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The impact of busy boards on earnings management: A case study of estate companies listed on the Vietnamese stock exchange

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A B S T R A C T

While busy boards have been widely studied in corporate governance, research on this topic in Vietnam is lacking. In the real estate sector, where high leverage and regulatory challenges persist, busy boards may impact earnings management (EM). This study explores their influence on EM in listed Vietnamese real estate firms, contributing to corporate governance insights. This research aims to investigate the presence of busy boards and Board of Directors (BOD) characteristics on EM behavior. This research employs the OLS, FEM, REM and Generalized Least Squares (GLS) regression model to analysis. Analysis results show that the number of busy boards has a positive impact on EM behavior. The results of this study extend the composite measure of BOD in Vietnam by adding a new factor, which has not been included in previous studies, namely busy boards. Thereby, it helps to improve corporate governance in controlling the "performance results" of the board of directors. Busy boards influence positively EM and other factors: board size, board independence, board expertise, female on board negatively affect EM. The findings of this study demonstrate a relationship between busy boards and EM, subsequently affecting the quality of financial statements. Therefore, the policy makers are recommended to consider comprehensive reviews and possibly "legislate" the advantages of diversity within corporate boards during the drafting, amending, and supplementing of corporate governance regulations and rules in Vietnam.

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1. Introduction

The real estate sector plays a crucial role in economic growth, contributing significantly to GDP in many countries, including Vietnam. In Vietnam, it accounted for 4-5% of GDP and approximately 11% of total budget revenue in recent years. Despite challenges from the COVID-19 pandemic, the sector remains vital, with forecasts predicting its share of total assets to reach 22% by 2030. BOD serves as a key oversight mechanism in corporate governance, ensuring the quality and accuracy of financial reporting. A growing focus in governance research is the concept of "busy boards" or board interlocks, where directors serve on multiple boards. While some scholars argue that interconnections improve decision-making and transparency (Fama & Jensen, 1983; Ferris et al., 2003; Elyasiani & Zhang, 2015) others highlight concerns about overcommitment and reduced oversight (Githaiga et al., 2022). Existing studies have explored corporate governance's role in limiting earnings management across developed and developing markets. However, the influence of busy boards on EM remains underexplored, particularly in Vietnam, where research has primarily focused on board size, independence, gender diversity, and dual roles. In this study, the authors re-evaluates the impact of busy boards on EM, aiming to reconcile conflicting findings in existing theories. Our study is expected to contribute to the management literaturę in three different ways:

First, Pioneering Exploration: This study is the first to explore the impact of busy boards in Vietnam.

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Second, Determinants of Busy Boards: It provides evidence on the factors determining busy boards, highlighting which company characteristics are more likely to influence the adoption of this practice.

Third, Impact on EM: The study investigates whether busy boards have a negative impact on EM behavior, using various representations to analyze this relationship.

2. Literature review and hypotheses development

2.1. Busy boards

There is no single definition of busy boards in the existing literature. Some previous studies define busy boards as an "interlocked board", which occurs when a director of one organization sits on the board of another. Others define busy boards as "board members who serve on three or more boards, including the board of the IPO company." Benson et al. (2015) and James et al. (2018) defined busy boards as "board members holding a total of three or more outside board positions".

In previous studies, researchers have referred to directors holding positions in multiple organizations as busy boards, interlocking directorates, director interlocking, or multiple directorships. For the scope of this research, the author adopts the definition of busy boards provided by Benson et al. (2015) and James et al. (2018), which measures the behavior of board members holding multiple directorships in listed companies

2.2. Earnings management (EM)

EM is defined in various ways, with two main perspectives: informational and opportunistic. The informational perspective views EM as a means to provide forecasts of future cash flows to investors, while the opportunistic perspective sees it as a tool to deceive investors. From a positive standpoint, Brennan (2021) suggests that EM helps create stable financial performance, which may be acceptable to some extent. In contrast, Schipper (1989) defines EM as "a purposeful intervention in financial reporting to gain private benefits" and Healy (1985) describes it as altering financial reports to mislead stakeholders or influence contractual outcomes. These definitions highlight that managers' judgments in accounting policies and estimates are key in the EM process, with managers often using techniques to meet organizational goals. Based on the aforementioned concepts, the author approaches the notion of EM from an opportunistic perspective. This perspective views EM as actions by managers to influence the information in financial statements disclosed to the market, with the goal of achieving personal objectives, improving business performance, and meeting the expectations of analysts, investors, and market participants. EM can be considered a legal practice when it involves the flexible application of estimates, accounting methods, and business activities without violating the law. Whether EM is positive or negative depends on the extent to which managers utilize these practices and the potential impact on users.

