




# “Capital structure and practices of accrual-based earnings management among non-financial Vietnamese listed firms”

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# CAPITAL STRUCTURE AND PRACTICES OF ACCRUAL-BASED EARNINGS MANAGEMENT AMONG NON-FINANCIAL VIETNAMESE LISTED FIRMS

## Abstract

This paper's primary goal is to examine the influence of a firm's capital structures on practices of accrual-based earnings management by doing empirical research covering 51 non-financial Vietnamese listed companies during a period from 2013 to 2022. To estimate accrual-based earnings management practices, the modified Dechow and Dichev (2002) model was mobilized. Then, a regression between earnings management estimated values based on accruals and a group of capital structure variables and control variables that are hypothesized to influence earnings management practices is performed. The feasible generalized least square model is used to address econometric issues. Empirical results reveal that activities for managing accrual-based earnings indicate a considerable adverse influence from institutional ownership. However, other hypothesized variables that are management ownership, ownership concentration, foreign ownership, and leverage do not have a determinant sign as expected. ROA, one of five control factors, has a favorable impact on accrual-based earnings management practices, whereas company size has a negative impact. The study provides useful information to investors and stakeholders for their making investment decisions in Vietnam. The empirical findings are also based for recommendations to control earnings management practices at Vietnamese listed enterprises to enhance accounting information quality, thus contributing to the sustainable development of the Vietnam Stock Exchange.

**Keywords** accrual-based earnings management, discretionary accruals, capital structure, Vietnam

**JEL Classification** G32, M41, M42, M48

## INTRODUCTION

The stated financial performance results of a firm are one of the most crucial components of its financial statements and have a great influence on the choices made by external users. Many important economic decisions such as raising capital, loan covenants, and executive team compensation are largely based on operational results publicly disclosed in firms' financial reports. Given the advantages resulted from information asymmetry, managers tend to manipulate actual operating results to maximize their own interests (Healy & Wahlen, 1999). Numerous academics and practitioners are drawn to the subject since it is widely known and regularly used in the empirical literature in terms of earnings management (Ghazali et al., 2015). Even though there are certain instruments implemented to ensure and enhance the transparent and reliable level of corporate financial reports, the possibility of corporation to intervene financial reports through earnings management practices still occurs since these practices are within the alternatives allowed by the accounting principles and standards

(Degeorge et al., 1999; Rahman & Ali, 2006). This makes earnings management practices different from fraud as no violation against the accounting principle framework took place. However, these practices still result in improper financial information about the corporation.

Previous studies acknowledge the impact of internal and external monitoring methods on limiting earnings manipulation behavior (González & García-Meca, 2014; Ghazali et al., 2015). For the internal monitoring mechanisms, a more responsive system of a firm's corporate governance can limit the opportunities toward earnings management practices (González & García-Meca, 2014; Mensah & Boachie, 2023). For the external ones, among others, creditors' monitoring can prevent managers from inflating earnings (Ghazali et al., 2015).

In Vietnam, many listed companies recently reported different earnings before and after the audit of financial statements. Most notably, Dabaco announced a profit after tax of 150 billion dong in its 2022 financial reports. After the audit, the reported number has been reduced by 145 billion dong. The enterprise has explained that the cause of this is due to a change in estimating the completion of construction works. Danh Khoi Group reported a profit of 6.3 billion dong after tax in 2022 in its own reports. After the audit, it changed to a loss of nearly 73 billion dong. The company explained that external auditors asked to record a provision for bad debts of 92.5 billion dong. Another example is Nam Kim Steel who also increased his loss nearly doubled after the audit, recording a loss of 124.68 billion dong instead of a loss of 66.71 billion dong previously recorded, mainly due to the inflation in cost of sales resulting from provision for inventory devaluation (An, 2023).

Given the critical and emerging concerns related to reported earning quality in the country, this paper was written to look into the effects of capital structures proxied by ownership variables and leverage ratio on practices of earnings management among Vietnamese non-financial listed firms.

