

# Audit modifications in emerging markets: The Macedonian Stock Exchange

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**Abstract:** *As a vital external governance mechanism, the audit report transmits important information about the entity's performance and reporting quality. Benefiting from a novel dataset, this study is the first paper to evaluate audit report modifications in North Macedonia's emerging economy.*

*Using a sample of 99 nonfinancial listed entities for 2014–2017, we detect that profitability, leverage and report timeliness are significantly associated with audit modifications. Opinions depict a deteriorating trend, whereby qualifications are principally attributable to disagreements with auditee management.*

*Regulators could further focus on the precision in defining audit materiality, especially in reports with multiple qualifications yet lacking negative opinion.*

**Keywords:** *audit opinion, audit qualifications, audit modifications, financial indicators, Macedonian Stock Exchange;*

**JEL Classification:** *M41, M42*

## 1. Introduction

With corporate governance staying in the focus of research attention over the past several decades, auditing has not fallen short of staying in the headlights given its vital role of a monitoring mechanism. Hence, the core aim of this study is to investigate the impact that auditee and audit firm variables have in predicting modifications in the audit opinion. Auditors are engaged to prepare an independent opinion on the financial statements' conformity with the generally accepted accounting principles. This assurance is aimed at reducing agency costs (Xiao, Yang, & Chow, 2004) and data asymmetry between owners and managers and protecting from insider trading (Newman, Patterson, & Smith, 2005). Hence, auditing contributes to the quality of financial information by detecting and reporting misstatements in the annual reports of entities (Becker, Defond, Jiambalvo, & Subramanyam, 1998; Watts and Zimmerman, 1983; DeAngelo, 1981).

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A positive or unqualified audit opinion signifies that the audited financial statements give a true and fair view of the auditee's financial position and results while in compliance with the relevant reporting framework. Should these conditions not be fulfilled, the auditor will issue a modified opinion whereby the modifications will depend on the severity of the detected material errors and omissions, scope limitations, and process or operation uncertainties. Auditors' reputation is at stake should misstatements in their clients' financial data go undetected and misreported, not disregarding the stress of litigation and its related costs (Hennes, Leone, & Miller, 2010; Thompson & McCoy, 2008). Recent corporate scandals and global financial downturns have emphasized even more the need for quality financial accounting to feed capital markets and auditing as its verification mechanism (Dechow, Ge, & Schrand, 2010), provoking interest from numerous scholars. An ample body of literature is aimed at studying the determinants of audit opinion (Wu, Hsu, & Haslam, 2016; Svanberg & Öhman, 2014; Ettredge, Fuerherm, Guo, & Li, 2017; Boone, Khurana, & Raman, 2010; Chen, Sun, & Wu, 2010; Butler, Leone, & Willenborg, 2004; Carey & Simnett, 2006; Chan, Lin, & Mo, 2006; Choi, Doogar, & Ganguly, 2004; Craswell, Stokes, & Laughton, 2002; DeFond, Raghunandan, & Subramanyam, 2002; Dopuch, Holthausen, & Leftwich, 1987; Francis & Yu, 2009; Gaeremynck, Van Der Meulen, & Willekens, 2008; Geiger & Rama, 2006; Kothari, Leone, & Wasley, 2005; Francis, 2004; Mutchler, 1985; Mutchler, Hopwood, & McKeown, 1997; Reichelt & Wang, 2010; Reynolds & Francis, 2000). These authors explore multiple auditee and auditor variables and their effect on the audit opinion. However, not much is known about developing markets, which is where this study belongs. No research has been conducted thus far to study the determinants of audit opinion in North Macedonia. Therefore, this article will fill the much-needed research gap.

