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Blockholders and Real Earnings Management-An emerging market context
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Highlights

In this paper, we examine the influence of blockholders' voting power on REM for eight East Asian emerging markets. We incorporate the features of block ownership as a firm characteristic that influences earnings manipulation and the contextual attributes of the institutional and regulatory arrangements. We link the context of agency theory with our econometric model and investigate the role of blockholders in constraining REM. Our results are robust to controlling for the endogeneity of the ownership of the family blockholders.

We show that powerful family blockholders develop a coalition to manipulate the board strategic decision making in their favour which leads to a higher level of REM. Our evidence shows that the higher quality institutional and regulatory arrangements endogenously determine the better corporate financial reporting which effectively mitigates the REM.

Blockholders and Real Earnings Management-the emerging markets context

Abstract

We investigate the unexplored role of large controlling shareholders (blockholders) in constraining real earnings management (REM). We examine the mechanisms through which blockholders engage with the managers to manipulate corporate earnings. We also investigate the extent to which country-level institutional and regulatory arrangements influence the blockholders ability to mitigate REM. We show that powerful family blockholders develop a coalition to manipulate the board strategic decision making in their favour which leads to a higher level of REM. Our evidence shows that the higher quality institutional and regulatory arrangements endogenously determine the better corporate financial reporting which effectively mitigates the REM.

Keywords: Corporate Governance, Block Ownership, Real Earnings Management, Institutional Mechanism, Agency theory.

1. Introduction

Earnings management (EM) is one of the main causes of agency conflicts between controlling shareholders and minority shareholders in modern firms (Ding et al., 2007). The predominant literature shows mainly two types of earning management strategies: the accrual-based earnings management (AEM) and real earnings management (REM) (Cohen et al., 2008; Luo et al., 2017; Sun, Lan, & Liu, 2014). The AEM refer to the adjustment in accounting estimates and assumptions within the accounting system, while the REM activities are related to the adjustments in the structure and timing of the actual business activities to attain desired financial targets.

Since the last two decades' firms have shifted their way of earning management approaches from AEM to REM because of revised accounting and tax regulations, the adoption of IFRS, tighter accounting standards, and the better audit quality that restrict the AEM (Cohen et al., 2008; Zang, 2012). In addition, Graham et al. (2005) has surveyed 400 executives and report that the managers prefer REM as its draw less attention from regulatory scrutiny and the auditors. Hence, managers expect a relatively higher cost and risk of detection than the benefits of AEM. Likewise, Cohen et al. (2008) show that since the release of the Sarbanes-Oxley Act (SOX), firms tend to prefer REM over AEM as the practice of REM has a lower level of probability of being detected. A recent study by Li et al., (2021) document that REM is a more practical way to investigate whether firms are involved in earning management. Kuo et al., (2014) report that the regulatory arrangements in the emerging markets are not strong whilst management cost is relatively low hence managers tend to prefer REM. Therefore, following prior studies (e.g., Eng et al., 2019; Kamran et al., 2018; Li et al., 2021; Mojtaba et al., 2017; Pappas et al., 2019; Roychowdhury 2006), we focus on REM considering its significance, particularly in the emerging market context.

In this paper, we examine the impact of blockholders' voting power[1] in constraining the REM for eight East Asian emerging markets: Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan, and Thailand. We extend the international corporate governance literature by assessing the mechanisms through which blockholders influence corporate decisions related to REM in three unique aspects. These are blockholders coalitions[2], control contestability, and blockholder diversity; a thus far overlooked aspect of block ownership and its impact on REM. Considering the significance of agency theory in the emerging markets context; we link the under-research concepts i.e. blockholders coalition, control contestability, and blockholder diversity with the two opposing hypotheses of agency theory

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[1] The term 'blockholders' and 'large controlling shareholders' are used interchangeably in this study.

[2] The coalition is an alliance between blockholders to influence corporate strategy based on the combined level of their voting power, as opposed to their individual stake.

'alignment/monitoring effect' and 'entrenchment effect' and evaluate the role of blockholders in curbing the practice of REM.

The blockholders coalition is considered a controlling tool to consolidate blockholder power and authority to influence corporate decision making (Belot, 2010; Boubaker, 2007; Santana-Martin, 2010). The blockholder coalitions do not require the transfer of shares to other shareholders to form a coalition. For example, if the first two largest blockholders hold 30% and 25% of the total controlling stake respectively, by forming a coalition, they would influence the board decision making like a blockholder owing 55% (e.g., 30+25), rather than 30% (or 25%) of voting stake. The coalition members do commit to voting with the mutual census of coalition members. They can also limit the transfer of power and selling of shares outside the coalition.

In the case of control contestability, the non-majority blockholders consolidate their voting stake for a cohesive ownership alliance to protects their interest (Bennedsen & Wolfenzon, 2000). We ascertain whether control contestability yields efficient monitoring when the non-majority blockholders form a coalition to mitigates the REM. In this regard, we determine the role of control contestability in constraining REM by incorporating two opposing scenarios. First, we test the impact of Excess Contestability (i.e. presence of a more evenly spread voting pattern across blockholders) on REM. Second, we investigate the impact of lack of contestability on REM by using three different proxies: Herfindahl index, Control dispersion, and Shipley.

To investigate the impact of blockholder diversity on REM we classify the blockholding into three categories: when the largest blockholder is a family member and the second blockholder is either i) family blockholder; ii) institutional/bank blockholder; and iii) state blockholder. We adopt this classification since different types of ownership patterns have different fiduciary responsibilities and regulatory constraints thereby leading to a different impact on firm earnings management behaviour. To our knowledge, the present study is the first to investigate the role of blockholders coalitions, control contestability and blockholder diversity in constraining REM.

Prior literature shows that countries' institutional environment significantly impacts managers' disclosure practices and corporate transparency (Wenjing et al., 2019; Cumming et al., 2017). Likewise, La Porta et al., (2000) report that institutional factors significantly impact corporate policy. Moreover, Huang (2018) examines the foreign subsidiaries of U.S. multinational corporations and report that the country-level legal environment has a significant influence on firms' earnings management. We thus contribute to the international corporate governance literature by investigating the extent to which country-level institutional and regulatory arrangements influence the blockholders ability to mitigate REM. To this end, we construct seven cross-country institutional and regulatory indices to capture their

moderating effect on the relationship between block ownership and REM. We specifically ascertain whether the role of blockholders in preventing managers from the practice of REM is contingent upon the quality of the country-level institutional and regulatory arrangements. To our knowledge, no prior study has examined the impact of country-level institutional and regulatory arrangements on the relationship between block ownership and REM.

We begin by providing a detailed descriptive analysis of several ownership characteristics' and institutional and regulatory indices. Our core findings show that powerful blockholders of family-controlled firms develop a coalition to manipulate the board strategic decision making in their favour which leads to a higher level of REM. In contrast, the presence of a coalition across non-family blockholders mitigate REM. We argue that the connivance of interests tends to be more difficult among non-family firms, which restricts blockholders to engage with managers for earnings manipulation.

We find that the suppression of earnings management is driven by a higher level of control contestability, suggesting that the presence of control contestability challenges the authority of the dominant blockholders and their engagement with the managers, which in turn, limits the practice of REM. We report that when external governance arrangements are ineffective, the control contestability becomes an effective internal CG mechanism to alleviate the REM, particularly in countries with less liquid capital markets and low protection of minority shareholders. On the other hand, lack of contestability corresponds to a positive association between block ownership and REM. We argue that the largest blockholder more likely to deprive the rights of non-majority shareholders as the former is often incontestable, particularly in a weak legal system.

We show that blockholders diversity tends to provide the synergistic and value-additive benefit of monitoring which alleviate the managerial discretionary decision-making, particularly the manipulation of reported earnings. To this end, we show that when the first two largest blockholders are family members, it's more likely that the level of information asymmetry increases which strengthen the temptation among family blockholders to extract personal benefits, leading to a higher level of REM. We report that when the largest blockholder is a family and the second blockholder is either, institutional investor or the state, the consensus among blockholders of sharing private benefits tend to be more difficult which reduces the practice of REM.

Our findings also show that the effectiveness of block ownership in constraining REM is influenced by the country-level institutional and regulatory arrangements. Our results show that blockholders monitoring function in conjunction with the strong institutional and regulatory arrangements tend to be a more efficient CG mechanism that mitigates REM. We further report that when the institutional arrangements are immature, weak or transitional in nature, family-controlled firms are more engaged

in earnings manipulation. Our results conclude that the higher the quality of country-level institutional and regulatory arrangements, the lower the tendency for blockholders to involve in REM.

For the robustness checks, we conduct tests using three different proxies of family firms by employing the Instrumental Variable Approach (IV), Heckman Selection Model, and the Propensity Score Matching (PSM) techniques. We also test the sensitivity of results by using the alternate proxy of block ownership and the firm size. The results from these tests confirm the robustness of the association between block ownership and REM.

Overall, our findings provide a novel perspective that sheds new light on the relationship between block ownership and corporate earnings management and contribute to the international corporate governance literature in several ways. We first time investigate the channels through which blockholders influence corporate decisions in three different aspects: blockholders coalitions, control contestability, and blockholder diversity across family and non-family firms. Second, we bridge the research gap between behavioural literature and the institutional context of CG by exploring the monitoring behaviours of powerful blockholders and their respective effects on REM. Third, we contribute to the theoretical literature of blockholders ownership and highlight the presence of Type II agency conflicts and link it with the firm tendency to opportunistically manipulate the corporate earnings.

Fourth, the present study is the first to investigate the extent to which country-level institutional and regulatory arrangements influence the blockholders ability to constrain REM. Our evidence shows that the better quality of the institutional and regulatory arrangements endogenously determines the better financial reporting which effectively mitigates the REM. Fifth, our findings contribute to a better enunciation of block ownership and provide a more concrete estimation of REM which advances our understanding regarding the role of blockholders in curbing REM. Last but not least, our findings suggest a clear policy implication for the policymakers and regulators regarding the impact of block ownership on earnings management in the emerging markets context, where sound corporate governance is increasingly important for a firm's long-term sustainability and shareholder value. Our analysis recommends a balanced ownership structure to optimise firm controlling mechanisms to mitigate REM. The remaining sections of the paper are as follows. Section 2 presents the literature review and hypotheses development. Section 3 discusses the research methodology and data. Our empirical results are presented in Section 4. We conclude the paper in Section 5.

2. Literature review and hypothesis development

2.1 Significance of East Asian Emerging markets

We incorporate the data set of eight countries in the Asian region which is a classic example of emerging markets in terms of institutional and regulatory arrangements, governance mechanisms and economic

development based on their several common characteristics (Claessens et al., 2000; Song and Lee, 2012). For example, the emerging markets of the Asian region are characterized as the paragon of concentrated ownership and family capitalism, where the governance and legal arrangements are weak and fluid, yet the institutions are not closely coupled, and regulatory scrutiny is less rigorous than developed economies (Ararat et al., 2020; Attig et al., 2009; Claessens & Yurtoglu,2013; Faccio & Lang, 2002; Jacoby et al.,2019; Thanh et al., 2020). The economic and financial transition of the Asian region has unfolded in an environment of a higher level of political turmoil whilst rule of law is largely infective which limits corporate performance (La porta, 1999; 2000; Song & Lee, 2012).

In addition, East Asian countries have relatively weak legal systems, poor investor protection and less transparency in the disclosure of financial reporting (Chi et al. 2015; Chen and Huang, 2014; Fan and Wong, 2002; Kim et al., 2015; La Porta et al., 1998, 1999) which allows more leeway to the blockholders to use their voting power to influence corporate strategy, particularly REM.

