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The Audit Committees, Internal Audit and External Audit Quality Effects on Earnings Management: An Analysis of Malaysian Government-Linked Companies

(Kesan Jawatankuasa Audit, Audit dalam dan Kualiti Audit Luar Terhadap Pengurusan Perolehan :Analisis Syarikat Berkaitan Kerajaan Malaysia)

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ABSTRACT

The role of audit governance mechanisms as part of the corporate governance architecture has been promoted to ensure the integrity of the financial reporting process. In order to get insights on their effectiveness, this study investigates the effects of the audit governance mechanism, specifically audit committee, internal audit function and external audit quality on earnings management in Malaysian government-linked companies. Using a cross-sectional variation of the modified Jones Model (1995) to estimate discretionary accruals, this study examined 38 GLCs from 2009–2018, which consisted of 340 firm-year pair observations. Panel data regression analysis was carried out using the generalised least square method to analyse the effect of audit governance mechanisms on earnings management. The findings suggest that lower likelihood of earnings management is associated with the internal audit function. Further analysis on the proxy of internal audit measures suggests that in-house internal audit function is negatively associated with earnings management. This research would provide insights for regulators and management to strengthen in-house internal audit function in order to mitigate earnings management in Malaysian government-linked companies.

Keywords: Earnings management; audit committee; internal audit function; government-linked companies; external auditor

ABSTRAK

Peranan mekanisme tadbir urus audit sebagai sebahagian daripada seni bina tadbir urus korporat digalakkan untuk memastikan integriti proses pelaporan kewangan. Untuk mengetahui keberkesanannya, kajian ini menyiasat kesan mekanisme tadbir urus audit khususnya jawatankuasa audit, fungsi audit dalaman dan audit luaran terhadap pengurusan perolehan dalam syarikat berkaitan kerajaan Malaysia. Kajian ini menggunakan variasi keratan rentas Model Jones yang diubah suai (1995) untuk menganggarkan akruan mengikut budi bicara, dengan mengkaji 38 GLC dari 2009–2018, yang terdiri daripada 340 pemerhatian tahun-syarikat. Analisis regresi data panel telah dijalankan menggunakan kaedah rawak persegi terkecil (GLS) untuk menganalisis kesan mekanisme tadbir urus audit ke atas pengurusan perolehan. Penemuan mencadangkan kemungkinan pengurusan perolehan yang lebih rendah dikaitkan dengan audit dalaman. Analisis lanjut mencadangkan audit dalaman sendiri dikaitkan secara negatif dengan pengurusan perolehan. Penyelidikan ini akan memberikan pandangan kepada pengawal selia dan pengurusan syarikat untuk mengukuhkan aspek fungsi audit dalaman sendiri bagi mengurangkan pengurusan perolehan dalam syarikat berkaitan kerajaan Malaysia.

Kata kunci: Pengurusan pendapatan; jawatankuasa audit; fungsi audit dalaman; syarikat berkaitan kerajaan; audit luaran

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INTRODUCTION

Corporate accounting scandals caused by intentional manipulation of accounting information have prompted investigation into companies' accounting practices, including earnings management (EM) (Ismael & Kamel 2021). The practice of EM results in lower financial reporting quality that erodes investors' confidence and reduces efficiency of financial markets (Rusmin 2010). Accordingly, one of the key focus of corporate governance (CG) practices is to strengthen the importance roles of internal and external audit governance mechanisms, such as the audit committee (AC), internal audit function (IAF) and external audit (EA) in reducing EM (Al-Thuneibat et al. 2016; Khalil & Ozkan 2016). Reviews of prior research show that most studies focused on examining the effects of AC and EM (Alzeban 2020). However, the establishment of AC alone is insufficient

to reduce management's action in manipulating financial statements (Ayemere & Elijah 2015), as other key CG mechanisms, such as IAF and EA are important in achieving high quality financial reporting (Gebrayel et al. 2018; Inaam & Khamoussi 2016). For instance, IAF plays a critical function on monitoring company's controls and governance, therefore, they are expected to discover red flags that lead to any financial irregularities (Alias et al. 2019). Likewise, EA is responsible to detect material misstatements arising from errors and irregularities to ensure a higher financial reporting quality (Khurana & Raman 2004). With the exception of Davidson et al. (2005) and Al-Rassas and Kamardin (2015), both studies investigated the effects of internal and external governance mechanisms on EM in non-GLCs settings, there is limited research that examined the effects of audit CG mechanisms on EM within the context of Malaysian GLCs.

