



## **Institutional Ownership and Earnings Quality pre- and post-IFRS**

SALEH ABD ALHADI<sup>a</sup>, ROSMILA SENIK<sup>a\*</sup> AND JALILA JOHARI<sup>a</sup>

<sup>a</sup>*Faculty of Economics and Management, Universiti Putra Malaysia, Malaysia*

### **ABSTRACT**

This study investigates whether earnings quality (EQ) has improved after the adoption of International Financial Reporting Standards (IFRS) in Malaysia. It also examines whether institutional ownership is related to higher EQ and whether IFRS adoption moderates this association. Using a system generalized method of moments (GMM) on a sample of 1960 firm-year observations over the period 2007–2016, we find that EQ is significantly enhanced after adoption of IFRS in Malaysia. The findings also show that institutional ownership has a negative impact on accrual earnings management, leading to high EQ. This impact increased after IFRS adoption, indicating that institutional ownership is effective in improving EQ after IFRS compared to pre-period. Our findings indicate that regulators and practitioners should focus on institutional ownership and IFRS as monitoring mechanisms that remain an essential determinant of EQ.

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\* Corresponding author: Email: [rosmilassenik@upm.edu.my](mailto:rosmilassenik@upm.edu.my)

## INTRODUCTION

EQ is a crucial issue that has emerged after a series of accounting scandals and financial crises around the world. EQ appears as an essential measure of financial health that reflects firm financial performance (Ferentinou and Anagnostopoulou, 2016), market efficiency, and economic growth (Uyar, 2013). It is also essential for the efficient allocation of financial sources in stock markets. Several business agreements such as executive compensation contracts and other economic and political decisions depend on such indicator (Anuar et al., 2014). Therefore, corporate earnings need to be protected and monitored carefully.

Nevertheless, corporate managers attempt to manipulate earnings to obtain several benefits at the expense of stakeholders. Some of the areas that can be manipulated are executive bonuses and self-reputation (Amran and Ahmad, 2013). Such breaches provide an ambiguous view of firm financial performance and, hence misleading investors in making operational and strategic decisions (Ji et al., 2015). According to Habib and Azim (2008) “When managers manipulate earnings, corporate profits become a less certain measure of firm performance” (p.171). Further, information users view the EQ as “Information with lower earnings management practices” (Barth et al., 2008, p.469). Therefore, improving monitoring mechanisms and ensuring high-quality accounting standards are important to reduce cases of earnings manipulations.

IFRS adoption plays a vital role in improving corporate transparency, comparability and quality of financial reports (García et al., 2017). It is a mechanism that can monitor and reduce earnings management manipulation. IFRS features are more detailed, require more disclosures and permit fewer alternatives of accounting methods relative to numerous national accounting standards (Doukakis, 2014). Such features can reduce the cost of capital (Persakis and Iatridis, 2017) and attract foreign investments to local markets (Kouaib and Jarboui, 2017). Further, IFRS is expected to improve firm performance and encourage emerging countries to be more aligned with developed markets.

The introduction of international accounting standards worldwide is a rationale for good corporate governance (CG). It is a mechanism to improve the financial environment of transparency, trust, and accountability. It is also a tool to monitor opportunistic managerial behavior. The reliability and the quality of earnings are improved when earnings management behavior is monitored by proper governance mechanisms (Boucharebet et al., 2014). In the presence of weak CG mechanisms, however, managers can act in their self-interest at the cost of investors (Bryce et al., 2015). The weakness of CG is also the main reason behind crises and collapses of Enron, WorldCom, HIH and Asian financial crisis (Zabri et al., 2016). CG structure is divided into internal control mechanisms, which includes the board of directors and audit committee characteristics, and external control mechanisms, such as ownership structure and the market. Institutional ownership is among the external control mechanisms.

Institutional investors are influential decision makers and they have high ownership in firms and this acts as an efficient monitoring mechanism (Zhong et al., 2017). The presence of such significant stockholders can change corporate management behaviors and protect investments through their monitoring sources and they depend on experts to provide them with professional analysis (Zhong et al., 2017). Institutional investors also have more incentives to engage in monitoring activities due to high costs they may incur related to earnings manipulations compared to small investors (Hadani et al., 2011). Additionally, they have less motivation to engage in earnings manipulations (Alzoubi, 2016) and thus improving the quality of reported earnings after IFRS adoption period. Both domestic and foreign institutional investors heavily invest in firms that apply such high-quality accounting standards (Hessayri and Saihi, 2018). Due to the substantial fall in information costs with the mandatory IFRS adoption, foreign investors are more likely to be ready to increase their investment allocation of assets (Hamberg et al., 2013). The question is, has the EQ improved after IFRS adoption? Does the institutional ownership effectively enhance the standard of EQ after the adoption of IFRS? Can the IFRS moderate this relationship? Thus, this study aims to investigate whether EQ has changed following the passage of IFRS in Malaysia. It also examines whether institutional ownership is related to higher EQ and whether IFRS moderate this association. The study provides empirical evidence for Malaysian regulators regarding whether or not institutional investors has efficiently monitored accrual earnings manipulations in the post-IFRS period.

