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THE RELATIONSHIP BETWEEN EARNINGS MANAGEMENT AND AUDIT OPINION

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Abstract. This study is conducted to investigate the relationship between earnings management (EM), audit quality (AQ) and qualified opinion of financial statements (AO) of listed firms on Vietnam Stock Exchange. Data were collected from 499 listed firms from 2018 to 2020 with 1,497 observations, of which 101 are observed with qualified opinions. Regressions of Logit and GLS are employed. The results reveal that earnings management has a positive relationship with qualified opinion, while audit quality has a negative association with qualified opinion and earnings management. In this research, we consider the interaction of audit quality with earnings management and qualified opinion. An interesting finding is that the impact of audit quality is weaker than that of earnings management and qualified opinion, so the interaction variable has a positive relationship with both qualified opinion and earnings management. Based on the findings, several suggestions are proposed for users of financial statements and auditors as well to assess the appropriateness of the opinion that is not an unqualified opinion.

Keywords: auditor's report, qualified opinion, earnings management, audit quality, financial statements.

JEL Classification: G39, M42, O16.

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1. Introduction

Earnings management in financial disclosure is one of the current topical topics, especially after the bankruptcy of a series of leading firms in the world at the beginning of the 21st century. Alleged fraud on financial statements that can be much analyzed and investigated. It includes the collapse of Enron Energy Group, the financial scandal of WorldCom Telecommunications Group that led to the firms going to the brink of bankruptcy (Butler et al., 2004). Senior management including the chief executive officer and chief financial officer of these firms are alleged to have been involved in data manipulation that led to fraudulent financial statements.

In the development trend of the economy in general and Vietnam's stock market in particular, the need for information on the financial situation of listed firms is extremely essential for stakeholders. However, due to the conflict of interests between the parties, which is mainly the conflict of interests between investors and a firm that wants to attract investment, a part of the issued financial statements has been distorted for the sakes of preparers and management (Dang et al., 2017), not for the sake of investors. The theory of asymmetric information reveals that managers often tend to provide information that is beneficial to them, and other parties do not have access to the truth information, so there is a high possibility to make wrong decisions. Through one form or another for the purpose of earnings management, managers will provide incorrect information to users of financial statements.

Auditing was introduced to reduce asymmetric information, especially information disclosure about earnings, one of the important criteria to attract investors. In order to ensure that earnings are reliable and usable, the auditor's role is to detect and make adjustments that management tends to achieve the desired level of return during the course of an audit. Users always expect auditor's report to be an absolute guarantee of the financial statements. They believe that the audited financial statements are accurate. But auditing is a work that cannot assure the accurateness or absolute of accounting data because of having accounting estimates inside; or if a firm intentionally distorts information, falsifies documents, it is not easy for auditors to detect material misstatements. Given such inherent audit works, the audit service provides only a reasonable level of assurance (Arens et al., 2012).

In the past time, there have been a number of studies conducted by Salehnezhad et al. (2017), Tommasetti

et al. (2018), Can (2019) clarifying the issue of influence of earnings management and audit opinion. However, the relationship between earnings management and the audit opinion has not been investigated comprehensively. Besides, how to consider the interaction between audit quality and earnings management, and audit opinion has not been little interested. Therefore, this investigation was conducted with the aim of providing empirical evidence on the relationship between audit opinion and earnings management behavior in listed firms on the Vietnam Stock Exchange.

According to auditing standards, the types of audit opinions are expressed on a case-by-case basis. These circumstances vary in nature and depend on how misstatements in the financial statements influence the decisions of financial statement users and the extent of the work that can be done by auditors (Tran et al., 2019). However, when the auditor's opinion is not unqualified, it means that the financial statements have a high level of earnings management behavior on the part of management and preparers. Therefore, this research expects that financial statements with earnings management behavior will have a high possibility of receiving "not unqualified audit opinion". In addition, whether the earnings management of listed firms with Big 4 audit firms (Ernst & Young, KPMG, PricewaterhouseCoopers, Deloitte) leads to a higher probability of receiving "not unqualified opinion" than listed firms with an audit opinion from non-Big 4 audit firms.

2. Theoretical framework

2.1. Types of auditors' opinions

Auditing is understood as the process of gathering and evaluating evidence about information to determine and report on its compliance with established standards. The audit process must be carried out by qualified and independent auditors (Arens et al., 2012). Therefore, all audits end with a report to confirm whether the audited information is in accordance with established standards such as accounting standards, accounting systems and other legal prevailing.

According to International Auditing and Assurance Standards Board (2021), the purpose of a financial statement audit is to increase users' confidence in the financial statements, through the auditor expressing an opinion on whether the financial statements are prepared, *in all material aspects*, in accordance with ISA 200, to be consistent with the applicable financial reporting framework. For most general-purpose financial reporting frameworks, the auditor is required to express an opinion on whether the financial statements have been prepared and presented fairly, *in all material aspects*, and are appropriate consistent with the applicable financial reporting framework.