The Putrajaya Committee on GLC (PCG) (2015) defined GLCs as 'companies that have a primary commercial objective and in which the Malaysian government has a direct controlling stake'. In other words, the government has the power to appoint management positions, contract awards, strategy, restructuring and financing, acquisition and divestment (Menon 2017). The aim of establishing GLCs was to resolve social and development issues and to achieve the goals of the New Economic Policy (Nasir 2017). However, Malaysian GLCs have been subjected to criticisms due to their poor performance and low efficiency. In view of this, the government announced the start of the 10-year (2005-2015) GLC Transformation Programme that run until 2025, to create high performing GLCs and that are able to accelerate Malaysia's social and economic development (PCG 2015; Bursa Malaysia 2022). Despite the strategic programme, some GLCs are not performing well. Menon (2017) stated that due to GLCs weak CG practises, some business decisions of Malaysian GLCs were not aligned with the business's objectives and questions were raised over financial soundness of the companies.

In order to overcome weaknesses in CG practices in Malaysia, in March 2000, the Malaysian Code on Corporate Governance (MCCG) was introduced, representing a milestone in CG reforms in this country. The MCCG has undergone several revisions in the past years and has been recently updated in 2021 (Bursa Malaysia 2021). The code outlines several key features of good CG practices of companies that include roles of AC, IAF and EA in ensuring high quality companies' financial reporting. All companies that are listed in Bursa Malaysia are required to establish an AC. Furthermore, listed companies must establish an independent IAF that is 'free' from the management and operations. The IAF is expected to add value in an organisation by providing independent and objective assessments in the areas of assurance (such as, compliance and CG) and consulting (such as, risk management) activities (IIA 2017). Likewise, MCCG described IAF as an additional CG mechanism that would be able to assist organisations in achieving their business objectives by reducing ineffective governance practices and operations. Additionally, the Companies Act 2016 Malaysia stipulates that all companies are required to appoint an approved external auditor to verify the company's financial statements (CCM 2016). EA provides reasonable assurance on true and fair view, or faithful representation of the financial statements that enhance credibility of financial information (MIA 2018a).

Given that there have been changes to audit governance mechanisms in the MCCG, this study investigates the effects of the AC, IAF and EA quality on EM in Malaysian government-linked companies. This study also examines each proxy of the audit governance mechanisms in order to identify which aspect is effective in reducing EM. The motivations for this study are based on several reasons. Firstly, Malaysian GLCs represent an ideal setting to test the relationships between audit CG variables and EM because of the increasing number of financial irregularities found in Malaysian GLCs, such as 1Malaysia Development Berhad and Federal Land Development Authority (FELDA) group. A possible explanation for these corporate failures is weak CG practices of the GLCs (Jones 2020). The cost of GLCs corporate failures were high; there had been massive bailouts of GLCs that resulted in an estimated RM85.51 billion to the federal government over the 36-year period (Menon 2017). The financial irregularities have raised several public concerns and criticisms towards CG and EM in the Malaysian GLCs. Secondly, the economic contribution of GLCs to Malaysia accounted for about 25% or RM445 billions of Bursa Malaysia's market capitalisation and employed about 500,00 people (Editor 2022). The roles played by GLCs in the Malaysian economy are pervasive, and ranks as fifth highest country in the world with state-owned enterprise (Menon 2017). Thirdly, to date, research in the area of GLC-EM that examines the effects of individual audit CG mechanisms (AC, IAF and EA) on EM amongst Malaysian GLCs is limited. Fourthly, a practical implication would be the important roles of audit CG governance mechanisms, specifically in-house IAF in reducing EM practices amongst GLCs.

This paper is organised as follows. The next section outlines the literature review and hypotheses development. The following section presents the methodology and moves on to describe the empirical results. The final section summarises the concluding discussions.

LITERATURE REVIEW

AGENCY THEORY

Agency theory is based on the relationship between the principal (shareholders) and agents (managers) (Jensen

& Meckling 1976). The agency problem arises when managers make decisions that are not aligned with shareholders' interests (Eisenhardt 1989). EM may be an indication of agency problems because a higher level of information asymmetries increased the difficulties in overseeing 'opportunistic' behaviour of managers (Man et al. 2018).

According to the agency theory, principals will seek to resolve the problems of information asymmetries and self-interest between agents by employing CG mechanisms. Jensen and Meckling (1976) put forward that the auditing function serves as a monitoring mechanism to solve agency problems and align the interests of shareholders and managers. AC is viewed as one of the important monitoring mechanisms to mitigate information asymmetries between managers and shareholders since the key role of an AC is to review financial information and control the conduct of management (Al-Shaer & Zaman 2021). Likewise, IAF enhances the monitoring process of organisations and reduces information asymmetries between managers and shareholders. Similarly, the role of EA is to provide an independent audit on the information and work undertaken by managers. As a result, managerial opportunistic behaviour would be constrained and improve the financial reporting quality in the organisation (Alzoubi 2019).