The following sections review literatures relevant to this area of study and this is followed by a description of the methodology adopted in the study. The remaining sections highlight and discuss the results followed by the conclusion of the study.

## LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

This section reviews literature concerning IFRS, institutional ownership, and EQ to support hypotheses development.

### IFRS adoption and earnings quality

The adoption of IFRS enhances the quality of reported earnings and market stability in developed countries (Dayanandan et al., 2016). In the Asian context, Joshi et al. (2016) point out that Singapore, Malaysia, and Indonesia benefit economically from international standards. These standards can also help companies attract foreign and domestic investors' attention (Hessayri and Saihi, 2018) and adoption of these standards enhances firm financial performance (Kouaib and Jarboui, 2017). They are also a keystone of better transparency and comparability of financial statements (Yurisandi and Puspitasari, 2015). According to Doukakis (2014), financial analysts and decision-makers can easily monitor and evaluate corporate earnings among companies in different contexts. Empirically, studies in emerging and developed markets report evidence of high-quality earnings post-IFRS period (Dayanandan et al., 2016; Yurisandi and Puspitasari, 2015; Zeghal et al., 2011). For instance, Marra, Mazzola, and Prencipe (2011) use OLS regression on 222 Italian companies during 2003-2006. They find that IFRS adoption improves both monitoring mechanisms and quality of earnings. Dimitropoulos et al. (2013) reveal that the implementation of IFRS contributes to higher EQ, more timely loss recognition, and greater value relevance of accounting numbers in contrast with the national accounting norms. In Malaysia, previous studies suggest that IFRS adoption has a positive contribution on firms' EQ (Wan Ismail et al. 2013) and economic growth (Joshi et al., 2016). Hence, after IFRS adoption period, accounting numbers give a true reflection of firm's economic position and performance.

However, other studies provide evidence that IFRS adoption increases the opportunistic behaviour of management, leading to lower EQ (Hessayri and Saihi, 2015). Some studies suggest that IFRS has little to no influence on firms' EQ (Bryce et al., 2015; Doukakis, 2014). Further studies argue that the quality of reported profits depends on country-level factors such as legal system and investor protection level (Zhong et al., 2017).

Although IFRS are principle-based and have few differences with previous financial reporting standards (FRS) in Malaysia, it is vital to examine the relationship between IFRS and EQ. International rules might be an enhancing or obstructing factor of quality of reported profits. The fair value is among the significant changes in accounting after the implementation of IFRS in Malaysia. This replacement is likely to enhance information characteristics of relevance, timing, credibility and transparency (Wan Ismail et al., 2013). Therefore, the first hypothesis is formulated as follows:

*H1: Firm's EQ is higher in the years after compared to the years before compulsory IFRS adoption.*

### Institutional ownership and earnings quality

Based on the active monitoring hypothesis, institutional ownership is an effective monitoring mechanism which can result in better operating performance (Ferreira and Matos, 2008). Institutional investors often have substantial ownership in some companies. They include insurance companies, banks, pension funds as well as investment and financial institutions. According to the literature there are several reasons why institutional investors monitor performance of corporate managers. First, as substantial owners, institutional stockholders are more likely to be active information collectors and financial mediators (Hadani et al., 2011). Compared to minority shareholders, institutional stockholders prefer to apply right accounting procedures to monitor how managers protect their interests (Shleifer and Vishny, 1997), thus reducing agency costs that maybe incurred (Hadani et al., 2011). Second, large institutional possession can efficiently mitigate managers' opportunistic behaviors through external auditors (Rad et al., 2016). Third, potential institutional investors seek information about the good CG firms and ignore entrenched management firms (Ruiz-Mallorqui and Santana-Martin, 2009). Finally, institutional owners have more resources and ability to decline opportunistic earnings management, since they depend on experts to undertake securities valuation analysis and corporate monitoring (Zhong et al., 2017). Several studies support this view. They maintain that institutional investors encourage firms to improve disclosure and monitoring procedures as well as firm performance (Nagata and Nguyen, 2017; Rad et al., 2016). They also contribute to discouraging levels of earnings manipulation behaviors

(Rebai, 2011; Zhong et al., 2017). For instance, using a random-effect modelling in four countries, namely, UAE, Morocco, South Africa, and the Philippines, Hessayri and Saihi (2015) examine the relationship between ownership structure and discretionary accruals during four years pre- and post-IFRS period. The findings show that substantial institutional ownership improves firm performance and EQ because managers' manipulation practices are more likely to shrink with the presence of institutional ownership.

