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CÁC NHÂN TỐ ẢNH HƯỞNG TỚI HÀNH VI QUẢN TRỊ LỢI NHUẬN CỦA CÁC DOANH NGHIỆP NIÊM YẾT TRÊN TTCK VIỆT NAM

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Tóm tắt:

Nghiên cứu này nhằm mục đích đánh giá các yếu tố ảnh hưởng đến hành vi quản trị lợi nhuận của các công ty niêm yết tại Việt Nam, cụ thể là các công ty niêm yết trên Sở Giao dịch Chứng khoán Thành phố Hồ Chí Minh (HOSE). Dữ liệu được thu thập từ các công ty niêm yết trong giai đoạn từ 2017 đến 2019. Với phương pháp nghiên cứu OLS, kết quả cho thấy có hai trong số bảy nhân tố ảnh hưởng đến hành vi quản trị lợi nhuận của doanh nghiệp. Trong khi hiệu quả hoạt động tài chính của doanh nghiệp có mối quan hệ thuận chiều với hành vi quản trị lợi nhuận, tỷ lệ tăng vốn lại cho kết quả ngược chiều. Nghiên cứu này bổ sung bằng chứng về hành vi quản trị thu nhập, phát hiện các yếu tố bị ảnh hưởng và đưa ra một số khuyến nghị cho các chủ nợ và nhà đầu tư về các quyết định kinh tế trong tương lai của họ trên TTCK Việt Nam.

Từ khóa: Quản lý thu nhập, Hiệu quả hoạt động tài chính, Tỷ lệ tăng vốn, Doanh nghiệp niêm yết, Việt Nam.

FACTORS AFFECTING EARNINGS MANAGEMENT OF LISTED COMPANIES IN VIETNAM

Abstract

This research is conducted to examine factors affecting earnings management of listed companies in Vietnam, specifically only on the Ho Chi Minh Stock Exchange (HOSE). Data were collected from listed firms for the period from 2017 to 2019. OLS methodology has been utilized with dependent variables of earnings manipulation measured from previous research models. The results imply that 2 out of 7 factors affect earnings management, namely financial performance, and capital deepening ratio. While financial performance has a positive relationship with earnings management, the capital deepening ratio is on the opposite side of the scale. This research

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supplements evidence of earnings management, testing affected factors, and gives some recommendations for creditors and investors on their future economic decisions in the Vietnam Stock Market.

Keywords: Earnings management, Financial performance, Capital deepening ratio, Listed Firms, Vietnam.

1. Introduction

In Vietnam, the term earnings management has gradually been taken into consideration by researchers, creditors, investors, stockholders, and auditors. It directly reflects the quality of financial statements, where profits – one of the most important and highly concerned criteria is elucidated. Therefore, the credibility of financial reporting is heeded by both stockholders and administrators. While financial information has a great effect on stockholders and creditors, it is prepared and presented by administrators. The problem is administrators may not be stockholders and vice versa. Besides the benefit of stockholders, managers also find ways to increase management welfare. To this purpose, managers have opportunities to exert their authority on financial reports. In case they had the motivation to mislead users of financial statements, earnings management would stand a high chance of happening.

Noticeably, the first quarter of 2021 witnessed a record in the number of new stock trading accounts, approximately 258,000, in Vietnam. The number of new securities trading accounts opened by domestic individual investors plays a crucial role in leading the Vietnamese stock market and its liquidity. Concerning investors' benefits, the identification of earnings management is of utmost necessity. Identifying incentives of earnings management by managers can equip individual investors with tools and give them opportunities to require a deeper insight into the real financial situation of listed companies for making appropriate decisions.

Research results show the quality of the financial statement of listed companies in Vietnam recently. In previous studies on the Vietnam stock market, their authors primarily collected samples on both HOSE and HNX. Most research collects over half of the companies listed on the two mentioned stock exchanges. While there is only one research, as far as we know, that collects all data from both stock exchanges (Nguyen Thi Phuong Hong, 2016). In our study, we want to separate the two to study each stock exchange. With the most recent data from 2017 to 2019, the result of our research correctly reflects the quality of the financial statement of listed firms on HOSE, not based on prior reviews in Vietnam.

2. Literature review

2.1. Earnings management

2.1.1 Definition of Earnings management

Earnings management is the use of accounting techniques to produce financial statements that present an overly positive view of a company's business activities and financial position. Earnings management takes advantage of how accounting rules are applied and creates financial statements that inflate or smooth earnings. Many accounting rules and principles require that a company's management make judgments in following these principles.