EARNINGS MANAGEMENT AND CORPORATE GOVERNANCE

Healy and Wahlen (1999) stated that "EM occurs when managers use judgement 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". Jones (2011) argues that EM involves using the flexibility within the accounting standards to manage accounts to deliver predetermined profit or achieve a specific objective. It is usually driven by three main types of EM incentives: (i) capital market motivations (short-term stock price and performance), (ii) contracting motivations (bonus and stock options) and (iii) regulatory motivations (industry-specific regulation) (Healy & Wahlen 1999).

Investors have become more concerned with EM and begun to demand high earnings quality for the purpose of enhancing financial statement quality (Al-Rassas & Kamardin 2015). A strong CG structure would provide strong monitoring tools over managerial decision-making and limit EM activities (Al-Thuneibat et al. 2016). Agency theory draws attention to the importance of CG mechanisms in monitoring management's behaviour (Jensen & Meckling 1976). The auditing mechanisms served as monitoring devices in reducing uncertainties in the financial reporting process and improving the flow of information between managers and stakeholders (Al-Rassas & Kamardin 2015).

AUDIT COMMITTEE QUALITY AND EARNINGS MANAGEMENT

The main responsibilities of an AC include overseeing and monitoring the financial reporting process, identifying and discussing any significant accounting policies, reviewing management's analyses of significant issues in financial reporting and reviewing the effects of regulatory and accounting initiatives (Deloitte 2018). In the context of Russia, a recent study reported that AC representation on the board of directors will lead to a lower EM (Nikulin et al. 2022). Likewise, by using meta-analysis, Inaam and Khamoussi (2016) found that an effective AC limits the opportunistic behaviour of management and enhances the supervision of companies.

Prior research on AC effectiveness suggested that it could be assessed through size, independence, financial expertise and frequency of meetings (Nehme & Jizi 2018; Ouissi & Taktak 2018). Due to its strength and diversity of views, a larger sized AC is more effective in monitoring the process of financial reporting in an organisation (Fitri & Siswantoro 2021). Additionally, more members in AC can reduce the possibility of the committee being significantly influenced by managers (Sun et al. 2014).

Researchers had found an inverse relationship between the independence of EM and AC (Mardessi 2022; Nikulin et al. 2022). This line of research suggested that independence of AC may balance the different views between managers and external auditors; and thus, resulting in a higher quality financial report (Kusnadi et al. 2015).

Financial experts are experienced in reviewing accounting policies and judgement for accruals, estimates and reserves (Gerayli et al. 2021). Therefore, Gebrayel et al. (2018) maintained that a certified public accountant member in AC can increase AC's knowledge of financial reporting and auditing issues. Prior studies found that AC's financial expertise had a negative association with EM (Emmanuel et al. 2014; Hamdan et al. 2013).

Additionally, extant literature suggested that frequency of meetings have a negative relationship with EM (García et al. 2010; Inaam & Khamoussi 2016). Higher numbers of meetings are more likely to provide more opportunities for interaction between auditors and directors and provide effective oversight by increasing the possibility of discussing any financial issues (Gebrayel et al. 2018). Albersmann and Hohenfels (2017) highlighted that even with suitable resources and composition, it is difficult to achieve higher financial reporting quality if the AC is inactive.

This study posits that AC with greater size, independence, financial expertise and frequency of meetings will result in higher AC quality, therefore, reduces the EM. The following hypothesis is proposed:

H_1 AC's quality is negatively associated with EM.

INTERNAL AUDIT FUNCTION QUALITY AND EARNINGS MANAGEMENT

Internal audit function (IAF) enhances and protects organisational value by providing risk-based and objective assurance, advice and insight. Bananuka et al. (2018) reported that IAF was significant to promote and enhance accountability of companies in Uganda. Although traditionally IAF focuses on operational risks and monitoring, there has been increasing emphasis in the literature on the need to focus on EM and financial reporting quality (Alzoubi 2019). Using a composite measure of internal audit quality, Ismael and Kamel (2021) found evidence that suggested higher internal audit quality is negatively related to EM in their sample of companies in the United Kingdom (UK).

Past research suggested that IAF quality effectiveness could be assessed through its size and sourcing arrangement (Al-Rassas & Kamardin 2016; Yasin & Nelson 2012). Johl et al. (2013) highlighted that IAF with sufficient resources (larger size) has better ability to detect and reduce possible mismanagement, misstatement and fraud. A large IAF indicates greater resources allocated to recruit and retain competent skilled personnel (Al-Rassas & Kamardin 2015). Similarly, Ismael and Kamel (2021) stated that a large IAF is assumed to spend more time in auditing, perform various audit activities and consist of members from different backgrounds and knowledge.