Moreover, a large number of East Asian firms are closely held, therefore, their model of ownership structure consists of family-controlled ownership, state-ownership, pyramid ownership and cross-holding (La Porta et al., 1998, 1999). Wang (2006) report that firms in the East Asian countries have a low reporting quality and most of the largest firms in the region are governed by founding families with a large diversion between cash flow rights and control rights which provide incentives to the blockholders to engage with the managers to manipulate corporate earnings (Fan and Wong, 2002). To this end, these several common characteristics of under-research eight East Asian emerging markets provide an interesting platform to conduct this study.

2.2 Blockholders coalition

Prior research report that managers involve in earnings management practice and inflate the share prices to portray a better corporate performance to meet the expectation of external investors (Jianga et al., 2020; Healy & Wahlen, 1999). In most cases, managers are concerned to hold their position and maintain their reputation which tends to be risky if they don't achieve the expected performance benchmarks (Graham et al., 2005). Moreover, managers tend to employ their discretionary authority by incorporating firm cash flow for high firm performance and to avoid the adverse impact of breaching the debt contracts leading to a higher level of earning management (Bergstresser & Philippon, 2006). This raises an empirical question that whether managers can manipulate corporate earning without the involvement of powerful blockholders? In this regard, prior literature shows that blockholders tend to intervene in corporate affairs and influence managers to proceed with earning management to inflate corporate performance (Abdullah & Ismail, 2016; Jaggi & Tsui 2007). Therefore, blockholders and senior managers have the incentives to extract the private benefit of control leading to the REM.

In addition, firm financial performance is the criteria by which the financial strategies of the blockholders are evaluated which attract the protentional investors. To this end, blockholders have incentives to develop a coalition to inflate corporate financial performance by engaging managers who employ various accounting techniques to change the structure and timing of cash flow activities to mislead shareholders and potential investors. We predict that where the controlling stake of the first three largest blockholders is 51% or above, the blockholders develop a controlling coalition for ultimate power and control to influence the board decision making and engage with managers to manipulate corporate earnings.

We incorporate two opposing contexts of agency theory i.e. monitoring/alignment effect and entrenchment effect and relate it with the role of blockholders coalition in constraining REM across family and non-family firms. According to the monitoring/alignment hypothesis, the presence of blockholders may align their interest with the senior managers and minority shareholders and discourage the management from practising REM. In contrast, the blockholders develop a controlling coalition and engage with managers to manipulation the corporate earnings to mislead external investors for the extraction of private benefits/bonuses tied with firm financial performance ─ the entrenchment effect.

The family members as a shareholder have special ties with the managers hence the interest of non-family shareholders tend to be exploited in family-controlled firms. For example, Filatotchev et al., (2007) report that family-controlled firms are typically managed and control by managers who are often linked with family shareholders. Moreover, family-controlled firms tend to prefer a higher equity stake for their next generation, thus strive a dominant role in the board key decision making (Filatochev et al., 2011). Wang (2006) investigate the relationship between family-controlled ownership and earnings management and report that family members may affect the quality of financial reporting leading to the entrenchment effect. Based on aforesaid evidence, we conjecture that in the case of block ownership, the entrenchment effect of agency theory is more pronounced in family-controlled firms leading to a higher level of earning management practice.

In contrast, the control coalitions across non-family blockholders do not remain unchanged, hence there is a possibility of new alliances when the blockholders with excessive controlling stake interact with new blockholders (Bloch and Hege, 2001). To this end, we posit that considering the incentive/monitoring effect of agency theory, blockholders of non-family firms are more likely to focus on value maximisation through effective monitoring and disciplinary roles which are helpful in curbing the extraction of corporate resources thereby leading to a lower level of earning management.

Consistent with other emerging markets, the under-researched Asian region is underpinned by the weak legal framework, highly volatile capital market, strong corporate-political connections, and lower investors' protections which affect the quality of financial reporting (Javed & Iqbal, 2008). Therefore, we argue that weak legal arrangements, poor disclosure environment and unclear rules-of-the-game for corporate control in the Asian region give more leeway to the family blockholders to engage with managers to manipulate corporate earnings. We hypothesize:

Hypothesis H1a: In the case of family-controlled firms the presence of large blockholdings in a coalition setting is positively related to real earnings management (REM) ─ the entrenchment effect.

Hypothesis H1b: In the case of non-family firms the presence of large blockholdings in a coalition setting is negatively related to real earnings management (REM) ─ the incentive/alignment effect.

2.3 Blockholder diversity

The performance traits of blockholders in a more heterogeneous board structure may vary based on their level of expertise which enhances the overall board monitoring function. In addition, a higher level of heterogeneity across blockholders tends to develop a better strategy for problem-solving (Basu et al., 2017; Dhillon & Rossetto, 2015). Moreover, the heterogeneity across blockholders can also support in cross-monitoring of each performance thereby enhance the overall monitoring function. In an opposing scenario, particularly in the emerging market, the powerful blockholders with greater business information have incentives to manipulate corporate financial reports by engaging the managers to maximise private benefit leading to a higher level of earning management.

We ascertain whether the diversity across firm ownership structure may differently influence the firm earnings management behaviour. To this end, we measure blockholder diversity in terms of ownership type and classify the blockholders into three categories: family blockholder, institutional/bank blockholder, and the state as a blockholder and determine their role in curbing REM. The significance of this division is related to the fact that the performance of the family, institutional, and the state as a blockholder differ in relation to their fiduciary responsibilities, regulatory constraints and agency conflicts.

Prior studies show that the 2nd and 3rd largest blockholder can be more valuable for the firm if they monitor the largest blockholder (Konijn et al.,2011; La Porta et al., 1999). Therefore, the second-largest blockholder may either restrict the largest blockholder from manipulating earnings or form the coalition to extract private benefits leading to earnings manipulations. However, the decision of 2nd largest blockholder to monitor or collude with the largest blockholder for private benefits depends upon the external governance mechanisms and the available incentives for monitoring (Zweibel, 1995).

Prior literature shows that family-controlled firms tend to focus that ownership and control should remain within the family (Villalonga and Amit, 2010). Therefore, it's more likely that family members tend to more engage in REM than non-family firms to maintain their controlling stake. Ball et al. (2003) report that family-controlled firms of Hong Kong, Malaysia, Singapore, and Thailand have low incentives to report a true and fair picture of firm financial position leading to low disclosure quality, which in turn, enhances earnings manipulation. We thus expect that where the largest and the 2nd largest blockholder are family members, a positive relationship between block ownership and REM is expected.

Prior studies report that institutional investors tend to restrain managers from opportunistically engaging in earnings management (Cornett et al. 2008; Chung et al. 2002; Ebrahim 2007; Garel et al., 2021). Almazan, Hartzell & Starks (2005) report that institutional shareholders can provide efficient monitoring owing to the more resources and leadership skills to monitor managers. Likewise, Balsam et al., (2002) show that institutional investors have greater access to relevant information in a timely manner, therefore, they are more capable of detecting REM than other shareholders. Liu et al., (2018) report that institutional blockholders deter opportunistic financial reporting, and such activities are the most evident among domestic institutional blockholders. Consistent with the monitoring role of institutional blockholders, we predict that the managers' discretionary capacity to manipulate earning may reduce when the second-largest blockholder is the bank/institution.

The presence of the state as the second-largest blockholder is less likely to develop a coalition with the family blockholders hence not involved in minority shareholders' expropriation. In most of the cases, the state as a blockholder have a long-term investment and large equity holdings, therefore, have strong incentives to perform monitoring function to mitigate risky accounting practices and managerial opportunism. Moreover, the state as blockholder have reputation concerns, therefore, is less likely to form a coalition with the largest blockholders to manipulate corporate earnings. We thus postulate that where the ownership type of 2nd largest blockholders is the state, there is a negative relationship between block ownership and the REM. Based on the above discussion, we develop the following hypotheses:

Hypothesis H2a: Where the largest and the 2nd largest blockholder are family members, a positive relationship between block ownership and real earnings management (REM) is expected.

Hypothesis H2b: If the largest blockholder is family and the 2nd largest blockholder is the bank/institutional, a negative relationship between block ownership and real earnings management (REM) is expected.

Hypothesis H2c: If the largest blockholder is family and the 2nd largest blockholder is the state, a negative relationship between block ownership and real earnings management (REM) is expected.

2.4 Control contestability and earnings management

Control contestability refers to an alliance across non-majority blockholders based on their equity stake to consolidate their voting rights to protect their interest. The power and authority of the blockholders raise the motivation of contestability of control among non-majority shareholders to form coalitions to monitor or challenge the corporate decisions of the dominant blockholders (Huyghebaert & Wang, 2012). The control contestability (e.g., presence of a more evenly spread voting pattern across shareholders) support the coalition of non-majority shareholders which limits the REM, particularly in a scenario where a single or a few blockholders control the firm (Boubaker, 2007; Volpin, 2002).

Prior literature highlights the positive role of control contestability on corporate performance. For example, Gutierrez & Pombo (2009) investigate a sample of Colombian firms and report that a higher level of control contestability across blockholders helps to reduce the extraction of private incentives. Powerful blockholders may exercise their authority by employing their control rights to extract private benefits, while the presence of control contestability can challenge the excessive authority of large shareholders. The blockholders may influence managers to proceed with earnings management to inflate corporate performance (Jaggi & Tsui 2007). In contrast, firms with a lower level of control contestability are subject to Type II agency conflicts, leading to a higher level of REM.

In the case of a higher level of control contestability, blockholders and powerful managers have less discretionary authority which limits their opportunistic behaviour. Moreover, control contestability allows the non-majority shareholders to effectively monitor managerial behaviour which reduces the likelihood of managerial opportunism leading to the reduction in REM. In this scenario, the management would feel less pressure to meet the short-term earnings targets and the expectations of the external investors. Although concentrated ownership is a common phenomenon in the Asian region, our descriptive statistics also exhibit that there are a large number of firms with an evenly distributed voting pattern. In addition, according to the efficient monitoring hypothesis, the presence of control contestability tends to limit the REM. We thus link control contestability with the monitoring hypothesis, suggesting that firms in the Asian region with an evenly distribution of shares allow non-majority shareholders to perform a supervisory role which alleviates REM. Thus, we hypothesize:

Hypothesis H3: A higher level of control contestability leads to the negative impact on real earnings management practice (REM) across family and non-family firms.

2.5 Moderating impact of the country-level institutional and regulatory framework

The country-level institutional and regulatory arrangements are important elements in controlling managers' opportunistic behaviour, particularly the manipulation in financial reporting (Ball, Robin &

Wu, 2003). Peng and Jiang, (2010) report that institutional and economic context impact the strategies of family-controlled firms. The seminal study of La, Porta et al., (1998) document that the intensity of the agency problems can be mitigated depending on the quality of legal arrangements and the level of their enforcement. Kumar & Zattoni (2013) and Wang & Shailer (2015) report that concentrated ownership and firm performance relationship is more likely to be weaker in those countries where investor protection is stronger. Likewise, Heugens et al., (2009) document that concentrated ownership tends to be an effective CG mechanism in countries with weaker minority shareholders' protection. We thus investigate whether country-level institutional and regulatory arrangement has an impact on the discretionary capacity of managers to misreport the earnings. To this end, we link the institutional and regulatory arrangements with the blockholder strategies and determine their impact on REM.

In contrast to the developed markets, East Asian countries are characterised by weak institutional and regulatory arrangements and concentrated ownership hence the monitoring function is less likely to be performed through an internal CG mechanism. To this end, we specifically ascertain whether the role of blockholders in preventing managers from the practice of REM is contingent upon the quality of the country-level institutional and regulatory arrangements. We postulate that country-level institutional and regulatory mechanisms tend to influence the managers and blockholders' ability to manage corporate earnings. Therefore, we expect that the relationship between blockholding and REM negatively moderate by the strong institutional and governance arrangements. We thus hypothesize:

Hypothesis H4: The better the country-level institutional and regulatory arrangements, the lower the likelihood of the firms to opportunistically manipulate the corporate earnings across family and non-family firms.