Earnings management may be also defined as "reasonable and legal management decision making, and reporting intended to achieve stable and predictable financial results". Unlike fraud, earnings management encompasses the selection of accounting and estimates that conforms to the generally accepted accounting principles (GAAP). This means companies that practice earnings management would manage their earnings within the limits of accepted accounting procedures. However, certain monitoring mechanisms can prevent managers from inflating the earnings.

2.1.2 Causes and motives of earnings management

There are many studies in the world done to explain why there is earnings management, but in general, earnings management is a purposeful intervention in the external financial reporting process to obtain private benefits.

The motivation for managers to take action to adjust profits can be: The company is listed for the first time on the stock market or in the issuance of additional shares; when the corporate income tax rate changes; when the company enjoys incentives for corporate income tax exemption and reduction; when the company is eligible to participate in national corporate award programs; These managers change the actual profit to be rewarded and share the profit at a certain time.

According to Schipper and Vincent (2003) managers may tend to manage earnings for many reasons, such as: related to market pressure, compensation, bonuses, loan... This will lead to low-quality returns. However, all the above reasons can be summed up into the following motives:

Capital market motive: The motivation to perform the behavior that dominates the profits derived from the capital market is one of the common phenomena. Usually, managers practice earnings management to achieve or exceed target profits, issuing shares, buying, and selling, or merging businesses. The most popular form of capital mobilization today is through the stock channel.

Contract cost motives: Loan contracts are often used by creditors to protect their interests against profit manipulation. Due to the separation of ownership and management rights in listed companies, managers have an incentive to adjust profits to avoid breaches of borrowing contracts. If violated, creditors can increase the interest rate on the debt or ask the business to pay the debt immediately.

As a result, managers use profit manipulation techniques to avoid problems related to borrowing contracts. Especially in the case of a listed company making a loss, managers will have a stronger incentive to do earnings management.

Motivation to meet state regulations: Companies can practice profit management to minimize CIT (Overdue Income Tax) costs or delay tax payments or enjoy tax incentives. In addition, the earnings management behavior can also be implemented to minimize the cost of corporate income tax when the profit target has been reached or exceeded but does not want to pay more corporate income tax.

Altruistic motivation: which refers to personal perceptions and behavior tendencies in earnings management for the benefits of companies. It means that managers are under pressure to meet earnings forecasts because the market punishes businesses that struggle to meet investor expectations. In a survey by J.R. Graham, C.R. Harvey, and S. Rajgopal with the topic "The economic implications of corporate financial reporting", they found that eighty percent of chief

financial officers choose to reduce corporate spending, which makes the company's profit after tax increase higher.

Speculative motivation: which refers to the motive of deriving personal gains. The desire to manage earnings may stem from a desire to boost personal bonuses and remunerations, achieve advancement opportunities, and meet annual profit goals. A study by A. Goel and A.V. Thakor about why a firm's smooth earnings, find that managers smooth earnings, when their pay contract is attached to firm execution and managers, tend to use earnings management to boost their compensation.

Pressure from affiliated parties: Pressures from associated groups (such as supervisors, colleagues, accountants, shareholders, creditors, or analysts), which may come in the form of an opinion or a submission, can lead to a strong desire for managers to control earnings. In a survey of income, the board in China, a study conducted by J. Yang, J. Chi, and M. Young to review earnings management in China and its implication, report that controlling investors are hesitant to see their organization being delisted from the Chinese Stock Exchange. Because of that, there is solid impetuses for-profit control.

2.1.3. Forms of earnings management

Depending on the managers' objectives, managers use a variety of tricks to manipulate earnings. However, according to a study conducted by Ph.D. Phung Anh Thu and Ph.D. Nguyen Vinh Khuong, four types of profit management activity can be identified:

2.1.3.1 Earnings management through the selection of accounting policies

The choice of accounting policy applied to take action to implement profit management action is always within the framework of accounting standards. Therefore, the profit management action is to comply with the legal framework and is a skillful and flexible movement of legal loopholes left by the standard to arrange financial statements in the most favorable way for the company or company. for themselves, not illegal actions

Selecting accounting policies for revenue and cost recognition: As we can see the selection of accounting policies for revenue and cost will greatly affect the profit in the period because revenue and cost of goods are two important indicators on the statement of business activities. As a result, managers can use accounting policies to decide the profits of companies depending on the process of the business cycle.