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## 1. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Although earnings management (EM) is a widely researched term and draws attention of numerous researchers throughout the world, there is no unified concept of this act given by researchers (Beneish, 2001). Schipper (1989) described EM as the actions taken by management to generate the required amount of reported earnings with the goal of attaining some types of personal benefits within the established framework of generally accepted accounting principles. Healy and Wahlen (1999) indicate that EM happens when management team intentionally employs discretion to adjust financial statements to either mislead external users about the business's actual financial performance or influence the results of agreements based on financial statements. EM is management efforts to misstate the reported incomes in the ways of either magnifying or reducing reported accounting figures to antici-

pated level (Akers et al., 2007). These definitions mentioned above have something in common with each other. Therefore, it can be stated that EM is the behavior of managers who driven by getting their own intended goals use accounting techniques within the prescribed principles, standards, and regulations to misinform external party users about the company's trustworthy financial situation.

In the agency theory, Jensen and Meckling (1976) highlighted that the split of management and ownership would create more conflicts, costs, and information asymmetry, which would stimulate managers to behave opportunistically (Fama & Jensen, 1983). As a result, efficient monitoring systems are required to minimize such agency conflicts and costs. An effective monitoring mechanism will help optimize the credibility and reliability of financial statements and which will reduce managers' capacity to manage profits (Klein, 2002). In light of the agency theory, it can be inferred that capital structure is one of critical factors that can mitigate EM practices.

Concerning the impact of management ownership on managing earnings, according to Warfield et al. (1995), managers who own a small percentage of a company's shares have a strong motivation to manipulate accounting data to safeguard their meagre interests. On the contrary, when managerial ownership is higher and when management interests are closely associated with those of the corporation as a whole, it is expected that the divergences of interests between managers and stockholders reduce significantly. Studies by Klein (2002) and Ali et al. (2008) indicate that as management ownership increases, opportunistic management behavior to act on earnings intervention decreases. Nguyen et al. (2021) concluded that increasing managerial ownership helps reduce earnings management behavior in Vietnam. However, if management's interests and those of the company's stockholders are not completely congruent, higher level of managerial ownership can grant managers more power and room to push toward their own goals (Fama & Jensen, 1983). Thus, manager ownership can motivate the management team leading to likelihood of practicing earnings manipulation (Cheng & Warfield, 2005; Guidry et al., 1999). Furthermore, managers who own a considerable number of stocks can benefit from earnings management practices as their stock price increases (Yang et al., 2008). Cheng and Warfield (2005) and Mitani (2010) conclude that enterprises with a larger portion of management equity ownership perform more earnings management activities. Other studies have produced similar results, such as Yang et al. (2008) in Taiwan, Yeo et al. (2002) in Singapore, Koh (2003) in Australia, Al-Fayoumi et al. (2010) in Jordan, and Isenmila and Elijah (2012) in Nigeria.

Considering how institutional ownership affects earnings management, Almazan et al. (2005) concluded that institutional shareholders can provide active oversight that cannot be carried out by smaller, more passive, and less informed shareholders. In addition, institutional shareholders also have more opportunities, resources and competences to exercise controls over management discretionary behavior. Therefore, organizational ownership may result in better monitoring management activities, which in turn limits managers' capacity to alter reported earnings for their own benefit. Institutional stock ownership has been

shown to help deter management teams from engaging in earnings manipulation activities in previous research (Chung et al., 2002; Piosik & Genge, 2020; Koh, 2003; Bushee, 1998). However, institutional investors, on the other side, can also increase management incentives to engage in manipulating earnings. According to Pound (1988), institutional investors can collude with firm management. Institutional investors cannot play their supervisory responsibilities and vote against management as that can affect their existing and future business connections (Porter, 1992). Furthermore, if organizational owners focus on temporary financial results instead of long-term ones, they will not pay attention to management oversight activities (Bushee, 1998).

