



Factors Influencing Accrual Earnings Management and Real Earnings Management: The Case of Vietnam

Dang Ngoc Hung¹, Do Hoai Linh², Tran Thi Van Hoa³,
Tran Manh Dung⁴ and Hoang Thi Viet Ha⁵

^{1,5}Hanoi University of Industry, Vietnam

^{2,3,4} National Economics University, Vietnam

¹Email: hungdangngockt@yahoo.com.vn, ²Email: linhdh@neu.edu.vn, linhdo.neu@gmail.com

³Email: ttvhoa@bsneu.edu.vn, ⁴Email: manhdung@ktpt.edu.vn, ⁵Email: hoangthivietha@gmail.com

Abstract

With the purpose of increasing the quality of financial statements, therefore, financial statement users could make sound economic decisions, this research aims at investigating the impact of factors on accrual-based earnings management (AEM) and real earnings management (REM) with the case of Vietnam. The study took a sample of 260 listed companies on Vietnam Stock Exchange in the period of 2012 – 2016. The results showed five of eight factors had positive influences on AEM such as consolidated financial statements, president of management board cum general director, financial performance, financial leverage; and stock issuance; by contrast, auditor witnessed as a unique factor had a negative relationship with AEM. Accordingly, financial performance and financial leverage associated positively to REM with statistical significance. Based on these findings, recommendations to apply earnings management model in firms were proposed.

Keywords: Accrual Earnings Management, Real Earnings Management, consolidated financial statements, Vietnam



1. Introduction

One of the important items in the financial statements and interested by investors is profit. Profit also reflects financial performance and prospects of an entity because investors are interested in firms with having good financial performance and high prospects. That is why in the important period, overstatement of financial performance of the entity is existed. There are many reasons for management to manipulate earnings through the techniques of earnings management. Identification of factors influencing earnings management on the side of management will help users of financial statements, especially investors, have full of information in making economic decisions. According to Genny (2005), Dechow and Skinner (2000), Cohen and Zarowin (2010), earnings management consists of (i) earnings management through accruals-based earnings management (AEM), (ii) earnings management through real earnings manipulation (REM). Therefore, many empirical studies have tested the relevance, identification and measurement of earnings management.

Pham (2015) gave two aspects of earnings management including AEM and REM, Nguyen and Nguyen (2016), Carlin et al. (2015) identified three behaviors of earnings management, (i) overstatement of revenue via discount and payment policies; (ii) expenses reduction; and (iii) excessive production. These studies employed cross-sectional data for one year or multi-year dataset but did not investigate the factors affecting earnings management. With the aim of providing better understanding for stakeholders on financial statements, the authors evaluated the suitability of the model in identifying AEM and REM and scrutinized factors and their impact levels to earnings management of firms.

2. Theoretical Framework and Models of Earnings Management Identification

According to Schipper (1989), earnings management is the interference in providing financial information for getting individual objective. Earnings management is occurred in case of management adjust financial statements and transaction scale for changing financial statements or cheating stakeholders about operational results of an entity (Healy and Wahlen, 1999). Earnings management is conducted by management in choosing accounting policies for having better benefits or increasing market capitalization of the entity. For instance, management prevent from having losses or reducing profit this period in comparison with profit in the previous period (Burgstahler and Dichev, 1997; Degeorge et al., 1999). In addition, management overstate profits for getting the objective or for having better benefit on the side of management (Degeorge et al., 1999).

In case of not getting expected profit or reducing profit, stock prices reduce significantly (Skinner and Sloan, 2012). Dechev et al. (2013) collected data from 169 finance directors of listed firms on New York Stock Exchange and found that at least 20% listed firms manipulated profits in quarterly financial statements, in which 94.1% is from controlling stock prices. There are some motivations to have earnings management are (i) the IPO firms or issuing more stocks, (ii) changes of corporate income tax rate; (iii) in the period of tax exemption and others. Accrual earnings management (AEM) is used by management in choosing accounting policies such as policies of inventory, provisions for bad debt, investment loss, decline in value of trading securities, provisions payable and others. Real earnings management (REM) is occurred in some cases such as (i) expenses reduction, (ii) excessive production, (iii) overstatement of revenue by discounting and credit policies (Roychowdhury, 2006). Two kinds of AEM and REM are employed for

having expected profits and changes in profits among periods. However, some differences in two approaches were concluded (Gunny, 2005).