Selecting accounting policy for inventory valuation: *Policy for determining the value of goods out of stock*: VAS (Vietnam Accounting Standards) allows firms to choose from different policy options for inventory valuation such as first in first out (FIFO), last in last out (LIFO), average cost… By choosing the method of calculating the ex-warehousing price in a period, managers can adjust the cost of goods sold and thereby affect the profit.

Policy on product costing: Select different product costing methods and ending work-in-process costing methods such as direct method, ratio method, coefficient method, by-product elimination method… can make the product cost change thereby adjusting the cost of goods sold.

Selecting a depreciation method: Selecting the fixed asset depreciation method also allows profit to shift between years. Compared with enterprises using the straight-line method of

depreciation, enterprises applying the declining depreciation method will be presented with a lower value on the balance sheet and lower income on the income statement.

Choosing an accounting policy on asset loss assessment: Accounting standards require enterprises to evaluate losses for depreciable assets and non-depreciable assets such as goodwill. The assessment of asset loss is based on many judgments of managers related to a fair price, use-value, etc.

2.1.3.2. Earnings management through making accounting estimates:

This trick is called the "Cookie jar reserves" (CJR) trick. The general operating principle of CJR is to make provisions and advance more than necessary for future use when needed. Managers often tend to record high expenses in the current accounting period and thereby reduce the costs recognized in future periods. In making accounting estimates, it can be divided into one-time accounting estimates and periodical accounting estimates.

2.1.3.3. Earnings management through operational decisions and economic activities.

Producing and consuming process: Managers can decide to produce or change sales policy to earnings manipulation. For example, if companies want to increase profit, managers will decide to increase production. It leads to a decrease in the price per product and cost of goods sold, as a result, profit goes up.

Timely disposition of long-term assets: This can result in the recording of unrealized gains or losses. Normally, firms with decreased profits will have earnings from the disposition of long-term assets higher than those with increased profits. This is a sign of earnings management.

Expenditure: Managers can manage earnings through spending on such items as advertising expenses, research and development expenses, maintenance and repair expenses, etc.

Long-term investment: The buying of stocks in other companies can be done to achieve excess funds or other strategic alliances. This offers an opportunity for earnings management through timing sales of securities that have gained or lost value, change of holding intent, and write-down of "impaired" securities.

2.1.3.4. Earnings management through misapplication of accounting rules on purpose.

These behaviors invariably receive the utmost care from auditors, including recording assets on false fiscal year purposefully, hiding debt and expenses, etc. It can also be counted as a fraudulent practice. The occurrence of earnings manipulation can be attributed to the fact that accounting rules need to be updated to keep up with the speed change of the business environment. The happening of any earnings management can take tolls on users of financial statements.

2.2. Fundamental theories relating to earnings management.

Agency Theory (Jensen & Meckiling, 1976) focused on the relationship between the authorized individual (the principals) and the representative (the agents). Within a joint-stock company, the principal is the stockholders while the agent is the director. The principal hires the agent through a contract that allows the director to make all the decisions related to the firms' activities. Relating to earnings management, the agency theory explains how managers perform earnings management on financial statements to maximize their benefits.

Stakeholder theory (Freeman, 1984). The central idea is that the success of an organization depends on the relationship between managers and stakeholders such as customers, suppliers, employees, the State, and others. Mattingly et al. (2009) suggested that the process of managing stakeholders is related to corporate governance and is therefore related to information transparency and data quality on corporate profits. Empirical research by many authors shows that good corporate governance will positively affect the relationship with stakeholders, improve the quality of financial statements and reduce the ability of earnings management.

Information Asymmetric Theory: The theory suggests that sellers may have more information than buyers which allows low-quality and high-quality products to have the same price resulting from the lack of information. Based on the theoretical foundation of this theory, studies have extended to financial markets and found that companies with high profitability will use disclosure to provide signals to increase their competitiveness himself (Bini et al, 2010), Lester et al. (2006) concluded that the signals of a company preparing to IPO (Initial Public Offering) to investors will affect the market value of the company.

2.3. Models relating to earnings management

Model of Jones (1991):

The Model of Jones (1991) attempts to control all the impacts from changes in firms' economic situation on non-discretionary accruals. According to Jones, changes in total assets, gross revenue, and gross property, plants, and equipment were the determinants of non – discretionary accruals.

$$NDA_t = \alpha_1 \frac{1}{A_{t-1}} + \alpha_2 \frac{\Delta REV_t}{A_{t-1}} + \alpha_3 \frac{PPE_t}{A_{t-1}} \qquad \textbf{(1)}$$

In which:

ΔREV_t: Net revenue in year t – Net revenue in year t-1

PPE_t: Closing balance of fixed assets in year t.

