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# The Relationship between Ownership Structure and Real Earnings Management Practices: Evidence from Malaysian Public Companies

*(Hubungan Antara Struktur Pemilikan dan Amalan Pengurusan Perolehan Sebenar: Bukti daripada Syarikat Awam Malaysia)*

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*ABSTRACT*

*This study aimed to examine the mitigating effects of ownership structure on real earnings management practices among Malaysian public-listed firms. Data was collected from firms listed on Bursa Malaysia's main market, covering the years 2011 through 2021. The findings of Generalised Least Squares panel regression confirmed the significant negative effect of family ownership and foreign ownership on listed firms' real earnings management, while managerial ownership and ownership concentration demonstrated insignificant effects. Practically, this study offers an effective framework for ownership structure and real earnings management practices to reduce executive managers' opportunistic behaviour. The findings contribute to a broader understanding of these phenomena so that investors and other stakeholders can better analyse earnings reports and, therefore, make informed decisions, particularly pertaining to non-owner-controlled firms.*

*Keywords*: *Earnings management; family ownership; foreign ownership; managerial ownership; ownership concentration.*

*ABSTRAK*

*Kajian ini bertujuan meninjau kesan pengurangan struktur pemilikan ke atas amalan pengurusan pendapatan dalam syarikat-syarikat tersenarai awam di Malaysia. Data diperoleh daripada syarikat-syarikat yang tersenarai di pasaran utama Bursa Malaysia, meliputi tahun 2011 hingga 2021.Dapatan daripada analisa regresi panel Generalized Least Square mengesahkan perkaitan negatif yang signifikan antara pemilikan keluarga dan pemilikan asing ke atas pengurusan pendapatan sebenar, sementara pemilikan pengurus dan kepekatan pemilikan adalah tidak signifikan. Secara praktikalnya, kajian ini menyediakan satu rangka kerja efektif berkaitan struktur pemilikan dan amalan pengurusan pendapatan bagi pemgurangkan gelagat oportunistik pengurus-pengurus eksekutif. Dapatan ini menyumbang kepada pemahaman yang lebih luas terhadap fenomena-fenomena ini supaya para pelabur dan pihak-pihak berkepentingan lain dapat menganalisa laporan pendapatan dengan lebih baik, dan oleh itu, membuat keputusan bermaklumat, terutamanya yang berkaitan dengan firm-firma yang tidak ditadbir oleh pemilik.*

*Kata kunci: Pengurusan pendapatan; pemilikan keluarga; pemilikan asing; pemilikan pengurusan; kepekatan pemilikan*

## INTRODUCTION

In modern corporations, ownership is separated from control, such that shareholders typically relinquish corporate decision-making to management. This practice creates a conflict of interest between managers and owners, as management decisions are not always made with the interests of other stakeholders in mind. As corporate insiders, managers have the opportunity to maximise their own interests by engaging in actions that deceive shareholders, such as by altering a firm's reported output or manipulating contractual outcomes (Anh et al. 2020; Martinez & Carvalho 2021; Wei & Rahmat 2023).

In this regard, a key tool used by managers is earnings management, which refers to how they alter or falsify recorded earnings. Common examples of earning management practices include employing specific accounting techniques, accelerating expenses or revenue transactions, recognising one-time non-recurring items, and deferring expenses, among others (Rahahleh et al. 2019; Alhadab 2018). In the context of corporate governance, earnings management is a significant issue, as executive managers' opportunistic behaviour in manipulating and misusing shareholder funds is becoming increasingly prevalent (Nasir et al. 2018). Public disclosure of earnings, especially if preceded by legal action from aggrieved shareholders or other stakeholders, damages firms'

reputation and investor confidence, consequently impacting stock prices (Affes & Smii 2016; Astami et al. 2017; Saona et al. 2020). Auditor reputations are at stake as well; when financial crises arise, the general public tends to question why auditors do not diligently fulfil their duties, as they are perceived to be responsible for detecting fraud and related criminal activities (DeZoort & Harrison 2018; Hashim et al. 2019; Tuan et al. 2020).