The concentration of ownership is scaled by the percentage of owned shares, usually from five percent, possessed by the investors. Concerning the impact of ownership concentration or blockholders' ownership, Dechow et al. (1996) and Yeo et al. (2002) indicate that the control of a company's blockholders is the same as that of institutional investors on earning manipulation practices. This indicates that blockholders' monitoring and controlling help reduce opportunistic behavior, thereby limiting earnings management practices. In comparison with minority shareholders, majority parties are interested in and play an active role in supervising the company to protect their large proportion of interests (Yeo et al., 2002; Gabrielsen et al., 2002; Zhong et al., 2007). Therefore, minority investors have an incentive to free-ride in overseeing management activities (Ali et al., 2008; Alves, 2012). However, as the degree of concentration ownership is high, it leads to problems of agency (Boubakri et al., 2005; Nguyen et al., 2021). In this context, blockholders may manage earnings to attain their own interests, causing damage to the minority investors' interests. Kim and Yoon (2008) document the positive impact of ownership concentration level on earnings managing practices. In contrast, according to Sharma and Kuang (2014) and Al-Fayoumi et al. (2010), ownership concentration has no bearing on the amount of earnings management.

Foreign ownership is another critical determinant that expects to have an impact on earnings management. Foreign investors, when compared to lo-

cal investors, may have more incentives to exercise controls on company management with the aims of ensuring a better rate of return on their overseas investments. Furthermore, because of possessing up-to-date and superior management skills and techniques, foreign investors may exercise better monitoring activities over managers in developing economies (Khanna & Palepu, 2000). Previous studies have argued that foreign equity owners normally ask for higher quality of financial reports so as to avoid insiders' manipulation (Ben-Nasr et al., 2015). According to Stulz (1999), increasing demand for better corporate governance practices and an increase in the transparency of corporate information disclosure are both related to the opening up of capital markets to foreign investors. Therefore, foreign ownership lowers the level of earnings management by increasing credibility and reliability in disclosing accounting information practices (Firth et al., 2007). Foreign ownership has been found to render an unfavorable influence on practices of earnings management in several nations, such as Vietnam (Nguyen et al., 2021), Japan (Guo et al., 2015), and Malaysia (Shayan-Nia et al., 2017).

Debt-to-asset ratio is a leverage ratio that indicates how much debts in financing the company's assets. A higher debt ratio results in a higher risk for investors and creditors due to a higher dependence level of the corporation on its creditors and the higher debt burden. According to some earlier studies, managers of heavily leveraged businesses have considerable motivation to fudge profit to slack off on loan requirements (Jiang et al., 2008). Ali et al. (2008) and Sweeney (1994) assert that companies with larger debt ratios are more likely to engage in EM practices to adhere to loan covenants. Pham & Nguyen (2021) conduct a study in Vietnam and find that there exists a favorable impact of leverage ratio on EM. However, because debtors are more closely supervised by lenders, businesses with substantial liabilities may be less inclined to adopt EM practices (Park & Shin, 2004; Peasnell et al., 2005).

After the reviews of prior background studies mentioned above, it is acknowledged that there is currently not much research in Vietnam on the influence of capital structures on EM practices and the prior research conclusions remain contradictory.

Therefore, the purpose of this study is to (re)examine the impact of firm capital structures proxied by ownership variables and leverage ratio on EM practices of Vietnamese listed companies over the course of 10 years, from 2013 to 2022. The following hypotheses are developed and tested in the study based on evaluating pertinent papers as previously provided above:

- H1: *There exists a negative impact of management ownership on EM.*
- H2: *There exists a negative impact of institutional ownership on EM.*
- H3: *There exists a negative impact of blockholders' ownership on EM.*
- H4: *There exists a negative impact of foreign investors' ownership on EM.*
- H5: *There exists a negative impact of leverage on EM.*