A_{t-1}: Closing balance of fixed assets in year t-1.

α_1, α_2, α_3: parameters of each firm

Estimates of the parameters of each firm, a_1, a_2, a_3 are generated using the following model in the estimated period:

$$\frac{TA_t}{A_{t-1}} = a_1 \frac{1}{A_{t-1}} + a_2 \frac{\Delta REV_t}{A_{t-1}} + a_3 \frac{PPE_t}{A_{t-1}} + V_t \qquad \textbf{(2)}$$

In which:

a_1, a_2, a_3: estimated results of α_1, α_2, α_3 respectively through OLS

TA_t: Total accruals in year t of the company

V_t: The error term (Residual)

Model of Dechow et al. (1995):

The model of Dechow et al. (1995) eliminates the speculation of the Jones model about errors in measuring discretionary accrual when revenue is adjusted (Dechow et al, 1995). The model of Dechow et al. implicitly assumes that all the changes in receivables resulted from earnings management.

$$NDA_t = \alpha_1 \frac{1}{A_{t-1}} + \alpha_2(\Delta REV_t - \Delta REC_t) + \alpha_3 PPE_t \quad \textbf{(3)}$$

In which:

ΔREV_t: Net revenue in year t – Net revenue in year t-1 scaled by total assets at year t-1

Model of Kothari et al. (2005)

The Model of Kothari et al. (2005) stated that accrual earning management is conducted by the existence of a specific event. Therefore, they proposed a model that represented a correlation between accruals and financial performance. They measure the return on assets (ROA) of the company in the year t-1.

$$NDA_t = \alpha_1 \frac{1}{A_{t-1}} + \alpha_2 \frac{\Delta REV_t - \Delta REC_t}{A_{t-1}} + \alpha_3 \frac{PPE_t}{A_{t-1}} + \alpha_4 ROA_{t-1} \quad \textbf{(4)}$$

In which:

ROA_{t-1}: Return on Assets in year t-1

2.4. Factors affecting earnings management

Capital Deepening Ratio: Some industries require a high level of capital so that they can produce goods and services. These industries usually have high fixed assets rates, therefore increase the depreciation expense. Cohen (2008) pointed out that a high capital deepening ratio may serve as an entry barrier for future competitors, so earnings of companies with a high rate of property, plant, and equipment are usually of better quality. Gopalan and Jayaraman (2012), Phuong and Trang(2018) also found a positive relationship between earnings management and capital deepening level of businesses.

Consolidated financial statement: Financial statements should be prepared in a consolidated manner for the activities of a holding company, 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, and others. Hung et al.,2018 also found a relationship between consolidated financial statements and earnings management activity.

Leverage Ratio: The more credit a corporation has, the more likely it is to default and not be able to pay its debts, putting it at risk of going bankrupt. The stock market reacted negatively, with a decrease in stock share trading volume and stock share rate, resulting in a decrease in equity. Furthermore, there was a perception that having more credit meant the company was having trouble raising funds from stock share sales in the market, and that having more credit meant the company was not being taken seriously by investors or candidates looking to invest in stock shares. Beneish (2001) found that debt contracts motivate managers to increase profits to avoid costs excess of contract. Jelinek (2007) studied the effect of increased debt ratio on earnings management. Their findings were consistent with Nassirzadeh et al., 2012. The results indicated that changes and different levels of financial leverage can have different effects on earnings. Hoang and Dang (2018) also found the influence of leverage ratio on earnings management.

Firm Size: The size of a company is often used as a proxy for market details. Large companies may have more market access to information than small businesses. Large companies, according to Albrecht and Richardson (1990), have less incentive to smooth earnings than small firms. Lee and Choi (2002) have discovered that firm size influences a firm's ability to control earnings: smaller firms are more likely than larger firms to manage earnings to avoid disclosing losses. However, Moses (1987) finds evidence that large firms have a greater opportunity than small firms to smooth earnings. The greater the distinction between ownership and management, the more likely financial statements are prepared for management's benefit rather than for the benefit of financial statement users. According to Barto and Simko (2002), a large corporation is under a lot of pressure to overstate financial results to maintain a positive reputation with analysts. Since they want to make projected gains, listed companies use earnings management to deceive investors. The consistent proof is also found by Michaelson, James, and Charles (1995).