Thus, after ending the audit, the auditor should express the audit opinion clearly in writing, clearly stating the basis for that opinion in auditor's report. According to International Auditing and Assurance Standards Board (2021), auditor's report on financial statements is a type of written report prepared and issued by an auditor and an audit firm to state its official opinion on the financial statements of an auditee. Auditor's report is a means of communication between an auditor and users of financial statements. It reveals the most important part of the audit works and presents the results of the financial statement evaluation. For auditors, auditor's report is a document that presents the final conclusions about the audited financial statements, so it summarizes the entire works that have been done. To the public, auditor's report is the observable end product from an unobservable process, so it contains crucial information to those who use financial statements for making economic decisions (Butler et al., 2004).

According to International Auditing and Assurance Standards Board (2021), there are some types of auditors' opinions, as below:

- **Unqualified opinion:** An opinion expressed when the auditor concludes that the financial statements have been prepared, *in all material respects*, in accordance with the applicable financial reporting framework. When an entity has an audited financial statement with an unqualified opinion, it does not mean that the auditor can guarantee that the financial statements are free of errors, but only that there are no material misstatements.
- **Not unqualified opinion:** This opinion includes three types as "Qualified opinion"; "Adverse of opinion" and "Disclaimer of opinion". The auditor and the audit firm will issue an auditor's report in the form of an opinion that is not an unqualified opinion when based on the audit evidence obtained, the auditor concludes that the overall financial statements are still materially misstated; or the auditor is unable to obtain sufficient appropriate audit evidence to conclude that the financial statements as a whole are free of material misstatements.

2.2. Earnings management

Scholars do not have a consensus on the definition of earnings management, there are several views of earning management concepts.

First, earnings management is "a purported intervention in the process of disclosing external financial information for personal gain"; "A slight extension to this definition would include vi Earnings management is "real", achieved by determining the timing of an investment or financing to change reported earnings or some part thereof" (Schipper, 1989, p. 92).

Second, earnings management behavior occurs when managers use judgment in preparing financial statements and in performing transactions to change financial statements in order to deceive related parties about economic position of a company or affect the outcomes of contracts that depend on reported figures (Healy & Wahlen, 1999).

The lack of agreements on the concept of earnings management leads to different interpretations of the

empirical evidence in studies aimed at uncovering earnings management behavior or providing evidence about the motives of earnings management behavior. Both definitions assume that these are behaviors related to the preparation of financial statements – including arranging transactions so that the expected accounting treatment can be employed. However, the first concept also indicates that earnings management makes decisions about the timing of investments and financing. If the recognition period for a discretionary expense is delayed or accelerated for a short period of time during the financial year, that is the way to earnings management.

Although there are quite a few ways of recording earnings management in the past, in most literature, in particular the studies of Lo (2008), Roychowdhury (2006), Dang et al. (2017) have grouped earnings management into two categories, i.e. *real earnings management* as an action affecting cash flow, and earnings management based on the accrual accounting variable (*accrual management*) through changes in accounting policies and accounting estimates. These are also two methods that have received much attention and publicity. Specifically, academic literature investigates earnings management through manipulations on adjustable accrual accounting variables such as Jones (1991), Dechow et al. (1995), Dechow et al. (2010), and through real earnings management such as Bartov et al. (2000), Gunny (2010), Roychowdhury (2006), Cohen and Zarowin (2010).

3. Literature review

In this research, we test the relationship between audit opinion and earnings management. Previous studies provide the basis for the assumptions employed in this research.

(i) Relationship between audit opinions issued by audit firms in general and earnings management

Francis at el. (1999) conduct a study on a sample of 74,390 observations of financial statements for the period 1974–1994 of traded firms on the NASDAQ. After controlling for financial and market risk variables, it is found that the auditors of a large sample of US traded firms employing a high degree of the use of accruals (*the quantity earnings management*) would be more likely to issue a qualified opinion on uncertain assets and for going concern than auditors of traded firms using a low degree of accrual accounting. Bradshaw et al. (2001) find evidence that auditors are poor in using information about accruals and incapable of issuing a qualified opinion for auditees using a high degree of accruals. Bradshaw et al. (2001) detect a strong evidence that the auditors do not associate the audit with investor problems arising from reported high accruals. Therefore, the study indicates that the auditor is not able to issue an opinion as the adjusted audit opinion for auditees that have earnings management behaviors with large accrual accounting variable. Bartov et al. (2000) investigate traded firms on the New York Stock Exchange from 1980 to 1997 and assure that there is a positive association between the absolute value of the accounts adjusted accruals and the ability to obtain a qualified opinion.