Moreover, Johl et al. (2013) asserted that as a comparison to an in-house IAF, outsourced IAF are less likely to find misstatements in organisations' financial reports. Compared to an outsourced IAF, an in-house IAF has better understanding of business processes and greater control over audit operations (Desai et al. 2011). Prior studies also suggested that companies with outsourced internal audit have lower financial reporting quality than companies with an in-house IAF (Ghaleb et al. 2020).

This study posits that larger and in-house IAF will result in higher internal audit quality; consequently, reduces EM. The following hypothesis is proposed:

H_2 IAF's quality is negatively associated with EM.

EXTERNAL AUDIT QUALITY AND EARNINGS MANAGEMENT

High EA quality is expected to curb opportunistic behaviour, reduce material misstatements and restrain manipulation of financial figures that might mislead shareholders. Houqe et al. (2017) showed that high-quality auditors are efficient in restraining accrual EM. Similarly, Sitanggang et al. (2020) found a significant negative relationship between EM and audit quality in the context of the UK. Higher audit quality is more likely to detect accounting manipulations and reporting errors and have considerable influence over the integrity of financial statements and accountability of management (Orazalin & Akhmetzhanov 2019).

Based on previous studies, EA quality could be assessed from the size of audit firms, non-audit services fees, audit partner tenure and audit fees (Abdallah 2018; Inaam & Khamoussi 2016). Large-sized audit firms are better at detecting material misstatements in financial statements and are more willing to report it (Kanagaretnam et al. 2010). Arguably, large-sized audit firms tend to suffer more on reputation loss and litigation risk when an audit failure occurs; and thus have more incentive to provide higher audit quality. Furthermore, as large-sized audit firms have more resources and expertise for specialised staff training compared to their other counterparts (small-sized audit firms), hence they are better at detecting EM (Mardnly et al. 2021). Accordingly, the size of audit firms has significant negative association with EM (Abdallah 2018; Choi et al. 2018; Khalil & Ozkan 2016).

Yasin and Nelson (2012) explained that the audit firms placed greater efforts that are reflected in higher audit fees to ensure financial statements are free from material misstatement. Higher fees translate into more commitment and increased quality of service, while lower fees indicate a poorer audit quality (Eshleman & Guo 2014). Previous studies found that audit fees are positively associated with financial reporting quality (Alhadab 2018; Alzoubi 2016).

Provision of non-audit services can influence an auditor's independence because it could create conflict of interests and financial dependence between the auditor and client (Lin & Hwang 2010). Impaired independence will increase an auditor's incentive to accommodate their clients and result in higher EM (Ahmed et al. 2022). In the context of Malaysia, Abdul et al. (2020) documented a positive association between EM and provision of non-audit services.

The longer tenure of an audit partner results in familiarity between the audit partner and their clients' interests and is likely to compromise their independence (Kalanjati et al. 2019). Research by Fargher et al. (2008) and Hamilton et al. (2005) found a positive association between EM and audit partner tenure. Similarly, Casterella and Johnston (2013) also pointed out that a long audit partner tenure impaired independence of the auditor due to excessive familiarity. The impaired independence might cause a lower audit quality that could result in higher EM.

This study posits that larger sized audit firms, higher audit fees, lower non-audit fees and audit partner tenure will result in higher EA quality; and thus reducing the EM. The following hypothesis is proposed:

H_3 EA's quality is negatively associated with EM.

RESEARCH DESIGN

DATA AND SAMPLE

The population consisted of 47 GLCs listed on Bursa Malaysia Main Board as at 2018. Of the 47 GLCs, companies from the financial industry were excluded, as they operated in a highly-regulated industry and possessed specific characteristics (Mohamad et al. 2012). After excluding the financial companies, the sample comprised 340 firm-year observations generated from 38 GLCs from 2009 to 2018. The rationale for choosing 2009 is that it is the first-year Bursa Malaysia mandated listed companies must disclose their cost of IAF (Al-Rassas & Kamardin 2016). Data were taken from GLCs' annual reports that are publicly available on the Bursa Malaysia website. Moreover, it is also an interesting period as the MCCG was revised in 2007 and 2012 within the ten-year period.

VARIABLE MEASUREMENT

Dependent Variable – EM Measurement

Cross-sectional variation of the modified Jones Model is commonly applied in prior studies as a proxy of EM, because accruals are visible elements in financial reports (Bradbury et al. 2006). Consistent with numerous studies (Gebrayel et al. 2018; Mohamad et al. 2012), this research employed the modified Jones Model (1995) to estimate discretionary accruals.

