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Article

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The Relationship between Real Earnings Management and Firm Performance: The Case of Energy Firms in Vietnam

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ABSTRACT

This investigation analyses the influence of real activities earnings management on firm performance of the energy listed firms on Vietnam's stock market. Our data collection constitutes 29 energy companies on Vietnam stock markets (HNX and HOSE) in the period from 2010 to 2016. We used regression analysis in accordance with panel data, namely fixed effects model and random effects model. The results determine that real activity earnings management positively impacts on firm performance. This implies that increasing current sales activities will have a positive impact on current earnings. However, this may be pernicious to the company in the future. There is a positive association between firm size, cash from operating activities, growth opportunities and firm performance while firm leverage and tangible asset have a negative association. Research results are significant for regulators and investors in emerging markets.

Keywords: Real Earnings Management, Firm Performance, Energy Firms, Vietnam
JEL Classifications: M41, G32

1. INTRODUCTION

Profits are the common essential actuality which describes the financial assurance and health of all company. It connects to the bottom line part of the income statement which manifests how the corporation is financially advantageous and attaching amount to the shareholder's capital. According to an accrual basis, potential investors perform investment decisions based on the attractiveness of companies in different sectors for investment prospects and thus stock prices will increase. When earnings are a dominant symbol of the future of stock prices, companies conduct to attempt to reach forecast earnings from previous targets. Managers practice a type of legal and sometimes illegal tactics and methods to accomplish specific personal goals. This phenomenon is commonly referred to as earnings management.

Previous researchers have demonstrated that managers have engaged in earnings management to meet predicted profit margins and compare them with the threshold of industry profitability (Bharath, et al., 2008; Chou, et al., 2009; DeFond and Jiambalvo, 1994; Ding, et al., 2018; Elayan, et al., 2008; Guidry, et al., 1999; Kasznik, 1999; Razzaque, et al., 2016). The motivations for achieving earnings targets include wage effects, bonuses and other priorities, as well as affirming company value in the marketplace. Previous studies have categorized two types of income management, including accruals based earnings management (AEM) and real earnings management (REM) (Healy and Wahlen, 1999; Roychowdhury, 2006; Schipper, 1989; Zang, 2012).

In the current context, the economy of Vietnam has conferred signs of recovery in macroeconomic indicators, but experts said that the country is still in crisis., and growth below potential and

many other underlying factors have not been thoroughly addressed. The difficult economy with the consequences behind it is the collapse of many domestic businesses. According to a report by the General Statistics Office in 2013, about 60,700 enterprises must be dissolved, suspended, up 11.9% compared to 2012 and up 12.5% over 2011. In 2017, according to the report of the General Statistics also showed that 26,448 enterprises returned to operation, down 0.9% over the previous year, bringing the total number of newly established enterprises and returning to operation in the year reached 153.3 thousand enterprises. The total number of registered employees of newly established enterprises in 2017 is 1,161.3 thousand, a decrease of 8.4% compared to 2016. Most of these enterprises are in a "capital thirsty" situation to operate.

But most of them can not access loans from banks. Apart from objective factors such as high-interest rates, leading to the above situation, it can not be denied that there are subjective reasons from the enterprises themselves. The reason is that when deciding on a business loan, banks are often interested in production and business profitability of the business. Therefore, to beautify the application for loans, many businesses have revised financial statements in accordance with the standards set by the bank. In addition, at present, quarterly and annual financial statements are the most complete information about enterprises that investors can access officially. Financial statements can be viewed as the face of a business. However, the use of these beauty tips is not always good for businesses, whereas if using no strategy, businesses may be able to push themselves into difficult situations. Towel, deadlock, and under the pressure of control from the audit firm. The quality of information on the financial statements of the business, especially the information on profits, has a great influence on the multi-stakeholder decision. In this context, the issue of concern is the quality of the published profit information. Behaviours that govern profit for the purpose of the manager can make the financial statement no longer reflect the nature of the financial situation and business performance of the business.

In existence, the beauty of financial reporting by real activities earnings management (REM) is becoming a dependable and more effective alternative employed by managers to adjust the estimates accrual-based earnings management which has been implemented. Consequently, the choice of financial reporting methodologies is growing a topic of concern for businesses nowadays especially for those who desire to advance sustainable business.

This research contributes to the current literature in terms of this matter. Firstly, the study of real activities earnings management was conveyed principally in developed countries and comparatively few studies were conducted in Vietnam. In particular, studies on the differences exist in the energy sector in Vietnam. Therefore, research supports to increase understanding of this issue. Second, the investigation looked at the effect of real activities earnings management on firm performance to evaluate the effect of this behaviour, based on signal theory and institutional theory. This research has not been done previously in Vietnam in the energy sector. Thirdly, the study of this topic is valuable to regulators and investors. This promotes stakeholders to identify and make decisions.