Both established and emerging economies have attempted to mitigate the effects of earnings manipulations by employing various corporate governance mechanisms. However, the quality of corporate governance is still developing and yet to reach satisfactory levels in most countries (Chapple et al. 2018; Dao & Ngo 2020; Domenico & Ray 2014). In Malaysia, the lack of effective governance mechanisms has contributed to various business challenges, as evidenced by cases such as Renong, UEM, Perwaja Steel, Transmile, and Malaysia Airlines (Ali & Nasir 2018; Ammer & Ahmad-Zaluki 2017). One survey reported that the average national loss per firm due to manipulation was USD173,303 (Teh et al. 2017). Culpable companies are ultimately delisted from Bursa Malaysia due to employee dissatisfaction, loss of image, reputation decline, and strained corporate relationships. These cases highlight flaws in Malaysia’s corporate governance framework, particularly in preventing questionable management practices like that of earnings. The situation also demonstrates how equity investors, creditors, suppliers, regulators, and customers can become victims of managers' opportunistic behaviour.

To combat these concerns, the Malaysian Code of Corporate Governance was introduced to manage power disparity, decision-making authority, and other governance issues (Al-Sayani et al. 2020; Mohammed et al. 2017). The code was further revised to reinforce the responsibilities of firms’ audit committee, ownership structure, and audit functions. Unfortunately, although Malaysian authorities and companies are investing more in developing robust control activities as part of their governance frameworks (Tuan et al. 2020), earnings manipulation remains a common and troubling problem. As such, numerous studies have established the need for initiatives to address fundamental issues arising from earnings scandals and malpractice within Malaysia’s corporate governance, including the issues of ownership concentration, ownership composition, political influence, earnings manipulation, and disclosure (Ali & Nasir 2018; Hasan et al. 2019; Mohammed et al. 2017; Zulkefli & Quddus 2019). However, while prior research on earnings management has focused on specific events, such as seasoned equity offers, initial public offerings, import relief investigations, and loan covenant violations (Hassan et al. 2023; Wardani et al. 2023; Widagdo et al. 2021), there is insufficient evidence regarding which mechanisms, if any, effectively reduce overall earnings distortion and misreporting in either developed or developing economies.

Motivated by this gap, this research aimed to examine the consequences of ownership structure mechanisms, which may inadvertently cause managers to engage in real earnings management (REM) practices. Empirical evidence shows that managers can switch between discretionary accruals and REM to distort reported earnings (Hassan et al. 2023; Nguyen et al. 2024; Nuhu et al. 2023; Wardani et al. 2023). Additionally, when managers are constrained from using discretionary accruals, which are easier to detect than REM, they often resort to REM manipulation. This switch can have adverse effects on cash flow, sustainability, and liquidity, particularly in the development of new products and markets. However, compared to discretionary accruals, REM has received less attention in the literature. Given the potentially damaging impact of distorted earnings firms’ investor confidence and sustainability, this research sought to evaluate the trade-offs between different forms of managerial manipulation and assess the effectiveness, if any, of corporate governance mechanisms in minimising these manipulations in listed firms in Malaysia.

Several studies have examined the linkage between ownership structure variables and REM, but failed to adequately assess the mitigating effects of family ownership, foreign ownership, managerial ownership, and ownership concentration on REM as estimated by the Roychowdhury (2006) model. The lack of prior literature on these variables in the context of Malaysian listed firms, in particular, is a notable gap. Therefore, this study expands the REM literature by integrating the aforementioned multiple aspects of ownership structure within a single model in the context of listed firms. By providing empirical evidence of REM’s prevalence in Malaysia, moreover, this paper contributes to ongoing research on how ownership structure influences REM behaviour and fills the gap concerning costly REM in emerging markets.

This paper is structured into five sections. Section 1 has presented the introduction. Section 2 reviews the relevant literature on the study's subject matter. Section 3 addresses the methodological procedures and the measurement of the study variables. The results and discussion are presented in Section 4. Finally, Section 5 concludes the study and offers suggestions for future research.