The 2014-2018 data extracted from the official site of the Macedonian Stock Exchange (hereinafter MSE) indicate that audit modifications need to be studied more diligently given the sharp upsurge in the rate of audit modifications. Namely, the rate of audit modifications in the observed reports has increased from 54.1% in 2014 to 59.1% in 2018, thus raising reasons for concern and further study. To do so, we will cover a database of 465 audited annual financial statements of non-financial companies traded publicly on the MSE. By looking into the determinants of audit opinion using multivariate analysis, we will be able to compare financial reporting and assurance practices with experiences in other emerging countries and even globally. Moreover, arising challenges will be better answered by financial managers, auditors and regulators should particular drivers be detected. The legislation foresees a fiscal year-end that corresponds with the calendar end of the year, thus obliging legal entities to prepare their annual accounts as of the 31 December. As for the audit report, this paper will distinguish between two separate classifications: qualified opinion as per ISA 705 encompassing audit qualifications, adverse and disclaimers of opinion and modified opinion which, as a larger category, includes uncertainties, regulatory issues, qualifications, and emphases of matter disseminated by the auditor.

There are multiple reasons why understanding of the audit opinion drivers is of undisputed importance, especially in markets that strive to progress and go past the developing stage. Quality audits are a prerequisite for financial investments and financial decisions given the assurance they provide in the reliability of financial data communicated to the wider public, which accentuates auditing as an important social control mechanism (Skinner & Srinivasan 2012; Richard 2006). Restoring public trust in the ability of auditors to assure against fraud and misstatements and to defend against manipulations that harm investors and shareholder rights spurs fiery debates amongst scholars (Fischbacher & Stefani 2007; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2000). Capital market activities can be eased by lower litigation risks following quality audits which leads to lower cost of capital and higher company cash flows given the inverse relationship between these two elements (Barton 2005; Bushman & Smith 2003). The current study enriches the accounting literature by examining the audit components of entities in an emerging economy, not disregarding elaborate descriptive statistics of the variables observed.

The remainder of this article is organized in the following manner. Section 2 gives an overview of the existing literature and develops the hypotheses. Section 3 details the research methodology, describes the sample, and lays out the empirical model employed for hypotheses verification. Section 4 presents the research results. The last section wraps up with conclusions and considerations for future research.

## **2. Research hypotheses**

Previous researches have employed different financial variables for the purpose of assessing audit opinion expectations (Moalla, 2017; Garcia-Blandon & Argiles, 2015; Spathis, Doumpos, & Zopounidis, 2002, Spathis, Doumpos, & Zopounidis, 2003; Laitinen & Laitinen, 1998; Dopuch et al., 1987). There is an intrinsic relationship between financial variables and financial statements given that auditors express their opinion on the financial statements of the audited entity. Therefore, the objective of this article is to develop a model that will help predict or explain modifications in audit reports. This study complements the research carried out by authors like Spathis et al. (2002, 2003), Laitinen and Laitinen (1998) and encompasses a set of financial and non-financial variables in order to explore the association between:

- the audit opinion modifications and,
- the auditee performance measured by liquidity, leverage, profitability, current year loss, the auditee operational complexity measured by inventory, receivables and intangibles employed, the auditee efficiency and asset funding, the auditee size and sector, the audit firm size and audit report timeliness.

We will hereby proceed with a presentation of the variables encompassed in our study by relating them to the existing literature.

## **2.1. Dependent variable: Audit opinion**

The process of auditing is initiated with client acceptance and finishes with the dissemination of the audit report. The audit report is hence the communication means between auditors and various stakeholders inside and outside the audited entity, providing information on the auditing process and its outcome – the audit opinion (Geiger & Raghunandan, 2002). The statutory auditor bases their opinion on the reliability, completeness, and consistency of the audited data, detailing the findings of the auditor as to the faithful representation of the published financial statements and their compliance with the relevant reporting legislation. Specifically, according to ISA 700, Forming an opinion and reporting on financial statements (ISA 700, 2015), aside from assessing material compliance with reporting requirements, the auditor needs to assess the qualitative aspects of the auditee's accounting procedures, not disregarding the presence of any bias in the decisions made by executives. To do so, the auditor assesses if the applied accounting policies are properly disclosed; whether those policies are adequate and compliant with the relevant reporting rules; whether managers implement sound financial estimates; whether the financial statements provide appropriate, reliable, comparable, and comprehensible information about the auditee's performance; whether proper disclosures are made to ease the understanding of the data reported in the annual report; and whether the annual report employs adequate language. The auditor in charge will express an unmodified opinion if they collect reasonable assurance that the financial statements are materially compliant with the pertinent financial reporting framework.