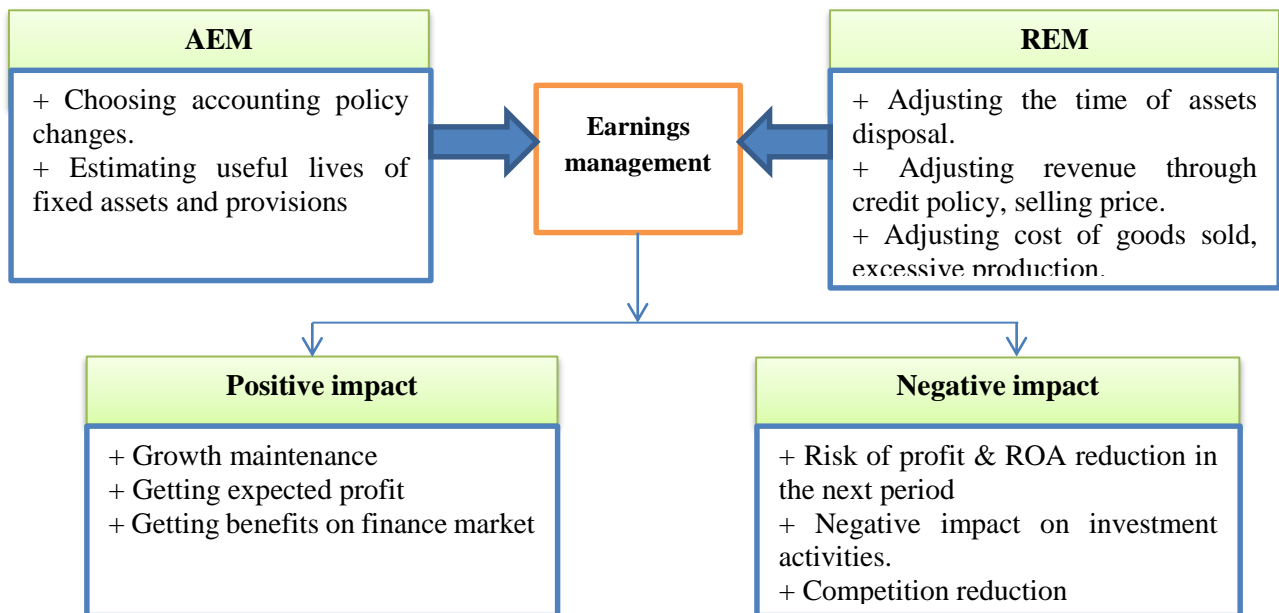
Table 1: Comparison between AEM and REM

Accrual Earnings Management (AEM)	Real Earnings Management (REM)
- AEM is conducted in a specific time (beginning period when changing accounting policies or closing period when setting provision expenses.	- REM is conducted any time in the accounting period or at the ending period.
- No impact on actual profitability	- Can impact negatively on profitability in the long run

(Source: Synthesized by the authors)

The fact is that earnings management in the type of REM is more adopted than that in the type of AEM (Cohen and Zarowin, 2010), REM is more interested from stakeholders including auditors. Diagram 1 presents overview of AEM and REM and its impact on an entity.

Figure 1: Identification of AEM and REM



(Source: Synthesized by the authors)

Model of Accrual Earnings Management



Accrual basis accounting: under this accounting, all economic transactions relating to assets, liabilities, owner's equity, revenue & income, expenses are recorded at the date of transactions, not basing on actual receipts or payments.

Cash basis accounting: based on this accounting, economic transactions are recorded when receiving money or paying cash.

In international accounting standard, income statement is recorded under the accrual basis accounting. This gives opportunities on the side of management to have earnings management through non-cash transactions for obtaining a particular objective, whereas forming cash flow statement under cash basis accounting so management cannot adjust or change transactions. That is why there is a difference between profit in the income statement and cash flow in the cash flow statement. The difference is called accrual. This produces accruals as:

$$\text{Accruals} = \text{Profit after tax} - \text{Cash flow from operating activities}$$

Consequently:

$$\text{Profit after tax} = \text{Accruals} + \text{Cash flow from operating activities}$$

Cash flow from operating activities in the cash flow statement cannot be adjusted. Hence, profit adjustments are conducted only by adjusting accruals. In accounting, accruals consist of two parts of non-discretionary accruals (NDA) and discretionary accruals. For measuring discretionary accruals, non-discretionary accruals should be calculated because this variable relates to normal activities of an entity. In short, for having whether or not AEM, NDA should be measured.

Model of Dechow et al. (1995) is the adjustment of model of Jones (1991). This model is designed for reducing errors in measuring accruals:

$$NDA_{it} = \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 \frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}} + \alpha_3 \frac{PPE_{it}}{A_{it-1}} \quad (1)$$

In which: ΔREC_{it} = Trade receivable t – Trade receivable t-1

According to Kothari et al. (2005), by existing a specific event AEM is conducted, so there is a high possibility to exist the relationship between accruals and financial performance. In addition, results of models of Jones (1991) and Dechow et al. (1995) are not correct in case of having high growth. That is why Kothari et al. (2005) employ ROA in the model of Dechow et al. (1995) as:

$$NDA_{it} = \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 \frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}} + \alpha_3 \frac{PPE_{it}}{A_{it-1}} + \alpha_4 ROA_{it-1} \quad (2)$$

Model of Real Earnings Management

Estimation models are used for identifying earnings management in general and REM in particular. According to Cupertino et al. (2015), estimation models are employed for measuring operation activities of an entity. The residual of a regression model is regarded as abnormal and is a proxy of REM. In other words, the difference between observation value and estimation value reflects the level of REM on the side of management. Based on the relationship between profit and cash flow, Dechow et al. (1998) and Roychowdhury (2006) have designed models to identify common REM by using cash flow from operating activities and manufacturing expenses as

$$\frac{CFO_{it}}{A_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{A_{it-1}} + \beta_1 \frac{Sales_{it}}{A_{it-1}} + \beta_2 \frac{\Delta Sales_{it}}{A_{it-1}} + \varepsilon_{it} \quad (3)$$



In which:

CFO_{it} is cash flow from operating activities of entity i in year t

$\Delta Sales_{it}$ is the difference of revenue in year t and year t-1

$$\frac{COGS_{it}}{A_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{A_{it-1}} + \beta \frac{\Delta Sales_{it}}{A_{it-1}} + \varepsilon_{it} \quad (4)$$

$$\frac{INV_{it}}{A_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{A_{it-1}} + \beta_1 \frac{\Delta Sales_{it}}{A_{it-1}} + \beta_2 \frac{\Delta Sales_{it-1}}{A_{it-1}} + \varepsilon_{it} \quad (5)$$

$$\frac{PROD_{it}}{A_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{A_{it-1}} + \beta_1 \frac{Sales_{it}}{A_{it-1}} + \beta_2 \frac{\Delta Sales_{it}}{A_{it-1}} + \beta_3 \frac{\Delta Sales_{it-1}}{A_{it-1}} + \varepsilon_{it} \quad (6)$$

In which:

$PROD_{it}$ is expense of an entity i in year t

$COGS_{it}$ is cost of goods sold of the entity i in year t

INV_{it} is variation of inventory of the entity i in year t.

$$\frac{DISEXP_{it}}{A_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{A_{it-1}} + \beta \frac{Sales_{it}}{A_{it-1}} + \varepsilon_{it} \quad (7)$$

$$\frac{DISEXP_{it}}{A_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{A_{it-1}} + \beta \frac{Sales_{it-1}}{A_{it-1}} + \varepsilon_{it} \quad (8)$$

In which:

$DISEXP_{it}$ is discretionary expenses including expenses of research and development, selling and administration of the entity i in year t.

