND	"1" if the board chairman is independent, "0" otherwise
BCTEN	Number of years the board chairman serves on the board
BSIZE	Number of board directors
BMEET	Number of board meetings per year
BIND	Proportion of board independence
BFEM	"1" if the board has a female director, "0" otherwise
ACSIZE	Number of AC members
ACMEET	Number of AC meetings per year
ACIND	Proportion of AC independence
ACFEM	"1" if the AC has a female director, "0" otherwise
ACAE	Proportion of AC with accounting expertise
ACMD	Number of AC members who are a director in other firms
Conc5	Proportion of shares held by the five largest shareholders
Big4	"1" if the firm is audited by Big4, "0" otherwise
FSIZE	Natural log of total assets
LEV	Total debt to total assets
ROA	Net income/total assets
NCFO	"1" if the firm has a negative value of cash from operations, "0" otherwise

#### IV. RESULTS

Table II shows the mean values of variables for all observations and according to groups (firms with and without WHBLP). It indicates that firms with WHBLP show higher means with regards to BSIZE, BMEET, BIND, ACSIZE, ACMEET, Conc5 and FSIZE. Further, other variables, including the proportion of BFEM, ACFEM, ACMD and Big4 are also significantly higher in firms with WHBLP over those firms without WHBLP. These results reflect a positive relationship between the mechanisms mentioned above and WHBLP. However, in firms without WHBLP, the mean of BCTEN and the proportion of BCIND are significantly higher than in those firms with WHBLP.

This study tests the fitness of the sample data with the statistical assumptions' tests before running the regression analysis. For the outlier test, it is found that DA, ACMEET and BMEET have an outlier problem. Therefore, the study winsorized the data of these variables by using the minimum level of 1% for DA and ACMEET, while using 5% for BMEET. Regarding the normality test, the Kurtosis and Skewness as descriptive numerical approaches were used. The Skewness and Kurtosis of each variable are within the threshold of  $\pm 3$  and  $\pm 10$ , respectively. Thus, the distribution of the sample data corresponds to the normal distribution [48]

With regards to the multicollinearity issue, the variance inflation factor (VIF) Pearson correlation test was used. The results of the test confirm that there is no correlation among variables. In terms of heteroscedasticity, the Breusch-

Pagan/Cook-Weisberg test was used, which suggests that data of this study suffers from the heteroscedasticity problem. Furthermore, the Wooldridge test was used to test the autocorrelation problem, which does not suggest the existence of this problem. Based on this test, it is suggested that FGLS regression provides reliable estimates in the presence of heteroscedasticity [50], which has been adopted by previous studies [51]. Thus, FGLS regression was used with option “panels (heteroskedastic)” to solve the problem of heteroscedasticity [52], [53].

TABLE II  
T/Z-TEST FOR THE VARIABLES BY USING MODERATING VARIABLES

Variables	Mean (All Firms)	Mean		t/z- Statistics
		Firm with WHBLP	Firm without WHBLP	
BCIND	0.377	0.343	0.411	2.0871**
BCTEN	12.410	11.467	13.340	3.1072***
BSIZE	7.418	7.531	7.306	-1.7400*
BMEET	5.617	6.203	5.039	-7.8081***
BIND	0.474	0.485	0.464	-2.4638**
BFEM	17.940	0.212	0.147	-2.4895**
ACSIZE	3.244	3.329	3.161	-4.9784***
ACMEET	5.063	5.322	4.807	-5.9506***
ACIND	0.900	0.892	0.907	1.530
ACFEM	25.460	0.287	0.223	-2.1497**
ACAE	0.429	0.432	0.426	-0.506
ACMD	1.728	1.888	1.570	-4.3320***
Conc5	0.546	0.578	0.515	-5.9555***
Big4	53.130	0.641	0.423	-6.4214***
FSIZE	13.485	13.855	13.119	-7.0792***
LEV	20.775	21.551	20.010	-1.495
ROA	4.412	4.419	4.405	-0.086
NCFO	0.229	0.214	0.244	1.0219
DA	0.048	0.050	0.046	-1.1963

Notes: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. “ttest” command in STATA employed to report the t-value for continuous variables (i.e. DA, BCTEN, BSIZE, BMEET, BIND, ACSIZE, ACMEET, ACIND, ACAE, ACMD, Conc5, FSIZE, LEV and ROA), while “prtest” command employed to report z-value for dummy variables (i.e., BCIND, BFEM, ACFEM, Big4 and NCFO) [49]. All variables are as defined in Table I.