Some recent literature of the impact of earnings management (EM) on auditor's opinion such as Salehnezhad et al. (2017), Tommasetti et al. (2018), Can (2019). The positive impact of earnings management on the given qualified audit opinion has been found in the studies of Salehnezhad et al. (2017), Tommasetti et al. (2018), Can (2019), Thi (2023), Doan et al. (2021), Chen et al. (2024). In contrast, earnings management has a negative impact on the given qualified opinion (Tommasetti et al., 2018).

(ii) Relationship between audit opinions issued by reputable audit firms and earnings management

The study conducted by Becker at al. (1998) based on firms' own interests, finds that firms with low level adjustable accruals tend to select high reputation auditors (i.e. Big 6 of Price Waterhouse, Peat Marwick McClintock, Coopers & Lybrand, Ernst and Young, Deloitte Touche Tohmatsu, and Arthur Andersen), and firms with low level of adjustable accruals choose low reputation auditors (non big 6). Bauwhede et al. (2003) explore the relationship of audit firm size, state-owned firms, and accrual management of Belgian firms and learn that Big 6 auditors may only be more limited in earnings management than that audited by non-Big 6 auditors in the private auditees, but no differences in the public auditees.

Johl et al. (2007) examine the interaction between extraordinary adjusted accruals and audit quality by audit firm size and sectors in the context of the Asian economic crisis and reveal that Big 5 audit firms (Price Waterhouse, Peat Marwick McClintock, Coopers & Lybrand, Ernst and Young, Deloitte Touche Tohmatsu) usually give a qualified opinion when there is a high accrual recognized in the auditees, and non big 5 does not. However, the interaction is not significant for auditees working in a particular industry.

Literature conducted in the world, to some extent, finds the relationship between earnings management and audit opinion. However, the majority of studies only investigates a relationship between audit opinion and earnings management and has not been scrutinized the relationship between the ability to issue adjusted audit opinion when there is earnings management behavior of clients of Big 4 auditors; or if yes, it should only be conducted in special cases such as in terms of the firm's own interests (Becker et al., 1998), in terms of size of state owned firms (Bauwhede et al., 2003), in the context of the Asian financial crisis (Johl et al., 2007).

In the context of developing countries like Vietnam, testing the relationship between audit opinion and earnings management behavior is much interested and needs to be conducted for knowing the real relationship and discover why so.

4. Research methodology

4.1. Model and hypotheses design

In this research, we look into whether the behavior of earnings management has an impact on the issuance of

adjusted audit opinion. We employ logistic regression to test the relationship between dependent and independent variables. We design several hypotheses and employ the models employed by Bradshaw et al. (2001), Bartov et al. (2000); and Johl et al. (2007). The objective is to investigate the relationship between earnings management and audit opinion, so we build two models as below:

Model 1

$$AO_{it} = \alpha + \beta_1 EM_{it} + \alpha_1 Control_{it} + \varepsilon_{it}; \quad (1.1)$$

$$AO_{it} = \alpha + \beta_1 EM_{it} + \beta_2 AQ_{it} + \alpha_1 Control_{it} + \varepsilon_{it}; \quad (1.2)$$

$$AO_{it} = \alpha + \beta_1 EM_{it} + \beta_2 AQ_{it} + \beta_3 EM\_AQ_{it} + \alpha_1 Control_{it} + \varepsilon_{it}. \quad (1.3)$$

Model 2

$$EM_{it} = \alpha + \beta_1 AO_{it} + \alpha_1 Control_{it} + \varepsilon_{it}; \quad (2.1)$$

$$EM_{it} = \alpha + \beta_1 AO_{it} + \beta_2 AQ_{it} + \alpha_1 Control_{it} + \varepsilon_{it}; \quad (2.2)$$

$$EM_{it} = \alpha + \beta_1 AO_{it} + \beta_2 AQ_{it} + \beta_3 AO\_AQ_{it} + \alpha_1 Control_{it} + \varepsilon_{it}, \quad (2.3)$$

in which:

AO (Audit opinion) – is a dummy variable used to test hypothesis 1 (H1) and hypothesis 2 (H2), taking the value of 1 if it is a qualified opinion, otherwise it will receive the value 0 (in case the audit opinion is unqualified).

AQ (Audit quality) – is a dummy variable employed as a factor to test the AO variable because the ability to identify and report material misstatements is expected to increase with depending on audit quality. This hypothesis has been tested in the study of Rusmanto et al. (2014). They agree that Big 4 auditors are more likely to issue an adjusted audit opinion in the presence of earnings management behavior existed in the auditees. Therefore, the variables of AQ and AO will be expected to have a negative relationship. However, the variable of AQ cannot stand alone in this model without the presence of earnings management. That is why, we test their relationship through the interaction variables of earnings management and audit quality interaction (EM_AQ).