## LITERATURE REVIEW, THEORETICAL FRAMEWORK, AND HYPOTHESES DEVELOPMENT

Earnings management encompasses a range of activities, from legitimate accounting practices to outright fraudulent financial reporting. It is said to occur when managers exercise discretion over accounting numbers, whether with or without control, to maximise either the firm's value (for shareholders) or their personal interests (opportunistic behaviour). Schipper (1986) defines REM as the intentional involvement in the financial reporting process for personal gain. Many subsequent studies have used Schipper's definition to explain managers’

manipulation of earnings (Al-Shattarat 2021; Alzoubi 2016; Francis et al. 2016; Rahahleh et al. 2019; Soliman & Ragab 2014).

As a key dimension of corporate governance, ownership structure has a variety of meanings and concepts. Generally, it refers to the composition and distribution of a firm's equity shareholding, which influences the potential distribution of control within a firm. With the continued globalisation of economies worldwide, the ownership structure of companies is undergoing significant changes (Bao & Lewellyn 2017). According to Wang (2006), agency theory views corporate governance structures as vital control mechanisms to reduce agency-related issues. The primary goal of ownership structure as a governance mechanism is to reduce information asymmetry between shareholders and managers (Bataineh et al. 2018; Boonlert-U-Thai & Sen 2019; Shafai & Abd-Mutalib 2024). From this perspective, ownership structure can be a crucial tool for regulating managerial behaviour and mitigating REM by providing the foundation for an efficient control system (Arja et al. 2019; Baig et al. 2018; Nuhu et al. 2023). Therefore, agency theory was chosen for this study as it best explains the motives behind REM, specifically in terms of how it is affected by family ownership, foreign ownership, managerial ownership, and ownership concentration.

## FAMILY OWNERSHIP AND REM

Family businesses play a crucial role in the global economy due to their contributions to job creation, wealth generation, and competitiveness (Cruz et al. 2012; Zellweger et al. 2013). The presence of family ownership creates a unique bundle of resources and capabilities, often referred to as "familiness," which distinguishes family firms from other businesses (Bataineh et al. 2018; Widagdo et al. 2021). Recent studies have found that family ownership prevents REM and enhances financial reporting (Boonlert-U-Thai & Sen 2019; Durendez & Madrid-Guijarro 2018; Ghaleb et al. 2020; Mohammad & Wasiuzzaman 2020; Pugatekaew 2021). This is because the highly concentrated ownership in family firms creates an entrenchment effect that improves financial reporting quality and reduces earnings management practices (Arja et al. 2019; Bataineh et al. 2018; Pugatekaew 2021). It is further claimed that family-owned firms have both the opportunity and motivation to effectively regulate accounting practices and restrict information for self-serving purposes (Boonlert-U-Thai & Sen 2019; Gerged et al. 2020; Ghaleb et al. 2020). Based on these findings, the first hypothesis of this study is as follows:

$H_1$ Family ownership has a significant negative influence on REM.

## OWNERSHIP CONCENTRATION AND REM

Defined as the percentage of shares held by major shareholders (typically above 5%), ownership concentration is an essential internal corporate governance mechanism that allows large shareholders to exert control and influence over the company to safeguard their interests (Madhani 2016; Zhong et al. 2007). Minor shareholders often lack the incentive to engage in company control, as they would incur control costs without significant returns. Major shareholders, however, play a critical role in business control by leveraging their financial power to ensure that the company is managed in their interests (Nguyen et al. 2021). As such, ownership concentration dictates the balance of power between management and ownership (Jumreornvong et al. 2019), and has been found to negatively influence REM (Guangguo et al. 2019; Grimaldi & Muserra 2017; Pugatekaew 2021; Piosik & Genge 2020; Parveen et al. 2016; Wang et al. 2015). These findings suggest that a higher concentration reduces REM practices, as major shareholders are more likely to ensure that management protects their interests and maintains earning quality. Based on these arguments, this study proposes the following hypothesis:

$H_2$ Ownership concentration has a significant negative influence on REM.