As specified by the ISA 705, Modifications to the opinion in the independent auditor's report, when the auditor cannot issue a positive (unmodified or unqualified) report, they will modify the opinion by issuing a qualified, adverse or a disclaimer of opinion (ISA 705, 2015). These opinions are triggered by the detection of material misstatements or lack of audit evidence to form a positive opinion on the auditee's annual report. Researchers agree that modifications to the auditor's opinion are beneficial to the users of financial statements as they point out particular issues or aspects in the reporting policies of the auditee, but they also safeguard the auditor from regulatory and court procedures (Chen, Martin, & Wang, 2013; Firth, Mo, & Wong, 2014). Should the longevity and financial sustainability of the auditee be questioned, the auditor may emphasize the going concern uncertainty in compliance with ISA 570, Going concern (International Standard on Auditing (ISA) 570 (Revised), Going Concern, 2015). (Vermeer, Raghunandan, & Forgiione, 2013; Czerney, Schmidt, & Thompson, 2014; Christensen, Glover, & Wolfe, 2014; Arnedo, Lizarraga, & Sánchez, 2008; DeFond et al. 2002). Moreover, ISA 701, Communicating key audit matters in the independent auditor's report, stipulates that auditors can speak about other key matters if needed or required by the legislation (ISA 701, 2015), or other pending risks and uncertainties as underlined in ISA 706, Emphasis of matter paragraphs and other matter paragraphs in the independent auditor's report (ISA 706, 2015). The circumstances that call for an emphasis of matter encompass the need for complementary disclosures, inherent uncertainty or ability to

continue as a going concern, information inconsistencies, and events after the reporting period.

As per article 154 of the Macedonian Law on securities, the financial statements of MSE-listed entities need to be made available to the various stakeholders in search of reliable data for analysis and investment. Hence, it is of vital meaning to assess the determinants that influence the auditor's opinion in this country. For the purposes of the current research, we will distinguish between audit qualifications and audit modifications. Audit qualifications (AQ) encompass qualified opinion, adverse opinion and disclaimer of opinion whereas audit modifications (AM) go beyond the afore-mentioned opinion types to also include unqualified audit reports containing emphasis of matter or other key audit matter paragraphs (that is, explanatory paragraphs). Ergo, this study will observe audit modification determinants and will therefore go one step further from an examination of going concern opinions that have been in the focus of authors like Carson et al. (2013), DeFond, Francis, and Hu (2011), DeFond and Lennox (2011), Numan and Willekens (2012), Boone et al (2010) and many others.

## **2.2. Explanatory variables**

### *2.2.1. Size of the audit firm*

In spite of the public importance of auditing as a social control mechanism, business sustainability spurs a competition amongst audit companies (Behn, Carcello, Hermanson, & Hermanson, 1999). In this environment, KPMG, PricewaterhouseCoopers, Deloitte and Ernst & Young – otherwise known as the Big 4 firms - maintain a diversified client portfolio that fortifies their confidence in repulsing pressure from the client's management on aggressive reporting policies and decisions. On the other hand, smaller and local audit companies tend to rely more on particular clients as sources of income and may therefore be exposed to larger pressure from client executives (Ding & Jia, 2012; Kim, Chung, & Firth, 2003). Credibility determines the value financial reporting brings to financial statement users. Hence, auditing pursues the goal of improving the quality of accounting data, which emphasizes the need to properly measure the quality of the audit conducted.

Researchers have come forth with various empirical measures of audit quality, which mainly focus on the size of the audit firm, the duration of the relationship between the auditee and the audit firm, and industry specialization of the auditor. Authors like Mareque, López-Corrales, and Fiestras (2015) subdivide audit firms into multinationals, nationals and individual auditors. This study follows the classification used by Mareque, López-Corrales, and Pedrosa (2017) or Xu, Jiang, Fargher, and Carson (2011) - Big 4 versus other audit entities.