2.3. Hypotheses development

2.3.1. Busy boards and EM

Prior empirical evidence on the relationship between Board Interlocks and EM is inconclusive. On one hand, some studies suggest that board interlocks are positively associated with EM due to the “workload” and “recklessness” of the board in their supervisor roles (Fich & Shivdasani, 2006). This is because busy board members might be too occupied with their responsibilities to focus adequately on the company’s issues and may have limited time to participate in board meetings and effectively monitor executives. Conversely, other studies indicate a negative association between board interlocks and EM. For example, Fama and Jensen (1983) argue that boards with members holding multiple external directorships are more likely to include knowledgeable and experienced directors who can actively limit EM. Similarly, Baatour et al. (2017) find that directors with multiple board positions have a positive and significant impact on real EM in Saudi Arabia, although this does not significantly affect accrual-based EM. Using different measures for busy boards, Tham et al. (2019) observe that companies with busy board members exhibit lower levels of EM. Therefore, we propose a hypothesis:

Hypothesis H_1: *Busy boards have a positive or negative impact on EM.*

2.3.2. Board size and EM

Research has also identified that larger boards may face bureaucracy and conflicts of interest, potentially leading to increased EM or difficulties in coordination and communication, thereby limiting advisory capacity, decision-making, and strategic planning. Some observations suggest that larger boards may be necessary for larger financial organizations to reflect the complexity of business models, enhance expertise and available resources, and improve relationship-building with various customers and depositors (Githaiga et al., 2022). However, there are also research results that found no relationship between board size and EM. Based on these findings, the second hypothesis of this study is:

Hypothesis H_2: *Board size has a positive or negative impact on EM.*

2.3.3. Independent board and EM

Agency Theory suggested that agency conflicts could be minimized by increasing the number of non-executive members in the BOD. Non-executive board members serve as powerful tools for overseeing management opportunities due to their independent judgment and deep expertise. Fama and Jensen (1983) argued that non-executive directors tend to supervise executive directors more effectively because they seek to protect their professional reputation and provide relevant additional knowledge. Rajeevan and Ajward (2020) examined the relationship between corporate governance attributes and the level of EM among quoted companies in Sri Lanka. Conversely, Alareeni (2018), who examined listed companies from Bahrain, found that the proportion of independent board members positively influences EM. Therefore, we propose a hypothesis:

Hypothesis H_3: *The proportion of independent board members on the BOD has a positive or negative impact on EM.*

2.3.4. Board financial expertise and EM

Aleqab and Ighnaim (2021) found a statistically significant negative impact of board members' financial expertise on EM through actual activities compared to the findings of previous studies, which measured the impact of actual activities. Similarly, Habib and Jiang (2014) suggested that CEOs with financial expertise tend to engage in less actual EM, while no evidence was found to suggest that they engage in less accrual-based EM. Musa et al. (2023) observed that the financial expertise of the BOD is significantly important and has a negative relationship with EM. However, other studies have yielded contrary results, indicating that conflicts within the BOD are more prevalent when board members have expertise in financial accounting (Le & Nguyen, 2023). Therefore, we propose a hypothesis:

Hypothesis H_4: *Board members with financial expertise have a positive or negative impact on EM.*

2.3.5. Female directors and EM

Previous studies have conceptualized gender diversity on the BOD through the presence of women. According to Arun et al. (2015) the variable of female directors is measured by the proportion of female members on the BOD relative to the total board size. Thinh and Tan (2019) argue that women tend to be more cautious, less risk-acceptant, and less tolerant of unethical behavior compared to men, including EM behavior. Therefore, the presence of women on the BOD leads to better oversight of management, reducing conflicts of interest between shareholders and management caused by agency problems. The presence of female board members has been found to constrain EM. Arioglu (2020) examined both financial and non-financial firms and found no impact of female directors on EM. Therefore, we propose a hypothesis:

Hypothesis H_5: *The proportion of female members on the BOD has a positive or negative impact on EM*

2.4. Control variable

2.4.1. Company size (Fsize)

Previous research has incorporated various control variables to examine EM. For instance, some studies suggest that smaller firms have more EM level (El Diri et al., 2020; Triki Damak, 2018), larger companies may exert influence over accounting data, potentially diminishing financial statement quality (Jiang et al., 2013). On the other hand, larger firms often exhibit stronger financial reporting due to their advanced internal control mechanisms and the expertise of their internal auditors (Al-Dhamari & Ismail, 2014). This study posits that larger firms, with greater financial resources and strategic capabilities, may have more motivation to stabilize earnings compared to smaller companies

2.4.2. Tangible fixed assets (Tang)

Tulcanaza-Prieto and Lee (2022) suggested that tangible assets (Tang) positively influence EM. Tangibility has a significant impact on EM (Khan et al., 2022). Specifically, tangible fixed assets tend to provide more transparency in financial reporting, making EM more difficult due to these assets being more objective and easier to monitor compared to intangible assets.

2.4.3. Leverage (Lev)

Previous research has widely acknowledged the role of financial leverage in influencing EM, with many studies suggesting that higher leverage can reduce financial manipulation, thereby improving the quality of financial information (Aburisheh et al., 2022; Le & Nguyen, 2023). However, other studies argue that rising leverage may actually incentivize managers to adjust earnings figures (Ameila & Eriandani, 2021; Dang et al., 2018; Musa et al., 2023; Tulcanaza-Prieto et al., 2020). Higher financial leverage may also bolster financial reporting quality and profitability, which in turn could impact a firm's financial stability.

2.4.4. Audited by Big 4 (Audit)

Aleqab & Ighnaim (2021) found that companies audited by Big 4 firms tend to positively influence EM behavior. Conversely, Lassoued & Khanchel (2021), Le and Nguyen (2023) suggest that audits by Big 4 firms actually reduce EM behavior. However,

Khanh and Khuong (2018) reported no significant impact of audit firm type on EM practices. Companies audited by the Big 4 are likely to have a negative effect on EM behavior

2.4.5. COVID-19

Yan et al. (2022) indicates that the impact of COVID-19 has heightened EM behavior, as seen in the rise of both accrual-based and real EM practices in China. Similarly, Dang and Khanh Dung (2024) also demonstrate that the COVID-19 pandemic has a substantial positive effect on EM practices among non-financial publicly traded companies in Vietnam. The COVID-19 pandemic and associated economic lockdown have diminished the value relevance of financial reports (Al-Jawaheri et al., 2021). Uddin (2023) indicates that firms engage in less real EM during the pandemic compared to the pre-pandemic period.

3. Research methodology

3.1. Sample and data collection

Our data were derived from financial reports, annual reports, and disclosure sheets from companies listed on the Hanoi Stock Exchange (HNX) and the Ho Chi Minh City Stock Exchange (HOSE). From the obtained financial reports, the indicators were collected and input into Excel software for the calculation of dependent and independent variables. The data were provided by Vietstock - The number one financial information portal in Vietnam and were also collected manually by reviewing the annual reports and disclosure sheets of the companies to extract information. The sample consisted of 160 real estate firms listed on Vietnam's stock market in the period 2017 to 2022. After eliminating ineligible observations due to lack of information and outlier eliminations, the remaining sample is 723 observations. During this research period, both Vietnam and the world were affected by the Covid-19 pandemic. Therefore, the study was conducted to investigate the relationship between busy boards and EM between two periods: before the Covid-19 pandemic (2017 – 2019) and after the pandemic (2020– 2022), to ascertain if there were differences in the real estate industry companies listed on the Vietnam stock market

3.2. EM measurements

To measure EM behavior, the author employs the model developed by (Roychowdhury, 2006) to assess changes in EM. This model is widely recognized and frequently applied in EM research (Ashraf et al., 2021; Attia et al., 2022; Khuong et al., 2019; Tulcanaza-Prieto & Lee, 2022; Zamri et al., 2013). The dependent variable EM is measured using the Roychowdhury (2006) model. Specifically, the calculation is as follows:

(i) Abnormal operating cash flows (ABN_CFO)
(ii) Abnormal production costs (ABN_PROD)
(iii) Abnormal discretionary expenses (ABN_DISX)

Total abnormal real EM (ABN_REM) is calculated as the aggregate of abnormal operating cash flows (ABN_CFO), abnormal discretionary expenses (ABN_DISX), and abnormal production costs (ABN_PROD).

$$ABN_REM_{i,t}=ABN_CFO_{i,t}*(-1)+ABN_\mathrm{DISX}_{i,t}*(-1)+ ABN_PROD_{i,t} \quad (1)$$

Therefore, AB_CFO, AB_DISX and AB_PROD are defined as the differences between the actual values of each activity and their normal values, which are estimated by the residuals of equations (2), (3), and (4) as follows:

Cash Flow from Operations:

$$\frac{\boldsymbol{CFO\ it}}{\mathbf{Ai,t-1}} = \alpha_0+\alpha_1 \frac{1}{\mathrm{Ai,t-1}}+\alpha_2 \frac{\mathrm{Sales\ i,t}}{\mathrm{Ai,\ t-1}}+\alpha_3\frac{\triangle \mathrm{Salesi,t}}{\mathrm{Ai,\ t-1}}+\varepsilon_{i,t} \quad (2)$$

where:

- CFO_t is the cash flow from operating activities for firm i in year t.
- $A_{i,\ t-1}$ is the total assets of company i in year t - 1.
- $Sales_{i,\ t}$ is the net sales of company i in year t.
- $\Delta Sales_{i,\ t}$ is the change in net sales from year t – 1 to t.

Production Cost:

$$\frac{PROD\ it}{\mathrm{Ai,t-1}}= \alpha_0+\alpha_1 \frac{1}{\mathrm{Ai,t-1}}+\alpha_2 \frac{\mathrm{Sales\ i,t}}{\mathrm{Ai,\ t-1}}+\alpha_3\frac{\triangle \mathrm{Salesi,t}}{\mathrm{Ai,\ t-1}}+ \alpha_4\frac{\triangle \mathrm{Salesi,t-1}}{\mathrm{Ai,\ t-1}}+\varepsilon_{i,t} \quad (3)$$

where:

- $PROD_{i,\ t}$ represents production costs defined as the sum of costs of goods sold plus the change in inventory in year t ($COGSi,t+\Delta INVi,t$)

- $COGSi,t$ is the total cost of goods sold by company i in year t.
- $\Delta INVi,t$ is the difference in the inventory of company i in year t.
- $\Delta Sales_{i,t}$ is the change in net sales from year t - 1 to t.

Discretionary Expenses:

$$\frac{DISX\ it}{Ai,t-1}_t = \alpha_0 + \alpha_1 \frac{1}{Ai,t-1} + \alpha_2 \frac{\triangle Salesi,t-1}{Ai,t-1} + \varepsilon_{i,t} \quad (4)$$

where:

- $DISPEX_{it}$ represents discretionary expenses and in year t
- Other variables have been defined previously.

Next, abnormal levels of cash flow, production costs and discretionary expenses are calculated using the following formulas:
The abnormal cash flow is measured as the difference between the actual cash flow from operations and the estimated normal cash flow from operations.

$$ABN_CFO = \frac{\boldsymbol{CFO\ it}}{\mathbf{Ai,t-1}} - \alpha_0 - \alpha_1 \frac{1}{Ai,t-1} - \alpha_2 \frac{Sales\ i,t}{Ai,t-1} - \alpha_3 \frac{\triangle Salesi,t}{Ai,t-1} \quad (5)$$

The abnormal production cost is measured as the difference between the actual production cost and the expected normal production cost.

$$ABN_PROD = \frac{PROD\ it}{Ai,t-1} - \alpha_0 - \alpha_1 \frac{1}{Ai,t-1} - \alpha_2 \frac{Sales\ i,t}{Ai,t-1} - \alpha_3 \frac{\triangle Salesi,t}{Ai,t-1} - \alpha_4 \frac{\triangle Salesi,t-1}{Ai,t-1} \quad (6)$$

The abnormal discretionary expense is measured as the difference between the actual discretionary expense and the expected normal discretionary expense.