## MANAGERIAL OWNERSHIP AND REM

Managerial ownership refers to the proportion of equity shares owned by directors and their immediate families at the end of the accounting year. According to agency theory, managers often act to maximise their own profits, even at the expense of stockholders, especially when they do not control a significant share of the company's shares (Jensen & Meckling 1976). Studies by Mindzak and Zeng (2018) and El-Moslemany and Nathan (2019) have shown that managerial ownership is an effective control mechanism that enhances management control and lowers REM activities. Similarly, previous research has demonstrated that the presence of such shareholders improves the accuracy and reliability of financial statements (Abdullahi & Ja'afaru 2017; Lai & Tam 2017) while significantly alleviating REM (Di Meo et al. 2017; Nguyen et al. 2021, 2020; O'Callaghan et al. 2018; Saona & Muro 2018). These findings indicate that managers with a significant ownership stake will effectively supervise other managers to limit REM. Based on the above studies, the third hypothesis is proposed as follows:

$H_3$ Managerial ownership has a significant negative influence on REM.

### FOREIGN OWNERSHIP AND REM

Bao and Lewellyn (2017) define foreign ownership as the ownership of shares in a foreign stock exchange by either naturalised or legal citizens. When an individual, firm, or multinational corporation invests in a foreign country, typically through direct investment or acquisition, it is considered foreign ownership. If a firm acquires at least half of another firm, the acquiring firm becomes the holding company, and the acquired firm becomes a subsidiary. Several studies have indicated that foreign investors are more attracted to firms with reliable information disclosure and effective corporate governance (Alzoubi 2016; Mazumder 2016). Due to their influence and control, foreign investors effectively monitor earnings and persuade management to reveal more information to prevent opportunistic behaviour (Alrabba et al. 2018; Chen et al. 2019). Consequently, foreign ownership has been widely shown to enhance a company's corporate reporting practices and reduce REM (Baig et al. 2018; Debnath et al. 2021; Kim et al. 2020; Nguyen 2021; Tran et al. 2020), demonstrating that companies engage in significantly less earnings management when foreign owners constitute the majority shareholders. Based on this discussion, this study puts forth the following hypothesis:

$H_4$ Foreign ownership has a significant negative influence on REM.

## METHOD AND MATERIALS

Based on data availability and suitability, this study's population consisted of firms listed on Bursa Malaysia's Main Market. Firms on the Main Market typically have larger market capitalisations compared to those on other exchanges and are more established and reputable. As of September 2021, there were 775 listed companies, of which 178 firms were excluded from the population for being newly listed or having erroneous financial reports during the study period. Additionally, 31 financial firms were removed from the analysis due to their unique financial reporting requirements. This resulted in a final sample of 566 firms, representing 73% of the total firms listed on the Main Market, totalling 6,226 firm-year observations. Firms' data was collected from annually audited financial accounts, firm websites, and Bursa Malaysia. The Generalised Least Squares (GLS) method of panel regression was employed as the primary data analysis approach, and all analyses were conducted using STATA Version 17.

### REM ESTIMATION

This study operationalised the dependent variable, REM, as actions taken by managers that deviate from standard business practices. The Roychowdhury (2006) model, which has been widely recognised and employed in past literature, measures REM using three proxies: absolute cash flow, production cost, and discretionary expenses. According to the model, price reductions, excess production, and decreased discretionary spending can all temporarily inflate sales by increasing reported margins. Accordingly, REM was measured in this study using the same three proxies, estimated via the three different models below:

$$ABCFO_t / A_{t-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \beta_1 (S_t / A_{t-1}) + \beta_2 (\Delta S_t / A_{t-1}) + \varepsilon_t \quad (1)$$

$$APROD_t / A_{t-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \beta_1 (S_t / A_{t-1}) + \beta_2 (\Delta S_t / A_{t-1}) + \beta_3 (\Delta S_t / A_{t-1}) + \varepsilon_t \quad (2)$$

$$ADIEXP_t / A_{t-1} = \alpha_0 + \alpha_1 (1/A_{t-1}) + \beta (S_{t-1} / A_{t-1}) + \varepsilon_t \quad (3)$$

Where ABCFO refers to absolute cash flow, APROD refers to production cost, and ADIEXP refers to discretionary expenses.