The rest of the article proceeds as follows. The section 2 of the article exhibits the literature and hypotheses development. Section 3 and 4 manifests the sample data, methodology. Section 5 displays the results of our empirical analysis and the discussion of results. Finally, we present the main conclusion, the limitations and few recommendations.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

There are many studies of incentives and motivations for managers to achieve earnings purposes. One of the most widely investigated incentives to achieve benchmark profit is procured from financial markets. Others are personal advantage managers similar gratuities and promotions. Numerous investigations have examined the incentives in various synopses.

Previous investigations presented evidence that the manager manipulated earnings through substantive activity. A survey was conducted by Graham et al. (2005) remarked that 80% of managers practised manipulation of real earnings management to report higher earnings than accrual-based earnings management. A survey by Graham et al. (2005) obtained evidence that CFOs are willing to delay long-term investment activities to increase rates of return, despite the potential negative effects on the future company. Fazeli and Rasouli (2011) contributed evidence that discount price offer to stimulate sales at current rates and excess inventory levels to increase reported annual revenues. Roychowdhury (2006) also discusses the point, when using the actual actions of the business owner will have a heavy impact on the future value of the business. Roychowdhury (2006) used three real earnings management measures: temporary discounts to advance sales, overproduction to record lower sales costs due to a less fixed cost per unit to increase reported profitability. Consequently, customers will be less inclined to acquire in the future because of the expected price reductions made by the company. This directly affects the performance of the business.

According to agency theory, managers conduce to endeavour to obtain earnings intentions in any behaviour for their own benefit, especially in the short sequence. Therefore, managers accept both accounting suggestions and practical actions to resolve subjective expectations. Burgstahler and Dichev (1997) designate that both cash flow from operating activities and advances in accounting methods are recently accomplished to enhance income. Burgstahler and Eames (2006) discovered that cash flow from operating activities and accounting practices were discretionarily constrained to avoid lower reported earnings consequences than predicted. Nevertheless, managers favour utilising real actions because they directly and quickly influence business results and are comfortable to convince shareholders than to adopt abnormal accounting practices (Ewert and Wagenhofer, 2005; Zang, 2007).

Real activities earnings management has an immediate impression on shaping business decisions and investments. If activities are pointed at the ambition to achieve economic optimism, managers should not suspect any negative repercussions in the future

of those decisions and management actions. Nonetheless, the implementation of business operations may also originate from the subjective inclination of managers for personal purposes or management opportunism. Leads to these actions will not aim to be the best interests of the company. Cohen and Zarowin (2010) perceive that companies using the form of capital calls (SEOs) regularly employ real activities earnings management and will undergo a significant decline in firm value in the future. Therefore, real activities earnings management will have a positive influence on the firm performance of companies in the current and negative in the future.

In Vietnam, research on real activities earnings management in listed companies is moderately low. The examination of corporate characteristics has a negative/positive impression on real activity earnings management (Khanh and Nguyen, 2018), the effect of accrual-based earnings management has no statistically significant reaction on cost of debt (Thu, Khanh, Ha, and Khuong, 2018). Notwithstanding, in the context of energy companies, the relationship between real activities earnings management and firm performance demands to be taken to confirm the role of opportunistic management actions.

So we develop hypothesis relating to the influence of real activities earnings management on the firm performance as follows:

Hypothesis 1: Firms that engage in real activities earnings management in Vietnam have higher firm performance than firms that do not engage in real activities earnings management.

3. MODEL AND VARIABLES

3.1. Empirical Model

The model argues that if any company participates in real activities earnings management in the current period, it will become an immediate influence on the current business performance. An investigation model is utilised to test the hypothesis of the study. Variable tests in the model include REM1 and REM2, these are two measures to consider the year that the company has engaged in earnings management behaviour through actual actions. The examination hypotheses are explored using the FEM, REM regression analysis. Notwithstanding, before applying regression analysis, the data should be examined for normality, linearity, homoscedasticity, and multicollinearity (Fox, 1997; Harrel, 2001).

The regression model can be formulated as follows:

$$FP_{it} = \delta_0 + \delta_1 REM_{it} + \delta_2 PPE_{it} + \delta_3 SIZE_{it} + \delta_4 CFO_{it} + \delta_5 LEV_{it} + \delta_6 GROWTH_{it} + \varepsilon_{it}$$

Where

FP is the measure of firm performance, proxied by Return on total assets, Return on total equity (Desai and Dharmapala, 2009; Eisenberg, et al., 1998; Yu, 2013). The return on total assets (ROA) is defined as the ratio of net income after taxes to total assets, the return on equity (ROE) is calculated as the ratio of net income after taxes to equity.

$REM_{i,t}$ is the level of real earnings management, calculated by Roychowdhury (2006) model.

$\varepsilon_{i,t}$: error term.