3. Data Source and variables

We extract the financial and ownership data mainly from the Osiris database (www.osiris-bvdinfo.com). The Osiris database provided complete details of ultimate ownership, voting rights, and the proportion of the largest blockholders. In addition, we also obtain the financial data from Worldscope 'One Banker' (financial module), while voting and ownership data are supplemented by the Worldscope 'One Banker' (Ownership module) and firm's annual reports. The Osiris database and Worldscope data sources are recognized worldwide and are commonly used in the governance and financial research areas (Essen et al., 2013; Faccio & Lang, 2001; Nguyen et al., 2015). In terms of institutional variables, we collect data from three sources such as the World Bank Doing Business Project (DBP,2012,2013), Worldwide Governance Indicators (WGIs) and the World Justice Project (WJP).

We exclude financial industries (SIC codes, 6000–6999), utilities (SIC codes, 4900–4999), subject to differences in listing and regulatory requirements. In addition, we drop all those firms whose ownership or shareholders' voting data is incomplete, as it's not possible to track the pyramidal ownership until to have access to ultimate controlling shareholders. We also exclude those firm's data which are either, completely missing or available data showing less than half of the firm's ownership rights. This result in an unbalanced panel data set of 19306 firm-year observations and 2205 firms from eight East Asian firms such as Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan, and Thailand covering the period 2010-2018. We selected the sample year 2010 to ignore the drastic impact of the global financial crisis 2007-2008 on REM.

3.1 Measurement of real earnings management

Corporate managers can increase sales by offering discounts or offer lenient credit terms. In this situation, the sales volume will increase but cash flow will be reduced. Therefore, the negative discretionary cash flows show as an earning-increasing REM. Likewise, managers can accelerate the production to split fixed costs across several units of production to decrease fixed overhead per unit. Therefore, the positive discretionary cost of production shows as earning-increasing REM. Moreover, the production of extra goods than necessary tends to allow fixed costs to be allocated across a large number of units, resulting in lowering the fixed costs per unit. This reduction in unit cost decreases the reported cost of sales, provided that a decrease in fixed unit cost is not offset by an increase in per-unit marginal costs.

However, there is a possibility of an increase in inventory storage cost leading to the abnormally high cost of production and a decrease in cash from operation (CFO) relative to the sales level. Further, managers can enhance the earnings of the current period by reducing the discretionary expenses such as research and development, advertising and general, selling and admin expenses. While the negative discretionary expenses consider as earning-increasing REM. To this end, the direction and the amount of abnormal CFO, production costs, and discretionary expenditures could reflect the presence and scale of REM (Eng et al., 2019; Kaldonski & Jewartowski,2020; Pappas et al., 2019).

Prior studies have used three measures of REM: abnormal cash flow from operations, abnormal production costs, and abnormal discretionary expenses (Cohen & Zarowin, 2010; Cohen, et al., 2008; Farooqi et al., 2014; Gunny, 2010; Kaldonski & Jewartowski, 2020; Kim & Park, 2014; Kang & Kim, 2012; Roychowdhury 2006). These studies show that to avoid reporting losses and to meet the specific earnings benchmarks, firms often employ different techniques such as temporarily allow higher discount on the sale price to enhance sale volume, overproduction by showing a lower cost of sale to

enhance operating margins and reduce the discretionary expenditures such as advertising and research & development (R&D) to improve margins.

Following Roychowdhury (2006) we use three proxies to measure REM and employed abnormal cash flows, abnormal production cost and abnormal discretionary expenses as a measure of REM. We use abnormal levels of cash flow from operations (Ab_CFO) which generate by accelerating the timing of sales through increased price discounts and/or more lenient credit terms, which in turn, temporarily enhance sales volumes. Second, we measure abnormal levels of production cost (Ab_PROD) which relates to the overproduction of inventory, resulting in lower fixed cost per unit and reduction in the cost of sales. Finally, we measure abnormal levels of discretionary expenses: selling, admin and general expenses (Ab_SA&G), research & development expenses, and advertising expense which arises due to reduction in discretionary expenses.

Given the significance of sales volume, firms that involve in REM tend to engage in one or more of the discretionary activities: abnormally low cash flow from operations, abnormally high cost of production and/or abnormally low discretionary expenses. Following Cohen et al., (2008) and Roychowdhury (2006), we expressed the normal level of cash flow from operations as a linear function of sales and change in sales:

$$\frac{CFO_{it}}{Assets_{it-1}} = \beta_0 + \beta_1 \frac{1}{Assets_{it-1}} + \beta_2 \frac{Sales}{Assets_{it-1}} + \beta_3 \frac{\triangle Sales}{Assets_{it-1}} + \varepsilon \quad (1)$$

Where CFO_{it} is the net cash flow from the operation of firm i in year t. $Assets_{it}$ is the firm total assets; Sales is the firm net sales; and $\triangle$ Sales is the change in net sales of firm i in year t. In addition, we measured the abnormal cash flow (Ab_CFO) as the difference between the actual value and normal value of the cash flow from operation derived from Eq.1 as a residual. Moreover, the sales price discount and lenient credit terms lead to the lower level of cash flows while a lower level of negative residuals link with the lower level of cash flows from operations suggesting the manipulation in sales volume to manage earnings upwards.

Following Roychowdhury (2006), we estimate the normal level of production costs:

$$\frac{PROD_{it}}{Assets_{it-1}} = \beta_0 + \beta_1 \frac{1}{Assets_{it-1}} + \beta_2 \frac{Sales}{Assets_{it-1}} + \beta_3 \frac{\triangle Sales}{Assets_{it-1}} + \varepsilon \quad (2)$$

Where PROD is the sum of change in inventory and cost of sales for firm i in year. The abnormal level of production (Ab_PROD) is the difference between the actual value and the normal value of the firm production cost derived from Eq.2 as a residual.

Following Roychowdhury (2006), we estimate the normal levels of discretionary expenses using the following equation:

$$\underline{DE_{it}} \quad = + \quad \underline{}_{1} \quad + \quad \underline{Sales} \quad + \qquad (3)$$
$${}_{Assets_{it-1}}{}_{0}{}^{1}Assets_{it-1}{}^{2}Assets_{it-1}$$

Where DE is the sum of discretionary expenses i.e., selling, admin and general expense (SA&G), research & development, and advertising expenses. The abnormal level of discretionary expenses is the difference between the actual value and normal value of discretionary expense derived from Eq.3 as a residual. The lower level of negative residuals suggest that firms reduce the amount of discretionary expenses to manage earnings upwards.

Cohen et al., (2008) argue that the aggregate measure tends to better capture the REM activities than a single measure. Therefore, following prior studies (e.g., Demerjian et al., 2013; El-Helaly et al., 2018; El-Diri., et al., 2020; Eng et al., 2019; Pappas et al., 2019) we construct the aggregate value of REM by using the sum of three standardized metrics of earnings management proxies mentioned above (e.g., Ab_CFO, Ab_PROD, Ab_DE). To this end, we incorporate an aggregate measure to determine the REM by adding standardised residuals from Eq.1, Eq.2 and Eq.3.

$$REM = Ab\_CFO\ (-1) + Ab\_PROD + Ab\_DE\ (-1) \qquad\qquad (4)$$

3.2 Independent variables

In most of the developed and emerging markets, firms are controlled by the same family members through closed companies or family members. We thus measure the voting power of the owners on yearly basis to verify the ultimate control of each firm. In this regard, we separately identify the largest blockholder across family and non-family firms who actually manage and control the firm and then estimate the contestability of control. Following Ampenberger et al., (2013) and Almeida & Wolfenzon, (2006) we treat shareholder or group of shareholders as a family who owns at least 10% of the voting rights.

We collect the data of ultimate cash flow rights and control rights to capture the magnitudes of incentive/alignment effects using the variable 'Cash flow rights' (CFR). Likewise, to test the presence of entrenchment effects, we incorporate the variable 'Ownership Wedge' which describes as the excess of voting rights over cash flow rights. Following the aforementioned criteria for the estimation of incentive/monitoring (entrenchment) hypothesis, we expect a positive (negative) impact of these variables on firm value.

We also include a number of variables related to the blockholders characteristics. Firstly, we determine the ownership concentration by incorporating the variable 'Block Own' which is defined as the ownership stake of the first five largest blockholders. We next determine the coalition effect by adding the variable 'Block coalition'. We define Block coalition as a binary variable equal 1 if the controlling stake of the first three blockholders is 51% or above, 0 otherwise. Our coalition hypothesis conjecture that the largest blockholder develop a coalition to manipulate the board strategic decision making in

their favour which is inconsistent with the common interest of the minority shareholders. Following Maury & Pajuste, 2005 and Nagar et al., 2011, we calculate control contestability as the voting power of 2nd, 3rd, 4th, and 5th largest blockholders over the voting stake of the 1st largest blockholder (i. e. , block2 + block3 + block4 + block5/block1). We further test the Excess Contestability by using a binary variable equal 1 if the voting stake of the first three largest blockholders does not exceed 10% of the total controlling stake, 0 otherwise.

We also incorporate the Herfindahl index, Control dispersion, and Shipley as the proxy for the lack of contestability (Konijn et al., 2011; Wei, Chiao and Ye, 2017). We calculate the Herfindahl index by taking the square value of voting stake of the first five largest blockholders i.e. $(block1)^2 + (block2)^2 + (block3)^2 + (block4)^2 + (block5)^2$. The Control dispersion defines as the difference between the voting rights of the first five largest blockholders (i. e. , $block1 - block2)^2 + (block2 - block3)^2 + (block3 - block4)^2 + (block4 - block5)^2$. We describe Shipley as the difference between the largest and the second-largest blockholder to their sum (i. e. , $block1 - block2/block1 + block2$). The higher the Herfindahl index, Control dispersion and Shipley index value, the lower the capacity of non-majority blockholders to contest or monitor the ultimate owner/largest blockholder.

Moreover, in order to collect the data of cash flow rights and control rights, we initially trace the names and immediate holdings of all owners that hold more than 5% of equity. We then collect more detailed information of equity stake from firms' annual reports. Also, we focused on ultimate ownership where the largest shareholder represents a family with a similar surname (Maury and Pajuste, 2002). We determine control ownership by adding the total votes held by the shareholders based on the direct investment and indirect ownership. In the case of cross holdings ownership, the ultimate controller has several control rights across different firms, therefore, we trace the cross-holding and pyramidal stake individually and then sum up the voting rights to yield the ownership control.

3.3 Control variables

Following prior research (e.g., Achleitner et al., 2014; Roychowdhury, 2006; Wang, 2006) we incorporate a number of control variables: Firm size as calculated by the natural logarithm of total assets; Market to book value (MBV) as measured by the market to book value of equity; Sales growth as the ratio of current year's sales minus previous year's sales, divided by previous year's sales; Leverage as measured by the ratio of the firm's long-term debts to total assets. We list all the variables used in the model estimation and provide their definitions in Table 1.

4. Empirical Model

A notable contribution in the corporate governance literature shows that the firm's ownership structure needs to consider as an endogenous variable particularly when ownership structure is endogenously chosen by the firms. In this regard, there is a growing consensus that firms' ownership structure may influence by the shareholders' decisions and stock market transactions (Amin & Farquhar, 2021). We control the dynamic impacts of REM as the past year earnings tend to affect the firm earning management behaviour in the current year. Likewise, the current year levels of REM are linked with prior year earnings' benchmark (Cohen et al., 2008; Gunny, 2010). Therefore, managers tend to be aware of past year REM when managing the corporate earnings for the current year.