### MEASUREMENT OF INDEPENDENT VARIABLES

Four independent variables—family ownership, ownership concentration, managerial ownership, and foreign ownership—were identified as significant determinants of firms' REM practices. Additionally, this study included three control variables, i.e., firm size, firm age, and firm growth, to account for their influence on the main relationships. Firms with more predictable and diverse measures are expected to provide higher-quality earnings that are accurately reported to stakeholders (Hassan et al. 2023; Saona et al. 2020; Wardani et al. 2023). Hence, the firm characteristics were considered in this study as a firm's size, age, and growth may potentially encourage managers to manipulate performance. The descriptions and measurements of the explanatory variables in this research are summarised in Table 1.

TABLE 1. Measurement and description of variables

| Variables Discerption | Measurement |
|---|---|
| FAMOW | Family members hold at least 10% from total equity shares |
| OC | Percentage of shares owned by large shareholder |
| MOW | The proportion of the total shares owned by directors divided by the total shares. |
| FOW | The proportion of shares owned by foreign investors divide by total share |
| Control Variables | |
| FISZ | logarithm of the total asset of the firm |
| FAGE | logarithm of the firm' years of operation |
| FGRWTH | Measured by previous year total assets minus current years' TA |

Note: Variables are defined as follows: managerial ownership (MOW), ownership concentration (OC), family ownership (FMOW), foreign ownership (FOW), firm growth (FGRWTH), firm size (FSZE), firm age (FAGE), and TA (total assets).

## MODEL SPECIFICATION

Multiple regression using the GLS panel regression method (both fixed and random effects) was applied to test the study's hypotheses, based on the recommendations of previous studies. The empirical models used for analysis are mathematically expressed below:

Model 1: $ABCFO_{it} = \alpha + \beta_1 FAMOW_{it} + \beta_2 OC_{it} + \beta_3 MOW_{it} + \beta_4 FOW_{it} + \beta_5 FGRWTH_{it} + \beta_6 FISZ_{it} + \beta_7 FAGE_{it} + \mu_{it}$ ………………………………………………………..…........... (4)
Model 2: $APROD_{it} = \alpha + \beta_1 FAMOW_{it} + \beta_2 OC_{it} + \beta_3 MOW_{it} + \beta_4 FOW_{it} + \beta_5 FGRWTH_{it} + \beta_6 FISZ_{it} + \beta_7 FAGE_{it} + \mu_{it}$……………………………………………………………….. (5)

Model 3: $ADEXP_{it} = \alpha + \beta_1 FAMOW_{it} + \beta_2 OC_{it} + \beta_3 MOW_{it} + \beta_4 FOW_{it} + \beta_5 FGRWTH_{it} + \beta_6 FISZ_{it} + \beta_7 FAGE_{it} + \mu_{it}$ ………………………………………………………………………...................................... (6)

Where the firm and time are denoted by the subscripts $i$ and $t$, respectively; $\beta$ is the explanatory variable's coefficient; and $\mu_{it}$ is the error term.

## RESULTS

### DESCRIPTIVE STATISTICS

Table 2 presents the descriptive statistics of the dependent variable proxies and the explanatory variables for the full sample.

TABLE 2. Summary of descriptive statistics

| Variables | Obs | Means | Std deviation | Min | Max | VIF |
|---|---|---|---|---|---|---|
| ABCFO | 6,226 | 0.1026 | 0.42539 | -0.086 | 4.3271 | 1.21 |
| APROD | 6,226 | 0.5005 | 0.36410 | 0.0000 | 98.062 | 1.43 |
| ADIEXP | 6,226 | 0.1034 | 0.15081 | 0.0000 | 0.8718 | 1.22 |
| FAMOW | 6,226 | 0.2544 | 0.01155 | 0.0000 | 699.21 | 1.35 |
| OC | 6,226 | 0.8529 | 0.61509 | 0.0007 | 178.78 | 1.67 |
| MOW | 6,226 | 1.3654 | 0.98465 | 0.0082 | 582.54 | 1.55 |
| FOW | 6,226 | 0.1809 | 0.06197 | 0.0000 | 282.05 | 1.45 |
| FISZ | 6,226 | 7.1304 | 1.09609 | 3.1456 | 9.6153 | 1.25 |
| FAGE | 6,226 | 1.4234 | 0.10549 | 0.8450 | 1.6334 | 1.33 |
| FGRWTH | 6,226 | 5.2534 | 0.71589 | -13.039 | 2.0456 | 1.24 |

Note: Variables are defined as follows: managerial ownership (MOW), ownership concentration (OC), family ownership (FMOW), foreign ownership (FOW), firm growth (FGRWTH), firm size (FSZE), and firm age (FAGE).