The coefficient of the independent variable REM δ_1, designates the significance of difference with respect to firm performance between REMs suspected firms and firms that are not suspected to engage in REMs in the current time. A significant β1 with positive symbol implements support for the hypothesis.

$\delta_2 \rightarrow \delta_6$: Slope coefficients representing the influence of the associated control variables on the dependent variable

3.2. Controls Variables

Our empirical investigations apply a number of control variables to improve the relationship between independent variables and dependent variables. Furthermore, reflecting the consequence of these variables on the dependent variable. These control variables are: Firm size (SIZE), measured as the natural logarithm of total assets, firm levarge (LEV), measured as total liabilities on total assets, tangible fixed asset (PPE), which is measured as the historical cost of tangible fixed assets on total assets, firm growth (GROWTH), calculated by the ratio of revenue year end minus revenue privious year and revenue privious year, Operating cash flow (CFO), defined by cash flow divided total assets at year-end (Gulzar, et al., 2018; Leggett, 2016; Razzaque, et al., 2016; Tian, et al., 2018).

3.3. Measure of Real Earnings Management

This article applies three fundamental measures of real earnings management and two aggregate models following Roychowdhury (2006) and other real earnings management researches (Baatour, et al., 2017; Chih, et al., 2008; Cho and Chun, 2016; Cohen and Zarowin, 2010; Roychowdhury, 2006; Zang, 2012). The original models of REMs are the abnormal cash flows from operations (REM_CFO), the abnormal discretionary expenses (REM_DISX), and the abnormal production costs (REM_PROD).

Abnormal cash flows from operations (REM_CFO).

To designate extraordinary earnings, managers can diminish the contemporary selling price as well as proposal higher value interest and added allowing loan terms. Nevertheless, before-mentioned revenues might not be maintained once the firm returns to its customary patients. Due to scattered values, larger rate discounts, operating cash flows (CFO) disposition moderate in the current time for a presented level of deals (Roychowdhury, 2006). Therefore, cash flows from operations (CFO) abnormally depressed than the normal level is considered as an indication of REMs. The REM_CFO is measured as the difference between the actual CFO and the estimated normal level of CFO.

We work the following cross-sectional regression in order to calculate the normal level of cash flows from operations:

$$\frac{CFO_{i,t}}{A_{i,t-1}} = \beta_1 \frac{1}{A_{i,t-1}} + \beta_2 \frac{SALES_{i,t}}{A_{i,t-1}} + \beta_3 \frac{\Delta SALES_{i,t}}{A_{i,t-1}} + \varepsilon_{i,t} \quad (1)$$

Where: $CFO_{i,t}$: Cash flows from operations of firm i in period t; $A_{i,t-1}$: Total assets of firm i in year t−1; $Sales_{i,t}$: Sales of firm i in year t; $\Delta Sales_{i,t}$: Sales of firm i in year t less sales of firm i in year t−1; $\varepsilon_{i,t}$: A residual term that captures the level of abnormal cash flows (REM_CFO) of firm i in year t;β_1,β_2,β_3 are firm specific parameters.

Abnormal discretionary expenses (REM_DISX).

Firms exercise fabulous freedom in inciting costs such as research and development (R and D), selling and administrative (SG and A), advertising expenses, agent training and sustenance. These costs are to be encumbered in the current time and by not acquiring them currently, a firm may announce extraordinary earnings numeral. Consequently, discretionary expenses recorded abnormally lower than the expected normal level is estimated as REMs. The REM_DISX is the discrepancy between the real discretionary cost and foretold a normal level of discretionary expenses.

We apply the model of Roychowdhury (2006) to compute the normal level of discretionary expenses as follows:

$$\frac{DISCEXP_{i,t}}{A_{i,t-1}} = \beta_1 \frac{1}{A_{i,t-1}} + \beta_2 \frac{SALES_{i,t-1}}{A_{i,t-1}} + \varepsilon_{i,t} \quad (2)$$

Where: $DISEXP_{i,t}$: The sum of selling and marketing expenses and general and administrative expenses of firm i in year t; $A_{i,t-1}$: Total assets of firm i in year t−1; $Sales_{i,t-1}$: Sales of firm i in year t−1; $\varepsilon_{i,t}$: A residual term that captures the level of abnormal discretionary expenses (REM_DISX) of firm i in year t; β_1,β_2 are firm specific parameters.

Abnormal production costs (REM_PROD).

Allowing the supplementary pieces succeed in increasing fixed manufacturing overhead transversely a larger number of units and consequently, lessens the per unit production cost. As long as this decrease in per unit fixed cost is not exceeded by incremental marginal production costs and supplementary inventory containing cost, the firm appreciates describing a greater margin. Subsequently, production cost abnormally greater than the anticipated normal level is an explanation of real earnings management (Roychowdhury, 2006). The REM_PROD is the distinction between the actual production costs and the foreseen normal level. Production costs (PROD) are the gross of the costs of goods sold and the difference in inventory (ΔINV).