On the other hand, the investment horizon (Bushee, 1998) and private benefits hypothesis (Barclay and Holderness, 1989) argue that institutional ownership hurts firm performance and EQ. The investment horizon hypothesis claims that due to their short-term strategies institutional investors may cooperate with corporate managers and avoid monitoring them. Several reasons are consistent with this viewpoint in the literature. First, institutional owners often vote by leaving a company if they do not satisfy their goals rather than controlling or changing administrators (Al-Fayoumi et al., 2010). Second, institutions avoid enhancing CG and the quality of reported earnings due to short-term investments (Shayan-Nia et al., 2017). Third, hidden takeover inherited in concentrated investors encourage them to obtain benefits and private information at the cost of minority stakeholders "private benefits hypothesis" (Barclay and Holderness, 1989). Empirically, Al-Fayoumi et al. (2010) suggest that such investors force corporate managers to provide higher earnings even through the misuse of accounting policies. Such policies encourage managers to manipulate earnings and reduce EQ.

In the Malaysian context, the predictive ability of revenues is high when firms have substantial institutional ownership (Al-Dhamari and Ismail, 2013). In the presence of concentrated ownership, institutional shareholders are expected to demand more external auditing to protect minorities from expropriations of management and large stakeholders (Rad et al., 2016). They do so since they possess monitoring resources (Zhong et al., 2017) and their large size (Hadani et al., 2011) enables them to improve firm financial performance. Hence, the second hypothesis is given as follows:

*H2: There is a positive relationship between the percentage of institutional ownership and firm's EQ.*

Ownership mechanisms are more likely to increase firm's EQ after IFRS period. This prediction is based on transparency and disclosure quality as well as comparability levels obtained after IFRS period in both developed and emerging markets (Yurisandi and Puspitasari, 2015). According to Hessayri and Saihi (2018), domestic and foreign institutional investors heavily invest in IFRS-adopted firms. However, there is a lack of studies regarding the link between institutional ownership and EQ after IFRS adoption in Malaysia. The implementation of proper CG mechanisms reduces accrual-based earnings management after IFRS (Bouchareb et al., 2014). Indeed, these improvements provide stakeholders with more information to better understand and assess firm accounting policies and reports. Additionally, the efficiency of several monitoring governance mechanisms increases during a post-IFRS period (Bryce et al., 2015; Kouaib and Jarbouli, 2017). It is expected that institutional ownership will be more efficient in ensuring EQ during IFRS period in Malaysia. Therefore, the third hypothesis is presented as follows:

*H3: Institutional ownership is more efficient in increasing firms' EQ after IFRS compared to pre-IFRS period.*

## RESEARCH METHODOLOGY

### Sample selection

The initial sample consists of all the listed companies on Bursa Malaysia during the ten years period from 2007-2016. The sample size selected comprises only non-financial firms reporting under national accounting standards for the years prior mandatory IFRS, and only firms applying IFRS after 2012. Financial firms are excluded because they have different regularity systems compared to other sectors (Hashim and Devi, 2015). The current study also excludes firms with incomplete CG data and observations and those changing financial year ended during the selected period. Further exclusions are companies that do not have fiscal year ended 31<sup>st</sup> December. We use the same financial year to ensure that the data collected is consistent across the year ended,

e.g. data collected on 30 June 2016 are for both 2015 and 2016 instead of one year. Thus, the final sample is 1960 firm-year observations chosen from 196 listed firms. This sample hence consists of all firms that have institutional ownership data.

### Measures of Earnings Quality

The current study follows prior literature that uses the accrual-based earnings management to examine the relationship between institutional ownership and EQ pre- and post-IFRS adoption. Kothari et al. (2005) model is applied in this study to estimate the measure of accrual earnings management, namely, discretionary accruals (DAC). This model is essential for several reasons. First, compared to Jones (1991), Kothari model includes a constant term that maintains three explanatory variables. Kothari et al., (2005) suggest that the addition of an intercept reduces heteroscedasticity problem. Second, the original and modified Jones approaches restrain the intercept and treat the reciprocal of lagged total assets as an explanatory variable. They also replace the complementary of lagged total assets with a constant. These two alternative specifications give similar results and maintain only two explanatory variables, namely, revenues and property, plant and equipment (Peasnell, Pope and Young, 2005). Third, Kothari et al. (2005) argue that Dechow, Sloan and Sweeney (1995) model produces enormous estimated earnings manipulations whenever a firm grows in the event stage compared to the estimation period. Kothari model hence provides more reliable results (Ronen and Yaari, 2008). Finally, as Jones and modified models ignore firm performance (Khamoussi and Ben Abdelaziz, 2016), the rate of return on assets (ROA) is added to control for variations in accruals resulting from changes in business conditions.