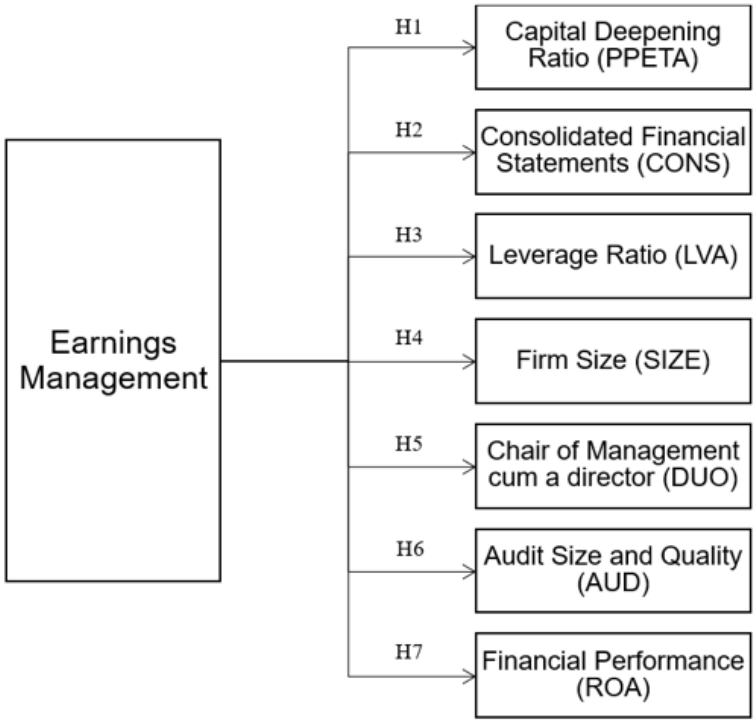
Chair of management board cum a director: A conflict of interests is likely to appear in case a person holds a chair of management board cum a director. As power is concentrated in one individual, the surveillance of the management board may decay (Jensen and Mecking, 1976; Dechow et al., 1996; Xie et al., 203, Dang and Hoang, 2017), financial statements are written for executives' benefit, not for stockholders' benefit. Conflicts of interest may appear, leading to frauds and errors

Audit size and quality: Having financial statements audited by an independent audit firm will allow financial statement users to make more reliable economic decisions based on accounting data. Kinney and Martin (1994) examined nine related studies and concluded that there was a positive relationship between audit activities and an auditee's net profits and assets. Users of financial statements believe audit results are reliable. Users of financial statements trust audit results over unaudited financial statements. As a result, many financial statements are audited by large audit firms such as the Big 4 (KPMG, EY, Deloitte, and PwC). This causes management to reduce earnings management.

Financial Performance: While interpreting the audited financial statements of businesses, Return on Assets is usually one of the key metrics to evaluate the business' performance and to make economic decisions accordingly. Sihasale (2001) examined the effect of the financial performance of the stock price of companies listed on the JSE. The result shows that jointly, ROE, ROA significantly influence stock prices. Earnings management was discovered by Change and Warfield (2005) by growing stock prices. Earnings management has been used to achieve a

positive impact on the stock market (Chen et al., 2010, Charfeddine et al., 2013). According to Chen et al. (2006), the worse an entity's financial performance is, the more earnings management happens.

3. Research methodology



3.1. Research model

We propose the following model:

$$EM=\beta_1 PPETA+\beta_2 CONS+\beta_3 LVA+\beta_4 SIZE+\beta_5 DUO+\beta_6 AUD+\beta_7 ROA+\varepsilon$$

Where EM is a proxy for the level of earnings management calculated by using Discretionary Accruals.

Figure 1. Model of Factors Affecting Earnings Management of Listed Firms on HOSE

Source: Authors proposed

3.2. Research hypotheses:

In the present research, seven independent variables were considered. So, the following hypotheses are postulated in the study:

H1: Capital Deepening Ratio has an influence on earnings management.

H2: Consolidated financial statements have a positive relationship with earnings management.

H3: The leverage ratio has a positive relationship with earnings management.

H4: Firm size has a positive relationship with earnings management.

H5: Chair of management board cum a director has a positive relationship with earnings management.

H6: Auditor size has a negative relationship to earnings management.

H7: Financial performance has a positive relationship with earnings management.