We estimate abnormal production costs through the model of Roychowdhury (2006):

$$\frac{PROD_{i,t}}{A_{i,t-1}} = \beta_1 \frac{1}{A_{i,t-1}} + \beta_2 \frac{SALES_{i,t}}{A_{i,t-1}} + \beta_3 \frac{\Delta SALES_{i,t}}{A_{i,t-1}} + \beta_4 \frac{\Delta SALES_{i,t-1}}{A_{i,t-1}} + \varepsilon_{i,t} \quad (3)$$

Where: $PROD_{i,t}$: The sum of cost of goods sold and change in inventory of firm i in year t; $A_{i,t-1}$: Total assets of firm i in year t−1; $Sales_{i,t}$: Sales of firm i in year t; $\Delta Sales_{i,t}$: Sales of firm i in year t less sales of firm i in year t−1; $\Delta Sales_{i,t-1}$: Sales of firm i in year t−1 less sales of firm i in year t−2; $\varepsilon_{i,t}$: A residual term that captures the level of abnormal production costs (REM_PROD) of firm i in year t; $\beta 1,\beta_2,\beta_3,\beta_4$ are firm specific parameters.

Following Cohen and Zarowin (2010) and Zang (2012), two aggregate measures of REMs, REM1 and REM2, are also explained. REM1 is the total of REM_PROD and REM_DISX. REM2 is the composite of REM_CFO and REM_DISX. Considering REM_PROD and REM_DISX are directionally contradictory of each other, REM_DISX is compounded by (−1) to achieve a consistent superintendence of the REM2. This intimates that the greater the value of REM2, the more the probability of real earnings management through overproduction and decreasing discretionary expenses contemporaneously.

We use two aggregate measures of real earnings management, REM1 and REM2 to quantify the level of real earnings management of a particular firms in a fiscal year.

REM1=REM_DISX+REM_PROD

REM2=REM_CFO+REM_DISX

4. DATA

Vietnam stock market has Ho Chi Minh City stock exchange and the Ha Noi stock exchange. The Ho Chi Minh Securities Trading Center was founded in 2000 and later modify the name as Ho Chi Minh Stock Exchange (HOSE) in 2007. The Hanoi Stock Exchange (HNX) was initiated in 2005 with fewer qualificatory conditions of the listing, such as low minimum capital requirement. From 2009 onwards, the number of listed companies on the two exchanges undeviatingly increased. Notwithstanding, the stock market in Vietnam is remarkably juvenile matched to other countries in the area.

Our examination analyzes panel data over a 6-year period from 2010 to 2016. During this period, research data included 29 listed companies in the energy sector in Vietnam. Thus, total of 203 firm-year observations being collected. According to previous studies on real income management (Cohen, et al., 2008; Cohen and Zarowin, 2010; Ding, et al., 2018; Roychowdhury, 2006; Zang, 2012), financial firms were excluded from the sample. We employ secondary data from financial statements, retrieved from Thomson Reuters EIKON to measure the dependent and independent variables.

Our data classified by the industry according to Thomson Reuters. The percentage of Electric Utilities is highest at 24, 14%. The percentage of Consumer Electronics, Gas Utilities, Oil and Gas Drilling, Water Utilities are the same percentage at 3,45 which is lowest in our data.

Table 1 presents the descriptive statistics of essential variables of this research. This table manifests the mean, standard deviation,

Table 1: Descriptive of variables

Variable	Observations	Mean±SD	Minimum	Maximum
ROA	196	0.0628±0.0506	−0.1349	0.2670
ROE	196	0.1206±0.1883	−2.0610	0.7835
REM1	196	1.2564±1.4851	−0.5604	8.2503
REM2	196	0.7948±1.1433	−0.0756	5.2650
PPE	196	0.3080±0.2330	0.0070	0.9661
SIZE	196	27.9256±1.7150	24.8171	31.6697
CFO	196	0.0833±0.1041	−0.1779	0.4055
LEV	196	0.5360±0.1858	0.0320	0.9345
GROWTH	196	0.1362±0.4203	−0.6289	4.2341

Notes: The table reports summary statistics of variables over the period from 2010 to 2016 for Vietnamese listed firms. ROA and ROE are a proxy for firm performance, ROA is defined by profits divided by total assets at year-end. Return on equity (ROE) is calculated as the ratio of net income after taxes to equity. REM is real earnings management indicator. SIZE is a proxy for firm size, it is calculated by the natural logarithm of total assets at year-end. LEV is a measure of leverage level, which is calculated by the ratio of debt to total assets at year-end. PPE is a proxy for the tangible asset; PPE is defined by tangible asset divided total assets at year-end. GROWTH is a proxy for firm growth, calculated by the ratio of revenue year end minus revenue previous year and revenue previous year, CFO is proxy for operating cash flow, defined by cash flow divided total assets at year-end.

minimum, median and maximum amount of variables. For the primitive variables, it could be viewed that the average of the ROA and ROE are 6.28% and 12.06%, while their standard deviation is 5.06% and 18.83% respectively. It indicates that there are meaningful variations in firm performance among Vietnamese firms. For central independent variables, the consequences imply that the overall average real earnings management is 1.26-0.79.