The descriptive statistics indicate that the REM variables, measured by abnormal cash flow from operating activities, abnormal production cost, and abnormal discretionary expenses, have mean values of 10.2%, 50%, and 10.3%, minimum values of -8.6% to 0.00%, and maximum values of 432%, 980%, and 87.1%, respectively. Additionally, managerial ownership has a mean value of 1.365, with minimum and maximum values of 0.008 and 582, respectively. The results also reveal that ownership in Malaysian firms is highly concentrated, with an average of 85.2%, suggesting that major stockholders own 85% of Malaysia's listed companies. This average value is within the middle range observed in industrialised countries, ranging from as low as 6% to as high as 98.4%.

In the case of family ownership, where family members hold the majority of a business, the mean is 25.4%, with a standard deviation of 0.011. Foreign ownership has an average value of 18.0%, with a standard deviation

of 0.061%, a minimum of 0%, and a maximum of 282%. This indicates that foreign investors hold less than 5% of publicly traded companies on average. However, the large maximum values suggest that foreign investors focus exclusively on firms of interest to them rather than distributing investments across many companies. Similarly, the control variables—firm growth, firm size, and firm age—have mean values of 525%, 713%, and 142%, respectively. The minimum values are -130%, 314%, and 0.84%, while the maximum values are 204%, 961%, and 163%. The standard deviations are 71.5%, 109%, and 10.5%, respectively. Additionally, the correlations among the variables are sufficiently low, and the VIF values are well below 10, indicating no multicollinearity issues.

## MULTIVARIATE REGRESSION RESULTS

This section examines the direct effects of ownership structure (i.e., family ownership, ownership concentration, managerial ownership, and foreign ownership) on REM (proxied by absolute cash flow, production cost, and discretionary expenses) in the sampled firms. First, a series of multivariate diagnostics were performed to ensure the data's suitability for further analysis. The diagnostic tests confirmed the absence of heteroskedasticity, and the selected model was deemed appropriate (Wiedermann et al. 2017). Secondly, based on Hausman's test, it was determined that the fixed effects model was more suitable for the absolute cash flow model (Model 1), while the random effects approach was more fitting for the production cost model (Model 2) and discretionary expenses model (Model 3) (Huang et al. 2019). The results of the multiple regression analysis for each of the three models are presented in Table 3. All models were found to be significant (p-value = 0.000), with R-squared values of 0.658, 0.851, and 0.798 for the Models 1, 2, and 3, respectively.

TABLE 3. Multiple regression results

| | Expected Sign | Model 1 ABCFO | Model 2 APROD | Model 3 ADIEXP |
|---|---|---|---|---|
| Constant | | 18.72 (3.20) *** | 31.14 (0.99) | 18.72 (-4.20) *** |
| MOW | – | -0.023 (-0.14) | 0.112 (-1.40) | 0.054 (1.17) |
| OC | – | 0.000 (1.56) | -0.267 (-1.98) * | 0.011 (1.67) |
| FAMOW | – | -0.232 (-3.51) *** | 0.033 (-4.37) *** | -0.043 (-4.51) *** |
| FOWN | – | -0.011 (-4.80) *** | -0.050 (-2.28) ** | -0.034 (-6.54) *** |
| FGWTH | ? | 0.065 (-1.37) | 0.123 (-1.57) | 3.911 (4.38) *** |
| FSIZ | ? | 0.158 (24.30) *** | 0.015 (1.70) | 0.054 (4.39) *** |
| FAGE | ? | 0.066 (-1.07) | 0.137 (1.17) | 0.026 (1.20) |
| F-statistics/Wald Chi$^2$ | | 566.81 *** | 755.34 *** | 566.81 *** |
| R-Square | | 0.658 | 0.851 | 0.798 |
| Hausman's test | | 485.2(0.000) | 12.56(0.9252) | 11.58(0.9293) |
| Root MSE | | 0.2011 | 0.2383 | 0.3572 |
| No. of observations | | 6,226 | 6,226 | 6,226 |
| No. of Groups | | 566 | 566 | 566 |