A_{it-1} is total assets of the entity i in year t-1

$Sales_{it-1}$ is revenue of the entity i in year t-1

After calculating variables of the models, random error (the difference between $\frac{DISEXP_{it}}{A_{it-1}}$ and $\frac{DISEXP_{it}}{A_{it-1}}$) is regarded as abnormal in discretionary expenses. This random is not explained in the model so it is a proxy of REM by cutting discretionary expenses down.

The value of ε_{it} is a surrogate of conducting REM including adjustment of revenue through policies of discounts, credits, discretionary expenses reduction and excessive production. In order to analyse, the variable of ε_{it} is renamed in the models of 3, 6, 8 is $AbnormalCFO_{it}$, $AbnormalPROD_{it}$, $AbnormalDISEXP_{it}$ respectively.

Residuals in REM models = $AbnormalCFO_{it} + AbnormalPROD_{it} + AbnormalDISEXP_{it}$ (9)

3. Methodology

3.1. Research Hypotheses

Consolidated financial statements: for the operations in a holding firm, financial statements should be prepared in a consolidated manner, including financial statements from parents and financial statements from subsidiaries. However, for forming consolidated financial statements, some transactions should be offset such as internal transactions, internal receivables & payables; and others. Because of more complication of preparing consolidated financial statements than forming single financial statements, we have a hypothesis as:

H1: There is positive relationships between forming consolidated financial statements and AEM and REM.



The number of members in management board: Beasley (1996) found that the increased number of members in management board from outside is, the reduction of fraudulent financial statements is. The increased number of members in management board makes earnings management reduce (Peasnell et al., 2005, Cornett et al., 2008). In the context of Vietnam, Ministry of Finance (2005) states that there is a proper rate between members of management board working in director boards and not working in director boards, in which one third number of members in management board is not in director boards. Ministry of Finance (2005) also requires at least 3 people and maximum of 11 members in management board. So we have a hypothesis as:

H2: The number of members in management board has negative relationships with AEM and REM.

Chair of management board cum a director: in case, one person holds both a chair of management board and a director, this makes the conflicts of interests. By taking much power in one person, many material misstatements including fraud and errors may exist (Kumari and Pattanayak, 2014), the quality of surveillance from management board may reduce (Jensen and Mecking, 1976; Dechow et al., 1996; Xie et al., 2003), financial statements are prepared for the sake of executives but not for the sake of stockholders (Healy, 1985). Mulgrew and Forker (2006) found that if chair of management board also is a director, there is a high possibility to have earnings manipulation. Charfeddine et al. (2003) revealed that if a chair of management board is not a director, earnings management also exists but immateriality. However, in the studies of Rahman and Shahrur (2008), Fathi (2013), Rahman and Ali (2006), no relationship between earnings manipulation and chair of management board cum a director. Basing on this, we have a hypothesis as:

H3: Chair of management board cum a director has a positive relationship with AEM and REM.

Auditor size: financial statements are audited by an independent audit firm will help financial statement users to have reliable accounting data in making economic decisions. Kinney and Martin (1994) reviewed related nine studies and concluded that there was a positive relationship between audit activities and net profits and assets of an auditee. Financial statement users believe audit results rather than unaudited financial statements. That is why if financial statements are audited by big audit firms such as big 4 auditors (KPMG, EY, Deloitte & PWC), this makes management reduce earnings management. On the other hand, a big audit firm has a proper and scientific audit process with many audit procedures in detecting material misstatements including fraud and errors. This makes high audit quality and reputation from big auditors.

Gallery et al. (2008) found the evidence in the Australian context that disclosure quality of financial statements audited by Big 4 is much higher than that audited by non big 4. Under the requirements of ISA 220, an audit firm has to design policies and procedures for controlling audit quality. However, measurement of audit quality is not easy for financial statement users and auditors as well. That is why audit quality is evaluated basing on the auditor size of big 4 and non big 4 and there is existence of relationship with auditor size and earnings management of an auditee. So we give:

H4: Auditor size has a negative relationship with AEM and REM

Financial performance: for making economic decisions, investors base on the financial statements disclosed in the stock exchange such as stock price, audited financial statements and others. Charfeddine et al. (2003) found that in case of poor financial performance, stock prices and firm values reduce. That is why



earnings management is arisen for keeping good reputation in the eyes of stakeholder. Change and Warfield (2005) found that earnings management existed from increasing the stock prices. For having a positive effect from stock market, earnings management has been conducted (Chen et al., 2010, Charfeddine et al., 2013). Chen et al. (2006) concluded that poor financial performance of an entity is, the more earnings management exists. In contrast, in the studies of Rahman and Ali (2006) in Malaysia context, Alves (2012) in Portuguese context, no relationship between financial performance and earnings management exists. Financial performance is measured through many indicators such as ROA, ROE, ROS, revenue growth, cash flow, stock change, firm growth and others. So we give a hypothesis as:

H5: Financial performance has a positive relationship with AEM and REM

Firm size: firm size is the one of determinants influencing economic decisions from financial statement users. The bigger firm size is, the higher separation between ownership and management is. The higher separation between ownership and management is, the more concern of preparing financial statements for the benefit of management rather than for the benefit of financial statement users. Another concern is that the bigger firm has more expectation of higher profit. Barto and Simko (2002) found that a large firm faces many pressures on overstating financial performance in order to have good images from analysts. Because of getting expected profits, this makes listed firms have earnings management for deceiving investors. Moreover, a large firm has huge number of economic transactions and big amounts than a small firm has. That is why is a bigger firm changes accounting policies, it affects the amount of profits. Myers et al. (2007) gave empirical result of proving that a big firm states inaccurate profits. As analyses above, firm size is viewed as one determinant affecting earnings management. So we have a hypothesis as:

H6: Firm size has a positive relationship with AEM and REM.