3.3. Research sample

The paper examines 358 companies listed on the Vietnam stock market (HOSE) during the period 2017-2019, a total of 1074 observations, excluding financial services companies because of their major differences compared to other sectors. HOSE was chosen since it has significantly more liquidity than the other Vietnam stock market (HNX), therefore HOSE has more proxy.

Table 1. Variables and Measurement

Variables Name	Type of Variables	Code	Measurement
Discretionary Accruals	Dependent	DA1	Discretionary accrual is measured by the models of Dechow et al. (1995)
Discretionary Accruals	Dependent	DA2	Discretionary accrual is measured by the models of Kothari et al. (2005)
Capital Depending Ratio	Independent	PPETA	Property, Plants, Equipment/Total Assets
Consolidated Financial Statements	Independent	CONS	1 if consolidated financial statements 0 if single financial statements
Financial Leverage	Independent	LVA	Total Debts/ Total Assets
Firm size	Independent	SIZE	The natural logarithm of Total Assets
Chair of management cum a director	Independent	DUO	1 if the chair of management cum a director 0 if the chair of management is not a director
Auditor Quality	Independent	AUD	1 if audited by Big 4 Auditors 0 if audited by non-Big 4 Auditors
Financial Performance	Independent	ROA	Net income/Total Assets

Sources: Authors proposed

Our research includes one dependent and seven independent variables as mentioned above. Table 1 above presents the variables, the code, and the measurement for each variable.

Total Accruals (TA_t)***:*** To measure the non – discretionary accruals, the starting point is total accruals. In principle, total accruals consist of discretionary accruals and non – discretionary accruals. Therefore, the equation for total accruals is:

$$TA = NDA + DA \qquad \textbf{(5)}$$

In which:

TA: Total accruals

NDA: Non – discretionary accruals

DA: Discretionary accruals

Currently, in the Vietnamese accounting system, the statement of cash flow is recorded under cash basis accounting therefore transactions cannot be changed or adjusted. On the other hand, the income statement is recorded under the accrual basis which creates opportunities for adjustment within the non – cash transactions. Therefore, the difference between profit in the income statement and the cash flow in the cash flow statement can be considered as total accruals. We have the equation:

Total Accruals = Net Income - Net Cash from Operating Activities

4. Research results

4.1. Measuring Earnings Quality

In a research conducted by Pham Thi Bich Van on earnings quality measurement published in Banking Magazine issued in January 2013, she suggested her formula.

$$T = \frac{Discretinary\ Accruals\ (DA)}{Net\ income}$$

It can be explained that the smaller DA is, together with unchanged net income, the smaller the value of T. The smaller value of T, the higher the earnings quality is.

Table 2. Earnings Quality Measurement

	DA1	**DA2**
High	1017	1017
Low	57	57

Source: Calculated from SPSS

According to our calculation, the result reveals that 1017 out of 1074 observations, for both DA1 and DA2, show the trustworthiness of profits, equivalent to 94.7%. The rest 5.3% reveals the shortcomings in the earnings quality of listed firms on HOSE. Therefore, we can jump to the finding that the earnings quality of listed companies on HOSE in our research is quite high.

4.2. Descriptive statistics

Table 3 shows the descriptive statistics of the variables in the sample. We observe the statistics of over 350 firms in HOSE from 2017 to 2019. As can be seen from Table 2, 70% of listed firms in Hose prepared consolidated financial statements, and only 30% of which prepared single financial statements. Only 27% of listed firms have the chair of management board cum a director. Table 2 also shows that about 38% of firms invited Big 4 auditors (KPMG, EY, Deloitte, PwC) to audit their financial statements. The financial data shows an overview of listed firms in HOSE. Return on assets (ROE) is around 6.8% with a maximum of 216% and a minimum of -85%. The capital deepening ratio is 37.5% while financial leverage is 47.2%.

Table 3. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
DA1	1069	-8.8505	2.60	.0145	.32761
DA2	1069	-8.8505	2.60	.0145	.32761
PPETA	1071	.0003	6.52	.3750	.44718
CONS	1072	0	1	.70	.457
LVA	1074	.0057	1.4174	.472657	.2118618
SIZE	1074	2.0167	5.6061	3.277808	.6035818
DUO	1071	0	1	.27	.442
AUD	10721	0	1	.38	.487
ROA	1074	-.8526	2.1674	.068777	.1155419
Valid N (listwise)	1066-8,				

Source: Calculated from SPSS

4.3. Correlation Matrix

Pearson correlation coefficient is a measure of linear correlation between sets of data which is often used to identify the correlation between variables. Moreover, this analysis is also the basis for the regression analysis. Therefore, we decided to use the Pearson Correlation Matrix to test the dependent and the independent variables within each model.