Salehi and Mansoury (2009), Xiao et al. (2004), Houmes, Dickins, and O'Keefe (2012), Menon and Williams (2004), Lennox (1999), Palmrose (1986) and many others claim that big audit companies deliver audits with better quality given the resources, employee talent and technological means at their disposal. Naser (1998) adds that safeguarding the reputation that the big audit companies enjoy also creates pressure to ensure superior assurance. Becker et al (1998), Teoh and Wong (1993) indicate the existence of a better earnings quality when a company is audited by a Big 4 firm. Quite on the contrary, Azim (2013) finds that the Big 4 firms in Australia display a higher tendency in issuing unqualified opinions in comparison to local auditors. Nonetheless, authors such as Knechel, Naiker, and Pacheco (2007) and Che-Ahmad and Houghton (1996) disapprove the use of the brand name as a measure of audit quality and reputation (Marnet, 2008), where price differences in global versus local firms indicate the existence of an oligopoly rather than quality.

This article categorizes audit entities into two groups: global auditors represented by the Big 4 and local audit firms. The local audit firms are smaller entities that mainly operate on the national level and are registered as limited liability firms with a single or multiple owners.

Given the aforesaid, we can formulate the next hypothesis:

H1: There is a positive association between big audit firms and audit modifications.

The audit firm size is presented as a dichotomous variable that takes the value 1 in the case of Big 4 and 0 in the case of local auditors.

### *2.2.2. Audit timeliness*

Any prolongation of the audit report dissemination decreases the value and quality of the financial information laid out in the annual reports and impedes on the quality of decisions made using the communicated information. Reporting delays may trigger insider trading (Brown, Dobbie, & Jackson, 2011) and reliance on other information sources. Moreover, unexpected audit delays may lower the quality of information (Knechel & Payne, 2001), a characteristic that becomes even more requisite in emerging economies strangled by multi-level hurdles.

Audit timeliness is calculated as the number of days between the fiscal year-end and the publication of the audit report (Davies & Whittred, 1980; Dyer & McHugh, 1975). Karim, Ahmed, and Islam (2006) relate the reporting timeliness to two factor groups—exterior factors, such as legislation and competition, and interior causes, such as auditee characteristics. They further subdivide the time needed to publicly disseminate the audit opinion into three sub-periods: audit procedure, opinion publication, and overall timeliness. Considering the afore-mentioned, we can formulate the following hypothesis:

H2: There is a positive relationship between audit delay and audit modifications.

This paper defines timeliness as LAG measured as the number of days between the fiscal year-end and the audit report publication date.

### 2.2.3. Profitability and current-year loss

Relying on previous research (Spathis et al., 2002, 2003; Laitinen and Laitinen, 1998; Krishnan and Krishnan, 1996), our model retains variables describing auditee financial health - profitability, current year loss, liquidity, default risk and operating risk – in order to assess their impact on the audit opinion. Financial ratios and financial variables are an intrinsic part of financial statements. As profitability is a measure of the going concern capacity of the auditee, numerous authors have embarked on examining the relationship between qualified audit opinions and profitability. Profitability is a gauge of whether favorable news is reported on the operations of an entity (Ashton, Willingham, & Elliott, 1987). Caramanis and Spathis (2006), Loebbecke, Eining, and Willingham (1989), Summers and Sweeney (1998), Beasley, Carcello, and Hermanson (1999), Spathis (2002) find a negative association between profitability and audit qualifications, while Spathis (2003) and Dopuch et al (1987) establish a positive association between current-year loss and audit modifications. Chan and Walter (1996) argue that the detection of errors is higher in risky entities as auditors dedicate greater attention to the assurance process. This helps reduce the risk of post-audit litigation from shareholders and other financial statement users.

Hence, we can define the following two hypotheses:

H3: There is a negative relationship between profitability and audit modifications.

H4: There is a positive relationship between current-year loss and audit modifications.