Moreover, the ordinary least square (OLS) estimator suffer from endogeneity issue because of the mutual causality across REM and predictors, whilst unable to capture the influence of unobservable individual heterogeneity. Although the fixed effects estimator undertakes the unobservable heterogeneity but unable to address the endogeneity issue as it assumes strict exogeneity. We thus employ a two-step system GMM (Generalized method of moments) estimator which produces a more consistent and efficient estimation after controlling the potential source of endogeneity. Further, the GMM model is more suitable in a situation where it is difficult to find an appropriate instrument outside the model to address the endogeneity.

Further, GMM modelling is supported by the prior study of Hermalin and Weisbach (1991) who used the lagged levels of ownership variables by considering the changes in ownership structure over time. Given the unavailability of appropriate external instruments in the CG literature, the GMM model is considered to be a feasible solution to address the endogeneity problem (Amin & Liu, 2021; Wintoki et al., 2012). Arellano and Bond (1991) point out that the dynamic model helps to resolve the deformation caused by the fixed effects and arrange an efficient instrument that controls endogeneity.

Following prior studies (Singh et al., 2018 and Wintoki, et al.,2012) we estimate historical values of explanatory variables as an instrument for the model estimations and use the lagged levels from period t-1 or more of dependent and explanatory variables as an instrument to control unobserved heterogeneity, dynamic endogeneity and simultaneity. In addition, for efficient and consistent estimation of GMM estimator, it is important that the instruments used in the models are valid and exogenous as a group. Therefore, Arellano and Bond (1991) first-order autocorrelation AR (1), second-order autocorrelation AR (2) and the Hansen test of over-identifying restrictions are estimated to examine the validity and strength of instruments used in the level equation. The Arellano and Bond (1991) AR (2) test the second-order serial correlation in the first-differenced residual and suggests whether instruments are valid for model estimation, while the null hypothesis of the Hansen test

describes that instruments as a group are exogenous; thus substantiate the health of instruments (J-statistics).

4.1 Descriptive Statistics

Panel A of Table 2 presents the descriptive statistics of the variables used in the study. Consistent with prior studies (e.g., Demerjian et al., 2013; El-Helaly et al.., 2018; El Diri., et al., 2020), the mean of REM across all countries is zero because they are calculated as the residuals from the relevant equations reported in section 3.1. The average firm size of the pooled sample is (4.97). Taiwan has the highest value of firm size (5.62), while Indonesia shows the lowest mean value of firm size (4.11). The market to book value (MBV) is (2.40). Korea has the highest value of MBV (3.07) while Indonesia has the lowest mean (1.76). The average leverage for the pooled sample is (0.26). Taiwan has the highest leverage ratio (0.29) while the Philippines market exhibit the lowest level of leverage ratio (0.224). Finally, Malaysian firms have the highest level of sales growth (0.11) while the Philippines shows the lowest mean value of sales growth (0.04).

Panel B of Table 2 shows institutional and governance variables across sample countries. We show that Hong Kong has the highest score of the IG index and IP index i.e., 1.89 and 8.1, respectively, while Thailand has the lowest score of IG index (1.23) and the Philippines have the lowest value of IP index (4.2). In terms of the Anti-director Index, Hong Kong, Malaysia, and Singapore show the highest score. Regarding the Anti-self-dealing index, Singapore has the highest score (1.0) and the Philippines hold the lowest score (0.42). Moreover, Singapore is showing as a country with strongest rule of law (0.79), while the Philippines has the weakest implementation of rule of law (0.48). In the case of the disclosure index, all sample countries show an adequate level of disclosure compliances except Indonesia of which the corporate sector exerts lower compliance of disclosure. Finally, most sample countries have a level of CR index of 2 to 3 except Hong Kong which has the highest score of 4.

Panel C of Table 2 shows the coefficient correlation across various indices. We note that all legal and regulatory indices are positively correlated with each other. The highest correlation is between the IP index and IG index (0.61), followed by the correlation between Rule of law and IP Index (0.55). We argue that the IP index, IG index, and Rule of law are the dominating factors in the East Asian region which shows a significant correlation with all other indices as well. Broadly speaking, the country-level IP index tends to be a decisive element for better investors' protection, high quality institutional and governance mechanisms, minority shareholders' protection, and the effectiveness of regulations in curbing self-dealing transactions. On the other hand, the country-level creditors' protection and disclosure regulations are correlated with the quality of institutional and regulatory arrangements.

TABLE 2 ABOUT HERE

Panel A of Table 3 shows the mean values of ownership characteristics of the sample countries. We show that there is a substantial difference between the cash flow rights and control rights across sample countries, reflecting a greater degree of separation between ownership and control. The Wedge ratio is significantly higher in Thailand (0.931), while Singapore has the lowest Wedge ratio of (0.753). A higher level of Wedge ratio indicates the likelihood of Type II agency conflicts leading to a higher level of REM. The ownership structure of all sample countries is highly concentrated which is consistent with the findings of La Porta et al., (1999) who report a higher level of concentrated ownership across the East Asian firms. Malaysia is the most concentrated market (0.732), while Korea holds the lowest level of concentrated ownership (0.412). The analysis also shows that countries with a higher level of concentrated ownership have a lower level of contestability and vice versa. For example, the contestability of Malaysian (0.274) and Singaporean (0.306) firms are lowest across the sample countries due to their higher level of concentrated ownership, while the Korean firms have the highest level of contestability (0.582) owing to their lowest level of the concentrated market.

Panel B of Table 3 shows the description regarding the lack of contestability and ownership structure across family, institutional, state, business groups, and pyramid ownership. The variables such as Herfindahl index, Control dispersion, and Shipley indicate the lack of contestability across sample countries. These variables show their respective lowest values in those countries where contestability is high and concentrated ownership is lower. For example, statistics of Korea and Hong Kong shows a lower level of the Herfindahl index, Control dispersion, and Shipley values as these countries are relatively less concentrated and display a higher level of control contestability.

Moreover, we can see that all sample countries have a significant dominance of family-control ownership. Thailand has the highest level of family-control ownership (71.1), whereas Singapore shows the lowest proportion of family firms (43.2). In terms of institutional ownership, Singapore shows the highest mean of institutional ownership (17.4) compared to the lowest proportion in the case of Taiwan (6.69). Hong Kong has the highest level of state ownership (23.5), followed by Malaysia (17.7). Further, all sample countries have the dominance of the business groups, and pyramid ownership while Indonesia, Singapore, Taiwan, and the Philippines are extreme cases.

<div align="center">TABLE 3 ABOUT HERE</div>

We further explore the proportion of the largest voting rights of blockholders in relation to their ownership type and respective coalitions in Table 4. Vote1, Vote2, Vote3, Vote4, and Vote5 are the voting stake of the first five largest blockholders, respectively. Panel A shows that family blockholders hold the position of the first largest shareholder in 44.5% of the sample firms, validating the common phenomena of family dominance in the East Asian market reported by the seminal studies of Claessens et al. (2000) and La Porta et al. (1999). There are 14.7% of the sample firms where the largest voting

rights are held by the banks/financial institutions while the state is the first largest shareholder across 10.5% of the sample firms.

Panel B shows that 55.7% of the sample firms are dominated by the first two largest blockholders as family members whilst there are 23.4% of the family firms when the first three largest blockholder are also family members. These statistics show that the family blockholders coalition is more pronounced than institutional investors (11.2%) and state (5.1%) in the East Asian firms. Importantly, this analysis shows that a large number of firms with family coalitions (e.g., largest and 2nd largest blockholders belong to family) have no significant control contestability by the non-family blockholders which motivate us to conjecture that the coalition of family members may presumably collude for the extraction of private benefits. Panels C and D show the presence of institutions and state as the largest and 2nd largest blockholder, respectively. We postulate that these institutional investors and the state as the largest and 2nd largest blockholders may form a coalition to play their role for effective monitoring and may support the disciplinary mechanism which helps in curbing the REM.

TABLE 4 ABOUT HERE

4.2 Diagnostic Tests

We begin our analysis with the diagnostic assessment of our model estimation. Table 5 shows country-level testing results of multicollinearity, heteroskedasticity, autocorrelation, and endogeneity. Column 1 of Table 5 shows that the mean values of the VIF test across all the sample countries are significantly lower than the threshold value of 10 which rejects the likelihood of multicollinearity (Gujarati & Sangeetha, 2007). In addition, the sample data for each sector is also subject to Woolridge and Breusch-Pagan/Cook-Weisberg test for autocorrelation, and heteroskedasticity, respectively.

Column 2 shows that the p-value of the Woolridge test for autocorrelation is less than one (e.g., p-values < 1), demonstrating that the residuals of countries are autocorrelated to their respective first order, which in turn, rejecting the null hypothesis, leading to the absence of AR (1). More specifically, this test result shows that the errors link with any specific observations are correlated with the other parameters' errors. Column 3 shows that the p-value is less than one (e.g., p-values < 1), rejecting the null hypothesis of Breusch-Pagan/Cook-Weisberg test of heteroskedasticity i.e., 'constant variance' (error variances are all equal) hence confirming the presence of heteroskedasticity across sample countries. Finally, we examine the presence of endogeneity by employing the Durbin-Wu-Hausman test which shows the significance of p-values across the sample countries suggesting to address the potential source of endogeneity. We, therefore, preferred the GMM estimator over static models to address the potential sources of endogeneity.

TABLE 5 ABOUT HERE

5. Empirical results

5.1 *Blockholders coalition and REM*

We begin our analysis by examining the association between block ownership and REM across family and non-family firms and present the results in Table 6. We employ the two-step system GMM estimator and proceed with a stepwise estimation by the inclusion of the governance variables in each model, while model 4 and 8 includes all governance variables for family and non-family firms, respectively. [3] Accordingly, we rely on models 4 and 8 to determine whether respective hypotheses are supported or not across family and non-family firms. To capture the magnitudes of predicted 'incentive/alignment effects' and entrenchment effect of block ownership, we incorporate two variables: cash flow rights (CFR) and Ownership Wedge, respectively in our model estimation.

Column 4 of Table 6 shows that in the case of family-controlled firms the coefficient on CFR (= 0.265; *p*-value = 0.042) is positively significant indicating that blockholders have less incentive to mitigate the agency conflicts which enhances the intensity of information asymmetry thereby leading to a higher level of REM. This result shows that blockholders in the East Asian corporate sector largely emphasize the ultimate power to influence the board decision making for private benefits leading to the Type II agency conflicts. In contrast, column 8 shows that in the case of non-family firms the coefficient on CFR (=-0.351; *p*-value=0.011) negatively impacts real earning management, supporting the incentive/alignment effects.

The results also show that the Ownership Wedge is positively significant (= 0.431; *p*-value = 0.000) in the case of family-controlled firms reflecting that the excessive diversion between voting rights and cash flow rights leading to the entrenchment effect, which in turn, enhances the level of REM. The tendency of blockholders to hold excessive voting rights allow them to take the corporate decisions allied with their private benefits (Cronqvist & Nilsson, 2003). On the other hand, non-family results show an insignificant impact of Ownership Wedge on REM (= 0.311; *p*-value = 0.189).

The coefficient on Block coalition is significantly positive (= 0.221; *p*-value = 0.223) in the case of family-controlled firms reflecting that presence of block coalition has a propensity to reinforce the practice of REM. We argue that concentration of power in few hands due to the block coalition lead to

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[3] We use robust standard error (which auto-correct panel specific Heteroskedasticity and Autocorrelation) and considered the p-value of Hansen test. An endogenous variable is instrumented using levels lagged by two periods. As a standard of two-step system GMM estimator, the predetermined variable is instrumented using levels lagged by one-year period, whilst the endogenous variable is instrumented using levels lagged by two-years periods (Amin & Jia 2020; Singh et al., 2018; Wintoki, et al.,2012).

minority shareholders' expropriation, which in turn, enhance the likelihood of REM. Moreover, family blockholders usually engage with managers through family members, groups, or other types of business ties to manage corporate earnings. This result is consistent with the findings of Alhebri & Al-Duais (2020) reporting that family businesses in Saudi Arabia engaged in REM during the period 2014-2018 supporting the entrenchment hypothesis. While this outcome is in contrast to the findings of Achleitner et al., (2014) in the German context reporting that family firms engage less in REM and exhibit more AEM policies as compared to the non-family firms.