## 2. METHOD

Quantitative method is used for this study. Thus, numerical data were collected from published financial statements and annual reports of Vietnamese non-financial enterprises listed in two stock trading centers, HNX and HOSE. The sample contains 51 non-financial listed companies randomly selected from 2013 to 2022, making up a well-balanced data panel with 510 firm-year observations. The collected panel data is then analyzed by using descriptive analysis and correlation coefficients for all dependent variables, explanatory variables, and control variables and after that following by highly structured quantitative testing. During the panel data analysis process, the methods of pooled ordinary least squares (OLS), fixed effects model (FEM), and random effects model (REM) are all considered. Hausman test is utilized to find out the appropriate model between FEM and REM. The Hausman test's result indicates that the FEM is more suitable for this model. However, auto correlation and heteroscedasticity are also existed, so the feasible generalized least square model (FGLS) is employed to fix it.



## 2.1. Research model

Numerous academics have identified several control variables influencing EM, including cash flows (CF), firm size (FSIZE), audit quality (AUD), board size (BSIZE), and firm performance (ROA). One such controllable factor that might have an impact on EM is return on assets (ROA). Businesses that are inefficient are more prone to use EM. Managers have a greater motivation to inflate income or conceal expenses when earnings are low, which results in higher discretionary accruals (Kasznik, 1999). Cash flow ratio (CF) is another control variable impacting EM as firms having larger cash flows are expected to lower discretionary accruals (Jones, 1991; Peasnell et al., 2005). Board size (BSIZE) is of consideration because the large BSIZE has more bargaining power with the managers and therefore, reducing managers dominance by effective oversight (González & García-Meca, 2014). The larger BSIZE may have more time and energy than smaller one in monitoring management behavior, thus limiting EM actions (Peasnell et al., 2005). In addition, firm size (FSIZE) has shown different impacts on EM. Large corporations frequently have an efficient internal control structure that forbids managers from engaging in EM actions (Warfield et al., 1995). However, Barton and Simko (2002) and Richardson et al. (2002) point out that the higher level of profit expectation endures large-scale companies to make up earnings to comfort investors and make sure creditors. The audit quality (AUD) is also a variable that can restrain firms' EM activities. According to Morsfield and Tan (2006), the external auditors' professional reputation and auditing firms would be impaired if income interventions were not found out. Therefore, a negative effect on EM is anticipated from the audit quality.

From discussions presented above, ROA, BSIZE, FSIZE, AUD, and CF will be used as control variables in our research model. Thus, the model of the research is formulated as follows:

$$EM_{it} = \beta_0 MO_{it} + \beta_1 IO_{it} + \beta_2 CO_{it} + \beta_3 FO_{it} + \beta_4 LEV_{it} + \beta_5 ROA_{it} + \beta_6 BSIZE_{it} + \beta_7 FSIZE_{it} + \beta_8 AUD_{it} + \beta_9 CF_{it} + \omega. \quad (1)$$

## 2.2. Dependent variable and earnings management estimation model

The model of detecting EM through accrual variables was built by Jones (1991). The total accruals include discretionary accruals (DA) and non-discretionary accruals (NDA). EM is done through accrual accounting variables, which can be adjusted due to the flexibility of accounting principles. The total accruals ( $TA_{it}$ ) is measured by taking net income after tax subtract operating activities' cash flows of company  $i$  for the year  $t$ .

To determine the DA, it is necessary to estimate the NDA. There are several models that estimate NDA.