Financial leverage: apart from collecting capital from stockholders, borrowings are used for having funds for business operations and help an entity to reduce agency expenses arisen between management and shareholders (Jensen and Meckling, 1976). Financial leverage is an indicator reflecting financial structure and can be measured the ratio of liability and owner's equity. This denotes that the scale of assets arisen from borrowings (Charfeddine et al., 2013; Alsharairi and Salama, 2012). According to Shen and Chih (2007), Fathi (2003), the ratio of liabilities and total asset has been used for denoting the independent finance from an entity.

Financial leverage is a red flag of present and future cash flow and can be changed by management (Ross, 1977). Financial leverage also is one factor influencing earnings manipulation in studies of Charfeddine et al. (2013), Fathi (2013), Fakhfakh and Nasfi (2012), and Nassirzadeh et al. (2012). We give a hypothesis as:

H7: Financial leverage has a negative relationship with AEM and REM.

Stock issuance: issuing more stocks is one of mobilizing funds from stockholders. Stock issuance is used for evaluating financial performance and profitability in the future of listed firms. Investors usually invest money in a profitable and high prosperous firm. Basing on the stock valuing model, profit is one of decisive factors in a stock market. The higher profit is, the higher market capitalization is. That is why listed firms has a tendency to overstate profit in an important period for increasing market value of stock. So



before issuing more stocks for collecting capitals and increasing stock prices, a high number of listed firms have earnings management. Rangan (1998), Teoh et al. (1998) found the close relationship between earnings management and stock return in the listed firms. Thai (2004) concluded that 69.1% listed firms overstated profits before issuing more stocks for the period from 2010 to 2012 in HOSE. So we have a hypothesis as:

H8: Stock issuance has a positive relationship with AEM and REM.

3.2. Data Processing

Data were collected from audited financial statements of listed firms on Vietnam Stock Exchange for the period from 2012 to 2016. In the total listed firms, firms working in banking, financial institutions and insurance are excluded. Firms with all audited financial statements in five consecutive years from 2012 to 2016 are included in the financial sample. As a result, 260 listed firms are chosen, with total observation of 1,300 (260 listed firms in 5 years). Table 2 shows variables and its measurement in the model.

Table 2: Variables and Its Measurement

Variables	Types	Code	Measurement	Expected directions
Earnings management	Dependent	AEM1, AEM2, REM	AEM1 is measured by the model of Dechow et al. (1995); AEM2 is measured by the model of Kothari et al. (2005); REM is measured by the model of Roychowhury (2006).	
Financial statements	Independence	CONS	1 if consolidated financial statements 0 if single financial statements	+
The number of members in management board	Independence	BOARD	The number of people in management board	-
Chair of management board cum a director	Independence	DUAL	1 is chair of management board cum a director 0 if chair of management board is not a director	+
Auditor size	Independence	AUDIT	1 if audited by Big 4 auditors 0 if audited by non Big 4 auditors	-
Financial performance	Independence	ROA	Profit after tax/Total assets	+
Firm size	Independence	SIZE	Ln (net revenue)	+
Financial leverage	Independence	LV	Liabilities/Total assets	-
Stock issuance	Independence	ISSU	1 if issuing stock in a financial year 0 is not issuing stock in a financial year	+

Based on the panel data, regression was employed for investigating the impact levels of determinants on earnings management in the sample of listed firms on Vietnam Stock Exchange. Ordinary least squares (OLS) was used in this study. The author also tested the models and evaluate the defects of the models. In case of having defects in the models, robust standard errors were used.

4. Results and Discussion

Data in the Table 3 show that under the model of Dechow et al. (1995), AEM1 is 0.02252 and under the model of Kothari et al. (2005), AEM2 is 0.00003. In this finding, AEM is adjusted in a slight increase. The data in the Table 3 also show that REM is 1.159 meaning that earnings have been overstated. About 60% firm sample prepare consolidated financial statements and 40% firms only make single financial statements. The average number of members in management board is 6 persons, the minimum is 3 and



maximum is 11. About 34.7% firms have a president cum a general director and 32.3% firms are audited by big 4 auditors. ROA, on average, is 5.03%. Leverage is 50.4%. In the period from 2012 to 2016, 17.4% firms issue more securities for mobilizing more capital.

Table 3: Descriptive Statistics of Variables

Variables	Observations	Mean	Standard Deviation	Min	Max
AEM1	1,300	0.02252	0.146	-0.915	0.933
AEM2	1,300	0.00003	0.143	-0.822	0.913
REM	1,300	1.15900	1.274	0.002	13.156
CONS	1,300	0.60000	0.490	0	1
BOARD	1,300	5.82692	1.389	3	11
DUAL	1,300	0.34615	0.476	0	1
AUDIT	1,300	0.32308	0.468	0	1
ROA	1,300	0.05032	0.248	-8.045	0.784
SIZE	1,300	8.98200	2.122	0.693	15.719
LV	1,300	0.50365	0.492	0.002	16.069
ISSU	1,300	0.17385	0.379	0	1

Data in Table 4 show that result of the model is fairly good, the same result conducted by Roychowdhury (2006). $PRODit/Ait-1$ is 97.65%; $DISEXPit/Ait-1$ is 28.17% but $CFOit/Ait-1$ is 6.92%.

Table 4: Results of REM Regressions

	CFOit/Ait-1	PRODit/Ait-1	DISEXPit/Ait-1
1/A_{it-1}	7847.5*** [2.63]	-5753.7 [-1.57]	10155.6*** [9.17]
Sales_{it}/A_{it-1}	0.00668 [1.31]	0.953*** [108.03]	0.0349*** [21.24]
ΔSales_{it}/A_{it-1}	0.0641*** [7.30]	-0.00606 [-0.55]	
ΔSales_{it-1}/A_{it-1}		0.0104* [1.71]	
_cons	0.0413*** [4.38]	-0.105*** [-8.37]	0.0385*** [6.71]
N	1300	1300	1300
R-sq: within	0.0762	0.9434	0.3805
between	0.059	0.9833	0.2705
overall	0.0692	0.9765	0.2817

t statistics in brackets * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Coefficients among variables for testing the close relationship among independent variables and dependent variable for preventing multicollinearity presented in Table 5. No value of coefficients in the model is higher than 0.8, so, less possibility to have multicollinearity among independent variables. VIF was also used for testing multicollinearity and average, VIF is lower than 5. Accordingly, no multicollinearity appeared in the model.