In the case of non-family firms, the coefficient on the Block coalition is negatively significant (= -0.361; p-value = 0.042) reflecting that presence of Block ownership is linked with efficient monitoring which mitigates the REM. We thus accept the hypotheses *H1a and H1b*. Overall, these results show a weak CG mechanism in family-controlled firms than non-family firms across East Asian firms which lead to the manipulation of earnings management.

In terms of control variables, the coefficient on firm size is positively significant reflecting that large size firms have greater investments portfolio, therefore, to meet the expectation of the external investors, they are largely involved in REM. While MBV is negatively associated with REM suggesting that firms with the lower level of MBV are more actively engage in REM to meet the return targets of equity thresholds. Leverage is positively related to REM indicating that firms prefer to manage earnings when they suffer the higher-level financial pressure. Sales growth is positively significant exhibiting that firms with lower sales growth tend to have less financial resources which induce them to engage in REM to meet the expectation of external investors.

TABLE 6 ABOUT HERE

5.2 Blockholders Diversity and REM

We next investigate whether power distribution in terms of blockholders diversity plays a significant role in constraining REM across family and non-family firms. To this end, we explore the individual impact of the ownership type of 2nd largest blockholder on REM to ascertain whether blockholder diversity prevents managers from engaging in REM. In this regard, we capture the impact of blockholder diversity on REM, if the largest blockholder is a family member and the 2nd largest blockholder is either family, bank/institutional investor or the state by using the interaction term of each respective variable. The results present in Table 7.

Column 4 shows that in the case of a family-controlled firm when the first two largest blockholders are family members there is a positive relationship between block ownership and REM (= -0.390, p-value = 0.001). This result shows that when the first two largest blockholders are family members, they tend to develop a controlling coalition which enhances the level of information asymmetry leading to a

higher level of REM. We argue that the control structure with the first two largest blockholders as family members allow more leeway to the blockholders to form a simple majority to take the decision regarding REM to meet the expectation of the investors. To this end, family blockholders have the advantage to conceal their control benefits from minority shareholders because if their engagement with managers regarding REM will expose, the minority shareholders will likely to demand disciplinary action against family blockholders.

Column 4 also shows that when the largest blockholder is family and the 2nd largest blockholder is institutional/bank there is a negative relationship between block ownership and REM (= -0.334; p-value = 0.065). This result shows that the presence of institutional blockholder as the 2nd largest blockholder prevent managers from engaging in REM. We link this result with the efficient monitoring hypothesis that the presence of institutional shareholdings provides a better monitoring function which tends to reduce the managers' tendency to opportunistically manipulate corporate earnings.

The results show a significant negative coefficient on the interaction term when the largest blockholder is family and 2nd largest blockholder is the state (= -0.287; p-value = 0.000). This result suggests that the presence of the state as the 2nd largest blockholder mitigate the practice of REM. The possible explanation of this result is that the connivance of interests tends to be more difficult where the largest blockholder is family and the 2nd largest blockholder is the state, which restricts the largest blockholder to misreport the corporate earnings. This implies that the presence of the state as 2nd largest blockholder is substantially instrumental in mitigating the tendency of the largest blockholder's to engage with the managers to manipulate corporate earnings. Based on these findings, we accept the hypothesis H2a.

Importunately, we do observe a negative and significant coefficient for the cross-product of Block1*Block2 (Institutional) and Block1*Block2 (State). However, to analyse the relationship between block ownership and REM, we need to add the coefficient for the Block1 (Family) and Block1*Block2 (Institutional), since Block2-Institutional is a dummy variable. To this end, it equates to 0.321-0.334 ~ = -0.013 for Hypothesis H2b i.e. Block1*Block2 (Institutional) and 0.321-0.287 ~ = 0.034 for Hypothesis H2c i.e. Block1*Block2 (State). Therefore, we consider our hypotheses H2b and H2c (family firms) as neutral. Likewise, hypotheses H2b and H2c are also neutral in the case of non-family as well.

In contrast, model 8 shows the results of non-family firms' sample, when the largest blockholder is a non-family member while the 2nd largest blockholder is either family, bank/institutional investor, or the state. The results show a negative impact of block ownership on REM when the largest blockholder is a non-family member while the 2nd largest blockholder is either family, bank/institutional investor, or the state. This result implies that non-family blockholders are less likely to develop a coalition to extract

private benefit, which in turn, limits REM. These evidences demonstrate that the practice of REM is less pronounced in the case of non-family firms. In terms of control variables, the coefficients on most of the variables are similar to the results reported in Table 6.

<div align="center">TABLE 7 ABOUT HERE</div>

5.3 Control contestability and REM

We further investigate the impact of control contestability on REM across family and non-family firms and present the results in Table 8. Model 6 and 12 include all governance variables for family and non-family firms, respectively. Accordingly, we rely on models 6 and 12 to determine whether respective hypotheses are supported or not across family and non-family firms. The results show that the coefficient on contestability is negatively significant across family (= -0.389; *p*-value = 0.000) and non-family firms (= -0.287; *p*-value = 0.089) indicating that a higher level of control contestability link with a more balanced allocation of control rights which help to mitigate REM. In this scenario, there is an alignment of interest across dominant blockholders and non-majority blockholders which limits the manager's involvement in REM.

The coefficient on 'excess contestability' is also negatively significant for both family and non-family firms (= --0.453; *p*-value = 0.095); (= -0.377; *p*-value = 0.061), respectively indicating that in a control structure of three or more blockholders, it is less likely that any two of them form a simple majority by colluding to engage with the managers to manipulate corporate earnings. This result demonstrates that the higher the control contestability the better the monitoring on the REM practice. Since, both the variables of contestability are negatively significant, we accept hypothesis *H3*.

In order to investigate the average effect of contestability on the practice of REM, we incorporate three measures of lack of contestability, namely Herfindahl index, Control dispersion, and Shipley. Herfindahl index is the relative measure of concentrated ownership in the hands of majority blockholders, hence a higher level of the Herfindahl index indicates the lack of contestability i.e., diluted contestability power. The value of Control dispersion and Shipley measure the voting power of the blockholders and the asymmetry across the fractions of votes of individual blockholders. The result shows that the Herfindahl index is positively associated with REM for both samples (= 0.342; *p*-value
= 0.076); (= 0.261; *p*-value = 0.059), implying that lack of contestability has a detrimental impact on the quality of financial reporting. More specifically, this evidence reflects that lack of contestability i.e., unequal distribution of voting rights allows powerful blockholders to collude with managers for the manipulation of earnings. This finding is further validated as the Control dispersion and Shipley are also positively related with REM across family (= 0. 233; *p*-value = 0.022); (= 0.291; *p*-value = 0.039), and non-family firms (= 0.421; *p*-value = 0.001); (= 0.367; *p*-value = 0.001), respectively

indicating that the lack of contestability limits the effectiveness of the monitoring function which accelerates REM.

TABLE 8 ABOUT HERE

5.4 Moderating impact of the country-level institutional and regulatory framework

So far, we have examined the impact of block coalition, control contestability and blockholder diversity on the practice of REM. It is possible that country-level institutional and regulatory framework have a moderating impact on blockholders and REM relationships. To this end, we collect the country-level data of institutional and regulatory characteristics and summarise the institutional indices parsimoniously to determine their moderating role on the relationship between blockholders and REM.[4] In an unreported result, we found similar results for moderating effect of institutional and regulatory arrangements across family and non-family firms hence, for brevity, we have reported pooled sample results. Column 8 of Table 9 shows that the coefficient on block ownership is negatively significant across all the models for REM. Column 8 also shows that the interaction term of the IG index negatively moderates the relationship between block ownership and REM (= -0.412; *p*-value = 0.024), implying that better quality of institutional and regulatory mechanisms effectively mitigates the REM. This result suggests that the effectiveness of block ownership as an internal CG mechanism tends to be contingent upon the external environmental dynamics, particularly the quality of country-level institutional and regulatory arrangements which mitigate the firm's REM behaviour.

The result demonstrates a negative interaction term of IP index (= -0.421; *p*-value = 0.001), indicating that better investors protection accelerates the negative association between block ownership and REM, which in turn, strengthens the confidence of external investors on corporate financial reporting. This result also implies that the intensity of agency issues is relatively lower in those countries where investors are fully protected. The coefficient on the Antidirector index is positively significant (= 0.378; *p*-value = 0.072), indicating that the weak minority shareholders' protection across the East Asian market gives more leeway to blockholders to extract private benefits, which in turn, enhances the level of REM.

Column 8 shows that the interaction term of the anti-self-dealing index negatively influence REM (= -0.257; *p*-value = 0.000), reflecting that a higher level of self-dealing index tends to constrain the REM. The coefficient on rule of law is negatively significant while its interaction term (= -0.401; *p*-value = 0.108) remains insignificant. This result shows that a strong rule of law tends to restrict blockholders to

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[4] We estimate the moderating role of intervening impact on blockholders and REM relationship across family and non-family samples. There was no significant difference in the result of both the sample; therefore, we incorporate the full sample to estimate the results.

extract private incentives, which in turn, alleviates REM. While the insignificant coefficient on the interaction term demonstrates that rule of law in the East Asian region is relatively weak hence unable to mitigate the practice of REM.

Column 8 further exhibits that the coefficient on interaction term of disclosure index is negatively significant (= -0.252; *p*-value = 0.066) reflecting that a better disclosure requirement mitigates a higher level of REM. Finally, the CR index and its interaction term are insignificant, implying that better protection of the creditors' rights is not moderating the relationship between block ownership and REM. Based on these findings, we accept hypothesis *H4*.

<div align="center">TABLE 9 ABOUT HERE</div>

5.5. Robustness test

5.5.1 Alternate proxy of block ownership

We conduct the sensitivity test to evaluate the robustness of our results and present the results in Table 10. We make two adjustments to the variable of the study. First, we re-estimate the results of Table 10, using the alternate proxy of block ownership as the first ten largest blockholders in place of the first five largest blockholders. Second, we replace the proxy of firm size by taking the natural logarithm of total sales in place of total assets. We re-estimate the model by incorporating these adjustments and present the findings in Table 10. The results show a slight variation in statistics but overall, our results remained similar in terms of magnitude and respective signs of the variables of the study.

In addition, we take into consideration that differences across firm individual characteristics and macroeconomic dynamics may affect our inference. For example, large-size firms have stable revenues while leverage may directly associate with earning volatility. Likewise, country-level growth rates and inflation rate volatility may affect the variability of earnings. We, therefore, re-estimate the regressions by incorporating the median value of firm size, average yearly inflation rate, the standard deviation of country-level real GDP growth rate, and capital intensity as additional control variables. The unreported results are congruent with our original findings in Table 8. Further, in our unreported test, we drop Taiwan and Hongkong (e.g., countries with the largest firm-year observations) from our pooled sample to test whether estimated results are driven by firm-year observations of these two sample countries. Our robustness test reflects that results are robust to the sample countries with regards to the association between block ownership and REM.

<div align="center">TABLE 10 ABOUT HERE</div>

6. Conclusions and future research directions

In this paper, we examine the influence of blockholders' voting power on REM for eight East Asian emerging markets. We incorporate the features of block ownership as a firm characteristic that influences earnings manipulation and the contextual attributes of the institutional and regulatory arrangements. We link the context of agency theory with our econometric model and investigate the role of blockholders in constraining REM. Our results are robust to controlling for the endogeneity of the ownership of the family blockholders.