Additionally, the current study uses absolute discretionary accruals.<sup>1</sup> According to Doukakis (2014), the absolute value is the best discretionary accruals measure due to the absence of a specific direction of estimations. The following model is to estimate discretionary accruals:

$$TAC_{it}/TA_{it-1} = \beta_0 + \beta_1[1/TA_{it-1}] + \beta_2[(\Delta S_{it} - \Delta REC_{it})/TA_{it-1}] + \beta_3[PPE_{it}/TA_{it-1}] + \beta_4ROA_{it} + \varepsilon_{it} \quad (1)$$

After estimating Eq. (1) we use the coefficients to determine the non-discretionary accruals (NADC) from the following equation.

$$NDAC = \beta_0 + \beta_1[1/TA_{it-1}] + \beta_2[(\Delta S_{it} - \Delta REC_{it})/TA_{it-1}] + \beta_3[PPE_{it}/TA_{it-1}] + \beta_4ROA_{it} \quad (2)$$

Finally, we obtain the discretionary accruals (DAC) by subtracting total accruals from the non-discretionary accruals resulted from Eq. (2). This is defined as:

$$DAC_{it} = TAC_{it}/TA_{it-1} - NDAC_{it} \quad (3)$$

Where  $TAC_{it}$  is total accruals,  $TA_{it-1}$  is lagged total assets,  $\Delta S_{it}$  is change in sales,  $\Delta REC_{it}$  is change in net receivables,  $PPE_{it}$  is net property, plant, and equipment,  $ROA_{it}$  is return on asset, and  $\varepsilon_{it}$  is error term (DAC).

### Model Specification

This study employs a dynamic model to investigate the relationship between institutional ownership, IFRS and EQ.

$$DAC_{it} = \beta_0 + \beta_1 DAC_{it-1} + \beta_2 INSTOW_{it} + \beta_3 IFRS + \beta_4 (INSTOW * IFRS) + \beta_5 LnSIZE_{it} + \beta_6 GRWTH_{it} + \beta_7 LEV_{it} + \beta_8 ROA_{it} + \beta_9 BIG4_{it} + \eta_i + \varepsilon_{it} \quad (4)$$

Where INSTOW is institutional ownership, LnSIZE is firm size, GRWTH is growth rate, LEV is firm leverage, BIG-4 is audit quality,  $\eta_i$  is firm-specific effect and  $\varepsilon_{it}$  is the error term. Except the INSTOW and IFRS, the rest are control variables that can significantly affect firm's EQ (Doukakis, 2014; Francis and Wang, 2008). All variables are operationally defined in the Appendix.

<sup>1</sup> The absolute value is selected because of its ability to take accrual reversals following the phenomenon (Cohen, Dey, and Lys, 2008).

## Dynamic Panel Data

This study employs system GMM method to examine the association between institutional ownership, IFRS, and EQ. This model has several advantages compared to other panel approaches. First, the static models provide biased and inconsistent coefficients, due to the existence of lagged-dependent variables or possible endogeneity problem caused by explanatory variables (Hsiao, 2014). Second, system GMM provides consistent estimates even if endogeneity, heteroscedasticity and serial correlation problems take place. Third, system GMM gives more efficient results than difference GMM even with unbalanced panel data, since it uses more instruments and consists of both level and first difference regressions (Roodman, 2009). System GMM is also appropriate with small time series.

The consistency of GMM method depends on several diagnostic tests. First, Hansen/Sargan test of over-identifying restrictions examines the validity of instruments which should be uncorrelated with the error term. Second, AR (2) tests the existence of second-order autocorrelation. Third, the difference in Hansen test investigates the validity of extra moments' conditions on system GMM. It calculates the difference between system and difference GMM Hansen tests. Failure to reject the three null hypotheses means that the instruments are valid and the model is correctly specified.

## RESULTS AND DISCUSSIONS

### Descriptive statistics and correlation matrix

Table 1 provides a summary of descriptive statistics and correlation analysis of research variables. It also reports that there is no multicollinearity problem via variance inflation factors (VIF). We first note that institutional ownership and IFRS have negative correlation with discretionary accruals. Additionally, the mean value of firms' discretionary accruals is 7% which is consistent with the prior literature (Ferentinou and Anagnostopoulou, 2016). The results also show that Malaysian companies have a high level of institutional investors (61%).