$$ABN_DISX = \frac{DISX\ it}{Ai,t-1}_t - \alpha_0 - \alpha_1 \frac{1}{Ai,t-1} - \alpha_2 \frac{\triangle Salesi,t-1}{Ai,t-1} \quad (7)$$

After calculating the abnormal cash flow from operations, the abnormal productions costs, and the abnormal discretionary expensess from Eq. (5), Eq. (6), and Eq. (7), authors proceeds to calculate the total abnormal REM using equation (1) as follows:

$ABN_REM_{i,t} = ABN_CFO_{i,t} * (-1) + ABN_DISX_{i,t} * (-1) + ABN_PROD_{i,t}$

3.3. Regression model and measurement of independent and control variables

Regression model:

Referred to Aleqab and Ighnaim (2021) and Baatour et al. (2017), we constructed the following model:

$$REM_{it} = \alpha_0 + \alpha_1 Busydir_{it} + \alpha_2 Bsize_{it} + \alpha_3 Bindep_{it} + \alpha_4 Fexpdir_{it} + \alpha_5 Meetdir_{it} + \alpha_6 Fedir_{it} + \alpha_7 Fsize_{it} + \alpha_8 ROA_{it} + \alpha_9 Lev_{it} + \alpha_{10} Audit_{it} + \alpha_{11} Covid\text{-}19_{it} + \varepsilon_{it}$$

Measurement of independent and control variables:

The variables and their measurements used in this study are summarized in Table 1.

Table 1
Measurement of variables in the research model

Variable	Description	Measurement
Dependent variable		
1	Earning Management (EM)	Real EM as per Roychowdhury's (2006)
Independent Variable		
2	Busy Board (Busydir)	The ratio of busy BOD members to the total number of BOD members.
3	Board Size (Bsize)	The natural logarithm of the number of members in the BOD.
4	Borard Independent Directors (Bindep)	The ratio of independent BOD members to the total number of BOD members.
5	Board Members with Financial Expertise (Fexpdir)	The ratio of BOD members with relevant undergraduate degrees in the field of economics and finance to the total number of BOD members.
6	Female BOD members (Fedir)	The proportion of female BOD members to the total number of BOD members.
Control variables		
7	Company Size (Fsize)	Natural logarithm of total assets
8	Tangible Fixed Assets (Tang)	Tangible fixed assets / Total assets
9	Leverage (Lev)	Total liabilities / Total assets
10	Audited by BIG 4 (Audit)	Dummy variable equals 1 indicates the company is audited by one of the BIG 4 firms: KPMG, EY, PwC, or Deloitte; in contrast, it equals 0
11	Covid-19 (Covid-19)	Covid-19 equals 1 if during the period 2020-2022; in contrast, it equals 0.

4. Research results

4.1. Descriptive statistical analysis

Table 2
Descriptive statistics of variables

Variables	Number of Observations	Average values	Standard Deviation	Minimum value	Maximum value
Rem	727	-0.037	0.31	-1.202	3.043
Busydir	727	0.224	0.263	0	0.875
Bsize	727	1.682	0.219	1.099	2.398
Bindep	727	70.294	17.842	20	100
Fexpdir	727	48.451	23.135	11.111	100
Fedir	727	13.726	16.125	0	100
Fsize	727	28.123	1.529	23.599	33.522
Tang	727	10.523	14.739	0	87.689
Lev	727	55.676	21.09	0.267	93.666
Audit	727	0.276	0.448	0	1
Covid19	727	0.508	0.5	0	1

Table 3
Pearson correlation analysis between variables

Variables	Rem	Busydir	Bsize	Bindep	Fexpdir	Fedir	Fsize	Tang	Lev	Audit	Covid19
Rem	**1.000**										
Busydir	0.071	**1.000**									
Bsize	-0.115	0.191	**1.000**								
Bindep	-0.062	0.246	0.259	**1.000**							
Fexpdir	-0.012	0.194	0.044	0.041	**1.000**						
Fedir	0.000	0.044	-0.092	0.075	0.204	**1.000**					
Fsize	0.043	0.339	0.381	0.189	0.221	0.075	**1.000**				
Tang	-0.248	-0.063	0.075	0.013	-0.179	0.014	0.007	**1.000**			
Lev	0.169	0.003	0.131	-0.063	-0.061	-0.262	0.243	-0.016	**1.000**		
Audit	0.011	0.133	0.056	0.035	-0.004	0.048	0.388	-0.059	0.012	**1.000**	
Covid19	0.070	0.069	-0.013	0.155	-0.026	0.046	0.140	0.023	0.003	-0.086	**1.000**