Our evidence shows that powerful blockholders of family-controlled firms develop a coalition to manipulate the board strategic decision making in their favour leading to a higher level of REM. We argue that this scenario could eventually create a severe strategic misalignment between dominant blockholders and non-majority shareholders leading to diverse interests between them. In contrast, we report that the presence of a control coalition across non-family blockholders mitigates the REM. In this regard, we argue that the connivance of interests tends to be more difficult among non-family firms which restrict powerful blockholders to engage with managers to manipulation corporate earnings.

We find that contestability of control mitigates the REM while the uneven distribution of voting rights among blockholders gives more leeway to the blockholders to engage in earnings manipulation, particularly in the family control firms. We report that contestability across family-controlled firms yields efficient monitoring as non-family blockholders serves a decisive role in shielding the minority investors from the family's dictatorial actions that dilute the family supremacy in corporate strategy. Our results show that an unbalanced distribution of voting rights among blockholders limits the monitoring role of board members leading to a higher level of REM. We argue that power-sharing support a better dialogue between the largest blockholder and non-majority shareholders which mitigates REM.

Our findings established that diversity across blockholders in terms of ownership type is an important element to understand firm earnings management behaviour. We report that the benefits to monitor or collude with the largest blockholder regarding manipulation of earnings management is affected by the identity of blockholders. Therefore, when the ownership type of the second-largest blockholder is different from the largest blockholder, the former would be able to play his controlling role in reducing REM. Moreover, when the first two largest blockholders are family members, it's more likely that the level of information asymmetry increases which strengthen the consensus among family blockholders to pursue REM. In this scenario, family blockholders can easily collude for earnings manipulation due to the inherent cohesion and as a result, the market perceives a greater risk of REM. To this end, non-majority shareholders may not be able to efficiently perform their monitoring function due to the

dominance of family blockholders, hence leading to a standard free-rider problem. Our findings are also in contrast to the result of Achleitner et al. (2014) who investigate the impact of founding family firms on real earnings management in the European context and report that family-controlled firms tend to avoid real earnings management practices than non-family firms to alleviate the shareholders' pressure for dividend payments.

We also report that when the largest blockholder is a family and the second-largest blockholder is a bank/institutional investor, or the state, the consensus among blockholders of earnings manipulation tends to be more difficult. We concluded that the higher control rights of family blockholders in a family firm enhance the likelihood of REM, whereas the higher control rights of non-family blockholders in a family firm mitigate the REM.

Another noteworthy contribution of this study shows that the country-level institutional and regulatory framework significantly impacts the quality of corporate financial reporting. To this end, the present study complements the prior literature which reports that institutional characteristics tend to define the difference in the price earning relationship across countries. We show that country-level institutional and regulatory frameworks tend to determine the way the blockholders and senior managers employ their discretionary power to manage financial reporting. We report that weak legal protection links with poor quality of financial reporting leading to a higher level of earning management, which in turn, weaken the growth of the capital market. To this end, when the institutional arrangements are immature, weak or transitional in nature, family-controlled firms are more engaged in manipulation in REM.

We also report that a strong institutional framework protects external investors by allowing them to intervene in internal management, particularly in disciplinary matters (e.g., to replace the managers or to take steps to enforce contractual obligations) which alleviate the insider's personal control benefits. Our results add to the literature that the practice of REM tends to be effectively controlled with relatively lower concentrated ownership, strong investors protection, and better rule of law than the economies with a higher level of concentrated ownership, poor investor protection and the weak rule of law. We conclude that the better the institutional and regulatory framework, the lower the likelihood of the managers to opportunistically misreport corporate earnings.

Managerial implications

Our findings suggest a clear policy implication for the policymakers and regulators and recommend a balanced ownership structure to optimise firm controlling mechanisms to mitigate REM. Our findings imply that whilst specific internal CG mechanisms matter, the greater importance is the role of blockholders in curbing REM and the governance strategies they follow to assure their interests. Our findings also highlight that the external investors/minority shareholders can only initiate disciplinary

actions against blockholders if the legal system provides strong protection to minority shareholders to detect the private benefits. We recommend policymakers that the code of good CG should explicitly consider the institutional and regulatory settings to alleviate the practice of REM. Our results further suggest that regulators need to redefine the role of minority shareholders on the corporate board, hence the blockholders should consider the minority shareholders as a strategic partner in firm decision making.

We acknowledge a few limitations of this research. First, the foreign firms and affiliated ventures of unlisted firms are excluded which may underestimate the scope of ownership and control. Second, we exclude financial firms in our model estimation due to the difference in ownership structure. Third, several non-financial firms have dropped from the sample due to missing data. Finally, the magnitude of separation between voting rights and cash flow rights may be affected in a few cases particularly when the cross-holding structure of firmly firms assigned an equal portion of ownership and control rights.

Our findings provide new avenues for future research. Given the present study emphasis on block ownership in the East Asian context, we suggest that futures studies may explore the difference between the voting rights of founder families and non-founder families and determine its impact on REM. We expect that it might be interesting to examine how blockholders' coalition is involved in earnings management, particularly in family-controlled firms. Moreover, the power dynamics of the family firm can be further explored by conducting structured interviews of executives and senior managers to present more detailed insights into the internal CG mechanisms.

Appendix:

Country-level institutional and regulatory variables and sources

Institutional and governance index (IG Index). We collect the country-level data to investigate the quality of institutional and governance arrangements of each sample country measured using institutional and governance index (IG Index) by incorporating three individual indices: (a) voice and accountability (b) government effectiveness, and (c) regulatory quality from Worldwide Governance Indicators (WGIs). The data of WGIs is widely used for cross countries comparative analysis (Ngobo & Fouda, 2012). We employ the factor analysis approach and extract the first principal component of the above-mentioned three indicators. These indicators are essential for a successful business thus expected to have a potential impact on corporate performance, whilst ranging between -2.5 to +2.5. The higher value shows better institutional and governance quality. We expect that if the IG Index variable is statistically significant it would show that the institutional and governance quality matter in

determining the relationship between blockholders and REM. In order to estimate the model, we conjecture that IG Index is exogenous to the decision made by the sample firms.

Investor protection Index (IP Index). The Investor protection index measures the level of investors protection in terms of misuse of firm resources by the insiders for their self-interests. The IP Index scale ranging between 0-10, and the higher score shows better investors protection provided by the legal setting. We extract IP Index using the database of tcdata360 (World Bank).[5]

Antidirector rights Index. Following La Porta et al. (1998) we construct Antidirector index to measure the strength of minority shareholders protection. In this regard, we incorporate six factors to construct Antidirector index: (a) The shareholders have the option of proxy voting via mail (b) No condition to deposit shares for shareholders' meeting. (c) Permission of cumulative voting of minorities (d) The minimum requirement of equity stake to call for an extraordinary shareholders' meeting (e) the presence of an oppressed minorities mechanism, and (f) when preemptive rights of the shareholders cannot be waived without shareholders' meeting. A higher value of the Antidirector index indicates a greater level of minority shareholders protection.

Anti-self-dealing Index. Following Djankov et al. (2008), we include our third institutional variable 'Anti-self-dealing Index'. We specifically include the elements measuring the effectiveness of regulations in curbing self-dealing transactions. This index incorporates transactions related to self-dealing in relation to: (a) disclosure (b) transaction approval procedure, and (c) support private litigation when there is a likelihood of self-dealing. The Anti-self-dealing Index capture each country minority shareholders' expropriation in terms of tunnelling and self-dealing transactions by the controlling shareholders. A lower proportion of the Anti-self-dealing Index indicates an overall country poor protection of minority shareholders.

Rule of Law Index. The Rule of Law Index captures each country observance/compliance with the rule of law such as (a) effective control on crime (b) easy access to courts (c) effectiveness of law in reducing corruption level (d) combats disease and poverty as described by the World Justice Project (WJP). The country-level scores range from 0 to 1, with 0 indicating the weakest while 1 shows the strongest adherence to the rule of law.

Disclosure Index. Following La Porta et al. (2006) we measure the strength of country-level disclosure regulations by constructing a disclosure index. We use the securities law database to construct the index by considering the following five points: (a) ownership structure (b) prospectus delivery (c) insider ownership (d) irregular contracts, and (e) related parties' transactions. The higher value of the disclosure index shows more strict disclosure requirements.

Creditor rights index (CR Index). In order to test the content of legal arrangements across the sample countries, we construct the creditor rights index to capture the level of creditor protection by following

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[5] https://tcdata360.worldbank.org.

Djankov et al. (2008). The CR Index is based on four cores elements, indicating the quality of legal protection to creditors: (a) secure creditor paid first (b) no management stay (c) restrictions on reorganization, and (d) no automatic stay. We measure the creditor rights by using the scale from 0 to 4, while the higher score shows a better creditors' protection (Bae & Goyal, 2009; Djankov et al., 2008; Qian & Strahan, 2007).

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Table 1 Definition of variables

Variable	Definition
REM	The aggregate of three standardised residual of AB_CFO, AB_PROD and AB_DE, in which AB_CFO is the abnormal level of operating cash flow, AB_PROD is the abnormal level of production, and AB-DE is abnormal level of discretionary expenses (including selling, admin and general expenses, research & development expenses, and advertising expense).
CFR	Fraction of cash flow rights
Ownership Wedge	Excess of voting rights over cash flow rights
Block Coalition	Binary variable equal 1 if the controlling stake of the first three largest blockholders is 51% or above, 0 otherwise
Block Own	The ownership stake of first five largest blockholders
Family-controlled Own	Where the family members hold the CEO or chairman position with at least 5% equity stake
Contestability	The voting power of 2nd, 3rd, 4th and 5th largest blockholders over the voting stake of the 1st largest blockholder (i.e., block2 + block3 + block4 + block5/block1)
Excess Contestability	Binary variable equal 1 if the voting stake of the first three largest blockholders do not exceed 10% of the total votes, 0 otherwise.
Herfindahl index	The square value of voting stake of the first five largest blockholders i.e. $(block1)^2 + (block2)^2 + (block3)^2 + (block4)^2 + (block5)^2$.
Control dispersion	The difference between the voting rights of the first five largest blockholders i.e. $(block1 - block2)^2 + (block2 - block3)^2 + (block3 - block4)^2 + (block4 - block5)^2$.
Shipley	The difference between the largest and the second largest blockholder to their sum i.e., (block1- block2/block1+ block2)
Block1	First largest blockholder
Block2 (Family)	Binary variable equal 1 if the 2nd largest blockholder is the family member
Block2 (State)	Binary variable equal 1 if the 2nd largest blockholder is the state
Block2 (Institutional)	Binary variable equal 1 if the 2nd largest blockholder is the institutional/bank
Block2-(Non-family)	Binary variable equal 1 if the 2nd largest blockholder is the non-family
IG Index	Sum of three individual indices: (a) voice and accountability (b) government effectiveness, and (c) regulatory quality, from Worldwide Governance Indicators (WGIs)
IP Index	Investor protection index of World Bank Doing Business Project (DBP, 2012,2013)
Anti-self-dealing Index	Anti-self-dealing Index incorporates transactions related to self- dealing in relation to (a) disclosure (b) transaction approval procedure, and (c) support private litigation when there is likelihood of self-dealing.
Antidirector rights Index	Composition of six factors (a) Shareholders option of proxy voting via mail (b) No condition to deposit shares prior to the shareholders' meeting (c) Cumulative voting of minorities is allowed (d) Minimum requirement to call for an extraordinary shareholders' meeting (e) Presence of an oppressed minorities mechanism, and (f) Pre-emptive rights of the shareholders cannot be waived without shareholders' meeting.
Rule of Law Index	Composition of four factors (a) effective control on crime (b) easy access to courts (c) effectiveness of law in reducing corruption and, (d) combats disease and poverty as described by 'The World Justice Project' (WJP).
Disclosure Index	Composition of four factors from securities law database (a) ownership structure (b) prospectus delivery (c) Insider ownership (d) Irregular contracts, and (e) related parties' transactions.
Creditor Right Index	Composition of four factors regarding quality of legal protection to creditors: (a) secure creditor paid first (b) no management stay (c) restrictions on reorganization, and (d) no automatic stay.
Firm Size	Natural logarithm of total sales (in millions of US dollars).
MBV	Market to book value of equity
Leverage	Ratio of the firm's long-term debts to total assets
Sales Growth	Ratio of current year's sales minus previous year's sales, divided by previous year's sales

Table 1 shows the list of variables used in the study.