Table 1 Descriptive statistics and Pair-wise Pearson correlation coefficient

Variables	VIF	Mean	SD	DAC	IO	IFRS	LFS	FG	FL	ROA	B <sub>4</sub>
Discretionary Accrual ( <i>DAC</i> )	-	0.07	0.09	1							
Institutional Ownership ( <i>IO</i> %)	1.16	0.61	0.26	-0.02	1						
IFRS ( <i>Dummy</i> )	1.05	0.48	0.5	-0.03	0.03	1					
Ln(Firm Size) ( <i>\$ Millions</i> )	1.28	5.06	0.62	-0.06*	0.35*	0.07*	1				
Firm Growth ( <i>GRWTH</i> %)	1.05	0.08	0.38	0.09*	0.04	-0.16*	0.08*	1			
Financial leverage ( <i>LEV</i> %)	1.01	0.40	0.38	0.08*	0.01	-0.07*	0.04	0.02	1		
Profitability ( <i>ROA</i> %)	1.08	0.07	0.11	-0.04	0.16*	-0.07*	0.16*	0.15*	-0.03	1	
Big4 ( <i>Dummy</i> )	1.18	0.51	0.5	-0.08*	0.21*	-0.05*	0.35*	0.01	-0.04	0.17*	1

Note: \* refers to the significance at 5%

### Multiple regression analysis

As shown in Table 2, the results present that specification tests of AR (2), Hansen and difference in Hansen tests are economically insignificant and hence valid. This implies that the empirical models are correctly specified and, therefore, we can interpret the results. Table 2 presents practical outcomes for accrual earnings management models by using two-step system GMM. Columns (1) and (2) in Table 2 show the estimated findings where discretionary accrual is earnings quality measure, while columns (3) and (4) include other measurements of control variables for robustness check. Additionally, the significant relationships among EQ measures and their lags confirm the use of dynamic models and support GMM application.

### The impact of institutional ownership and IFRS on discretionary accruals

The first objective of this study is to examine the impact of IFRS on EQ. As given in column (1), the results show that IFRS significantly decrease discretionary accruals at 10% level, indicating that IFRS can reduce earnings management and hence increase firm's EQ. This result is consistent with previous literature (Wan Ismail et al. 2013) and with our suggestion.

The second objective is to test the relationship between institutional ownership and accrual opportunistic behavior. The findings in column (1) indicate that institutional investors have negative impacts on discretionary accruals, suggesting that institutional ownership decreases firm's discretionary accruals. This result is consistent with the prior literature (Hessayri and Saihi, 2015) and with our expectations.

The third objective is to examine the moderating impact of IFRS on the relationship between institutional ownership and discretionary accrual behaviors over the period 2007-2016. As presented in column (2), the results indicate that institutional ownership is more effective in maintaining the EQ under IFRS compared to pre-period. The situation changed from a negative link between INSTOW and DAC, column 1, into a significantly negative association between INST\*IFRS and DAC at a 1% level, column 2. The results show that institutional investors have less engagement in earnings management in the post-IFRS period, leading to high EQ. This result is consistent with theoretical stand and previous literature (Bryce et al., 2015).

More to the point, the results show that accruals earnings management has negative and significant relationships with firm size and profitability at 5%, meaning that big-sized firms with high profitability and audited by one of the big four companies are more likely to minimize accrual manipulations and hence increase EQ (Doukakis, 2014). However, it is positively associated with firm growth and leverage at 1% levels (Doukakis, 2014). This implies that firms with growth feature and less capital financing have lower EQ compared to their counterparts.

Table 2 Institutional ownership and discretionary accruals, system GMM

	Column 1	Column 2 Interaction	Column 3	Column 4 Interaction
DAC <sub>t-1</sub>	0.121***	0.122 ***	0.095 ***	0.102 ***
INSTOW <sub>it</sub>	-0.001	0.015 **	-0.001	0.011 *
IFRS <sub>t</sub>	-0.003 *		-0.003	
SIZE <sub>it</sub>	-0.006 **	-0.007 ***	-0.003	-0.004 *
GRWTH <sub>it</sub>	0.025 ***	0.024 ***	0.024 ***	0.024 ***
LEV <sub>it</sub>	0.006 **	0.007 ***	0.001 ***	0.001 ***
ROA <sub>it</sub>	-0.073 **	-0.048		
BIG4 <sub>it</sub>	-0.004	-0.005 *	-0.006 **	-0.006 **
ROE <sub>it</sub>			-0.016 ***	-0.014 ***
Constant	0.087 ***	0.081 ***	0.072 ***	0.007 ***
INST*IFRS		-0.008 ***		-0.007 **
Firm-fixed effects	Yes	Yes	Yes	Yes
Time-fixed effects	No	No	No	No
<i>Diagnostic tests</i>				
No of instruments	61	58	61	58
No. of groups	196	196	196	196
Number of obs.	1746	1746	1743	1743
AR(2)-p value	0.368	0.326	0.270	0.243
Hansen test	0.287	0.336	0.207	0.314
Diff. in Hansen test	0.367	0.316	0.272	0.258

Note: \*\*\*, \*\* and \* refer to significance at 1, 5 and 10 percent levels, respectively.