Besides, Table 3 illustrates the correlation between the dependent variable (REM) and the independent and control variables within the model. Based on the analysis results (REM) show weak positive correlations with Leverage (Lev) (0.1692) and weak negative correlations with Tangible Assets (Tang) (-0.2481). Busy Directors (Busydir) are positively correlated with Board Size (Bsize) (0.1907), Independent Directors (Bindep) (0.2462), and Firm Size (Fsize) (0.3394), suggesting that larger and more independent boards are associated with busier directors. Board Size (Bsize) is negatively correlated with Rem (-0.1146) and positively correlated with Bindep (0.2589) and Fsize (0.3812), indicating that larger boards tend to have more independent members and are associated with larger firms. Independent Directors (Bindep) show a weak positive correlation with Fsize (0.1887). Financial Director Experience (Fexpdir) has weak correlations with most variables, while Financial Director Representation (Fedir) is positively correlated with Fexpdir (0.2038) and negatively with Lev (-0.2616). Firm Size (Fsize) is positively correlated with Busydir (0.3394), Bsize (0.3812), and Audit (0.3877), suggesting that larger firms have busier boards and larger audits. Tangible Assets (Tang) are negatively correlated with Rem (-0.2481), and Leverage (Lev) has weak correlations with both Rem (0.1692) and Tang (-0.2616). Audit shows weak positive correlations with Fsize (0.3877), while Covid-19 shows weak positive correlations with Bindep (0.1547) and very weak correlations with other variables. The analysis also reveals that, although there are correlations among the independent variables, none exceed 0.8. The pair of variables Firm Size (Fsize) and Audit has the highest correlation coefficient at 0.3877, while the remaining pairs of variables have very low correlation coefficients. Overall, most correlations are weak to moderate, with firm size, board size, and leverage showing the strongest relationships. Conversely, it shows a positive correlation with the remaining variables. This allows the author to conclude that the likelihood of multicollinearity among the variables in the model is very low.

4.2. Multivariate regression analysis

Model Selection Testing:

The authors conduct Pooled OLS, Fixed Effects Model (FEM), and Random Effects Model (REM) regressions. The results are presented in Table 4.

Table 4
Regression results for the research model: Pooled OLS – FEM -REM

Variables	Pooled OLS		FEM		REM	
	Coef.	P>|t|	Coef.	P>|t|	Coef.	P>|t|
Busydir	0.105	0.021	0.070	0.357	0.104	0.045
Bsize	-0.182	0.001	-0.083	0.394	-0.159	0.014
Bindep	-0.001	0.153	-0.002	0.109	-0.001	0.101
Fexpdir	-0.001	0.059	-0.001	0.492	-0.001	0.105
Fedir	0.001	0.203	0.002	0.091	0.001	0.114
Fsize	0.009	0.359	0.054	0.101	0.009	0.468
Tang	-0.005	0.000	0.002	0.365	-0.005	0.000
Lev	0.003	0.000	0.617	0.000	0.032	0.000
Audit	-0.016	0.568	0.026	0.606	0.003	0.921
Covid19	0.039	0.084	0.033	0.184	0.040	0.061
Constant	0.029	0.899	-1.629	0.064	-0.032	0.911
Number of observations	727		727		727	
R-squared	0.1221		0.0486		0.1191	
Adj R-sq	0.1099					
Prob > F	0.0000		0.000		0.000	