Table 2

Descriptive Statistics

Panel A:Financial Variables

Country	Firms	N	REM	Size	MBV	Leverage	Sales Growth
Hong Kong	407	3561	0.000	5.18	3.06	0.28	0.08
Indonesia	110	911	0.002	4.11	1.76	0.27	0.05
Korea	324	2833	0.000	5.10	3.07	0.26	0.09
Malaysia	194	1697	0.001	5.22	2.42	0.24	0.11
Philippines	137	1198	0.001	4.72	1.99	0.22	0.04
Singapore	308	2675	0.000	4.39	3.02	0.24	0.09
Taiwan	609	5415	0.001	5.62	2.02	0.29	0.10
Thailand	116	1019	0.002	4.42	1.87	0.25	0.06
Pooled	2205	19305	0.000	4.97	2.40	0.26	0.07

Panel B: Institutional and Governance characteristics

Country	IG Index	IP Index	Antidirector Index	Anti-Self-dealing Index	Rule of Law Index	Disclosure Index	CR Index
Hong Kong	1.89	8.1	5	0.93	0.77	0.91	4
Indonesia	1.29	6.1	4	0.61	0.55	0.51	2
Korea	1.67	6.7	4.5	0.49	0.74	0.73	3
Malaysia	1.42	7.4	5	0.91	0.59	0.93	3
Philippines	1.29	4.2	4	0.42	0.48	0.87	3
Singapore	1.83	8.0	5	1.00	0.79	1.00	3
Taiwan	1.52	6.8	3	0.59	0.62	0.70	2
Thailand	1.23	6.6	4	0.81	0.53	0.91	2

Panel C: Correlation matrix

Indices	IG Index	IP Index	Antidirector Index	Anti-Self-dealing Index	Rule of Law Index	Disclosure Index	CR Index
IG Index	1						
IP Index	0.61	1					
Antidirector Index	0.52	0.47	1				
Anti-Self Index	0.48	0.44	0.39	1			
Rule of Law Index	0.53	0.55	0.47	0.53	1		
Disclosure Index	0.44	0.26	0.12	0.19	0.25	1	
CR Index	0.41	0.14	0.17	0.05	0.37	0.36	1

Table 2 shows the descriptive statistics of the variables used in the study and the correlation matrix. All variables are defined in Table 1.

Table 3

Governance characteristics

Country	CFR	CR	Wedge	Block Own	Block_ coalition	Contestability	Herfindahl index
Hong Kong	27.44	31.14	0.881	0.441	0.135	0.562	0.243
Indonesia	29.21	34.22	0.854	0.653	0.321	0.375	0.359
Korea	18.55	21.21	0.875	0.412	0.112	0.582	0.227
Malaysia	25.76	30.52	0.844	0.732	0.432	0.274	0.403
Philippines	24.31	29.31	0.829	0.681	0.392	0.324	0.375
Singapore	21.17	29.44	0.753	0.694	0.421	0.306	0.382
Taiwan	22.88	27.66	0.827	0.672	0.372	0.312	0.370
Thailand	34.56	37.15	0.931	0.641	0.344	0.412	0.353

Panel B: Lack of contestability and ownership structure

Country	Control dispersion	Shipley	Family	Institutional	State	Pyramids	Business Group
Hong Kong	0.229	0.124	64.4	12.4	3.60	21.4	10.7
Indonesia	0.340	0.183	67.1	15.4	10.3	22.2	11.3
Korea	0.214	0.116	67.8	10.3	5.31	19.5	9.4
Malaysia	0.381	0.205	57.8	13.9	17.6	18.4	9.5
Philippines	0.354	0.191	47.8	11.8	3.70	17.3	8.4
Singapore	0.361	0.195	43.2	17.4	23.5	15.1	7.2
Taiwan	0.349	0.188	44.5	6.69	3.20	20.4	10.3
Thailand	0.333	0.180	71.1	10.3	7.60	13.7	9.6

Table 3 shows the description of governance and institutional variables used in the study. All variables are defined in Table 1.

Table 4

Diversity of voting stake across largest blockholders

Voting stake	Family	Institutional	State	Other Non-family
Panel A. The proportion of largest voting rights				
Vote_1	46.5%	14.7%	10.5%	28.3%
Vote_2	11.5%	4.2%	9.1%	75.2%
Vote_3	4.1%	1.8%	7.4%	86.7%
Vote_4	1.5%	0.5%	4.2%	93.8%
Vote_5	0.4%	0.2%	1.5%	97.9%
Panel B. The proportion of voting rights when both the largest and second largest blockholders are family members (55.7%)				
Vote_3	23.4%	11.2%	5.1%	60.3%
Vote_4	3.70%	1.0%	7.0%	88.3%
Vote_5	2.10%	0.00%	0.00%	97.9%
Panel C. The proportion of voting rights when the largest and second largest blockholders are family and institution, respectively (4.6%)				
Vote_3	10.7%	5.2%	23.4%	60.7%
Vote_4	5.2%	1.2%	10.4%	83.2%
Vote_5	2.2%	1.4%	3.4%	93.0%
Panel D. The proportion of voting rights when the largest and second largest blockholders are family and state, respectively (2.7%)				
Vote_3	6.4%	3.2%	28.3%	62.1%
Vote_4	5.8%	1.4%	13.4%	79.4%
Vote_5	0.00%	0.00%	6.2%	93.8%

Table 4 shows the summary statistics regarding the diversity of voting rights across first five largest blockholders. Panel B report the identity of blockholders when the largest and second largest blockhoders are family members. Panel C shows the identity of blockholders when the largest and second largest blockhoders are family and institution/bank, respectively. Panel D shows the identity of blockholders when the largest and second largest blockholders are family and state, respectively.

Table 5: Country-level diagnosing testing

Sectors	VIF Statistics	Woolridge	Breusch − Pagan	Durbin Wu Hausman Test
	Mean VIF	f-statistic (p-value)	χ2 (p-value)	t-stat (p-value)
Hong Kong	1.21	9.11***	12.4*	2.44**
		0.001	0.099	0.021
Indonesia	1.98	12.7*	16.5*	3.55*
		0.082	0.067	0.078
Korea	2,01	11.4*	4.97	4.22**
		0.076	0.211	0.041
Malaysia	1.72	26.5**	11.3***	1.99*
		0.017	0.000	0.057
Philippines	1.76	21.1***	18.9*	2.55***
		0	0.085	0.000
Singapore	1.43	18.1**	1.42**	2.66*
		0.039	0.049	0.077
Taiwan	1.82	12.7**	9.21	3.21**
		0.011	0.162	0.032
Thailand	1.52	9.36*	7.11**	4.71
		0.051	0.044	0.211

Table 5 presents the testing results of multicollinearity, heteroskedasticity, autocorrelation and endogeneity across sample countries.

Table 6

Impact of block ownership on REM

	Family				Non-family			
	1	2	3	4	5	6	7	8
CFR	0.206*			0.265**	-0.329**			-0.351**
	(0.092)			(0.042)	(0.021)			(0.011)
Ownership Wedge		0.366***		0.431***		0.254		0.311
		(0.000)		(0.000)		(0.211)		(0.189)
Block Coalition			0.256**	0.221**			-0.361**	-0.387**
			(0.022)	(0.023)			(0.022)	(0.042)
Firm Size	0.422*	0.231**	0.345**	0.483***	0.523*	0.362*	0.543**	0.362**
	(0.077)	(0.021)	(0.044)	(0.000)	(0.057)	(0.089)	(0.042)	(0.022)
MBV	-0.421*	-0.331*	-0.241	-0.611***	-0.412	-0.211	-0.427*	-0.233*
	(0.081)	(0.198)	(0.163)	(0.000)	(0.101)	(0.171)	(0.057)	(0.067)
Leverage	0.261*	0.308	0.432*	0.304***	0.344	0.219	0.201*	0.331***
	(0.063)	(0.166)	(0.098)	(0.000)	(0.157)	(0.163)	(0.088)	(0.000)
Sales Growth	0.321**	0.372***	0.177***	0.362*	0.533**	0.339**	0.421*	0.271***
	(0.032)	(0.000)	(0.000)	(0.086)	(0.042)	(0.038)	(0.054)	(0.000)
REM (t-1)	0.861*	0.832**	0.8521*	0.871***	0.842*	0.873*	0.810**	0.824*
	(0.066)	(0.031)	(0.087)	(0.001)	(0.062)	(0.076)	(0.042)	(0.078)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	8711	8711	8711	8711	10595	10595	10595	10595
AR (1)	0.025	0.000	0.211	0.003	0.022	0.003	0.011	0.021
AR (2)	0.301	0.401	0.521	0.322	0.416	0.232	0.601	0.23
Hansen test	0.388	0.178	0.655	0.654	0.443	0.211	0.498	0.531
Diff in Hansen	0.433	0.303	0.198	0.401	0.542	0.208	0.189	0.387

Table 6 presents the regression results of the impact of blockholders ownership on REM across family and non-family firms. Dependent variable is REM. All variables are defined in Table 1. We use robust standard error (which auto correct panel specific Heteroskedasticity and Autocorrelation) and considered the p-value of Hansen test in all models. The endogenous variable is instrumented using levels lagged by two periods. Arellano and Bond (1991), first-order autocorrelation AR (1), second-order autocorrelation AR (2) and the Hansen test of over-identifying restrictions to examine the validity and strength of instruments used in the level equation. Estimated p-values are in parentheses. *, **, and *** represent significance at 10%; 5% and 1% level respectively.