In estimating the discretionary accruals, Jaggi et al. (2009) and Klein (2002) stated that a minimum of ten observations for each industry were needed for each year. Given the relatively small sample per industry year, this study employed a variation of the cross-sectional method. This research included industry dummies in the model to control the industries effect, as suggested by Bradbury et al. (2006) and Kusnadi et al. (2015).

In the modified Jones Model, discretionary accruals (DACC) were computed as total accruals (TACC) less non-discretionary accruals (NDACC). Firstly, NDACC were estimated using Equation 1:

$$NDACC_{it} = \alpha_1 \left(\frac{1}{A_{it-1}} \right) + \alpha_2 \left(\frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}} \right) + \alpha_3 \left(\frac{PPE_{it}}{A_{it-1}} \right) + IND_{jt} \quad (1)$$

Where, ΔREV, ΔREC, PPE are changes in revenue, changes in receivables and gross property, plant and equipment, respectively; IND is the industry dummy; Ait-1 is total assets at the end of the previous year. i, t, j include company, year and industry index, respectively. The coefficient parameters (α_1, α_2, α_3) were estimated using the following equation 2:

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

Where, TACC is computed as earnings before extraordinary items less cash flow from operating activities. Finally, DACC were calculated as shown in Equation 3:

$$DACC_{it} = TACC_{it} - NDACC_{it} \quad (3)$$

This study employed the absolute value of DACC in measuring the level of EM (Alzoubi 2016; Davidson et al. 2005). The high value of absolute DACC indicated a high level of EM in the companies.

Independent Variables Measurement This study utilised composite measures as a proxy for an AC quality (ACQ), IAF quality (IAFQ) and EA quality (EAQ). Prior studies employed various single measures for ACQ, IAFQ and EAQ with mixed results. This could be due to the fact that each proxy on its own is a poor proxy (Prawitt et al. 2009). This study utilised a composite variable to capture multiple characteristics of each audit variable specified by the auditing standards (Prawitt et al. 2009) and prior literature (Ismael & Kamel 2021). ACQ is a composite measure to proxy for different aspects of ACQ used in prior literature, specifically AC size (ACSIZE), financial expertise (ACFIN), independence (ACIND) and meetings frequency(ACMEET). The total number of members are used to measure ACSIZE (Davidson et al. 2005). ACFIN is the proportion of financial experts on AC (Nehme & Jizi 2018). ACIND is the fraction of independent members in AC (Kusnadi et al. 2015). ACMEET is measured by the rate of meetings occurrence held by AC annually (Gebrayel et al. 2018).

Internal audit quality (IAFQ) is a composite measure to proxy for different aspects of internal audit quality, being IAF size (IAFSIZE) and sourcing arrangement (IAFSOUR). IAFSIZE is computed as the natural log of internal audit cost for each year (Yasin & Nelson 2012). IAFSOUR is measured using a dummy variable, which takes "1" if the company performed a full in-house IAF and "0" if otherwise (Johl et al. 2013).

External audit quality (EAQ) is a composite measure to proxy for different aspects of EAQ, being audit firm's

size (BIG4), audit fees (AFEES), non-audit services fees (NAS) and audit partner tenure (APTEN). The BIG4 is measured using a dummy variable, which takes "1" if the audit is conducted by the Big 4 auditors and "0" if otherwise (Choi et al. 2018). AFEES is computed as a natural log of EA fees each year (Srinidhi & Gul 2007). NAS is calculated as the total non-audit services fees divided by the total fees paid to the audit firm (Frankel et al. 2002). APTEN is measured by the number of years the same audit partner signed the company's audit report consecutively (Manry et al. 2008).

This study employed a simple averaging method in creating the composite variable (Song et al. 2013), which is the most common approach used in prior studies. Using this approach, this study initially transferred all original variables to standardised z-scores. Such standardisation is needed to ensure that the original variable with large variance will not have an undue impact on the composite variable (Song et al. 2013). Standardised z-scores of four AC variables were aggregated to create an ACQ, while standardised z-scores of two IAF variables were summed up to generate IAFQ.

The standardised z-scores of four EA variables were aggregated to form an EAQ. Two EA variables, including NAS and APTEN were multiplied by (-1) before aggregating into EAQ, due to their negative association with audit quality.

Control Variables Measurement Several control variables were incorporated in the regression, namely leverage, return on assets, operating cash flow, sales growth, firm age, market to book value, firm growth and firm loss. Industry and year dummies were incorporated in the model to control the variations and effects of business cycles across industries, as suggested by (Al-Rassas & Kamardin 2016).