5. RESULTS AND DISCUSSION

Tables 2 exhibit correlations among all variables employed in this investigation. Results unveil that REM is moderate positively correlated with all the dependent variables. Results similarly designate that there is no multicollinearity in any of the variables because none of the bivariate correlation rates is >0.9 (Tabachnick and Fidell, 1996). Firm performance is positively correlated with firm size, operating cash flow, firm growth, tangible assets, and negatively correlated with firm leverage.

Table 2: Pearson correlation coefficient matrix

	ROA	ROE	REM1	REM2	PPE	SIZE	CFO	LEV	GROWTH
ROA	1								
ROE	0.6075	1							
REM1	0.072	0.0946	1						
REM2	0.1476	0.0678	0.3759	1					
PPE	0.0735	0.0371	−0.0455	−0.1024	1				
SIZE	0.0245	−0.0235	−0.4549	−0.7243	0.2292	1			
CFO	0.4766	0.1924	0.1806	0.1724	0.2408	0.0341	1		
LEV	−0.5878	−0.1616	0.0299	−0.1887	−0.1545	0.2282	−0.3439	1	
GROWTH	0.0074	0.099	−0.0732	−0.0474	0.1395	0.0542	−0.0544	0.2023	1

Notes: The table reports correlation matrix over the period from 2010 to 2016 for Vietnamese listed firms. ROA and ROE are a proxy for firm performance, ROA is defined by profits divided by total assets at year-end. Return on equity (ROE) is calculated as the ratio of net income after taxes to equity. REM is real earnings management indicator. SIZE is a proxy for firm size, it is calculated by the natural logarithm of total assets at year-end. LEV is a measure of leverage level, which is calculated by the ratio of debt to total assets at year-end. PPE is a proxy for the tangible asset; PPE is defined by tangible asset divided total assets at year-end. GROWTH is a proxy for firm growth, calculated by the ratio of revenue year end minus revenue previous year and revenue previous year, CFO is proxy for operating cash flow, defined by cash flow divided total assets at year-end.

Table 3: Regression results with REM1 model

Variables	ROA		ROE	
	Coefficient	P-value	Coefficient	P-value
REM1	0.0065***	0.000	0.0090***	0.010
PPE	−0.0346***	0.002	−0.0446**	0.031
SIZE	0.0069***	0.000	0.0136***	0.001
CFO	0.0743***	0.000	0.2140***	0.000
LEV	−0.1348***	0.000	−0.0741**	0.020
GROWTH	0.0177***	0.000	0.0297**	0.014
CONS	−0.0658	0.182	−0.2340**	0.025
R^2	68.8%		17.64%	
Fisher test	F (27.162)=3.69		F (27.162)=2.36	
	Prob>F: 0.000		Prob>F: 0.000	
Hausman test	Chi2 (6)=7.24		Chi2 (6)=1.71	
	Prob>Chi2: 0.2995		Prob>Chi2: 0.9447	
BP Lagrange test	Chi2=36.79		Chi2=14.01	
	Prob>Chi2: 0.000		Prob>Chi2: 0.001	
Wooldridge test	F (1. 27)=78.1578		F (1. 27) = 64.677	
	Prob>F: 0.000		Prob>F: 0.000	

Notes: The table reports parameter estimates of the model:

$$FP_{it} = \delta_0 + \delta_1 REM1_{it} + \delta_2 PPE_{it} + \delta_3 SIZE_{it} + \delta_4 CFO_{it} + \delta_5 LEV_{it} + \delta_6 GROWTH_{it} + \varepsilon_{it}$$

Where: ROA and ROE are a proxy for firm performance, ROA is defined by profits divided by total assets at year-end. Return on equity (ROE) is calculated as the ratio of net income after taxes to equity. REM1 is real earnings management indicator. SIZE is a proxy for firm size, it is calculated by the natural logarithm of total assets at year-end. LEV is a measure of leverage level, which is calculated by the ratio of debt to total assets at year-end. PPE is a proxy for the tangible asset; PPE is defined by tangible asset divided total assets at year-end. GROWTH is a proxy for firm growth, calculated by the ratio of revenue year end minus revenue previous year and revenue previous year, CFO is proxy for operating cash flow, defined by cash flow divided total assets at year-end.