Table 5: Results of Autocorrelation

	AEM1	AEM2	REM	CONS	BOARD	DUAL	AUDIT	ROA	SIZE	LV	ISSU
AEM1	1										
AEM2	0.9741*	1									
REM	0.1630*	0.1513*	1								
CONS	0.0658*	0.0878*	-0.016	1							
BOARD	0.03	0.0171	-0.0597*	0.1414*	1						
DUAL	0.0566*	0.0778*	0.0301	-0.017	-0.043	1					
AUDIT	-0.03	-0.029	-0.032	0.1947*	0.1394*	-0.001	1				
ROA	0.2818*	0.2000*	0.1009*	0.0194	0.0574*	-0.0621*	0.0441	1			
SIZE	0.0698*	0.0411	0.0017	0.3281*	0.2625*	-0.0779*	0.3001*	0.0851*	1		
LV	-0.2017*	-0.1212*	0.0056	-0.022	-0.0621*	0.0622*	-0.0663*	-0.8843*	-0.022	1	
ISSU	0.0989*	0.0995*	-0.0550*	0.1260*	0.1610*	0.0374	0.0737*	0.0141	0.2277*	-0.018	1

Table 6: Multicollinearity Testing Results

Variable	VIF	SQRT VIF	Tolerance	R ²
AEM1	1.12	1.06	0.8909	0.1091
CONS	1.14	1.07	0.8734	0.1266
BOARD	1.1	1.05	0.9104	0.0896
DUAL	1.02	1.01	0.9798	0.0202
AUDIT	1.13	1.06	0.8853	0.1147
ROA	4.97	2.23	0.2012	0.7988
SIZE	1.34	1.16	0.7478	0.2522
LV	4.77	2.18	0.2097	0.7903
ISSU	1.08	1.04	0.9233	0.0767



Based on the result of OLS presented in Table 7, by using Wald chi2, P value is $0.000 < \alpha = 5\%$, so the designed model is suitable. Wooldridge testing was conducted for checking the existence of autocorrelation in the model. P value $> \alpha = 0.05$ in the model with AEM1 and AEM2, so no autocorrelation is existed in the model. But with the REM, P value $< \alpha = 0.05$ meaning that autocorrelation is existed.

For testing the change of variance in the models, we use Breusch and Pagan Lagrangian test. The result showed P value $< \alpha = 0.05$ meaning that variance change exists in the models. For overcoming the variance change in the models, robust standard errors were tested.

Table 7: Results of OLS Testing

	AEM1	AEM2	REM
CONS	0.0156* [1.66]	0.0252*** [2.61]	-0.0206 [-0.14]
BOARD	-0.000062 [-0.02]	-0.000685 [-0.20]	-0.0545 [-1.06]
DUAL	0.0222** [2.41]	0.0262*** [2.78]	0.0771 [0.52]
AUDIT	-0.0177* [-1.80]	-0.0158 [-1.57]	-0.0613 [-0.40]
ROA	0.297*** [8.42]	0.288*** [8.11]	1.104*** [5.04]
SIZE	0.00234 [1.04]	0.000153 [0.07]	0.00666 [0.42]
LV	0.0764*** [4.25]	0.0937*** [5.17]	0.511*** [4.41]
ISSU	0.0308*** [2.91]	0.0309*** [2.92]	0.0486 [0.90]
_cons	-0.0682*** [-2.65]	-0.0835*** [-3.18]	1.101*** [3.29]
N	1300	1300	1300
R-sq: within	0.0982	0.102	0.0168
	between	0.1398	0.0591
	overall	0.1082	0.0475
Wald chi2(8)	0.0000	0.0003	0.0003
Prob > chi2	152.78	116.50	28.91
Breusch and Pagan Lagrangian	0.0002	0.0000	0.0000
Wooldridge test	0.1699	0.0684	0.0000

t statistics in brackets * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Based on the results of testing robust errors shown in the Table 8, some discussions given as:

- Consolidated financial statements (CONS) have positive relationships with AEM1, AEM2 and statistical significance of 1% and 10%, suitable with H1. This means that for the firm with complicated structure, operating in the model of holding firms, AEM is usually conducted for the benefit of management basing on complicated techniques in preparing consolidated financial statements. That is why there is more



opportunity for management to have earnings management. However, in the model of REM, CONS associates negatively with REM but no statistical significance.

- The number of members in management board (BOARD) have negative relationships with three models of AEM1, AEM2 and REM, but no statistical significance. This finding contradicts with findings of Beasley (1996), Peasnell et al. (2005), Cornett et al. (2008) and Ahmad-Zaluki et al. (2011).

- Chair of management board cum a director (DUAL) associates positively with AEM1, AEM2 with 1% statistical significance. This finding agrees with the result of Mulgrew and Forker (2006). In contrast, DUAL has a positive relationship with REM but no statistical significance.

- Auditor size (AUDIT) has a negative relationship with AEM1 and has 10% statistical significance in the model of Dechow et al. (1995). This finding supports the H3 and agrees with results of Kinney and Martin (1994), Gallery et al. (2008). But under the models of AEM2 and REM, AUDIT has negative relationships but no statistical significance.

- Return on assets (ROA) has positive relationships with all three models of AEM1, AEM2 and REM with 1% statistical significance, supporting the H4. This finding agrees with results of Cheng and Warfield (2005) and Charfeddine et al. (2013), but not the same with the result of Alves (2012) and disagrees with the result of Bowen et al. (2008).

- Firm size (SIZE) associates positively with AEM1, AEM2 and REM but no statistical significance. This result is different from results conducted by Barton and Simko (2002), Myers et al. (2007).