Earnings management can be proxied through accrual-based identity modeling (Dechow et al. (1995), Jones (1991), or through economic decisions (Roychowdhury, 2006). In this research, we measure through the adjusted accrual variable – DA (discretionary accruals). The variable of DA is the residual from the total accruals (TA) estimation model through the independent variables that represent the normal level of the firm's operations. The initial estimation model of Jones (1991) with multiyear dataset is often not suitable for emerging countries like Vietnam. Therefore, this study employs DA measurement with cross-sectional data as suggested from DeFond and Jiambalvo (1994) with with the model of Dechow et al. (1995) revised from the model Jones (1991). The variable of DA measured through the proxy is the remainder of Equation (3), earnings management (EM) is the absolute value of the remainder of the following Equation:

$$\frac{TA_{it}}{A_{it-1}} = \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 \frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}} + \alpha_3 \frac{PPE_{it}}{A_{it-1}} + \varepsilon_{it}, \quad (3)$$

where: TA_{it}: Total accruals = Profit after corporate i's income tax year t – Cash flow from firm activities i year t; ΔREV_{it} is the difference between firm revenue i in year t and year $t-1$; ΔREC_{it} is the difference between corporate receivables i year t and year $t-1$; PPE_{it} is the historical cost of fixed assets of firm i year t; A_{it-1} is the total assets of the firm i year $t-1$; α_1, α_2, α_3 are the parameters of each firm'; ε_{it} is random error.

We expect there is a negative relationship between the variable AQ and AO. AQ takes the value of 1 if the auditor is Big 4, otherwise it takes 0; EM (absolute value of discretionary accruals – the variable of accrual value) – is the variable that is used as the main factor to test the effect of AO because of any high level in the value of the variable. The accrual accounting values are expected to receive a higher exception. This topic has been checked in previous studies of audit opinion (Becker et al., 1998; Francis et al., 1999; Francis & Krishnan, 1999; Bauwhede et al., 2003; Johl et al., 2007; Salehnezhad et al., 2017; Tommasetti et al., 2018; Can, 2019). Therefore, EM is expected to have a positive association with AO. EM is measured in the theoretical basis according to the model of Dechow et al. (1995).

After reviewing literature of the relationship between audit opinion and earnings management behavior, several hypotheses are designed as below:

H1: *Earnings management (EM) and qualified audit opinion (AO) have a positive relationship.*

H2: *Audit quality (AQ) and qualified audit opinion (AO) have a negative association.*

EM_AQ (*earnings management interaction with audit quality – the interaction variable between EM and AQ*) is the variable that plays an important role in testing the impact of the research model with the assumption that auditors in the Big 4 have more opportunities in issuing an adjusted audit opinion in the auditees with the presence of earnings management behavior. This idea has been tested in studies of Monroe and The (1993), Mutchler et al. (1997); Lennox (1999), Bartov et al. (2000). Therefore, the variable of EM_AQ is expected to have a positive relationship with AO. Also consider how the interaction variable AO_AQ is related to earnings management. We design a 3rd hypothesis as below:

H3: *Earnings management (EM) when interacting with audit quality (AQ) and qualified audit opinion (AO) has a positive relationship.*

Control variables

ROA – Firm profitability. According to Keasey et al. (1988), firms whose profits tend to decrease are more likely to receive qualified opinions. Research by Spathis (2003) in Greece with 78% confidence illustrates that any type of audit opinion is influenced by profit information. Caramanis and Spathis (2006) conclude that in case performance is low, managers always manipulate financial statements, auditees are high possibility to receive qualified audit opinions. Kirkos et al. (2007) assure that low-margin firms are high ability to get auditor's report with a qualified opinion. Omid (2015) also has a similar opinion with previous studies that the lower the net profit has, the more audit opinion will be issued.

LOSS (Current year loss) – is a dummy variable used to represent the health of the business, taking the value of 1 when the firm has a loss and taking the value of 0 otherwise. Previous studies (Monroe & Teh, 1993; Dopuch et al., 1987) reveal that there is a linear relationship between LOSS and AQ.

LEV (Leverage – financial leverage) – liabilities to total assets, variable of LEV is included in the model as a factor to measure the health of the firm. According to Mutchler et al. (1997), Carcello et al. (2000), LEV is an important variable in predicting adjusted audit opinion. Therefore, they expect that there is a linear relationship between LEV and AO. Some literature also found impact of leverage on earnings management such as Phuong et al. (2020), Dang et al. (2021), Dang et al. (2017).

INVTA (Proportion inventory) – variable inventory to total assets ratio; RECTA (Proportion receivables – ratio of receivables) – variable ratio of receivables to total assets. INVTA and RECTA are included in the model as control variables for audit effort and risk. According to Bell and Tabor (1991), Dopuch et al. (1987), Monroe and Teh (1993), the ratio of receivables to total assets and the ratio of receivables to total assets will be controlled. Therefore, we propose that there will be a relationship among INVTA, RECTA and AO.

Variables, codings and how to measure them are presented in Table 1.