Moalla (2017) uses return on assets (ROA) and return on equity (ROE) as indicators of auditee profitability. ROCE is the profitability measure applied in our model as this ratio analyzes profitability in relation to the company's debt and equity thus neutralizing performance analysis for indebted entities.

Loss is another proxy for financial well-being and is presented as a dichotomous variable where auditees reporting a current-year loss are given the value of 1, whereas auditees with a positive bottom line are given the value of 0.

### 2.2.4. Liquidity

Liquidity ratios are yet another measure of financial stability. There is a higher likelihood for an audit qualification to be issued when the financial well-being of the auditee is in question (Spathis, 2003). Liquidity measures the company's ability to pay pending liabilities as they mature and is an essential ingredient in all financial statement assessments. Auditees with

endangered liquidity that do not pay dividends or report material contingent liabilities are more prone to receiving a qualified opinion than other entities, as evidenced by Ireland in the UK (2003). Nonetheless, the same author finds that high liquidity may increase the likelihood of an audit qualification due to overstatement of assets (Ireland, 2003). Nelson, Ronen, and White (1988) find entities on the verge of liquidity are categorized as risky and thus call for more diligent assurance procedures.

Based on this discussion, we can define the following hypothesis:

H5: There is an inverse relationship between liquidity and audit modifications.

For the purpose of this research, we measure liquidity using the current ratio (CR) whereby higher values indicate larger capacity to clear maturing debts.

#### *2.2.5. Default risk*

Financial risk may also be measured using indebtedness indicators. Therefore, in addition to the afore-described financial variables, we will employ a variable indicating the overall auditee financial strength in the long-term representing solvency. In general, the higher the debt ratio, the higher the usage of loans as a means of asset financing, and the higher the auditee riskiness. The use of such an indicator originates from previous research indicating that entities with a high default probability are more prone to receive a qualified opinion (Keasey, Watson, & Wynarczyk, 1988) as their ability to proceed as a going concern is under question (Reynolds & Francis, 2000; Krishnan & Krishnan, 1996; McKeown, Mutchler, & Hopwood, 1991). Dopuch et al (1987) find a positive correlation between default risk and audit qualifications.

Hence, this article will employ leverage as a proxy of the auditee's default probability.

H6: There is a positive relationship between leverage and audit modifications.

This article will use the debt ratio as a proxy for solvency and default risk. The debt ratio is calculated as total liabilities divided by total assets.

#### *2.2.6. Control variables*

The control variables selected for our paper are based on previous research. Previous research stipulates that auditee executives may manipulate stock levels in the case of inventory-intense businesses (Vanasco, 1998; Persons, 1995). Hence, Receivables to Sales (REC) and Inventory to Total Assets (INV) are encompassed as variables that indicate an elevated operating risk and a need for higher audit diligence and resources, although these measures do not necessarily indicate low quality.

Azim (2013) explores industry classification as a determinant of audit opinion and finds that during and after periods of crisis, modified reports tend to dominate in industries working with

supplies and production, not disregarding financial services entities. Furthermore, given the attractive fees that audit firms charge from big clients, large auditees may receive less audit modifications. Nonetheless, one should not disregard the increased lawsuit risks stemming from such clients (Reynolds & Francis, 2000). Consequently, the size of the auditee as measured by the natural logarithm of total assets for the current year  $\text{Ln}(\text{ASSETS})$ , the auditee industrial classification (MANUF), and the natural logarithm of Intangibles  $\text{Ln}(\text{INTAN}+1)$  are used as proxy for inherent audit complexity.

We also include the net asset turnover ratio to measure the efficiency in generating revenue by employing the company net assets. Extremes indicate incompetent operations management whereby high figures speak of insufficient investments whereas low benchmarking figures suggest lack of productive management. Debt and equity issued is another control variable that indicates whether the auditee obtained new sources of funding in the observed year, whether it be borrowings or owner-financing. Prior literature indicates that entities raising external funding benefit from quality audits (Lennox & Pittman, 2010; Willenborg, 1999), making us believe that the increased scrutiny will lead to better detection and presentation of uncertainties or misestimates in the form of audit report modifications.