The OLS regression results examine the impact of board busyness, board size, independent board members, board members with economic and financial expertise, female board members, and control variables on EM behavior. The findings indicate that board busyness has a significantly positive relationship with EM. This result is consistent with the studies by Baatour et al. (2017) but contradicts the findings of Tham et al. (2019), which showed a negative relationship between board busyness and EM. Our research is the first study to use the busy board factor to measure board characteristics in Vietnam, presenting an exciting opportunity to contribute novel insights to corporate governance literature in emerging markets. This study could reveal whether directors holding multiple board seats while potentially bringing valuable experience and connections may also be limited in their capacity for effective oversight, thereby increasing the risk of earnings manipulation. Examining this issue within Vietnam's context would help local companies and regulators better understand how board composition influences financial integrity. Furthermore, this research could provide practical recommendations for policymakers on optimizing governance structures to enhance accountability, ultimately contributing to stronger investor confidence in Vietnamese firms. Additionally, organizational theory suggests that board diversity hinders the board's ability to make decisive actions related to strategic changes. The evidence from this study supports the findings of Arun et al. (2015), who found a positive relationship between the proportion of women on the board and EM. Furthermore, board size, independent board members, and board members with economic and financial expertise all exhibit a negative correlation with EM behavior.

Model selection between Pooled OLS and FEM:

Based on the F-test conducted to choose the appropriate estimation for the model with the result of F (10, 467) = 4.56 and Prob > F = 0.0000 (< 0.05) from Table 4, it can be concluded that the FEM estimation is more suitable than the Pooled OLS model.

Model selection between Pooled OLS and REM:

Choosing between the Pooled OLS and FEM models is based on the Breusch-Pagan test. The test result indicates Prob > chibar2 = 0.0000 (<0.05), leading to the conclusion that the Random Effects Model (REM) estimation is more appropriate than the Pooled OLS model.

Selection between FEM and REM models:

Considering the results of the F-test favoring the FEM model and the Breusch-Pagan test favoring the REM model, the author conducts a Hausman test to select the most appropriate model between FEM and REM (Le & Nguyen, 2023). The Hausman test result shows Prob > chi2 = 0.0158 (<0.05), indicating that the FEM is the optimal model for this study. These tests collectively demonstrate that the FEM is the most suitable model for the study.

Model Diagnostics:

The authors conduct several diagnostic tests to identify potential issues with the model, such as multicollinearity, normality of residuals, heteroskedasticity, and autocorrelation. The results of these tests are presented in Table 5. Based on the results of the tests, the appropriate model selected is the Fixed Effects Model (FEM). However, the hypothesis tests indicate that the model violates the assumption of homoscedasticity, which means that the FEM is no longer the best estimation model. Therefore, it is necessary to address this issue using more advanced models. To rectify this defect, the author conducts a regression using Generalized Least Squares (GLS) estimation for the model. The final regression results are presented in Table 6, with an R^2 value of 68.92%.

Table 5
Diagnostic test results for model assumptions

Diagnostic Test	Method	Test Result	Conclusion
Multicollinearity	Variance Inflation Factor (VIF)	VIF = 1.24 (<10)	The model does not exhibit multicollinearity.
Normality of Residuals	Jarque-Bera	Prob > chi2 = 0.0000	The model's residuals follow a normal distribution.
Heteroskedasticity	White	Prob > chi2 = 0.002 (<0.05)	The model exhibits heteroskedasticity.
Autocorrelation	Breusch-Godfrey	F (1, 199) = 1.497, Prob > F = 0.2237 (>0.05)	The model does not exhibit autocorrelation.

Table 6
GLS regression results

Number of observations	380
F (10, 369)	81.84
Prob > F	0.000
R^2	0.689
Adjusted R^2	0.681

Variable	Coefficient	Standard Deviation	t-Value	P-Value	Confidence Interval
Busydir	0.764	0.102	7.510	0.000	[0.564, 0.964]
Bsize	-0.935	0.170	-5.490	0.000	[-1.270, -0.599]
Bindep	-0.004	0.002	-2.410	0.017	[-0.007, -0.001]
Fexpdir	-0.004	0.001	-2.750	0.006	[-0.006, -0.001]
Fedir	0.007	0.171	4.340	0.000	[0.003, 0.012]
Fsize	0.068	0.205	3.310	0.001	[0.029, 0.107]
Tang	0.003	0.579	0.530	0.595	[-0.016, 0.022]
Lev	0.001	0.225	0.610	0.540	[-0.003, 0.006]
Audit	0.115	0.683	1.690	0.092	[-0.019, 0.249]
Covid19	0.514	0.455	11.280	0.000	[0.465, 0.562]
Constant	-0.658	0.480	-1.370	0.172	[-1.604, 0.289]

5. Conclusion and implications

The regression results in Table 6 indicate a statistically significant relationship between the dependent variable REM - representing actual EM behavior - and the independent variables Busydir (+), Bsize (-), Bindep (-), Fexpdir (-), and Fedir (+).