To achieve the objective, we employ the quantitative method, after fully collecting data of firms listed on the Vietnam Stock Exchange for the period from 2018 to 2020, through using Stata software with Logit regression model for model 1 and GLS for model 2, we present the obtained regression results on the relationship between audit opinion and earnings management behavior of listed firms in the context of emerging countries and Vietnam as the case study.

4.2. Data collection

Table 2 illustrates the research sample; the number of listed firms is 499 in three consecutive years from 2018–2020. We learn that the firms in the observed sample received the highest number of excepted audit opinions in 2019 with 37 qualified opinions. The percentage of auditor's report with a qualified opinion accounted for 6.7%.

Table 2. Summary of audit opinions (source: compilations by the authors)

Audit opinions	Years			Total
	2018	2019	2020	
Unqualified opinion	471	462	463	1,396
Qualified opinion	28	37	36	101
Total	499	499	499	1,497

Figure 1 reveals an auditor's report with a qualified opinion by industry, in which the industry with the highest

Table 1. Variable description

Codings	Variables	Measurement
AO	Audit opinion	Take the value of 1 if the audit opinion is except, otherwise it receives the value 0
EM	Earnings management	Measured at the theoretical basis of the model (Dechow et al., 1995)
AQ	Audit quality	Take the value 1 if the auditor is in the Big 4, otherwise get the value 0
EM_AQ	Interaction variable between Earnings management and Audit quality	
AO_AQ	Interaction variable between audit opinion and Audit quality	
ROA	Profitability	Profit after tax/Total assets
LOSS	Loss in the current year	takes the value of 1 when the company has a loss and takes the value of 0 otherwise
LEV	Financial leverage	Liabilities/Total assets
INVTA	Proportion of inventory	Inventory/Total assets
RECTA	Ratio of accounts receivable	Accounts receivable/Total assets

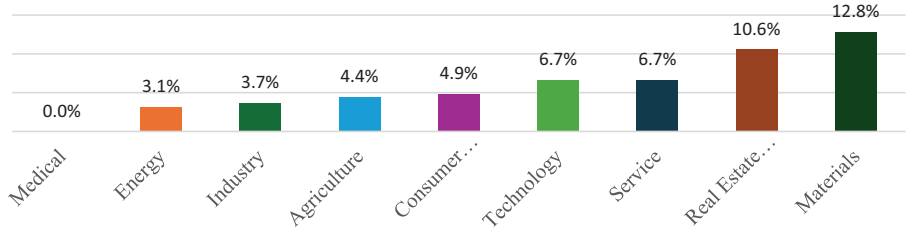

Figure 1. Auditor's report with a qualified opinion by sectors

percentage is the materials industry (12.8%), followed by the real estate and construction industry (10.6%). In contrast, the health sector (0%) does not have a qualified opinion audit report, the next industry with a low rate is the energy industry (3.1%).

We continue to analyze the basis of the audit opinion as presented in Table 3, revealing that the reason for the exception is the failure to obtain appropriate sufficient evidence in 66.9% and the financial statements are material is 33.1%.

Of which, most three common reasons leading to auditors giving a qualified opinion are insufficient audit evidence of receivables and payables (18.6%); investments in subsidiaries, associates and investment provisions (17.2%); and the last is inappropriate recognition of expenses.

5. Results and discussion

Based on Table 4, we learnt that out of a total of 1,497 samples of auditor's report collected, an average of 6.7% auditor's report with a qualified opinion. The variable of EM, representing the earnings management behavior, has an average price of 0.504 and the financial statements audited by the Big 4 has an average value of 28.4%. The ratio of profitability after tax to total assets (ROA) is 5.5%, the number of firms with losses in the current year accounts for 6.1%, the financial leverage ratio is 48.1%, the ratio of inventory over total assets accounted for 19.4%, and accounts receivable was 24.5%.

Data in Table 5 demonstrate that there are of 5 of 7 different and statistically significant determinants that are earnings management (EM), Audit quality (AQ), profitability (ROA), current loss (LOSS) and accounts receivable ratio (RECTA).

Table 6 reveals that auditor's report conducted by Big 4 has a qualified opinion with 3.1% while that of non-big 4 with 8.2%.