Notes: ***, **, * denotes 0.1%, 1%, and 5% levels of significance, respectively. Coefficients are outside the parentheses and t-statistics are within the parentheses. Variables are defined as follows: managerial ownership (MOW), ownership concentration (OC), family ownership (FMOW), foreign ownership (FOW), firm growth (FGRWTH), firm size (FSZE), and firm age (FAGE). ABCFO refers to absolute cash flow, APROD refers to production cost, and ADIEXP refers to discretionary expenses.

The fixed effects regression results in Model 1 show that that family ownership and foreign ownership have significant negative impacts on absolute cash flow, supporting $H_1$ and $H_4$. However, the results reveal that ownership concentration and managerial ownership are negatively but insignificantly related to absolute cash flow, indicating the rejection of $H_2$ and $H_3$. Additionally, there is an insignificant negative effect of firm growth and firm age, while firm size has a significant positive influence on the model. In Model 2, the random effects results indicate that ownership concentration, family ownership, and foreign ownership are significantly and negatively related to production cost, whereas managerial ownership has an insignificant influence. Thus, Model 2 supports $H_1$, $H_2$, and $H_4$, but not $H_3$. Similarly, Table 3 shows that firms' growth, age, and size have an insignificant association with production cost. In Model 3, the random effects results show that family ownership and foreign ownership are negatively and significantly related to discretionary expenses, while managerial ownership and ownership concentration are insignificantly related to it. Again, the results confirm $H_1$ and $H_4$ but invalidate $H_2$ and $H_3$. Nonetheless, firm growth and firm size were found to have a significant relationship with discretionary expenses, whereas firm age shows an insignificant effect.

## DISCUSSION

The findings of this study indicate that family ownership has a significant negative association with REM, supporting $H_1$ that family-run businesses can mitigate REM practices. This is consistent with numerous studies suggesting that founding families, with a long-term stake in the company, can limit managers' capacity to influence earnings (Durendez & Madrid-Guijarro 2018; Ghaleb et al. 2020; Mani & Lakhal 2015; Mohammad &

Wasiuzzaman 2020; Pugatekaew 2021). The results thus support the notion that REM is constrained by a significant proportion of family ownership. The study also finds an insignificant relationship between ownership concentration and REM, meaning that $H_2$ is not supported. These findings contradict the view that major stockholders help align the interests of shareholders and directors. It is possible that managers may face pressure to deliver positive financial results when stockholders closely monitor the company's financial issues. The contradictory relationship between ownership concentration and REM in this study suggests that ownership concentration is much less effective in minimising REM than agency theorists propose. In Malaysia, it appears practically unfeasible for ownership concentration to effectively align the interests of minority shareholders with those of stockholders to mitigate REM practices. This contradicts previous studies that found ownership concentration to prevent opportunistic REM (Grimaldi & Muserra 2017; Guangguo et al. 2019; Martin & Reyna 2018; Parveen et al. 2016; Piosik & Genge 2020; Pugatekaew 2021; Wang et al. 2015).