MODEL SPECIFICATION

$$\begin{aligned} EM_{it} = {} & \beta_0 + \beta_1 ACQ_{it} \\ & + \beta_2 IAFQ_{it} + \beta_3 EAQ_{it} \\ & + \beta_4 LEV_{it} + \beta_5 ROA_{it} \\ & + \beta_6 CFO_{it} + \beta_7 SGR_{it} \\ & + \beta_8 AGE_{it} + \beta_9 MTB_{it} \\ & + \beta_{10} GROWTH_{it} \\ & + \beta_{11} LOSS_{it} \\ & + Ind\_dummies \\ & + Year\_dummies + \varepsilon_{it} \end{aligned}$$

Where, *EM* is the absolute value of discretionary accruals; *ACQ* is the audit committee quality; *IAFQ* is the internal audit function quality; *EAQ* is the external audit quality; *LEV* is the leverage; *ROA* is the return on assets; *CFO* is the operating cash flow; *SGR* is the sales growth; *AGE* is the firm age; *MTB* is the market to book value; *GROWTH* is the firm growth; *LOSS* is the firm loss; *Ind _ dummies* is the industry dummies; *Year _ dummies* is the year dummies; β_0 is the constant; β_1 to β_1 are the coefficients; *i*, *t*, ε are company, year and error term, respectively.

FINDINGS

DESCRIPTIVE STATISTICS

Table 2 depicts the descriptive statistics of this study. The mean for EM (measured as absolute DACC) was 0.037. The average AC size was approximately 3.6 members with 80% independent directors. On average, 43.2% of AC members were financial experts and they met approximately six times per year, which was higher than Bursa Malaysia's recommendation, i.e., to hold at least four meetings annually.The average cost of IAF was 13.407 (RM3,663,813). Furthermore, 68.8% of the sampled companies (234 observations) had a full in-house function, while 31.2% (106 observations) did not establish a full in-house function. In terms of EA, 94.4% of the sampled companies (321 observations) engaged the Big 4 auditors, while 5.6% (19 observations) engaged non-Big 4 audit firms. On average, the EA fee was 13.64 (RM2,156,792), ranging from RM35,000 to RM28,000,000. The average non-audit services fees were found to be 26.2% of the total fees. The audit partner tenure recorded an average of 2.38 years. None of the samples had any audit partner tenure of more than five years, which showed that all sampled firms were in compliance with the audit partner rotation practice (MIA 2018b).

Pearson correlation matrix of variables are shown in Table 3. EM was significantly correlated with IAFQ, LEV, ROA, MTB and LOSS. This study did not suffer from any multicollinearity problems, as all correlation coefficients of the variables scored below 0.80 (Gujarati & Porter 2009). Furthermore, this study found that the variance inflation factor (VIF) values ranged between 1.07 and 2.71, which confirmed the non-existence of multicollinearity in the samples.

REGRESSION ANALYSIS RESULTS

In order to choose the appropriate regression model, a Hausman (1978) test was conducted to choose between fixed and random effects. The results showed p-value > 0.05, indicating random effects would be more appropriate. Additionally, due to the time invariant variables (i.e., industry), a fixed effect approach may be less appropriate (Oussii & Taktak 2018).The Breusch-Pagan Lagrange Multiplier (LM) test was used to make a selection between random effect and pooled ordinary least squares (OLS) regression model (Park 2011).The results showed that all regression models had p-value >

TABLE 1. Measurement of control variables

Control Variables	Indicators	Measurement
Leverage	*LEV*	Total liabilities divided by total assets.
Return on asset	*ROA*	Net profit before tax divided by total assets.
Operating cash flow	*CFO*	Operating cash flow in current year less operating cash flow in previous year, scaled by lagged total assets.
Sales growth	*SGR*	Annual sales growth (current year sales – prior year sales), divided by prior year sales.
Firm age	*AGE*	Natural log of the total number of years that companies have listed on Bursa Malaysia.
market to book value	*MTB*	Market value divided by book value of common equity
Firm growth	*GROWTH*	Change of total assets scaled by lagged total assets.
Firm Loss	*LOSS*	A dummy variable that "1" if the firms have negative net income, and "0" otherwise.
Industry dummies	*Ind_dummies*	Industry dummies to control the variations of industries
Year dummies	*Year_dummies*	Year dummies to control the variations of years