To clarify, Figure 2 looks at the level of earnings management across sectors, in which the main sector with a

Table 3. Summary of the basis for issuing a qualified audit opinion

Basis of giving a qualified opinion		Years			Total		
		2018	2019	2020	Number	Ratio	
Insufficient and appropriate audit evidence	Receivables and payables	7	10	10	27	18.6%	66.9%
	Recording revenue and expenses	5	4	5	14	9.7%	
	Net realizable value of inventories, accounts receivables	4	7	8	19	13.1%	
	Investments in subsidiaries, associates, provisions for investments	6	8	11	25	17.2%	
	Not attending the stock take	1	2	0	3	2.1%	
	Others such as fixed assets	3	2	4	9	6.2%	
Existing material misstatements in financial statements	Unsuitable revenue recognition	1	1	2	4	2.8%	33.1%
	Unsuitable expense recognition	5	11	8	24	16.6%	
	No recognition of provisions for inventory, bad debt, investment	4	3	4	11	7.6%	
	Unsuitable recognition of investments in subsidiaries, associates	2	1	2	5	3.4%	
	Others such as going concern, subsequent events	1	2	1	4	2.8%	
Total	Number	39	51	55	145		
	Percentage (%)	26.9%	35.2%	37.9%	100%		

Table 4. Descriptive statistics of variables (source: Authors' calculations)

Variables	Observations number	Mean	Std.	Min	Max
AO	1,497	0.067	0.251	0.000	1.000
EM	1,497	0.504	1.245	0.000	18.744
AQ	1,497	0.284	0.451	0.000	1.000
ROA	1,493	0.055	0.075	–0.471	0.600
LOSS	1,497	0.061	0.240	0.000	1.000
LEV	1,497	0.481	0.224	0.001	0.965
INVTA	1,497	0.194	0.172	0.000	0.836
RECTA	1,497	0.245	0.175	0.000	0.999

high level of profit management is the service (1.007), followed by the industry (0.585). In contrast, the sector with low level of earnings management is the healthcare (0.303), and the consumer goods (0.304).

Table 7 demonstrates the correlation coefficient matrix between dependent and independent variable as well as between the independent variables. We learn that the audit opinion (AO) has a positive correlation with variables of earnings management (EM) with a coefficient of 0.094, a current year loss (LOSS) with a correlation coefficient of 0.2195, and a financial leverage variable (LEV) with correlation coefficient is 0.0118; and receivables (RECTA) correlation coefficient is (0.1067). In contrast, the audit opinion is negatively correlated with the remaining variables of audit quality (AQ), profitability (ROA) and receivables ratio (INVTA). The ratio of inventory to total assets – INVTA has a correlation coefficient with the variable AO of –0.0275 which is opposite to our initial positive expectation. This can be explained by the fact that in recent years, fraudulent acts on financial statements leading to adjusted financial statements are rarely seen in inventory fraud. In addition, in auditing there is a concept of relative assurance. Therefore, if the board of directors of a listed firm adjusts the inventory but is still within the acceptable level, financial statements can still receive a qualified audit opinion. Data in Table 7 show that all the independent variables

Table 5. Test for differences between variables (source: compilations by the authors)

Variables	Auditor's report with a unqualified opinion	Auditor's report with a qualified opinion	t	Pr(|T| > |t|)
EM	0.4722465	0.938994	–3.6535	0.0003
AQ	0.2951289	0.1287129	3.595	0.0003
ROA	0.0589706	–0.0002675	7.7699	0.0000
LOSS	0.0472779	0.2574257	–8.6984	0.0000
LEV	0.4798667	0.4903819	–0.4558	0.6486
INVTA	0.1948184	0.1759707	1.0635	0.2877
RECTA	0.2395322	0.3138457	–4.1509	0.0000

Table 6. Audit opinions issued by audit firm size (source: compilations by the authors)

Years	Big 4 firms		Non Big 4 firms		Total
	Unqualified audit opinion	Qualified audit opinion	Unqualified audit opinion	Qualified audit opinion	
2018	136	4	335	24	499
2019	137	8	325	29	499
2020	139	1	324	35	499
Total	412	13	984	88	1,497
Percentage	96.9%	3.1%	91.8%	8.2%	