First, we identify all pairs of independent which have sig lower than 0.05.

Second, we evaluate the Pearson correlation coefficient. If the coefficient is lower than 0.8, multicollinearity between the independent variables does not exist. To discover multicollinearity, we use the variance inflation factor (VIF).

Table 4 shows the correlation matrix among the variables when we use the Dechow et al. model (1995) and the Kothari et al. model (2005) to calculate discretionary accruals (DA1) and (DA2):

Table 4. Correlation Matrix

		DA1	DA2	PPETA	CONS	LVA	SIZE	DUO	AUD	ROA
DA1	**Pearson Correlation**	1	1.000**	-.079*	0.11	-.052	-.026	-.014	-.020	.220**
	Sig. (2-tailed)		0.000	.010	.729	.086	.398	.652	.522	.000
	N	1069	1069	1067	1069	1069	1069	1068	1069	1069
DA2	**Pearson**	1.000**	1	-.079*	.011	-.052	-.026	-.014	-.020	.220**

		DA1	DA2	PPETA	CONS	LVA	SIZE	DUO	AUD	ROA
	Correlation									
	Sig. (2-tailed)	0.000		.010	.729	.086	.398	.652	.522	.000
	N	1069	1069	1067	1069	1069	1069	1068	1069	1069
PPETA	**Pearson**	-.079*	-.079*	1	-.154**	-.126**	-.047	-.141**	.065*	.083**
	Correlation									
	Sig. (2-tailed)	.010	.010		.000	.000	.128	.000	.033	.006
	N	1067	1067	1071	1070	1071	1071	1069	1070	1071
CONS	**Pearson**	.011	.011	-.154**	1	.180**	.375**	.129**	.167**	-.108**
	Correlation									
	Sig. (2-tailed)	.729	.729	.000		.000	.000	.000	.000	.000
	N	1069	1069	1070	1072	1072	1072	1071	1072	1072
LVA	**Pearson**	-.052	-.052	-.126**	.180**	1	.345**	.076*	.018	-.312**
	Correlation									
	Sig. (2-tailed)	.086	.086	.000	.000		.000	.013	.558	.000
	N	1069	1069	1071	1072	1074	1074	1071	1072	1074
SIZE	**Pearson**	-.026	-.026	-.047	.375**	.345**	1	-.047	.392**	-.109**
	Correlation									
	Sig. (2-tailed)	.398	.398	.128	.000	.000		.123	.000	.000
	N	1069	1069	1071	1072	1074	1074	1071	1072	1074
DUO	**Pearson**	-.014	-.014	-.141**	.129**	.076*	-.047	1	-.045	-.069*
	Correlation									
	Sig. (2-tailed)	.652	.652	.000	.000	.013	.123		.145	.024
	N	1068	1068	1069	1071	1071	1071	1071	1071	1071
AUD	**Pearson**	-.020	-.020	.065*	.167**	.018	.392**	-.045	1	.002
	Correlation									

		DA1	DA2	PPETA	CONS	LVA	SIZE	DUO	AUD	ROA
	Sig. (2-tailed)	.522	.522	.033	.000	.558	.000	.145		.937
	N	1069	1069	1070	1072	1072	1072	1071	1072	1072
ROA	**Pearson Correlation**	.220**	.220**	.083**	-.108**	-.312**	-.109**	-.069*	.002	1
	Sig. (2-tailed)	.000	.000	.006	.000	.000	.000	.024	.937	
	N	1069	1069	1071	1072	1074	1074	1071	1072	1074

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Calculated from SPSS

According to the results from Table 3, the correlation between the independent and the dependent variables, and between the dependent variables with each other is relatively low. Moreover, all Pearson correlation coefficient is under 0.8. Consequently, multicollinearity is less likely to happen in both models used in our research.

4.4. Regression Results

Table 5 represents the model summary of linear regression results. As can be seen, sig is equivalent to 0.000 <0.05. Thus, the built-in linear regression model is consistent with the overall. Besides, the adjusted R square stays around 5%, which can be implied that there is little statistical significance.