Additionally, the study shows that managerial ownership is insignificantly associated with REM in all three specifications, which disproves $H_3$. Although agency theory suggests that high managerial ownership should make earnings manipulation more difficult (Arja et al. 2019; Hamdan & Al-Mubarak 2017; Saona et al. 2020), this study finds that managerial ownership has no effect on REM. These findings contradict previous studies (Abdullahi & Ja'afaru 2017; El-Moslemany & Nathan 2019; Mindzak & Zeng 2018) that suggest managerial ownership is an effective control mechanism. One plausible explanation for the inconsistent results is that the REM proxies used in this study differ from those in previous research, as most studies used a five-year average, while this study used three different models. Moreover, given the small amount of equity held by managers, it is doubtful that managerial ownership can resolve potential conflicts of interest arising from the separation of ownership and control. Interestingly, this study finds that foreign ownership has a significant negative influence on REM across all three proxy models, supporting $H_4$. This implies that foreign ownership effectively constrains REM, consistent with other studies that have investigated the impact of foreign ownership on earnings management (Debnath et al. 2021; Kim et al. 2020; Nguyen et al. 2021; Tran et al. 2020). This finding aligns with several studies suggesting that foreign ownership mitigates management's opportunistic behaviour (Baig et al. 2018; Chen et al. 2019).

Regarding the control variables, the results show that firm size has a significant positive effect on REM in terms of absolute cash flow and discretionary expenses ($p < 0.05$). This supports prior evidence (Ali & Zhang 2015; Arja et al. 2019; Kim et al. 2020) that larger firms are more likely to engage in REM due to their more advanced control systems. Conversely, firm age was found to have an insignificant negative relationship with REM across all three models, in line with earlier research (DeZoort & Harrison 2018; Nguyen et al. 2021). This suggests that as firm age increases, there is no effect on REM resulting from pressures to satisfy stakeholders' expectations. Finally, the findings show an insignificant association between firm growth and REM in terms of absolute cash flow and production costs, indicating that growth does not exacerbate managers' opportunistic behaviour. Managers may use cash flow and production expenses to prevent reporting negative growth rates that could affect their compensation. However, the significant positive coefficient in this study indicates that companies with higher growth rates are more likely to manipulate discretionary expenses.

## CONCLUSION

In general, the expectation that all four ownership structures are beneficial in constraining opportunistic REM activities was found to be largely inaccurate in Malaysia. Rather, the findings of this study suggest that family ownership and foreign ownership are the only ownership structures that effectively mitigate REM. The other ownership factors, namely ownership concentration and managerial ownership, demonstrate no effect on the level of REM across all models. These outcomes are inconsistent with agency theory, which posits that ownership concentration and managerial ownership can lower agency costs by aligning the interests of controlling owners with those of the company. The theory sees these mechanisms as rules or procedures imposed by regulators to enhance a firm's effectiveness. Overall, the findings of this study demonstrate the necessity for companies to implement robust ownership structure mechanisms and establish a framework for assessing board control of the firm's internal operations.

## IMPLICATIONS

The findings of this research have several implications for the existing literature and practice. This study contributes to the body of knowledge on listed firms by integrating multiple key proxies of ownership structure and REM, an area not fully explored in previous studies. Prior research has primarily focused on specific ownership structures (managerial and concentrated ownership) and discretionary accruals as a sole proxy for REM. Few, in contrast, have examined all three REM proxies in the context of listed firms in Malaysia. Practically, it is essential for stakeholders to be better informed about the methods and effects of REM. The findings provide a broader evidence-based understanding for investors and other stakeholders to interpret financial reports more

deeply, enabling informed contractual decisions, particularly concerning non-owner-controlled businesses. Furthermore, it is important to recognise that more costly REM is often beyond the monitoring responsibilities of external audits. Therefore, this study provides theoretical and practical relevance by extending the application of agency theory to more accurately characterise the workings of ownership structure in developing countries like Malaysia.

## LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

In terms of limitations, the sample used in this study was restricted to listed firms on Bursa Malaysia from 2011 to 2021. Therefore, future research is strongly encouraged to replicate the study model across various sectors, whether in Malaysia or other emerging markets. Additionally, this study focused on four types of ownership structure (family ownership, foreign ownership, managerial ownership, and ownership concentration), with the dependent variable (i.e., REM) represented by proxies from Roychowdhury's (2006) model. Consequently, several variables have been omitted, such as state ownership and institutional ownership as ownership structure proxies as well as materiality and revenue recognition as REM proxies. Including such alternative variables could enhance the statistical model and provide a better understanding of how these factors minimise the prevalence of REM practices. Overall, this study’s limitations highlight valuable new directions for future research on corporate governance.

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