*, **, *** denotes the level of significance of 10%; 5% and 1% respectively

Table 4: Regression results with REM2 model

Variables	ROA		ROE	
	Coefficient	P-value	Coefficient	P-value
REM2	0.0097**	0.012	0.0228***	0.007
PPE	−0.0292**	0.013	−0.0172	0.528
SIZE	0.0082***	0.001	0.0189***	0.002
CFO	0.0649***	0.000	0.1295***	0.001
LEV	−0.1291***	0.000	−0.0303	0.411
GROWTH	0.0168***	0.000	0.0277***	0.010
CONS	−0.1069	0.108	−0.4087**	0.012
R^2	68.24%		13.92%	
Fisher test	F (27.162)=3.68		F (27.162)=2.43	
	Prob>F: 0.000		Prob>F: 0.000	
Hausman test	Chi2 (6)=7.57		Chi2 (6)=2.07	
	Prob>Chi2: 0.2771		Prob>Chi2: 0.9133	
BP Lagrange test	Chi2=36.73		Chi2=15.38	
	Prob>Chi2: 0.000		Prob>Chi2: 0.000	
Wooldridge test	F (1. 27)=72.61		F (1. 28)=61.619	
	Prob>F: 0.000		Prob>F: 0.000	

Notes: The table reports parameter estimates of the model:

$$FP_{it} = \delta_0 + \delta_1 REM2_{it} + \delta_2 PPE_{it} + \delta_3 SIZE_{it} + \delta_4 CFO_{it} + \delta_5 LEV_{it} + \delta_6 GROWTH_{it} + \varepsilon_{it}$$

Where: ROA and ROE are a proxy for firm performance, ROA is defined by profits divided by total assets at year-end. Return on equity (ROE) is calculated as the ratio of net income after taxes to equity. REM2 is real earnings management indicator. SIZE is a proxy for firm size, it is calculated by the natural logarithm of total assets at year-end. LEV is a measure of leverage level, which is calculated by the ratio of debt to total assets at year-end. PPE is a proxy for the tangible asset; PPE is defined by tangible asset divided total assets at year-end. GROWTH is a proxy for firm growth, calculated by the ratio of revenue year end minus revenue previous year and revenue previous year, CFO is proxy for operating cash flow, defined by cash flow divided total assets at year-end

*, **, *** denotes the level of significance of 10%; 5% and 1% respectively

To confirm the appearance of a random effect, we employ the Hausman test. The sequences retrieved permit us to reject the null hypothesis of the existence of randon effect (Prob > Chi2=0.2995 > 0.05). Then, the random effect is the most suitable. To evaluate heteroskedasticity we implement the BP lagrange test. The results of this analysis designate the existence of a heteroskedasticity difficulty considering the values achieved (Prob > Chi2=0.0000) are <5% in all models, which directs us to reject the null hypothesis. To examine the autocorrelation of errors, we apply the Wooldridge test. The sequences received directly us to reject the null hypothesis of the absence of autocorrelation of the errors following we determine that the values of Prob > F are lower than 5%, in the four models. Therefore, we presume that there is a problem of an autocorrelation of errors.

Based on the analyses we conducted to ascertain the most appropriate estimation method, we noted a problem of heteroskedasticity and autocorrelation that we require to improve. Suddenly, we continue to the generalized least squares method to correct this heteroskedasticity and autocorrelation problem.

Tables 3 and 4, the estimated regression furnishes a positive and significant coeffcient at 1% and 5% level of the real earnings management. This finding surfaces in all models reflected, determining the robustness of the analysis.. Indeed, the regression of the absolute value of firm performance from the effects of real earnings management pointing that this variable has a positive and significant effect. We achieve, at the same time, that our hypothesis is valid for a sample of energy companies in Vietnam, confirming that managers of companies utilise substantive actions to engage in real earnings management activities to enhance corporate value in the present.

Encapsulating the initial discussion, it is exhibited that there is a positive impact of real earnings management on firm performance measured by ROA, ROE ratio. This demonstrates that real earnings management is particularly charming in the short term and will become an immediate impact on firm performance. Nonetheless, we assume that managers may suffer adverse consequences in the form of lower performance in the coming years.

With research data from energy companies in Vietnam, these companies favor the form of revenue impact rather than over-production and cost reduction. The regression results also show that the effect of REM1 is greater than REM2 in the investigation models. This result coincides with previous studies on the effects of real activities earnings management on firm performance. Some studies previously proposed that employed discretionary expenses as a measure of REM and got the same result that real earnings management has a negative impact on future earnings (Ding et al., 2018; Kim, et al., 2018; Leggett, et al., 2016; Razzaque, et al., 2016; Tian, et al., 2018). Previous studies have shown that demonstrated the equivalent result by applying dimensions discretionary expenses and overproduction (Taylor and Xu, 2010; Wang, 2015). Gunny (2005) analysed that there is a negative impact on future ROA of firms which are engaged in REM.