## Robustness Checks

Following previous literature (e.g. Akhtaruddin and Haron, 2010), this study conducts several checks to verify the robustness of results. As seen in columns (3) and (4) in Table 2, the measurements of control variables, namely firm leverage, size, and profitability, have been changed. The measure of firm leverage is replaced to total debts to total equity. ROA is altered to return on equity (ROE), as a profitability indicator. Moreover, the firm size is replaced with the log of total sales instead of total assets. We run the models, columns (3) and (4), with new control variables' measurements and the results remain consistent. The association between institutional ownership and discretionary accruals is still negative. Furthermore, the IFRS also moderate this link, as the relationship is still significantly negative, and institutional ownership is still efficient.

## CONCLUSION

The present study adds to the literature by investigating the moderating effect of IFRS on the link between institutional ownership and EQ from 2007 to 2016 in Malaysia. It also provides results using dynamic modeling. This study presents the following results. First, IFRS adoption significantly improves a firm's EQ by reducing discretionary accruals. Second, a high percentage of institutional ownership has a significant adverse impact on earning management behaviors, leading to higher EQ. Finally, after IFRS period, institutional ownership became more efficient in mitigating earnings manipulations. The likely reason for this result is that institutional owners have monitoring skills to protect their investments and they apply accounting standards successfully.

Our findings have some implications for the policymakers and practitioners. This work reveals that institutional ownership and IFRS enhance firms' EQ. Regulators and practitioners should place greater attention on such monitoring mechanisms to decrease earnings manipulation practices. They should focus on the real implementation of IFRS in listed companies to attract foreign investors. Additionally, this study opens the door for future research in several dimensions. It opens broad avenues to study this relationship in an international context if data are available. However, this study did not consider the nonlinear relationship between institutional ownership and EQ to determine the optimal level of institutional ownership that leads to high EQ. It did not study the other ownership attributes and did not distinguish between foreign and domestic institutional ownership to see their effects on EQ. Another limitation of this study is that it did not focus on country-level factors to improve the efficiency of institutional ownership as a monitoring mechanism.

## REFERENCES

- Akhtaruddin, M. and Hasnah Haron. (2010) Board Ownership, Audit Committees' Effectiveness, and Corporate Voluntary Disclosures. *Asian Review of Accounting*. 18 (3), pp.
- Al-Dhamari, R.A. and Ku Ismail, K.N.I. (2013) Governance structure, ownership structure and earnings predictability: Malaysian evidence. *Asian Academy of Management Journal of Accounting and Finance*. 9 (1), pp. 1–23.
- Al-Fayoumi, N., Abuzayed, B. and Alexander, D. (2010) Ownership structure and earnings management in emerging markets: The case of Jordan. *International Research Journal of Finance and Economics*. 38, pp. 1–21.
- Alzoubi, E.S.S. (2016) Ownership structure and earnings management: evidence from Jordan. *International Journal of Accounting and Information Management*. 24 (2), pp. 135–161.
- Amran, N.A. and Ahmad, A. C. (2013) Effects of ownership structure on Malaysian companies performance. *Asian Journal of Accounting and Governance*. 60, pp. 51–60.
- Anuar, K., Adibah, W. and Ismail, W. (2014) The risk of earnings quality impairment. *Procedia - Social and Behavioral Sciences*. 145, pp. 226–236.
- Barclay, M.J. and Holderness, C.G. (1989) Private benefits from control of public corporations. *Journal of Financial Economics*. 25 (2), pp. 371–395.