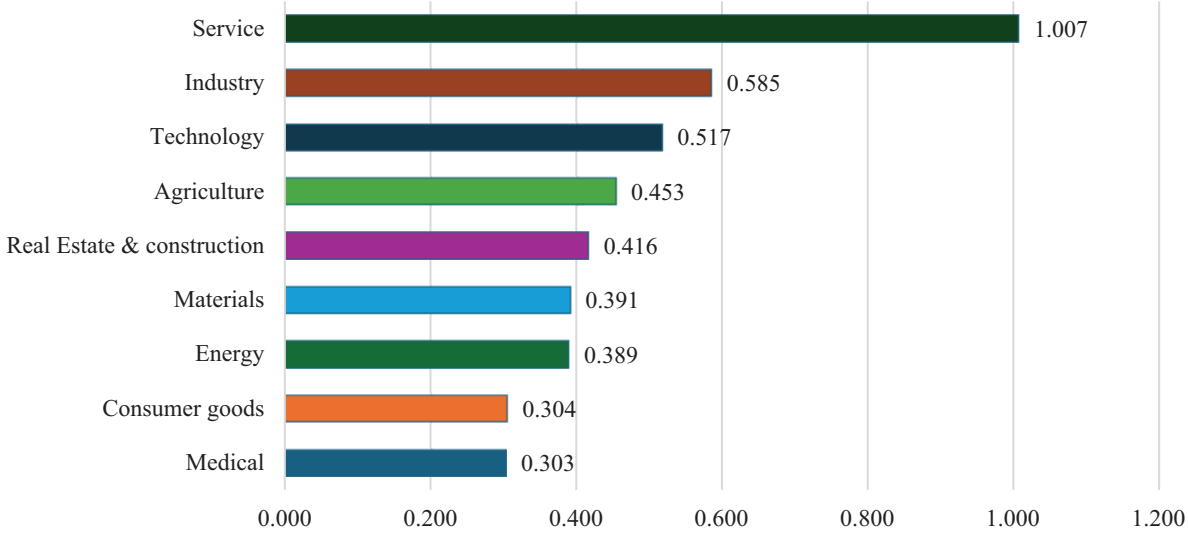

Figure 2. Earnings management by sectors

Table 7. Correlation coefficient matrix between variables (source: compilations by the authors)

	AO	EM	AQ	ROA	LOSS	LEV	INVTA	RECTA
AO	1							
EM	0.0941*	1						
AQ	–0.0926*	–0.1383*	1					
ROA	–0.1973*	0.0021	0.0626*	1				
LOSS	0.2195*	–0.0187	–0.0069	–0.4645*	1			
LEV	0.0118	–0.0536*	0.0269	–0.3608*	0.0178	1		
INVTA	–0.0275	0.0082	0.0529*	–0.0665*	0.0023	0.2912*	1	
RECTA	0.1067*	0.0231	–0.0598*	–0.1876*	0.0074	0.2647*	0.0344	1

Note: t statistics in brackets * p < 0.05.

have correlation coefficients from –0.8 to 0.8. Therefore, multicollinearity is not existed.

For model 1.1, we see that earnings management (EM) has a positive relationship with auditor's report that has a qualified opinion (AO) with a coefficient of 0.358 and has a t-statistical significance of 1% (Table 8). Thus, the regression results from model 1.1 accept the hypothesis H1. It implies that when a listed firm has the higher earnings management behavior, the more likely it is to receive a qualified opinion. In the model 1.1, we add the variable of audit quality (AQ) in order to scrutinize how this factor influences the audit opinion. The results of model 1.2 reveal that audit quality (AQ) has a negative association with auditor's report that has a qualified opinion at the significance level of 1%.

To better clarify the impact of the interaction between earnings management (EM) and audit quality (AQ) on the audit opinion, we consider model 1.3. Table 8 illustrates that the correlation coefficient in the analytical model of the variable AQ is –1.596 and the statistical significance at the significance level is 1%, which means that AQ is opposite to AO. However, the correlation coefficient of EM_AQ has a positive sign (0.532) with statistical significance at 10% significance level. Thus, it can be seen that earnings management increases the likelihood that auditor's reports with a qualified opinion, but if auditor's report is conducted by Big 4 firms, a qualified opinion can be reduced. However, the impact of earnings management (EM) behavior has a stronger than the audit quality factor, so EM_AQ has a positive association with a qualified opinion.

The findings of this investigation agree with prior studies of Monroe and Teh (1993), Mutchler et al. (1997), Lennox (1999), Bartov et al. (2000), Salehnezhad et al. (2017), Tommasetti et al. (2018), Can (2019), and is consistent with the fact that firms with earnings management behavior and audited by reputable auditing firms such as Big 4 firms but received a qualified opinion. For example, Vien Dong pharmaceutical firm – a listed firm in 2009. After that, the firm was found to have material misstatements and be delisted in 2011. However, before the irregularities were detected, Ernst & Young still gave an unqualified opinion of financial statements of 2010. Another case is known as the case of Enron and the auditor is Arthur Andersen.

Table 8. Regression results of model 1 (source: compilations by the authors)

	Model 1.1	Model 1.2	Model 1.3
EM	0.358***	0.372***	0.172
	[2.60]	[2.62]	[1.18]
AQ		–1.425*	–1.596**
		[–1.88]	[–2.28]
EM_AQ			0.532*
			[1.78]
ROA	–10.92**	–10.76**	–12.01***
	[–2.36]	[–2.34]	[–2.78]
LOSS	0.974	1.042	1.432*
	[1.31]	[1.41]	[1.89]
LEV	–1.853	–1.687	–2.366*
	[–1.49]	[–1.39]	[–1.95]
RECTA	2.272*	2.220*	3.273**
	[1.76]	[1.72]	[2.42]
INVTA	–0.572	–0.486	0.279
	[–0.39]	[–0.33]	[0.19]
_cons	–5.527***	–5.359***	–4.938***
	[–5.30]	[–5.19]	[–6.39]
Insig2u	2.544***	2.550***	2.336***
	[5.93]	[5.84]	[8.55]
N	1497	1497	1497

Note: t statistics in brackets * p < 0.1, ** p < 0.05, *** p < 0.01.