Table 5. Model Summary

	DA1	DA2
R square	.053	.052
Sig	.000	.000
Durbin Watson	2.030	2.031

Source: Calculated from SPSS

Table 6. Coefficients for DA1

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	**Std. Error**	**Beta**		
PPETA	-.069	.022	-.095	-3.084	.002
CONS	.021	.024	.029	.869	.385
LVA	.014	.052	.009	.265	.791
SIZE	-.008	.020	-.014	-.391	.696

DUO	-.013	.023	-.018	-.582	.561
AUD	-.009	.022	-.013	-.047	.684
ROA	.652	.089	.230	7.310	.000

a. Dependent Variable: DA1

Source: Calculated from SPSS

Table 7. Coefficients for DA2

	Unstandardized Coefficients		**Standardized Coefficients**	**T**	**Sig.**
	B	**Std. Error**	**Beta**		
PPETA	-.069	.022	-.095	-3.084	.002
CONS	.021	.024	.029	.869	.385
LVA	.014	.052	.009	.265	.791
SIZE	-.008	.020	-.014	-.391	.696
DUO	-.013	.023	-.018	-.582	.561
AUD	-.009	.022	-.013	-.047	.684
ROA	.652	.089	.230	7.309	.000

b. Dependent Variable: DA2

Source: Calculated from SPSS

In accordance with Table 6 and Table 7, some findings are detected as:

With sig < 0.05:

Financial performance (ROA) has the same orientation with earnings management with a statistical significance of 4.8%. This result is similar to the results of previous studies.

Capital deepening ratio (PPETA) has a negative relationship with earnings manipulation, but insignificant statistics. It means that the higher the capital deepening ratio, the lower the earnings management. This finding contradicts results from Gopalan and Jayaraman (2012) as well as Phuong and Trang's results (2018).

With sig > 0.05, consolidated financial statement (CONS), leverage ratio (LVA), firm size (SIZE), chair of management board cum a director (DUO) and audit quality (AUD) do not affect earnings management. As a result, H2, H3, H4, H5, H6 are rejected.

The VIF coefficient is less than 2 so no multicollinearity occurs.

In both DA1 and DA2, Durbin Watson (d) stays in the range from 1 to 3. We can conclude that there is no autocorrelation.

5. Conclusion and recommendations

Investors and financial analysts have been paying attention to earnings management and the factors that influence it. However, financial experts are yet to agree on a formula that can accurately forecast earnings management. Nevertheless, it can still serve as an indicator of the quality of financial statements, the financial prospect of companies, as well as determining companies' values. Firms have a high earnings quality if companies' performances are reflected correctly on financial statements. This research aims at finding and analyzing factors that affect earnings management in Vietnam in the 2017-2019 period.

The research uses Dechow et al. (1995) model and Kothari et al. (2005) to measure earnings management. In our model, financial performance, and capital deepening ratio influence earnings management behavior, although no statistical significance was found in both results. The research uses Dechow et al. (1995) model and Kothari et al. (2005) to measure earnings management. We found that the capital deepening ratio was rarely considered by previous researchers, so we added it to the research to find out whether it has an influence on earnings management or not. Investors can pay attention to this ratio to determine the earnings quality of the companies in industries that require a high amount of fixed assets. ROA which is a profitability ratio has a negative effect on the quality of financial statements, specifically, the higher the ratio of the net return on assets, the lower the quality of financial statements. This means that companies with high performance in business tend to have higher profit management. This conclusion helps investors to be more careful when using the information on financial statements of listed companies before making economic decisions.

Five out of seven factors did not have a relationship with earnings management according to this research. Contrary to several prior research, we did not find evidence that firm size, consolidated financial statements, audit quality, and financial leverage affected earnings management activity. A person being both the director and the chairman of the board of a company was not relevant to earnings management as well.

In our research, only two models were used to calculate discretionary accruals, and we only selected companies from HOSE, we would suggest using other models to calculate discretionary accruals. Due to the exclusion of associated determinants of non-discretionary accruals, earnings management tests are prone to misspecification. Because nondiscretionary accrual models are crude and factors of earnings management are frequently associated with economic characteristics that influence non-discretionary accruals, there is no solution for this problem. Therefore, in terms of selecting an appropriate model of non-discretionary accruals, future researchers should consider economic characteristics that are likely to be correlated with the hypothesized earnings management. Future research could also consider increasing the sample size and separately investigate the relationship between independent variables and earnings management in various industries. The upcoming application of IFRS in Vietnam makes accounting standards a potential factor for further researches.

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