- Barth, M.E., Landsman, W.R. and Lang, M.H. (2008) International accounting standards and accounting quality. *Journal of Accounting Research*. 46 (3), pp. 467–498.
- Bouchareb, M., Ajina, A. and Souid, S. (2014) Does the adoption of IAS/IFRS with a strong governance mechanism can deter earnings management?. *International Journal of Academic Research in Economics and Management Sciences*. 3 (1), pp. 264–283.
- Bryce, M., Ali, M.J. and Mather, P.R. (2015) Accounting quality in the pre-/post-IFRS adoption periods and the impact on audit committee effectiveness - Evidence from Australia. *Pacific Basin Finance Journal*, 35, pp. 163–181.
- Bushee, B. (1998) *Institutional investors, long-term investment, and earnings management*.
- Cohen, D.A., Dey, A. and Lys, T.Z. (2008) Management in the Pre- and Post-Sarbanes-Oxley Periods. *Accounting Review*, 83 (3), pp. 757–787.
- Dayanandan, A., Donker, H., Ivanof, M. and Karahan, G. (2016) IFRS and accounting quality: Legal origin, regional, and disclosure impacts. *International Journal of Accounting and Information Management*, 24 (3).
- Dechow, P.M., Sloan, R.G., and Sweeney, A.P. (1995) Detecting earnings management. *The Accounting Review*, 70 (2), pp. 193–225.
- Dimitropoulos, P.E., Asteriou, D., Kousenidis, D. and Leventis, S. (2013) The impact of IFRS on accounting quality: Evidence from Greece. *Advances in Accounting*, 29 (1), pp. 108–123.
- Doukakis, L.C. (2014) The effect of mandatory IFRS adoption on real and accrual-based earnings management activities. *Journal of Accounting and Public Policy*. 33 (6), pp. 551–572.
- Ferentinou, A.C. and Anagnostopoulou, S.C. (2016) Accrual-based and real earnings management before and after IFRS adoption: The case of Greece. *Journal of Applied Accounting Research*. 7(1), pp. 2–23.
- Ferreira, M.A. and Matos, P. (2008) The colors of investors' money: The role of institutional investors around the world. *Journal of Financial Economics*. 88 (3), pp. 499–533.
- Francis, J.R. and Wang, D. (2008) The joint effect of investor protection and big 4 audits on earnings quality around the world. *Contemporary Accounting Research*. 25 (1), pp. 157–91.
- García, M. del P.R., Alejandro, K.A.C., Sáenz, A.B.M. and Sánchez, H.H.G. (2017) Does an IFRS adoption increase value relevance and earnings timeliness in Latin America? *Emerging Markets Review*. 30, pp. 155–168.
- Habib, A. and Azim, I. (2008) Corporate governance and the value-relevance of accounting information: Evidence from Australia. *Accounting Research Journal*. 21 (2), pp. 167–194.
- Hadani, M., Goranova, M. and Khan, R. (2011) Institutional investors, shareholder activism, and earnings management. *Journal of Business Research*. 64 (12), pp. 1352–1360.
- Hamberg, M., Mavruk, T. and Sjögren, S. (2013) Investment allocation decisions, home bias and the mandatory IFRS adoption. *Journal of International Money and Finance*. 36, pp. 107–130.
- Hashim, H.A. and Devi, S. (2015) Board characteristics, ownership structure and earningsquality: Malaysian evidence. *Corporate Governance in Less Developed and Emerging Economies*. 8, pp. 97–123.
- Hessayri, M. and Saihi, M. (2015) Monitoring earnings management in emerging markets. *Journal of Economic and Administrative Sciences*. 31 (2), pp. 86–108.
- Hessayri, M. and Saihi, M. (2018) Ownership dynamics around IFRS adoption: emerging markets context. *Journal of Accounting in Emerging Economies*. 8 (1), pp. 2–28.
- Hessayri, M. and Saihi, M. (2018) Ownership dynamics around IFRS adoption: emerging markets context, *Journal of Accounting in Emerging Economies*. 8 (1), pp. 2-28.
- Hsiao, C. (2014) *Analysis of panel data*. Cambridge University Press.
- Ji, X., Ahmed, K. and Lu, W. (2015) The impact of corporate governance and ownership structure reforms on earnings quality in China. *International Journal of Accounting and Information Management*. 23 (2), pp. 169–198.