- Financial leverage (LV) has positive relationships with AEM1, AEM2 and REM and has statistical significance at 1% and 5%. This finding disagrees with the hypothesis of H7 and results conducted by Charfeddine et al. (2013), Alshrairi (2012), Shen and Chih (2007), and Fathi (2013).

- Stock issuance (ISSU) influences positively AEM1, AEM2 with 1% statistical significance. This result supports the hypothesis of H8 and agrees with results done by Rangan (1995), Teoh et al. (1998), Thai (2014). However, under REM model ISSU has a positive relationship but no statistical significance.

Table 8: Results of OLS (ROBUST) Testing

	AEM1	AEM2	REM
CONS	0.0156* [1.66]	0.0252** [2.52]	-0.0206 [-0.14]
BOARD	-0.000062 [-0.02]	-0.000685 [-0.21]	-0.0545 [-1.31]
DUAL	0.0222** [2.43]	0.0262*** [2.86]	0.0771 [0.49]
AUDIT	-0.0177* [-1.85]	-0.0158 [-1.58]	-0.0613 [-0.43]
ROA	0.297*** [6.30]	0.288*** [5.63]	1.104*** [2.83]
SIZE	0.00234 [0.89]	0.000153 [0.06]	0.00666 [0.45]
LV	0.0764*** [3.16]	0.0937*** [3.65]	0.511** [2.48]
ISSU	0.0308***	0.0309***	0.0486



	[2.61]	[2.63]	[1.32]
_cons	-0.0682**	-0.0835**	1.101***
	[-2.03]	[-2.52]	[3.43]
N	1300	1300	1300
R-sq: within	0.0982	0.102	0.0168
between	0.1398	0.0623	0.0591
overall	0.1082	0.0786	0.0475
Wald chi2(8)	68.32	124.32	17.58
Prob > chi2	0.0000	0.0000	0.0246

*t statistics in brackets * p<0.1, ** p<0.05, *** p<0.01*

Basing on the results in the international contexts, REM is more conducted than AEM, but in the context of Vietnam, the results are quite different, i.e. AEM is more used than REM. The reason can be explained in a way that Vietnam Stock Exchange is rather new and in the process of development, earnings management in aspect of REM is not employed much. However, REM may be used more frequently in the future in the context of Vietnam.

5. Conclusion and Recommendations

With 1,300 observations of 260 listed firms on Vietnam Stock Exchange for the period from 2012 to 2016, OLS is employed with independent variables of consolidated financial statements (CONS), the number of members in management board (BOARD), chairman cum a director (DUAL), Auditor size (AUDIT), financial performance (ROA), firm size (SIZE), financial leverage (LV), and stock issuance (ISSU).

In the model of AEM with using the dependent variable of AEM1, six of eight determinants have impacts on AEM1 with the statistical significance of 1%, 5% and 10%. Five factors associate positively with AEM1, including CONS, DUAL, ROA, LV, ISSU but one determinant of AUDIT has a negative relationship. In the model of AEM with using the dependent variable of AEM2, the results are nearly the same with the results using the dependent variable of AEM1. But AUDIT has a negative relationship with AEM2 but no statistical significance.

In the model of REM, two factors including ROA and LV have positive relationships with REM and has statistical significance.

The explanation levels of factors on the dependent variable in the models of AEM1, AEM2 and REM are 9.82%, 10.2% and 1.68% respectively and this is also limitation of this study.

Based on the above findings and discussions, some recommendations are given for stakeholders and others to evaluate the behaviors of earnings management if listed firms in Vietnam as:

First, for the firm with complicated structure, operating in the holding model, financial statements must be consolidated. Investors and auditors as well should be prudent in giving economic decisions or opinions because AEM1, and AEM2 are conducted when preparing consolidated financial statements. In addition, in the firm having a chair of management cum a director the transparency of financial data is limited and there is a high possibility to have earnings management because of different objectives.



Second, firm size has a positive relationship with earnings management but no statistical significance. So by using the profit data, stakeholders should be prudent in making economic decisions. Before making economic decisions relating to big size firms or issuing stock firms, investors should employ earnings management model for evaluating the true and fair item of profit and update financial positions for evaluating abnormal items in the financial statements. For auditors, before conducting an audit the model of earnings management should be used for measuring the earnings of listed firms. Banking and financial firms should be prudent in reviewing borrowing profiles of large listed firms because listed firms have possibilities to overstate earnings in order to borrow money.

Third, based on this research and other previous studies, auditor size has a negative relationship with AEM1. Hence, investors and stakeholders should have belief from selecting auditors. However, choosing big 4 auditors in this research is still limited, accounting for 34.61%. In order to attract capitals from international and local investors, listed firms should consider in selecting auditors and inform in the website for having belief from investors. The fact is that many small listed firms cannot afford when hiring big 4 auditors so small auditors are selected by no one assures the quality of an audit. So regulatory agencies and professional bodies should inform the quality of financial statement audit of independent auditors. Based on this, listed firms can have basis to select auditors to conduct the financial statement audit.

References

- Ahmad-Zaluki, N. A., Campbell, K. and Goodacre, A. (2011). Earnings management in Malaysian IPOs: The East Asian crisis, ownership control, and post-IPO performance. *The International Journal of Accounting*, 46, 111-137. doi: <https://doi.org/10.1016/j.intacc.2011.04.001>.
- Akram, M. A., Hunjra, A. I. and Butt, S. I. I. (2015). Earnings management and organizational performance: Pakistan VS India. *Basic Research Journal of Business Management and Accounts*, 4, 211-220.
- Alsharairi, M. (2012). Does high leverage impact earnings management? Evidence from non-cash mergers and acquisitions. *Journal of Financial and Economic Practice*, 12, 17-33.
- Alves, S. (2012). Ownership structure and earnings management: Evidence from Portugal. *Australasian Accounting Business & Finance Journal*, 6, 57-73.
- Baber, W. R., Fairfield, P. M. and Haggard, J. A. (1991). The effect of concern about reported income on discretionary spending decisions: The case of research and development. *Accounting Review*, 66(4), 818-829.
- Barton, J. & Simko, P. J. (2002). The balance sheet as an earnings management constraint. *The Accounting review*, 77, 1-27. doi: <https://doi.org/10.2308/accr.2002.77.s-1.1>
- Beasley, M. S. (1996). An empirical analysis of the relation between the board of director composition and financial statement fraud. *The Accounting review*, 71, 443-465.
- Bowen, R. M., Rajgopal, S., and Venkatachalam, M. (2008). Accounting discretion, corporate governance, and firm performance. *Contemporary Accounting Research*, 25, 351-405. doi: <https://doi.org/10.1506/car.25.2.3>