Table 1 summarizes the previously described variables used in our empirical analysis, along with their definitions, and expected results.

**Table 1. Variables affecting the probability of an auditee receiving audit opinion modifications**

Variable	Indicator used	Definition	Expected results
Size of the audit firm	BIG4	PwC: PricewaterhouseCoopers; KPMG: Klynveld Peat Marwick Goerdeler; EY: Ernst & Young; PwC. KPMG, EY, and Deloitte represent the Big 4 audit companies	(+)
Audit timeliness	LAG	Number of days from the fiscal year-end until the publication of the annual audit report	(+)
Profitability	ROCE	Return on capital employed = Earnings before interest and taxes (EBIT)/Capital employed, where Capital employed = Total equity + Long-term liabilities	(-)
Current-year loss	CYLoss	Dummy variable with a value of 1 in case of current-year auditee loss, 0 otherwise	(+)
Liquidity	CR	Current ratio = Current assets/Current liabilities	(-)
Default risk	DR	Debt ratio = Total liabilities/Total assets	(+)
Receivables to Sales	REC	Receivables/Total sales	(+)
Inventory to Total Assets	INV	Inventory/Total assets	(+)
Auditee size	$\text{LnASSETS}$	Natural logarithm of total assets	(+)

Variable	Indicator used	Definition	Expected results
Auditee industrial classification	MANUF	Dummy variable with a value of 1 for entities involved in production, 0 otherwise	(+)
Intangibles	LnINTAN	Natural logarithm of intangible assets calculated as $\text{Ln}(\text{INTAN}+1)$	(+)
Net Asset Turnover	NetAssetTurnover	Sales revenues/Capital employed	(-)
Debt & Equity Issued	Debt&EquityIssued or DEI	Dummy variable with a value of 1 if new debt and equity in the Cash flow statement exceeds 2% of Total assets, 0 otherwise	(+)

As presented in Table 1, we will transform the absolute value of assets and intangible assets into a natural logarithm of assets and natural logarithm of intangibles to better fulfill the postulate of an approximately linear association between variables.

### 3. Empirical research design

#### 3.1. Model development

For this research, we define two regression models: Model 1, logistic regression model, to test the effect of independent variables on the occurrence of non-occurrence of audit modifications and Model 2, linear regression model, to test the effect of independent variables on the number of audit modifications issued in the annual audit report. These two models differ solely in the selected dependent variable. Model 1's dependent variable is presence or absence of audit modifications whereby we consider the audit report to be modified when the audit firm in charge issues a qualified audit opinion, adverse opinion, disclaimer of opinion, or an unqualified opinion with an explanatory paragraph emphasizing going-concern uncertainties, lawsuit uncertainties, future tax audit uncertainties, and/or other regulatory matters. In Model 2, the dependent variable is the number of audit modifications as described previously.

Model 1:

$$\text{Prob}(\text{AM}) = \alpha + \beta_1 \text{CR} + \beta_2 \text{LEVER} + \beta_3 \text{ROCE} + \beta_4 \text{CYLoss} + \beta_5 \text{BIG4} + \beta_6 \text{LAG} + \beta_7 \text{LnASSETS} + \beta_8 \text{MANUF} + \beta_9 \text{INV} + \beta_{10} \text{REC} + \beta_{11} \text{LnINTAN} + \beta_{12} \text{NetAssetTurnover} + \beta_{13} \text{DebtandEquityIssued} + \varepsilon \quad (1)$$

Model 2:

$$\text{Num}(\text{AM}) = \alpha + \beta_1 \text{CR} + \beta_2 \text{LEVER} + \beta_3 \text{ROCE} + \beta_4 \text{CYLoss} + \beta_5 \text{BIG4} + \beta_6 \text{LAG} + \beta_7 \text{LnASSETS} + \beta_8 \text{MANUF} + \beta_9 \text{INV} + \beta_{10} \text{REC} + \beta_{11} \text{LnINTAN} + \beta_{12} \text{NetAssetTurnover} + \beta_{13} \text{DebtandEquityIssued} + \varepsilon \quad (2)$$

where  $\text{Prob}(\text{AM})$  – the dependent variable in Model 1 - takes on the value of 1 if the auditee is issued a modified audit opinion, and 0 otherwise (Model 1),  $\text{Num}(\text{AM})$  – the dependent variable in Model 2 – is measured as the number of modifications issued by the auditor,  $\beta_1$ – $\beta_{13}$ —are the regression coefficients of the explanatory variables; and  $\varepsilon$ —random error. The explanatory variables along with their symbols and definitions are explained in Table I.