- Jones, J.J. (1991) Earnings management during import relief investigations. *Journal of Accounting Research*. 29 (2), pp. 193–228.
- Joshi, M., Yapa, P.W.S. and Kraal, D. (2016) IFRS adoption in ASEAN countries. *International Journal of Managerial Finance*. 12 (2), pp. 211–240.
- Khamoussi, S. and Ben Abdelaziz, H. (2016) The motivations of earnings management and financial aggressiveness in American firms listed on the NASDAQ 100. *Journal of Applied Accounting Research*. 17 (5).
- Kothari, S.P., Leone, A.J. and Wasley, C E. (2005) Performance matched discretionary accrual measures. *Journal of Accounting and Economics*. 39 (1), pp. 163–197.
- Kouaib, A. and Jarboui, A. (2017) The mediating effect of REM on the relationship between CEO overconfidence and subsequent firm performance moderated by IFRS adoption: A moderated-mediation analysis. *Research in International Business and Finance*. 42 (February), pp. 338–352.
- Marra, A., Mazzola, P. and Prencipe, A. (2011) Board monitoring and earnings management pre- and post-IFRS. *International Journal of Accounting*. 46 (2), pp. 205–230.
- Nagata, K. and Nguyen, P. (2017) Ownership structure and disclosure quality: Evidence from management forecasts revisions in Japan. *Journal of Accounting and Public Policy*. (xxxx), pp. 1–17.
- Peasnell, K.V., Pope, P.F., and Young, S. (2005) Board monitoring and earnings management: Do outside directors influence abnormal accruals? *Journal of Business Finance and Accounting*. 32 (7–8), pp. 1311–1346.
- Persakis, A. and Iatridis, G.E. (2017) The joint effect of investor protection, IFRS and earnings quality on cost of capital: An international study. *Journal of International Financial Markets, Institutions and Money*. 46, pp. 1–29.
- Rad, S.E.M., Salehi, H. and Pour, H.V. (2016) A study of the interaction of audit quality and ownership structure on earnings management of listed firms on Tehran Stock Exchange. *International Journal of Humanities and Cultural Studies*. Special Is (April), pp. 1596–1606.
- Rebai, I. (2011) Institutional investors heterogeneity and earnings management : The RandD investment strategy. *International Journal of Business Research and Management*. 1 (3), pp. 122–131.
- Ronen, J. and Yaari, V. (2008) *Earnings management: emerging insights in theory, practice and research*. Springer Series in Accounting Scholarship. 3.
- Roodman, D. (2009) How to do xtabond2: An introduction to difference and system GMM in Stata. *Stata Journal*. 9 (1), pp. 86–136.
- Ruiz-Mallorqui, M.V. and Santana-Martin, D.J. (2009) Ultimate institutional owner and takeover defenses in the Controlling versus minority shareholders context. *Corporate Governance*. 17 (2), pp. 238–254.
- Shayan-Nia, M., Sinnadurai, P., Mohd-Sanusi, Z. and Hermawan, A.N.A. (2017) How efficient ownership structure monitors income manipulation? Evidence of real earnings management among Malaysian firms. *Research in International Business and Finance*. 41, pp. 54–66.
- Shleifer, A. and Vishny, R.W. (1997) A survey corporate governance. *The Journal of Finance*. 52 (2), pp. 737–783.
- Uyar, M. (2013) The Impact of Switching Standard on Accounting Quality. *Journal of Modern Accounting and Auditing*. 9 (4), pp. 459–479.
- Wan Ismail, W.A., Kamarudin, K.A., Zijl, T. Van and Dunstan, K. (2013) Earnings quality and the adoption of IFRS-based accounting standards: Evidence from an emerging market. *Asian Review of Accounting*. 21 (1), pp. 53–73.
- Yurisandi, T. and Puspitasari, E. (2015) Financial Reporting Quality - Before and After IFRS Adoption Using NiCE Qualitative Characteristics Measurement. *Procedia - Social and Behavioral Sciences*. 211, pp. 644–652.
- Zabri, S.M., Ahmad, K. and Wah, K.K. (2016) Corporate governance practices and firm performance: Evidence from top 100 public listed companies in Malaysia. *Procedia Economics and Finance*. 35 (October 2015), pp. 287–296.
- Zeghal, D., Chtourou, S. and Sellami, Y. (2011) An analysis of the effect of mandatory adoption of IAS/IFRS on earnings management. *Journal of International Accounting Auditing and Taxation*. 20 (2), pp. 61–72.

Zhong, L., Chourou, L. and Ni, Y. (2017) On the association between strategic institutional ownership and earnings quality: Does investor protection strength matter? *Journal of Accounting and Public Policy*. (xxxx), pp. 1–22.

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## APPENDIX

Abbreviations	Variables	Definitions
TACC <sub>it</sub>	Total accruals	The difference between net income and cash flow from operation
DAC <sub>it</sub>	Discretionary accruals	The difference between total accruals and non-discretionary accruals
INSTOW <sub>it</sub>	Institutional ownership	Proportion of shares held by institutional investors to the total number of shares issued
IFRS <sub>it</sub>	IFRS	Dummy variable that equals 1 if the year is post-IFRS adoption, 0 otherwise
Big4 <sub>it</sub>	Big Four auditing	Dummy variable that equals 1 if a firm is audited by one of the Big4 auditing businesses and zero if otherwise
GRWTH <sub>it</sub>	Firm Growth	The change in total assets scaled by lagged total assets.
LEVE <sub>it</sub>	Firm Leverage	Total debt over total assets
ROA <sub>it</sub>	Profitability	Net income before tax over the average total assets
Ln(SIZE) <sub>it</sub>	Firm size	The natural logarithm of total assets