The Jones model (1991) determines the variable (NDA) according to the following equation:

$$NDA_{it} = \beta_0 \cdot \frac{1}{A_{i(t-1)}} + \beta_1 \cdot \frac{\Delta REV_{it}}{A_{i(t-1)}} + \beta_2 \cdot \frac{PPE_{it}}{A_{i(t-1)}}, \quad (2)$$

where  $A_{i(t-1)}$ : Total assets of company  $i$  for the year  $t-1$ ;  $\Delta REV_{it}$ : Change in net revenue of company  $i$  for the year  $t$  with respect to year  $t-1$ ;  $PPE_{it}$ : Gross tangible fixed assets of company  $i$  for the year  $t$ ;  $\beta_0, \beta_1, \beta_2$ : the parameters estimated by the method of OLS of the coefficients  $\alpha_0, \alpha_1, \alpha_2$  in the model represented below:

$$\frac{TA_{it}}{A_{i(t-1)}} = \alpha_0 \cdot \frac{1}{A_{i(t-1)}} + \alpha_1 \cdot \frac{\Delta REV_{it}}{A_{i(t-1)}} + \alpha_2 \cdot \frac{PPE_{it}}{A_{i(t-1)}} + \varepsilon_{it}. \quad (3)$$

The Dechow et al. equation (1995) adds the increase and decrease variable of customer receivables into the equation to eliminate the effect of accrual sales due to increase in customer accounts receivable during the period. The model is:

$$NDA_{it} = \beta_0 \cdot \frac{1}{A_{i(t-1)}} + \beta_1 \cdot \frac{(\Delta REV_{it} - \Delta REC_{it})}{A_{i(t-1)}} + \beta_2 \cdot \frac{PPE_{it}}{A_{i(t-1)}}. \quad (4)$$

Kothari et al. (2005) argue that the Dechow et al. model (1995) can lead to serious errors because it does not consider the operating performance of the previous year. Therefore, the NDA estimation model suggested by Kothari et al. (2005) includes the variable ROA:

$$NDA_{it} = \beta_0 \cdot \frac{1}{A_{i(t-1)}} + \beta_1 \cdot \frac{(\Delta REV_{it} - \Delta REC_{it})}{A_{i(t-1)}} + \beta_2 \cdot \frac{PPE_{it}}{A_{i(t-1)}} + \beta_3 \cdot ROA_{i(t-1)}. \quad (5)$$

Dechow and Dichev (2002) propose a new measurement model for earnings quality. According to the authors, accruals and cash flows (CFO) are correlated with earnings quality, in which the former adjust the latter over time. However, in the opinion of McNichols (2002), when calculating discretionary accruals, the Dechow and Dichev (2002) model does not account for the effect of long-term accruals. Therefore, McNichols (2002) expands the Dechow and Dichev (2002) equation by adding the changes in revenues and in tangible fixed assets as additional explanatory variables in estimating discretionary accruals. Hence, the Dechow and Dichev (2002) model is modified as follows:

$$NDA_{it} = \beta_0 + \beta_1 \cdot \frac{(\Delta REV_{it} - \Delta REC_{it})}{A_{i(t-1)}} + \beta_2 \cdot \frac{PPE_{it}}{A_{i(t-1)}} + \beta_3 \cdot \frac{CFO_{i(t-1)}}{A_{i(t-1)}} + \beta_4 \cdot \frac{CFO_{it}}{A_{i(t-1)}} + \beta_5 \cdot \frac{CFO_{i(t+1)}}{A_{i(t-1)}}. \quad (6)$$

To find out the most suitable model to estimate EM, this study runs regression of all four models indicated above and the results show that the modified Dechow and Dichev (2002) equation provides the highest adjusted-R<sup>2</sup> with 78.14%. This signifies that 78.14% of the variance in the dependent variable is explained by the independent factors. So that the modified model of Dechow and Dichev (2002) is the most suitable model for the observations in this study. Finally, relying on the modified model of Dechow and Dichev (2002), EM is estimated by taken the absolute value of  $DA_{it}$  when  $DA_{it} = TA_{it} - NDA_{it}$ .

### 2.3. Independent variables and control variables

The study comprises five independent variables and five control variables. Their names, measurement and expected sign are all presented in Table 1.

**Table 1.** Research variables: measurement and expected sign

Source: Authors' elaboration.