- Burgstahler, D. and Dechow, P. (1997). Earnings management to avoid earnings decreases and losses. *Journal of accounting and economics*, 24, 99-126. doi: [https://doi.org/10.1016/S0165-4101\(97\)00017-7](https://doi.org/10.1016/S0165-4101(97)00017-7).
- Carlin, T. M., Finch, N. & Tran, M. D. (2015). Audit quality differences among auditors: The Case of Hong Kong. *Journal of Economics & Development*, 17(1), 77-92.
- Cohen, D. A. and Zarowin, P. (2010). Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of Accounting and Economics*, 50, 2-19. doi: <https://doi.org/10.1016/j.jacceco.2010.01.002>
- Cornett, M. M., Marcus, A. J. and Tehranian, H. (2008). Corporate governance and pay-for-performance: The impact of earnings management. *Journal of financial economics*, 87, 357-373. doi: <https://doi.org/10.1016/j.jfineco.2007.03.003>
- Cupertino, C. M., Martinez, A. L. and Da Costa, N. C. (2015). Earnings manipulations by real activities management and investors' perceptions. *Research in International Business and Finance*, 34, 309-323. doi: <https://doi.org/10.1016/j.ribaf.2015.02.015>
- Charfeddine, L., Riahi, R. and Omri, A. (2013). The determinants of earnings management in developing countries: A study in the Tunisian context. *IUP Journal of Corporate Governance*, 12, 35 -49.
- Chen, G., Firth, M., Gao, D. N. and Rui, O. M. (2006). Ownership structure, corporate governance, and fraud: Evidence from China. *Journal of Corporate Finance*, 12, 424-448. doi: <https://doi.org/10.1016/j.jcorpfin.2005.09.002>
- Chen, X., Cheng, Q. and Wang, X. (2015). Does increased board independence reduce earnings management? Evidence from recent regulatory reforms. *Review of Accounting Studies*, 20, 899-933.
- Cheng, Q., and Warfield, T. D. (2005). Equity incentives and earnings management. *The Accounting Review*, 80, 441-476.
- Dechow, P. M., Kothari, S. P. and Watts, R. L. (1998). The relation between earnings and cash flows. *Journal of accounting and Economics*, 25, 133-168. doi: [https://doi.org/10.1016/S0165-4101\(98\)00020-2](https://doi.org/10.1016/S0165-4101(98)00020-2)
- Dechow, P. M., and Skinner, D. J. (2000). Earnings management: Reconciling the views of accounting academics, practitioners, and regulators. *Accounting horizons*, 14, 235-250.
- Dechow, P. M., Sloan, R. G. and Sweeney, A. P. (1995). Detecting earnings management. *The Accounting Review*, 70, 193-225.
- Dechow, P. M., Sloan, R. G. and Sweeney, A. P. (1996). Causes and consequences of earnings manipulation: An analysis of firms subject to enforcement actions by the SEC. *Contemporary Accounting Research*, 13, 1-36. doi:
- Dechow, P. M., Sloan, R. G. and Sweeney, A. P. (1994). Earnings management to exceed thresholds. *The Journal of Business*, 67, 1-33. doi: 10.1086/209601
- Dichev, I. D., Graham, J. R., Harvey, C. R. and Rajgopal, S. (2013). Earnings quality: Evidence from the field. *Journal of Accounting and Economics*, 56, 1-33. doi: <https://doi.org/10.1016/j.jacceco.2013.05.004>



- Dang, N. H. (2015). Tendency of earnings management because of changing corporate income tax rate of listed firms. *Journal of Economics & Development*, 219, 46–54.
- Fakhfakh, H. and Nasfi, F. (2012). The determinants of earnings management by the acquiring firms. *Journal of Business Studies Quarterly*, 3, 43 - 53.
- Fathi, J. (2013). The determinants of the quality of financial information disclosed by French listed companies. *Mediterranean Journal of Social Sciences*, 4, 319-331. doi: [10.5901/mjss.2013.v4n2p319](https://doi.org/10.5901/mjss.2013.v4n2p319)
- Gallery, G., Cooper, E. and Sweeting, J. (2008). Corporate disclosure quality: lessons from Australian companies on the impact of adopting International Financial Reporting Standards. *Australian Accounting Review*, 18, 257-273. doi: [10.1111/j.1835-2561.2008.0030.x](https://doi.org/10.1111/j.1835-2561.2008.0030.x)
- Graham, J. R., Harvey, C. R. and Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of Accounting and Economics*, 40, 3-73. doi: 10.3386/w10550
- Gunny, K. A. (2005). *What are the consequences of real earnings management?*. Retrieved from <https://www.sciencedirect.com/science/article/pii/S1052045710000263>.
- Gunny, K. A. (2010). The relation between earnings management using real activities manipulation and future performance: Evidence from meeting earnings benchmarks. *Contemporary Accounting Research*, 27, 855-888. doi: <https://doi.org/10.1111/j.1911-3846.2010.01029.x>
- Giap, T. L. (2014). Relationship between corporate governance and earnings management of listed firms on HOSE. *Master Thesis, University of Economics Ho Chi Minh City*.
- Healy, P. M. (1985). The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics*, 7, 85-107.
- Healy, P. M. and Wahlen, J. M. (1999). A review of the earnings management literature and its implications for standard setting. *Accounting horizons*, 13, 365-383. doi: <https://doi.org/10.2308/acch.1999.13.4.365>
- Hirshleifer, D. (1993). Managerial reputation and corporate investment decisions. *Financial Management*, 22, 145-160. doi: 10.2307/3665866
- Huynh, T. V. (2012). Behaviours of earnings management of listed firms in the early years listed on Vietnam Stock Exchange. Master Thesis, University of Economics Ho Chi Minh City, Vietnam.
- Jensen, M. C. and Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3, 305-360. doi: [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Jones, J. J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research*, 29, 193-228. doi: 10.2307/2491047
- Kinney, J. W. R. and Martin, R. D. (1994). Does auditing reduce bias in financial reporting? A review of audit-related adjustment studies. *Auditing*, 13, 149-161.
- Kothari, S. P., Leone, A. J. and Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics*, 39, 163-197. doi: <https://doi.org/10.1016/j.jacceco.2004.11.002>