Given the results of the control variables, from Table 8, we see that some control variables have statistical significance at a high level of significance (1% to 10%) such as ROA, LOSS, LEV, RECTA but the other control variables were not statistically significant. The profitability (ROA) is a variable that has a negative relationship with the qualified audit opinion, meaning that the firm has a good performance, the possibility to receive a qualified opinion reduces, then improve audit quality. Control variables such as LOSS, LEV, RECTA also affect auditor's report with qualified opinion and this is also agreement with the findings of Monroe and Teh (1993), Dopuch et al. (1987).

To investigate the relationship between earnings management (EM) and audit opinion (AO), we test model 2, where the dependent variable is earnings management

(EM), while the independent variables of earnings management (EM), and audit opinion (AO). The data in Table 9, with all model 2.1, model 2.2 and model 2.3 all reveal that the audit opinion has a positive impact on earnings management (EM) behavior and has statistical significance. Thus, it can be confirmed that hypothesis H1 is accepted. For the factor of audit quality (AQ), the results also conclude that auditees audited by Big 4, the level of earnings management has a negative effect. However, when considering the interaction variable between audit opinion and audit quality (AO_AQ), it illustrates a positive relationship with the coefficient at a high level of 1,341, meaning that for auditor's report with a qualified opinion even though the audit firm is Big 4 or not, the level of earnings management will be high, which indicates that auditees receive a qualified audit opinion, the level of earnings management is high. For the control variable only, profitability has a negative impact on earnings management (EM); and this result is not consistent with some prior studies of Jaggi and Lee (2002), Jaggi and Lee (2002), Lazzem and Jilani (2018), Dang and Tran (2020).

Table 9. Regression results of model 2 (source: compilation by the authors)

	Model 2.1	Model 2.2	Model 2.3
AO	0.493***	0.441***	0.263*
	[3.73]	[3.36]	[1.88]
AQ		–0.355***	–0.405***
		[–5.00]	[–5.62]
AO_AQ			1.341***
			[3.62]
ROA	–0.373	–0.194	–0.186
	[–0.70]	[–0.37]	[–0.35]
LOSS	–0.259*	–0.226	–0.234
	[–1.67]	[–1.47]	[–1.53]
LEV	–0.439***	–0.396**	–0.408**
	[–2.64]	[–2.39]	[–2.48]
RECTA	0.202	0.154	0.147
	[1.05]	[0.81]	[0.78]
INVTA	0.23	0.269	0.269
	[1.18]	[1.39]	[1.39]
_cons	0.624***	0.700***	0.722***
	[5.85]	[6.55]	[6.78]
N	1497	1497	1497

Note: t statistics in brackets * p < 0.1, ** p < 0.05, *** p < 0.01.

6. Conclusions and recommendations

In this investigation, we scrutinize the relationship between adjusted audit opinion and earnings management behavior, based on data collected from 499 non-financial firms listed on the Vietnam Stock Exchange for the multi-year dataset from 2018 to 2020. The method of estimating the regression coefficients employed is the Logit regression for model 1 and the GLS regression for model 2. The results reveal that the firms that has earnings management behavior on the financial statements agrees with a qualified audit opinion in both aspects. Audit quality reduces auditor's reports with a qualified opinion and earnings management. However, the impact level of audit quality is lower when testing the interaction with earnings management or audit opinion, thus still making this relationship is positive.

From the empirical evidence on the relationship between the adjusted audit opinion and the earnings management behavior, the adjusted audit opinion can provide warning signals to investors about the earnings management behavior on the side of management and preparers of financial statements. Thus, the adjusted audit opinion plays an important role in providing useful information to users. The findings of this study, which contribute to solving the current issues of concern, are the value of auditor's report for investors in the context of a developing country like Vietnam.

The results of this research will be lessons learnt for investors when making economic decisions. Understanding the types of opinions in an auditor's report helps investors assess the quality of the earnings of auditees and thereby makes sound economic decisions. In addition, the research is also meaningful for very auditors in conducting audit services for listed firms. When performing an audit of financial statements, the auditor can use analytical techniques to find out whether or not there is an earnings management behavior on the financial statements so as to design appropriate audit procedures. The research has contributed to providing empirical evidence on the relationship between audit opinion and earnings management, which has important implications for users of financial statements, especially for investors on the Vietnam Stock Exchange.

However, the study still has still several limitations as (i) The short research period. If panel data is longer, the findings are more reliable; (ii) The study has provided empirical evidence on the relationship between audit opinion and earnings management behavior on financial statements in non-financial listed firms, while Vietnam's stock market includes many financial firms. Thus, a future study is needed to test the relationship between audit opinion and earnings management behavior on financial statements of financial firms such as banks, financial institutions, insurance firms. Further research on this issue in each specific area with the extension of data duration to ensure the sample size is necessary to detect the differences in the relationship between audit opinions.

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