Variables	Symbols	Measurement	Expected sign
<b>Dependent variable</b>			
Earnings management	EM	Absolute value of discretionary accruals measured by the modified Dechow & Dichev (2002) model	
<b>Independent variables</b>			
Institutional ownership	IO	Percentage of shares owned by institutional investors	–
Management ownership	MO	Percentage of shares owned by managers	–
Foreign ownership	FO	Percentage of shares owned by foreign investors	–
Concentration ownership	CO	Percentage of shares owned by shareholders possessing at least 5% of a company's shares	–
Leverage	LEV	Total debt/Total assets	–
<b>Control variables</b>			
Financial performance	ROA	Net income/Total assets	–
Audit quality	AUD	Dummy variable with 1 for Big4 and 0 otherwise	–
Board size	BSIZE	Number of board members	–
Firm size	FSIZE	Logarithm of total assets	–
Cash flows	CF	Cash flows from operation/Total assets	–

### 3. RESULTS

As indicated in Table 2, the average value of absolute EM is 0.0461, the minimum value is 0.000026, and the maximum value is 0.282, with a standard deviation of 0.0426. The average value of EM demonstrates that a large number of companies in the studied sample are managing earnings to achieve their goals in financial reports. The description of five independent variables shows that the minimum values are 0 for IO, FO, MO, and CO except 0.031 for LEV, while the maximum values are all above 0.90 ranging from 0.911 to 0.991, and the average values are between the range from 0.126 to 0.532 with standard deviations between 0.173 and 0.296. For ROA, the minimum value is -0.322, and the maximum value is 0.465; the average value is 0.077, indicating a moderate profitability level during the specified time frame. For BSIZE and FSIZE, the mean values are 5.92 and 11.72, respectively. For the dummy variable (AUD), the mean value is 0.31 which implies that one

third of companies in the research sample have financial reports audited by Big4 auditing firms. The mean value of CF is 0.073 and its standard deviation is 0.130.

Table 3 presents a correlation matrix for the study variables. Clearly, four out of five independent variables such as IO, FO, CO, and LEV are negatively correlated with EM, advising that earnings manipulation behavior is considerably lower for companies with greater institutional ownership, foreign ownership, higher level of ownership concentration, and higher leverage. A positive correlation between MO and EM indicates that the greater ownership of managers provides them with deeper entrenchment, thus, greater power for opportunistic behavior.

Five control variables show different correlations with EM. A positive correlation with EM is detected for ROA and CF variables, while a negative correlation with EM is shown for AUD, BSIZE, and

**Table 2.** Descriptive statistics

Source: Results from data analysis.

Variables	Obs	Mean	Std. dev	Min	Max
EM	510	0.046064	0.042635	0.000026	0.281663
IO	510	0.483530	0.295869	0	0.9913
FO	510	0.134401	0.172585	0	0.9301
MO	510	0.126051	0.184089	0	0.911
CO	510	0.531899	0.231879	0	0.9913
LEV	510	0.438904	0.208419	0.030983	0.966925
ROA	510	0.077001	0.081490	-0.322051	0.464868
AUD	510	0.307087	0.461740	0	1
BSIZE	510	5.923228	1.403016	3	11
FSIZE	510	14.05256	1.224321	11.71813	18.23028
CF	510	0.073492	0.129689	-0.383539	0.656205

**Table 3.** Correlation matrix

Source: Results from data analysis.