TABLE 2. Descriptive statistics

Variables	Mean	Median	Standard Deviation	Min	Max	Variance Inflation factor (VIF)
EM	0.037	0.023	0.040	0.000	0.197	-
Audit Committee						
ACSIZE	3.597	4.000	0.642	3.000	5.000	1.27
ACFIN	0.432	0.333	0.172	0.2	1.000	1.40
ACIND	0.803	0.750	0.154	0.333	1.000	1.48
ACMEET	6.170	6.000	2.397	2.000	15.000	1.86
ACQ	0.000	-0.214	2.078	-5.462	5.776	1.78
Internal Audit Function						
IAFSIZE	13.407	13.864	3.158	0.000	17.497	2.71
IAFSOUR	0.688	1.000	0.464	0.000	1.000	1.81
IAFQ	0.000	0.786	1.778	-5.728	1.966	2.17
External Auditor						
BIG4	0.944	1.000	0.230	0.000	1.000	1.55
AFEES	13.643	13.447	1.321	11.471	16.981	2.44
NAS	0.262	0.234	0.207	0.000	0.921	1.39
APTEN	2.376	2.000	1.267	1.000	5.000	1.11
EAQ	0.000	0.143	1.872	-5.607	3.359	1.54
Control Variables						
LEV	0.468	0.484	0.167	0.132	0.869	1.48
ROA	0.047	0.050	0.082	-0.296	0.181	2.03
CFO	0.001	0.003	0.072	-0.216	0.263	1.07
SGR	0.074	0.047	0.346	-0.708	2.157	1.28
AGE	2.685	2.890	0.857	0.000	4.007	1.62
MTB	1.472	1.220	1.014	0.190	4.650	1.74
GROWTH	0.076	0.047	0.214	-0.515	0.939	1.50
LOSS	0.121	0.000	0.326	0.000	1.000	2.05

	DACC	*ACQ*	*IAFQ*	*EAQ*	*LEV*	*ROA*	*CFO*	*SGR*	*AGE*	*MTB*	*GROWTH*	*LOSS*
LOSS												1
GROWTH											1	-0.214***
MTB										1	0.121**	-0.226***
AGE									1	-0.07	-0.134***	0.004
SGR								1	-0.06	0.047	0.270***	-0.251***
CFO							1	0.057	0.016	0.013	-0.03	-0.02
ROA						1	0.02	0.140***	0.03	0.333***	0.202***	-0.664***
LEV					1	-0.521***	-0	-0.129**	0.181***	0.04	-0.03	0.282***
EAQ				1	0.063	0.052	0.043	-0.107**	0.03	0.098*	-0.06	-0.179***
IAFQ			1	0.373***	0.126**	0.124**	0.03	-0.063**	0.141***	0.164***	0.02	-0.116**
ACQ		1	0.467***	0.078	0.106**	-0.06	-0.02	0.049	0.106**	-0.07	-0.105**	0.053
DACC	1	-0.05	-0.132***	-0.05	0.162***	-0.352***	0.03	-0.06	0.019	-0.094*	-0.08	0.279***

0.05, indicating the null hypothesis of the LM test should not be rejected. Consequently, pooled OLS regression model would be more suitable to examine the data.

Thereafter, the Breusch-Pagan tests (1979) were employed in this study, which indicated that heteroscedasticity problems existed in all the regression models. Additionally, no serial correlation problem was found in the regression using the Wooldridge test (2002). According to Hoechle (2007), robust standard error is the most common approach used to solve the issues of heteroscedasticity and lack of normality without changing the coefficient estimates of OLS regression. Therefore, pooled OLS regression with robust standard error was applied in this study. Table 4 presents the regression results with R^2 of 26.65% .Results suggest that IAFQ is significantly and negatively associated with EM at 10% level. The results also suggest that both ACQ and EAQ are not statistically related to EM.

Table 5 presents the analysis on the effects of each individual aspect of IAF on EM (as per model above). Given that the composite variable of IAF was associated with lower EM, this study explored further which aspect of IAF is associated with lower EM. Results suggest that IAFSOUR showed a significant association with EM at 0.01 level. A negative sign of the coefficient was expected, indicating that the in-house IAF would significantly reduce EM practices. Nevertheless, no statistically significant relationship was found between IAF's size and EM.

DISCUSSION

Results from this study suggest that high-quality IAF played an essential role in curbing EM amongst Malaysian GLCs. Similarly, the studies of Prawitt et al. (2009), Johl et al. (2013) and Ismael and Kamel (2021) found that high-quality IAF could improve the organisation's internal control, governance process and risk management. The bias in management's judgements are more likely to be detected; and therefore, improving the quality of financial reporting (Prawitt et al. 2009). However, the results found that EAQ and ACQ were not statistically associated to EM. This finding was in line with findings by Alves (2013), who argued that the Big 4 audit firms had not been effective in preventing unscrupulous accounting practices, which was also evidenced by corporate failures in companies that were audited by the Big 4 audit firms. Additionally, as argued by Ghafran et al. (2022), where companies engaged a Big 4 auditors, they are more likely to use real EM rather than an accrual EM, which is more difficult for the auditors to detect. Additionally, a possible explanation is that the audit opinions of Malaysian GLCs may be affected by political influences from the government. Higher audit quality does not reduce the opportunistic behaviour of managers in GLCs, as they believe unqualified audit opinions are more likely to be issued by auditors due to political pressures. This was supported by Chan et al. (2006), who found that the local auditors in China, who were subjected to significant political pressures were more likely to issue favourable reports to local government-owned companies to avoid potential economic losses. Likewise, Gebrayel et al. (2018) documented negative effect of AC in reducing EM due to ineffective communication and weak coordination. Ineffective AC in reducing EM might also be contributed by its lack of expertise and independence (Kusnadi et al. 2015; Ayemere & Elijah 2015).