Table III shows that for all firms’ observations, BCIND, BCTEN, BSIZE, ACMEET and ACFEM are significantly associated with a low level of DA which is consistent with agency and resource dependent theories. However, BMEET and ACIND are found to be significantly and positively associated with the level of DA, while other CG mechanisms do not have any influence on DA. Table III also shows the result of the influence of CG mechanisms in firms with and without WHBLP. In firms without WHBLP, only BCTEN is found to be significantly and negatively associated with DA. However, ACAE is found to be significantly and positively associated with DA, while the remaining CG mechanisms do not play any role in monitoring the level of DA. These results indicate that CG mechanisms in firms without WHBLP do not effectively monitor the managers’ discretion where the boards face difficulties in accessing the firms’ information regarding the financial reporting process.

TABLE III  
FGLS REGRESSION USING MJM

DA	All firms		Without WHBLP		With WHBLP	
	Coef.	z	Coef.	z	Coef.	z
BCIND	-0.005***	-2.87	-0.002	-1.02	-0.007***	-3.35
BCTEN	-0.000***	-4.31	-0.001***	-4.33	-0.000**	-2.03
BSIZE	-0.001**	-2.54	-0.001	-0.84	-0.001	-0.99
BMEET	0.002***	3.23	-0.001	-0.55	0.002***	3.43
BIND	0.000	0.02	-0.018	-1.41	0.008	0.74
BFEM	0.002	1.05	-0.000	-0.01	0.004	1.49
ACSIZE	-0.001	-0.76	-0.000	-0.05	-0.006***	-2.68
ACMEET	-0.001*	-1.88	-0.001	-1.09	-0.001*	-1.76
ACIND	0.016***	2.67	0.012	1.41	0.020***	2.61
ACFEM	-0.006***	-3.03	-0.004	-1.11	-0.008***	-3.36
ACAE	0.006	1.40	0.014**	2.33	-0.0024	-0.46
ACMD	-0.001	-0.67	-0.001	-0.92	0.001	1.12
Conc5	-0.006	-1.14	-0.000	-0.03	-0.015**	-2.50
Big4	-0.002	-1.13	-0.000	-0.14	-0.008***	-3.70
FSIZE	-0.002***	-3.75	-0.003***	-3.30	-0.002***	-2.94
LEV	0.000**	2.36	0.000**	2.22	0.000**	2.05
ROA	0.002***	5.41	0.002***	5.10	0.001***	2.95
NCFO	0.029***	11.72	0.028***	9.22	0.031***	9.31
_cons	0.059***	5.93	0.076***	5.59	0.0667***	5.45
Wald chi <sup>2</sup>		427.1		398.7		408.9
Prob > chi <sup>2</sup>		0.000		0.000		0.000
R <sup>2</sup>		0.146		0.149		0.162
Obs.		864		435		429

Notes: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. R<sup>2</sup> calculated by OLS regression. All variables are as defined in Table I.