Variables	EM	IO	FO	MO	CO	LEV	ROA	AUD	BSIZE	SIZE	CF
EM	1.000										
IO	-0.1519	1.000									
FO	-0.0858	0.2419	1.000								
MO	0.0113	-0.4417	-0.1588	1.000							
CO	-0.1028	0.7172	0.0182	-0.0917	1.000						
LEV	-0.0768	-0.2286	-0.2966	0.1559	-0.1660	1.000					
ROA	0.4081	0.2127	0.2588	-0.1490	0.1455	-0.4540	1.000				
AUD	-0.1676	0.5097	0.3483	-0.1417	0.3795	-0.2790	0.1179	1.000			
BSIZE	-0.0344	-0.0318	0.3553	-0.0454	-0.1542	-0.0089	-0.0059	0.0578	1.000		
SIZE	-0.1962	0.1521	0.3107	-0.0888	0.0158	0.1333	-0.0176	0.3682	0.3056	1.000	
CF	0.2403	0.1306	0.1293	-0.0315	0.1240	-0.2939	0.4834	0.0874	-0.0688	-0.0408	1.000



FSIZE variables. The correlation coefficients indicate that the study model does not face severe multicollinearity problems as none of the correlation coefficients is above 0.8 (Gujarati, 2004; Hair et al., 2006). However, to test for the likelihood of multicollinearity issues between the independent and control variables, the variance inflation factors (VIF) and tolerance ratio (1/VIF) computations were still performed (Hair et al., 2006). As indicated in Table 4, the values of VIF are less than 10 and the values of tolerance ratio (1/VIF) are larger than 0.10 for the study model. This demonstrates that the study's model explaining capability is not affected by multicollinearity (Hair et al., 2006).

**Table 4.** Variance inflation factor and tolerance values

Source: Results from data analysis.

Variables	VIF	1/VIF
IO	3.83	0.261330
FO	2.77	0.360678
MO	1.71	0.585567
CO	1.59	0.627361
LEV	1.54	0.648784
ROA	1.54	0.648967
AUD	1.51	0.660770
BSIZE	1.45	0.690089
SIZE	1.32	0.755267
CF	1.23	0.814473
Mean	1.85	

The three statistical models, namely pooled OLS, FEM, and REM, are run, aiming to choose the most suitable model used in the research. The significant value (p-value) of FEM is 0.000 so that FEM is more appropriate than OLS. The Hausman's test result is 0.000 so that FEM is the better one com-

pared to REM. Auto correlation and heteroskedasticity are also existed, so the FGLS model is run to fix the econometric problems.

As noticed in Table 5, the FGLS model's p-value is 0.0000 that is significant at the 5% level; therefore, it can be said that the dependent and independent variables indeed have a statistically significant relationship, so the model is appropriate, and the results are reliable. Among five independent variables, only IO has the p-value of 0.048, which is statistically significant at 5% level and the coefficient is  $-0.0001853$ . Hence, the hypothesis  $H_2$  is accepted, which means that institutional ownership has an unfavorable and statistically significant effect on EM. On the contrary, the p-value of other four independent variables are all above 5% level of significance; therefore, the hypotheses  $H_1$ ,  $H_3$ ,  $H_4$ , and  $H_5$  are rejected. Two out of five control variables show the different significant impact on EM. While ROA positively impacts EM, FSIZE helps reduce EM practices as it signals a negative effect. The influences of other control variables are insignificant as the p-values are more than 5% significant level.

## 4. DISCUSSION

The regression model on the impact of capital structures on EM practices of Vietnamese listed companies is as follows:

$$EM = 0.0671214 - 0.0001853 \cdot IO + 0.0023048 \cdot ROA - 0.0038921 \cdot FSIZE. \quad (7)$$

**Table 5.** Regression results of the FGLS

Source: Results from data analysis.

EM	Coef.	Std. err.	z	P> z
IO	-.0001853**	.0000936	-1.98	0.048
FO	-.0001309	.0001118	-1.17	0.242
MO	-.000103	.0000873	-1.18	0.238
CO	.0000763	.0001092	0.70	0.485
LEV	.0001685	.0001109	1.52	0.129
ROA	.0023048***	.0003423	6.73	0.000
AUD	-.0027226	.0043917	-0.62	0.535
BSIZE	.0018238	.0011135	1.64	0.101
FSIZE	-.0038921**	.001771	-2.20	0.028
CF	.0154799	.0109135	1.42	0.156
_cons	.0671214***	.023942	2.80	0.005
Model summary	Number of groups = 51		Wald chi2 (10) = 61.06	
	Number of observations = 510		Prob > chi2 = 0.0000	