- Kumari, P. and Pattanayak, J. K. (2014). The role of board characteristics as a control mechanism of earnings management: A study of select Indian service sector companies. *IUP Journal of Corporate Governance*, 13, 58-69.
- Matsumoto, D. A. (2002). Management's incentives to avoid negative earnings surprises. *The Accounting Review*, 77, 483-514.
- Mulgrew, M. and Forker, J. (2006). Independent non-executive directors and earnings management in the UK. *Irish Accounting Review*, 13, 35-64.
- Myers, J. N., Myers, L. A. and Skinner, D. J. (2007). Earnings momentum and earnings management. *Journal of Accounting, Auditing & Finance*, 22, 249-284. doi: <https://doi.org/10.1177/0148558X0702200211>
- Nassirzadeh, F., Salehi, M. and Laei, S. M. (2012). A Study of the Factors Affecting Earnings Management: Iranian Overview. *Science Series Data Report*, 4, 22-27.
- Nguyen, A. H. and Pham, T. T. (2005). Testing and identification of earnings management of listed firms in Vietnam. *Journal of Science and Technology*, 18, 7-17.
- Nguyen, C. P. (2017). Applying modified Jones model with cross data: The case of earnings management of listed firms issuing more stocks. *Journal of Economic Development*, 28, 35-42.
- Nguyen, T. M. T. (2012). Applying models of DeAngelo and Friedlan for identifying earnings management of management. *Journal of Eastern Asia University*, 6, 39-47.
- Nguyen, T. P. L. and Nguyen, M. T. (2016). Identification of real earnings management of listed firms on Vietnam Stock Market. *Journal of Science and Technology*, 19, 81-93.
- Nguyen, T. P. U. (2014). Earnings management in case of issuing more stocks of listed firms on Vietnam Stock Market. Master Thesis, University of Economics Ho Chi Minh City, Vietnam.
- Peasnell, K. V., Pope, P. F. and Young, S. (2005). Board monitoring and earnings management: Do outside directors influence abnormal accruals?. *Journal of Business Finance & Accounting*, 32, 1311-1346. doi: <https://doi.org/10.1111/j.0306-686X.2005.00630.x>
- Pham, T.B.V (2012). Model of identification of earnings management of listed firms on HOSE. *Journal of Economic Development*, 258, 35-42.
- Pham, T. B. V. (2015). Earnings management through accruals and real transactions arrangements of listed firms on HOSE. *Journal of Economics & Development*, 218, 74-82.
- Raman, K. and Shahrur, H. (2008). Relationship-specific investments and earnings management: Evidence on corporate suppliers and customers. *The Accounting Review*, 83, 1041-1081.
- Rangan, S. (1995). Earnings around seasoned equity offerings: Are they overstated?. *Journal of Financial Economics*, 50, 101-122.
- Ross, S. A. (1977). The determination of financial structure: the incentive-signalling approach. *The Bell Journal of Economics*, 8, 23-40. doi: 10.2307/3003485
- Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics*, 42, 335-370. doi: <https://doi.org/10.1016/j.jacceco.2006.01.002>
- Schipper, K. (1989). Commentary on earnings management. *Accounting horizons*, 3, 91-102. doi: 10.12691/jfa-3-3-3



- Sellami, M. (2015). Incentives and constraints of real earnings management: The literature review. *International Journal of Finance and Accounting*, 4, 206-213. doi:10.5923/j.ijfa.20150404.02
- Shen, C. H. and Chih, H. L. (2007). Earnings management and corporate governance in Asia's emerging markets. *Corporate Governance: An International Review*, 15, 999-1021. doi: <https://doi.org/10.1111/j.1467-8683.2007.00624.x>
- Skinner, D. J. and Sloan, R. G. (2002). Earnings surprises, growth expectations, and stock returns or don't let an earnings torpedo sink your portfolio. *Review of Accounting Studies*, 7, 289-312. doi: 10.1023/A:1020294523516
- Swastika, D. L. T. (2013). Corporate governance, firm size, and earning management: Evidence in Indonesia stock exchange. *IOSR Journal of Business and Management*, 10, 77-82.
- Teoh, S. H., Welch, I. and Wonf, T. J. (1998). Earnings management and the underperformance of seasoned equity offerings. *Journal of Financial economics*, 50, 63-99. doi: [https://doi.org/10.1016/S0304-405X\(98\)00032-4](https://doi.org/10.1016/S0304-405X(98)00032-4)
- Thai, T. H. (2014). Investigation of earnings management in case of issuing more securities of listed firms on HOSE. Master Thesis, University of Economics Ho Chi Minh City, Vietnam.
- Thomas, J. K. and Zhang, H. (2002). Inventory changes and future returns. *Review of Accounting Studies*, 7, 163-187.
- Tran, T. M. T. (2014). Factors Affectings earnings management of listed firms on HOSE. Master thesis, University of Economics Ho Chi Minh City, Vietnam.
- Xie, B., Davidson, W. N. and Dadalt, P. J. (2003). Earnings management and corporate governance: the role of the board and the audit committee. *Journal of Corporate Finance*, 9, 295-316. doi: [https://doi.org/10.1016/S0929-1199\(02\)00006-8](https://doi.org/10.1016/S0929-1199(02)00006-8)