TABLE IV  
FGLS REGRESSION USING JONES MODEL

DA	All firms		Without WHBLP		With WHBLP	
	Coef.	z	Coef.	z	Coef.	z
BCIND	-0.003	-1.46	0.002	0.93	-0.0057**	-2.46
BCTEN	-0.000***	-5.28	-0.001***	-3.71	-0.000***	-3.78
BSIZE	-0.001*	-1.78	-0.001	-1.13	-0.001	-1.35
BMEET	0.002***	3.77	-0.001	-0.99	0.003**	4.04
BIND	0.006	0.74	-0.018	-1.34	-0.002	-0.15
BFEM	0.003	1.44	0.000	0.05	0.005**	2.17
ACSIZE	-0.004***	-2.70	-0.002	-0.84	-0.007***	-3.40
ACMEET	-0.002**	-2.03	-0.001	-0.84	-0.002**	-2.48
ACIND	0.009	1.43	0.008	0.88	0.021***	2.87
ACFEM	-0.005**	-2.48	-0.004	-1.13	-0.009***	-4.42
ACAE	0.003	0.86	0.007	1.24	0.000	0.05
ACMD	0.001	1.36	0.001	1.28	0.002	1.51
Conc5	-0.010*	-1.89	-0.010	-1.26	-0.013**	-2.33
Big4	-0.001	-0.79	0.001	0.45	-0.009***	-4.72
FSIZE	-0.002***	-3.63	-0.003***	-3.29	-0.001**	-2.38
LEV	0.000*	1.86	0.000**	2.50	0.000	0.10
ROA	0.002***	5.37	0.002***	3.86	0.002***	3.94
NCFO	0.026***	11.58	0.026***	8.59	0.028***	8.82
_cons	0.068***	6.75	0.095***	6.21	0.067***	5.55
Wald chi <sup>2</sup>		478.5		335.9		818.9
Prob>chi <sup>2</sup>		0.000		0.000		0.000
R <sup>2</sup>		0.141		0.149		0.159
Obs.		864		435		429

Notes: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. R<sup>2</sup> calculated by OLS regression. All variables are as defined in Table I.

Regarding firms with WHBLP, most of the CG

mechanisms, namely, BIND, BCTEN, ACSIZE, ACMEET and ACFEM are significantly and negatively associated with DA, supporting agency and resource dependent theories. Furthermore, high ownership concentration and Big 4 auditing firms are also found to be significantly associated with reduced DA. These results suggest that having a WHBLP in a firm may enhance the monitoring role of the CG mechanisms towards mitigating DA. A well-structured and effective implementation of WHBLP significantly improves the monitoring role of CG mechanisms. Regarding the control variables, the results are similar, either for all observations or when firms are partitioned into with and without WHBLP. Table III shows that FSIZE is significantly associated with a low level of DA, while other variables, namely LEV, ROA and NCFO are found to be positively associated with DA.

Next, this study re-estimates the model by using the Jones Model instead of MJM. Table IV shows the results of the re-run models, in which most of the results are consistent with those of the previous as presented in Table III (using MJM).

#### V.CONCLUSION

Studies have extensively investigated the effect of CG mechanisms (e.g., the BOD and AC) on EM. However, previous studies have not focused on the existence of the WHBLP, where it is the cornerstone in strengthening the effectiveness of CG mechanisms. The WHBLP helps directors, who in most cases do not have enough time, energy and authority to fulfill their work, in accessing information that is usually hidden by management. Therefore, this study attempts to investigate whether CG mechanisms in firms that have a WHBLP are more effective in constraining DA than those without. The results of this study are in line with agency and resource dependent theories, which have claimed that an efficient and well-structured internal control could effectively monitor managers' behaviour. The results show that CG mechanisms are more effective in firms that have WHBLP than those without WHBLP. It is found that board chairman independence, board chairman tenure, AC size, AC meeting and women in the AC are significantly associated with mitigating EM activities in firms that have WHBLP. Likewise, the ownership concentration and Big 4 auditing firms help to reduce EM activities in firms with WHBLP. However, for firms without WHBLP, only the board chairman tenure has a significant negative relationship with DA. The findings of this study provide evidence on the value of having WHBLP that could strengthen the monitoring role of CG mechanisms toward mitigating EM. Therefore, this study recommends to investors, shareholders and policymakers to have an enhanced and effective WHBLP in place.

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