Table 7

Blockholder diversity and REM

Variables	Family Firms				Non-family Firms			
	1	2	3	4	5	6	7	8
Block1 (Family)	0.398**	0.422*	0.303**	0.321***				
	(0.022)	(0.098)	(0.042)	(0.000)				
Block1 (Non-family)					-0.433*	-0.377**	0.289***	-0.211**
					(0.077)	(0.011)	(0.000)	(0.011)
Block 2 (Family)	0.211**			0.205*				
	(0.041)			(0.065)				
Block 2 (Non-Family)					-0.362*			-0.371***
					(0.058)			(0.000)
Block 2 (Institutional)		-0.356***		-0.337***		-0.421*		-0.477**
		(0.002)		(0.000)		(0.062)		(0.031)
Block 2 (State)			-0.214**	-0.211***			-0.381*	-0.397*
			(0.033)	(0.001)			(0.092)	(0.082)
Block1* Block2 (Family)	0.311***			0.390***	-0.284*			-0.215*
	(0.001)			(0.001)	(0.077)			(0.051)
Block1 * Block 2 (Institutional)		-0.324**		-0.334*		-0.422***		-0.457**
		(0.017)		(0.065)		(0.000)		(0.032)
Block1 * Block 2 (State)			-0.223*	-0.287***			-0.314*	-0.308**
			(0.089)	(0.000)			(0.051)	(0.044)
Firm Size	0.354*	0.321*	0.271*	0.243**	0.276**	0.271	0.307*	0.307***
	(0.050)	(0.071)	(0.064)	(0.021)	(0.034)	(0.205)	(0.077)	(0.001)
MBV	-0.322*	- 0.431	- 0.291***	-0.498*	-0.208	- 0.261*	- 0.214	-0.376*
	(0.089)	(0.215)	(0.000)	(0.077)	(0.187)	(0.071)	(0.117)	(0.079)
Leverage	0.211**	0.328*	0.420	0.376*	0.210***	0.324*	0.291*	0.287*
	(0.011)	(0.022)	(0.262)	(0.011)	(0.001)	(0.071)	(0.076)	(0.056)
Sales Growth	0.281**	0.492	0.291*	0.255*	0.380***	0.362***	0.405**	0.408*
	(0.022)	(0.184)	(0.022)	(0.091)	(0.000)	(0.000)	(0.040)	(0.081)
REM (t-1)	0.821**	0.848**	0.801***	0.814*	0.852***	0.822*	0.835*	0.870***
	(0.044)	(0.033)	(0.000)	(0.045)	(0.000)	(0.073)	(0.093)	(0.000)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	8711	8711	8711	8711	10595	10595	10595	10595
AR (1)	0.002	0.031	0.001	0.011	0.003	0.001	0.038	0.071
AR (2)	0.501	0.806	0.452	0.502	0.590	0.431	0.307	0.465
Hansen test	0.433	0.729	0.635	0.422	0.608	0.450	0.492	0.510
Diff in Hansen	0.281	0.340	0.502	0.521	0.483	0.422	0.623	0.577

Table 7 presents the regression results of the impact of blockholder diversity on REM. Dependent variable is REM. All variables are defined in Table 1. We use robust standard error (which auto correct panel specific Heteroskedasticity and Autocorrelation) and considered the p-value of Hansen test. Estimated p-values are in parentheses. *, **, and *** represent significance at 10%; 5% and 1% level respectively.

Table 8

Control contestability and REM

Variables	Family Firms						Non-Family Firms					
	1	2	3	4	5	6	7	8	9	10	11	12
Contestability	- 0.321**					-0.389***	-0.231**					-0.287*
	(0.056)					(0.000)	(0.071)					(0.089)
Excess Contestability		-0.407***				-0.453*		-0.345***				-0.377*
		(0.000)				(0.095)		(0.000)				(0.061)
Herfindahl index			0.321*			0.342*			0.243*			0.261*
			(0.098)			(0.076)			(0.077)			(0.059)
Control dispersion				0.206*		0.233**				0.232**		0.291**
				(0.076)		(0.022)				(0.061)		(0.039)
Shipley					0482*	0.421***					0352*	0.367***
					(0.041)	(0.001)					(0.041)	(0.001)
Firm Size	0.376*	0.487*	0.376*	0.265**	0.321*	0.376**	0.456**	0.362*	0.407*	0.377**	0.387*	0.399*
	(0.062)	(0.076)	(0.082)	(0.011)	(0.063)	(0.011)	(0.022)	(0.098)	(0.091)	(0.042)	(0.075)	(0.089)
MBV	-0.421	-0.389**	-0.201***	-0.322	-0.421	-0.377*	-0.403**	398**	0.422***	0.399**	0.432*	0.456**
	-0.121	-0.011	0.000	-0.21	-0.13	-0.092	-0.021	0.043	0.000	0.045	0.098	0.046
Leverage	0.382**	0.239**	0.303***	0.390**	0.288*	0.278*	0.493*	0.352**	0.387**	0.333	0.321	0.324*
	-0.011	-0.043	-0.001	-0.029	-0.063	-0.062	-0.086	0.042	0.047	0.122	0.221	0.086
Sales Growth	0.321**	0.205	0.332*	0.432***	0.290**	0.387***	0.414***	0.389*	0.377*	0.365	0.543	0.432*
	-0.022	-0.432	-0.054	0.000	-0.033	0.000	0.000	0.087	0.078	0.221	0.211	0.043
REM (t-1)	0.832*	0.853**	0.803***	0.865*	0.842*	0.811*	0.880*	0.861*	0.871*	0.851*	0.831**	0.851*
	-0.098	-0.032	0.000	-0.057	-0.064	-0.052	-0.076	0.087	0.099	0.079	0.076	0.067
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	19306	19306	19306	19306	19306	19306	19306	19306	19306	19306	19306	19306
AR (1)	0.001	0.022	0.001	0.042	0.002	0.041	0.013	0.002	0.001	0.002	0.001	0.002
AR (2)	0.532	0.632	0.612	0.425	0.39	0.389	0.607	0.321	0.431	0.621	0.431	0.321
Hansen test	0.503	0.377	0.399	0.219	0.401	0.553	0.388	0.322	0.432	0.278	0.332	0.431
Diff in Hansen	0.376	0.533	0.39	0.281	0.291	0.572	0.408	0.421	0.409	0.218	0.332	0.421

Table 8 presents the regression results of the Contestability of control on REM. Dependent variable is REM. All variables are defined in Table 1. We use robust standard error (which auto correct panel specific Heteroskedasticity and Autocorrelation) and considered the p-value of Hansen test. Estimated p-values are in parentheses. *, **, and *** represent significance at 10%; 5% and 1% level respectively.

Table 9

Moderating role of institutional and regulatory arrangements on block ownership and REM relationship (Pooled sample)

Variable	1	2	3	4	5	6	7	8
Block Own	-0.333*	- 0.312**	-0.288***	- 0.320**	- 0.398**	- 0.233**	-0.291*	-0.299*
	(0.055)	(0.031)	(0.001)	(0.022)	(0.042)	(0.011)	(0.086)	(0.099)
IG Index	-0.204*							-0.219*
	(0.076)							(0.061)
IP Index		-0.498***						-0.403*
		(0.002)						(0.072)
Antidirector			0.232**					0.275**
			(0.011)					(0.042)
Anti-self-dealing index				-0.306*				-0.339*
				(0.073)				(0.088)
Rule of Law					-0.287**			-0.245*
					(0.022)			(0.075)
Disc Index						-0.397**		-0.386*
						(0.011)		(0.038)
Cr Rights							-0.461	-0.473
							(0.172)	(0.01)
Block Own * IG Index	- 0.401**							-0.412**
	(0.010)							(0.024)
Block Own * IP Index		-0.433**						-0.421***
		(0.025)						(0.001)
Block Own * Antidirector			0.389*					0.378*
			(0.055)					(0.072)
Block Own * Anti-self-dealing index				-0.209*				-0.257***
				(0.022)				(0.000)
Block Own * Rule of Law					-0.376			-0.401
					(0.211)			(0.108)
Block Own * Disclosure						-0.216*		-0.252*
						(0.021)		(0.066)
Block Own * Cr Rights							- 0.357	-0.308
							(0.108)	(0.211)
Firm Size	0.261***	0.388	0.205*	0.302	0.411**	0.382*	0.205*	0.372**
	(0.000)	(0.221)	(0.065)	(0.211)	(0.033)	(0.079)	(0.091)	(0.048)
MBV	- 0.243**	-0.339	-0.332**	- 0.218	- 0.201**	- 0.338*	-0.223*	-0.287***
	(0.018)	(0.209)	(0.013)	(0.153)	(0.022)	(0.067)	(0.201)	(0.000)
Leverage	0.302***	0.289	0.301	0.204***	0.202***	0.311*	0.350**	0.229**
	(0.001)	(0.181)	(0.161)	(0.000)	(0.002)	(0.072)	(0.033)	(0.049)
Sales Growth	0.492	0.387	0.403**	0.417	0.487**	0.302**	0.401*	0.457*
	(0.121)	(0.321)	(0.022)	(0.154)	(0.042)	(0.028)	(0.073)	(0.065)
REM (t-1)	0.861*	0.839*	0.891*	0.821***	0.814*	0.825**	0.844***	0.857**
	(0.099)	(0.081)	(0.065)	(0.000)	(0.069)	(0.011)	(0.000)	(0.023)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	19306	19306	19306	19306	19306	19306	19306	10306
AR (1)	0.001	0.022	0.003	0.331	0.421	0.011	0.002	0.002
AR (2)	0.543	0.342	0.342	0.493	0.632	0.435	0.334	0.373
Hansen test	0.352	0.371	0.420	0.532	0.356	0.378	0.437	0.501
Diff in Hansen	0.377	0.403	0.483	0.367	0.588	0.603	0.432	0.389

Table 9 presents the regression results of the moderating role of institutional and governance variables on the relationship between blockholders ownership and REM. Dependent variable is REM. All variables are defined in Table 1. Estimated p-values are in parentheses. *, **, and *** represent significance at 10%; 5% and 1% level respectively.

Table 10

Robustness Test.

Variable	1	2	3	4	5	6	7	8
Block Own	0.256*	0.362**	0.290***	0.311**	0.289***	0.304***	0.237*	0.274*
	(0.051)	(0.022)	(0.000)	(0.041)	(0.000)	(0.000)	(0.072)	(0.059)
IG Index	-0.274**							-0.256*
	(0.012)							(0.052)
IP Index		-0.261***						-0.209*
		(0.000)						(0.087)
Antidirector			0.211**					0.232**
			(0.038)					(0.011)
Anti-self-dealing index				-0.398*				-0.356*
				(0.072)				(0.081)
Rule of Law					-0.371*			-0.322*
					(0.083)			(0.061)
Disc Index						-0.219**		-0.261*
						(0.021)		(0.056)
Cr Rights							-0.301	-0.376
							(0.162)	(0.201)
Block Own * IG Index	- 0.432**							-0.411**
	(0.011)							(0.011)
Block Own * IP Index		-0.309**						-0.306***
		(0.012)						(0.000)
Block Own * Antidirector			0.441*					0.401*
			(0.067)					(0.076)
Block Own * Anti self				-0.307*				-0.366***
				(0.088)				(0.001)
Block Own * Rule of Law					- 0.391			-0.305
					(0.281)			(0.122)
Block Own * Disclosure						-0.365*		-0.351*
						(0.041)		(0.072)
Block Own * Cr Rights							-0.488	-0.422
							(0.201)	(0.150)
Firm Size	0.321***	0.228*	0.382***	0.291	0.410**	0.222*	0.313*	0.398**
	(0.000)	(0.088)	(0.000)	(0.111)	(0.021)	(0.063)	(0.067)	(0.042)
MBV	- 0.222**	- 0.321	-0.205**	- 0.366	- 0.392*	- 0.399**	-0.324*	-0.398**
	(0.041)	(0.312)	(0.123)	(0.231)	(0.089)	(0.039)	(0.079)	(0.041)
Leverage	0.299***	0.308	0.311	0.222***	0.231***	0.378*	0.437**	0.238**
	(0.001)	(0.101)	(0.219)	(0.000)	(0.000)	(0.065)	(0.047)	(0.033)
Sales Growth	0.411	0.382	0.401**	0.422	0.471**	0.333**	0.421*	0.401*
	(0.144)	(0.209)	(0.042)	(0.143)	(0.028)	(0.011)	(0.078)	(0.076)
REM (t-1)	0.832***	0.812*	0.854*	0.801***	0.821*	0.861**	0.891***	0.844**
	(0.000)	(0.072)	(0.088)	(0.000)	(0.051)	(0.032)	(0.000)	(0.042)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	19306	19306	19306	19306	19306	19306	19306	19306
AR (1)	0.002	0.022	0.000	0.000	0.004	0.001	0.002	0.000
AR (2)	0.321	0.456	0.343	0.564	0.502	0.453	0.632	0.676
Hansen test	0.511	0.408	0.432	0.602	0.421	0.403	0.514	0.609
Diff in Hansen	0.521	0.321	0.473	0.502	0.672	0.327	0.432	0.623

Table 10 shows the robustness of our result by replacing the proxy of Block ownership and firm size. . Dependent variable is REM. All variables are defined in Table 1. Estimated p-values are in parentheses. *, **, and *** represent significance at 10%; 5% and 1% level respectively.