High leverage leads to matured maturities that increase costs and affect firm performance (Desai and Dharmapala, 2009); Gompers et al. (2003). The variables that describe firm characteristics such as CFO, GROWTH, SIZE designate that the larger the company's expected growth and scale, the more sales results are to maintain firm standing. Cash from operating activities correlates corresponds with other variables that confirm that pre-cash flow has a positive effect on other control variables (Sial, et al., 2018; Sial, et al., 2018; Thu and Khuong, 2018). Longer-term investments

in assets will raise the pressure on revenue generated by assets, which can adversely affect business performance. Because the revenue generated from the property does not cover the cost of the property (Chen, et al., 2014; Desai and Dharmapala, 2009).

6. CONCLUSION

Earnings management superintendence increment in earnings by implementing some accountings tactics (accrual-based earnings management) or within unusual real activities (REM). Comprehensive commitment is arranged on accruals but researchers have given insufficient consideration to earnings manipulation throughout real activities earnings management.

By applying a balanced panel data investigation by GLS models, it is exhibited that there is a positive influence of all real activities manipulation on the current financial performance of the firm. We resemble at the linkage between real activities earnings management and firm performance in the context of emerging economies, Vietnam. Our results support our hypothesis that energy companies in Vietnam that are more closely related to real activities earnings management will increase their current business performance.

The results of the study concede us to achieve that managers who currently manage their income will produce a good picture of the current financial situation of the company but will be uncertain in the future.

Managers in Vietnam use discounting to accelerate revenue and credit terms for customers to improve their profit but in the future, they will incur costs in the form of a rate ROA, ROE lower. This study is of preeminent importance to investors, managers in case of decision making and business analysis. In particular, investors will understand how to generate conditions to improve the profitability of a company. Managers require to be well-informed to withdraw over-exploiting actions that direct to adverse outcomes in the future, as well as improving financial transparency. These conclusions also have implications for regulators in considering promulgating regulations aimed at hindering this practice.

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REFERENCES

Baatour, K., Ben Othman, H., Hussainey, K. (2017), The effect of multiple directorships on real and accrual-based earnings management: Evidence from Saudi listed firms. Accounting Research Journal, 30(4), 395-412.

Bharath, S.T., Sunder, J., Sunder, S.V. (2008), Accounting quality and debt contracting. The Accounting Review, 83(1), 1-28.

Burgstahler, D., Dichev, I. (1997), Earnings management to avoid earnings decreases and losses. Journal of Accounting and Economics, 24(1), 99-126.

Burgstahler, D., Eames, M. (2006), Management of earnings and analysts' forecasts to achieve zero and small positive earnings surprises. Journal of Business Finance and Accounting, 33(5-6), 633-652.

Chen, X., Hu, N., Wang, X., Tang, X. (2014), Tax avoidance and firm value: Evidence from China. Nankai Business Review International, 5(1), 25-42.

Chih, H.L., Shen, C.H., Kang, F.C. (2008), Corporate social responsibility, investor protection, and earnings management: Some international evidence. Journal of Business Ethics, 79(1-2), 179-198.

Cho, E., Chun, S. (2016), Corporate social responsibility, real activities earnings management, and corporate governance: Evidence from Korea. Asia-Pacific Journal of Accounting and Economics, 23(4), 400-431.

Chou, D.W., Wang, C.E., Chen, S.S., Tsai, S. (2009), Earnings management and the long run underperformance of firms following convertible bond offers. Journal of Business Finance and Accounting, 36(1-2), 73-98.

Cohen, D.A., Dey, A., Lys, T.Z. (2008), Real and accrual-based earnings management in the pre-and post-sarbanes-oxley periods. The Accounting Review, 83(3), 757-787.

Cohen, D.A., Zarowin, P. (2010), Accrual-based and real earnings management activities around seasoned equity offerings. Journal of Accounting and Economics, 50(1), 2-19.

DeFond, M.L., Jiambalvo, J. (1994), Debt covenant violation and manipulation of accruals. Journal of Accounting and Economics, 17(1-2), 145-176.

Desai, M.A., Dharmapala, D. (2009), Corporate tax avoidance and firm value. The review of Economics and Statistics, 91(3), 537-546.

Ding, R., Li, J., Wu, Z. (2018), Government affiliation, real earnings management, and firm performance: The case of privately held firms. Journal of Business Research, 83, 138-150.

Eisenberg, T., Sundgren, S., Wells, M.T. (1998), Larger board size and decreasing firm value in small firms. Journal of Financial Economics, 48(1), 35-54.

Elayan, F.A., Li, J., Meyer, T.O. (2008), Accounting irregularities, management compensation structure and information asymmetry. Accounting and Finance, 48(5), 741-760.