First, the institution ownership shows a significant negative impact on EM. This means that institutional investors help limit earnings manipulation activities. This result is in line with other studies conducted by Bushee (1998), Chung et al. (2002), and Koh (2003), which find that institutional ownership prevents managers from practicing EM. However, the finding differs from the finding of the studies carried out by Al-Fayoumi et al. (2010) and Maswadeh (2018) who suggest that there is no effect of institutional ownership in mitigating EM activities.

Second, other capital structure variables do not show significant impacts on EM: foreign ownership (FO), management ownership (MO), concentration of ownership (CO), and leverage (LEV). Concerning the influence of foreign equity ownership on EM, the conclusion is inconsistent with the studies by Khanna and Palepu (2000), Guo et al. (2015), Shayan-Nia et al. (2017), and Nguyen et al. (2021), which assert that foreign investors restrain firms' EM activities, and agrees with the results of the studies of Maswadeh (2018) and Khamis et al. (2015) who find that foreign equity ownership does not help reduce earnings management practices due to the remoteness and insufficient information disclosed by the corporation. Regarding how managerial ownership affects EM practices, the finding disagrees with the studies investigated by Ali et al. (2008) and Nguyen et al. (2021) who show an adverse effect of management ownership toward EM, and agrees with Habbash (2010) who does not find any association between

the two variables. The finding about the insignificant influence of ownership concentration on EM activities disagrees with the results of Nguyen et al. (2021) and Maswadeh (2018), which show either a significant positive impact (Nguyen et al., 2021) or a significant negative impact (Maswadeh, 2018) of this variable on EM. For leverage ratio, the finding of this study is incompatible with earlier research performed by Nguyen et al. (2021), Hoang et al. (2014), and Maswadeh (2018) who find a positive effect of leverage ratio variable on EM.

Third, ROA is positively associated with EM. This outcome is inconsistent with the finding of Nguyen et al. (2021), which shows a negative impact of ROA on EM, and agrees with previous research that indicated that highly profitable firms are more ready to exercise earnings adjustment (Dechow & Dichev, 2002).

Four, FSIZE has shown a negative impact on EM, the result agrees with the findings in the research conducted by Warfied et al. (1995), Nguyen et al. (2021), and Maswadeh (2018) who show that large firms demonstrate low level of incentives to manipulate earnings because these firms disclose not only mandatory information but also voluntary information and are constantly monitored by numerous stakeholders, such as state agencies, analysts, and investors.

Fifth, other control variables show insignificant impacts on EM activities: audit quality (AUD), board size (BSIZE), and cash flow ratio (CF).

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## CONCLUSION

Based on the sample of 51 Vietnamese non-financial listed from 2013 to 2022, the paper examines the influence of firms' capital structures on EM. The findings suggest that greater institutional ownership would lessen EM practices, while other capital structure variables have no impact on EM activities.

The study contributes to extent of the literature and empirical evidence about the capital structures' impacts on EM in Vietnamese listed firms. The findings can be considered as reference for companies' stakeholders, such as the State Securities Commission of Vietnam (SSC), creditors, investors, and shareholders to find out the existence of EM and the factors that affect EM practices. Therefore, regulations can be built up to restrain EM and contribute to higher quality of a firm's financial reporting.

This study cannot avoid some constraints. First, the small number of firm-year observations could impact the findings. This limitation may result from the small number of Vietnamese listed firms. Second, due to the lack of information disclosure, there are some other capital structures that cannot be includ-

ed in the study, such as the family ownership, the state ownership. In the future, studies can be done for larger observations, examine other models to estimate EM such as real EM model, or consider other factors as independent variables.

## AUTHOR CONTRIBUTIONS

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