Busy directors on the board exhibit a positive relationship with EM behavior. This implies that the more directors are occupied with other duties, the higher the level of EM behavior. Board size shows a negative correlation with REM, indicating that larger boards are associated with lower levels of EM behavior. This result is different from the results in the study of (Githaiga et al., 2022).The proportion of independent board members positively influences EM behavior, consistent with (Mizruchi, 1996; Tham et al., 2019; Githaiga et al., 2022). The proportion of board members with financial expertise has a negative correlation with REM, indicating that the more board members with financial expertise, the lower the level of EM behavior. Similar results have been found by (Aleqab & Ighnaim, 2021; Habib & Jiang, 2014). The presence of female board members correlates positively with REM, suggesting that having more female members on the board not only fails to restrain managerial EM behavior but also contributes to its increase. Company size is positively correlated with REM, indicating that larger companies are found to engage more frequently in EM, aligning with findings from Aleqab and Ighnaim (2021), Fadzilah (2017), Rajeevan and Ajward (2020), and Tulcanaza-Prieto et al. (2020), who also observe that size often amplifies EM behaviors. Additionally, there is a positive correlation between the proportion of fixed assets and real earnings management (REM), a pattern also identified by Tham et al. (2019), suggesting that tangible asset levels can be associated with EM practices. Furthermore, financial leverage shows a positive relationship with REM, indicating that firms with lower reliance on debt tend to have reduced EM activities. This trend supports the findings of Aleqab and Ighnaim (2021), reinforcing the link between debt levels and EM. Our results show that companies operating during the COVID-19 pandemic (2020- 2022) exhibit an increase in EM behavior. Currently, the regulations in Vietnamese laws and subordinate legislation have not institutionalized the importance of diversity within the BOD, particularly the aspect of board members holding positions in multiple companies. According to Point c, Article 155 of the Law of Enterprise 2020-Law No.59/2020/QH14, it is only stipulated that "A member of the BOD of a company may simultaneously be a member of the BOD of another company." Consequently, many board members currently hold positions in various companies. During the data collection process, the authors observed that many publicly listed companies on the stock exchange have not disclosed information on this matter. The findings of this study demonstrate a relationship between busy boards and EM, subsequently affecting the quality of financial statements. Therefore, Our results suggest that policy makers should consider comprehensive reviews and possibly ‘legislate” the advantages of diversity within corporate boards during the drafting, amending, and supplementing of corporate governance regulations and rules. Although Decree 155/2020/ND-CP has been enacted to replace Decree 71/2017/ND-CP, this aspect has not been addressed yet. Our study is the first study documenting busy boards as a factor influencing the business performance in the context of Vietnam. This result supports the notion that EM behavior can be

maintained through board members serving on the boards of different companies. Based on this empirical research, subsequent studies can utilize these findings as a foundation to further measure corporate governance.

This study also has certain limitations. *The first* limitation pertains to the sample size; the research only examines the real estate sector, thus not generalizing the impact of busy boards across all industries and sectors of publicly listed companies in Vietnam. *Second*, the author assesses EM behavior using Roychowdhury's (2006) model, which focuses on real activities manipulation by observing how companies alter operations—like production, sales, or discretionary expenses—to influence reported earnings. However, there are multiple other ways to measure EM, including accrual-based models. These accrual-based models assess EM by examining adjustments in non-cash accounting entries, allowing managers to influence earnings through accounting choices without altering actual operations. Each model highlights different aspects of EM, providing a range of methods to capture various types of management interventions in financial reporting. *Third*, the research results could vary across the real estate industry and other sectors, might be different in different sectors or different periods of time, especially if unaffected by the Covid-19 pandemic. This suggests that findings might differ depending on the industry or time frame studied. Therefore, future research directions could include expanding the sample to all industries and sectors in Vietnam, increasing the data collection period, and utilizing new models to measure EM.

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