Ewert, R., Wagenhofer, A. (2005), Economic effects of tightening accounting standards to restrict earnings management. The Accounting Review, 80(4), 1101-1124.

Fazeli, Y.S., Rasouli, H.A. (2011), Real earnings management and the value relevance of earnings. International Research Journal of Finance and Economics, 2011, 28.

Fox, J. (1997), Applied Regression Analysis, Linear Models, and Related Methods. Thousand Oaks, CA, US: Sage Publications, Inc.

Gompers, P., Ishii, J., Metrick, A. (2003), Corporate governance and equity prices. The Quarterly Journal of Economics, 118(1), 107-156.

Graham, J.R., Harvey, C.R., Rajgopal, S. (2005), The economic implications of corporate financial reporting. Journal of Accounting and Economics, 40(1-3), 3-73.

Guidry, F., Leone, A.J., Rock, S. (1999), Earnings-based bonus plans and earnings management by business-unit managers1. Journal of Accounting and Economics, 26(1-3), 113-142.

Gulzar, M.A., Cherian, J., Sial, M., Badulescu, A., Thu, P., Badulescu, D., Khuong, N. (2018), Does corporate social responsibility influence corporate tax avoidance of Chinese listed companies? Sustainability, 10(12), 4549.

Gunny, K.A. (2005), What are the consequences of real earnings management? Working Paper, University of Colorado, USA..

Harrel, F. (2001), Regression Modeling Strategies: With Applications to Linear Models. Logistic Regression, and Survival Analysis. Nashville, TN, USA: Springer.

Healy, P.M., Wahlen, J.M. (1999), A review of the earnings management literature and its implications for standard setting. Accounting Horizons, 13(4), 365-383.

Kasznik, R. (1999), On the association between voluntary disclosure and earnings management. Journal of Accounting Research, 37(1), 57-81.

Khanh, H.T.M., Nguyen, V.K. (2018), Audit quality, firm characteristics and real earnings management: The case of listed vietnamese firms. International Journal of Economics and Financial Issues, 8(4), 243-249.

Kim, J.H., Lee, S.H., Yoo, Y.K. (2018), Real earnings management and the cost of debt capital: International evidence. Asia-Pacific Journal of Accounting and Economics, 2018, 1-22.

Leggett, D.M., Parsons, L.M., Reitenga, A.L. (2016), Real earnings management and subsequent operating performance. IUP Journal of Operations Management, 15(4), 23-30.

Razzaque, R.M.R., Ali, M.J., Mather, P.R. (2016), Real earnings management in family firms: Evidence from an emerging economy. Pacific-Basin Finance Journal, 40, 237-250.

Roychowdhury, S. (2006), Earnings management through real activities manipulation. Journal of Accounting and Economics, 42(3), 335-370.

Schipper, K. (1989), Earnings management. Accounting Horizons, 3(4), 91-100.

Sial, M., Zheng, C., Cherian, J., Gulzar, M., Thu, P., Khan, T., Khuong, N. (2018), Does corporate social responsibility mediate the relation between boardroom gender diversity and firm performance of Chinese listed companies? Sustainability, 10(10), 3591.

Sial, M.S., Zheng, C., Khuong, N.V., Khan, T., Usman, M. (2018), Does firm performance influence corporate social responsibility reporting of chinese listed companies? Sustainability, 10(7), 1-12.

Tabachnick, B.G., Fidell, L.S. (1996), Using Multiple Statistics. New York: Harper Collins Publishers.

Taylor, G.K., Xu, R.Z. (2010), Consequences of real earnings management on subsequent operating performance. Research in Accounting Regulation, 22(2), 128-132.

Thu, P.A., Khanh, T.H.T., Ha, N.T.T., Khuong, N.V. (2018), Perceived audit quality, earnings management and cost of debt capital: Evidence from the energy listed firms on vietnam's stock market. International Journal of Energy Economics And Policy, 8(6), 120-127.

Thu, P.A., Khuong, N.V. (2018), Factors effect on corporate cash holdings of the energy enterprises listed on vietnam's stock market. International Journal of Energy Economics and Policy, 8(5), 29-34.

Tian, X., Yang, T., Yu, T.R. (2018), Real earnings management in family firms: Evidence from Chinese listed firms. International Journal of Revenue Management, 10(2), 77-106.

Wang, X. (2015), New Evidence on Real Earnings Management: An International Investigation. New Zealand: Auckland University of Technology.

Yu, M. (2013), State ownership and firm performance: Empirical evidence from Chinese listed companies. China Journal of Accounting Research, 6(2), 75-87.

Zang, A. (2007), Evidence on the Tradeoff Between Real Manipulation and Accrual Manipulation. Working Paper.

Zang, A.Y. (2012), Evidence on the trade-off between real activities manipulation and accrual-based earnings management. The Accounting Review, 87(2), 675-703.