With regard to the individual aspects of IAF, the results corroborated with the ideas of Desai et al. (2011), who suggested that an in-house IAF had a deeper understanding of a company's activities and exerted greater control compared to an outsourced function; and thus, enhancing the quality of financial reporting. This study found no statistically significant relationship between IAF's size and EM. An explanation for this could be the changing role of IA, whereby the large-sized IA could be linked to IA focusing more on strategic and material organisational risks, as opposed to risk of material misstatement to financial reporting (Prasad et al. 2021).

THEORETICAL IMPLICATION

This study is built on the premise that agency conflicts which result in poor quality financial reporting will be mitigated by audit CG mechanisms. This study contributes to the extant literature on GLC-EM in three ways. Firstly, this study provides more recent evidence concerning the effects of individual audit CG mechanisms comprising AC, IAF and on EM within the context of Malaysia GLC. Secondly, this study provides a more comprehensive model by examining the effects of both internal and external audit CG mechanisms on EM that have been studied independently in the past. It is important to examine all of the audit CG mechanisms together because past research has acknowledged that all of these three parties are working together in ensuring high financial reporting quality. Thirdly, the results of this study reveal the most significant proxy of IAF on EM of GLCs is in-house IAF.

PRACTICAL IMPLICATION

This study provides recent evidence on the significant roles of audit CG mechanism in reducing EM amongst GLCs. Therefore, it is suggested that regulators should strengthen prescribed roles of the respective audit CG mechanisms in the MCCG guidelines, in particular the CG guide pullout II. The results of this study highlight the important roles of internal audit CG governance mechanisms, in particular the roles of AC and IAF in reducing EM practices amongst GLCs. Thus, adequate resources such as budgets and staff need to be allocated to the IAF in supporting their roles in the company.

TABLE 4. Regression results

Dependent Variable: EM			
Variables	Prediction	Coefficient	t-stat
ACQ	-	-0.0009	-0.77
IAFQ	-	-0.0032	-1.83*
EAQ	-	0.0011	0.86
LEV	+	-0.0066	-0.37
ROA	-	-0.1641	-2.25**
CFO	-	0.0266	0.63
SGR	+	-0.0024	-0.43
AGE	-	0.0016	0.63
MTB	+	0.0025	0.82
GROWTH	+	0.0012	0.09
LOSS	+	-0.0006	-0.05
Constant		0.0207	1.59
Industry Dummies		Yes	
Year Dummies		Yes	
R^2		26.65%	
F-statistics		7.03***	
N		340	

TABLE 5. Effect of individual characteristics of Internal Audit Function on EM

Dependent Variable: EM			
Variables	Prediction	Coefficient	t-stat.
IAFSIZE	-	0.0008	1.00
IAFSOUR	-	-0.0169	-2.52***
LEV	+	-0.0070	-0.40
ROA	-	-0.1673	-2.33**
CFO	-	0.0302	0.73
SGR	+	-0.0017	-0.29
AGE	-	0.0029	1.13
MTB	+	0.0034	1.19
GROWTH	+	-0.0008	-0.07
LOSS	+	-0.0021	-0.19
Constant		0.0270	2.15**
Industry Dummies		Yes	
Year Dummies		Yes	
R^2		27.24%	
F-statistics		7.58***	
N		340	

CONCLUSION

Issue of the effectiveness of key audit CG mechanisms in ensuring high financial reporting quality has come into question due to a series of corporate failures amongst Malaysia GLCs. Thus, the main objective of the study is to examine the effects of AC, IAF and EA on EM. One of the key findings was that high-quality IAF is crucial in constraining EM amongst GLCs. Additionally, individual attributes of the audit CG mechanisms such as in-house IAF are significant in reducing EM. Findings from this research may encourage GLCs to pay more attention to composition and resources of the audit CG mechanisms to ensure its effectiveness. In addition, this study provides

empirical evidence on the effects of internal and external audit CG mechanisms in constraining EM within the context of Malaysia. GLCs. Several limitations were noted that call for future research. Firstly, this study only focuses on Malaysia GLCs, hence, future research may want to examine the effects of audit CG mechanisms on non-GLCs settings. Secondly, this study only utilized one measure for EM although there were several variations of these models in the literature.

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