### 3.2. Sample selection and data collection

The research sample consists of the non-financial public entities listed on the MSE and assesses a five-year period, 2014-2018, i.e. 465 observations overall. The information was hand-collected whereby most of the missing information was gathered with the help of MSE employees upon request. In accordance with previous research, we exclude banks and insurance companies due to operational and regulatory differences. All variables tested in our two models are extracted from the audited consolidated annual financial reports of the companies that are made publicly available on the electronic reporting system of MSE (<https://www.seinet.com.mk>). During the mentioned time-frame, the companies are compliant with the IFRS and are audited based on IFAC's ISAs. Table 2 summarizes the sample used and the data selection procedure.

**Table 2. Sample selection**

	Publicly traded non-financial entities
Listed non-financial entities	99
Observation timeframe: number of years	5
Total number of observations	495
Incomplete observations: missing audit report	-3
Incomplete observations: delisted firms	-27
<b>Observations with complete data</b>	<b>465</b>

As depicted in Table 2, 30 observations were also excluded due to lacking data or delisting of entities.

## 4. Results

### 4.1. Descriptive statistics

We hereby present the descriptive analysis of our sample.

**Table 3. Distribution of audit opinion types during 2014-2018**

Years	Unqualified report		Unqualified report with emphasis of matter		Adverse		Qualified report		Disclaimer		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.
2014	45	45.9	11	11.2	0	0.0	38	38.8	4	4.1	98
2015	45	47.4	6	6.3	1	1.1	42	44.2	1	1.1	95
2016	37	39.8	10	10.8	1	1.1	43	46.2	2	2.2	93
2017	36	39.6	10	11.0	2	2.2	39	42.9	4	4.4	91
2018	36	40.9	12	13.6	3	3.4	36	40.9	1	1.1	88
<b>Total</b>	<b>199</b>	<b>42.8</b>	<b>49</b>	<b>10.5</b>	<b>7</b>	<b>1.5</b>	<b>198</b>	<b>42.6</b>	<b>12</b>	<b>2.6</b>	<b>465</b>

Source: own calculations

Table 3 depicts that over the observed 5-year period 42.8 percent of the opinions issued were clean, i.e. unqualified with no emphasis paragraphs. When inspecting the annual development, the drop in the number of clean opinions is noticeable, whereby the highest percentage of clean opinions stands out in 2015, and the lowest percentage in 2017. There are not many adverse opinions and disclaimers given that they participate with 4.1 percent in the overall 5-year observations. The greatest portion of the sample consists of qualified reports (i.e. 42.6 percent), followed by a growing number of unqualified opinions with emphasis paragraphs (i.e. 10.5 percent).

The rate of modified reports exceeds by far the rates detected by other researchers. Azim (2013) finds that unqualified opinions are predominant in Australia given the rate of 96.4% over a period of 15 years whereby the Big 4 firms display a higher tendency in issuing unqualified opinion in comparison to local auditors. During and after periods of crisis, modified reports tend to dominate in industries working with supplies and production, also joined by financial services entities. Unqualified reports dominate the Maltese market with 76.5% of the tested sample (Baldacchino, Bezzinab, Tabonea, & Vassallo, 2020), unlike Moalla's findings in Tunisia that indicate a rate of 46.8% in favor of audit modifications either by a qualification or by an emphasis paragraph (2017).

**Table 4. Descriptive statistics of the Model 1 and 2 variables**

	Minimum	Maximum	Mean	SD	Total number
<b>Predictors</b>					
LAG	36	374	117.06	38.980	465
LnASSETS	7	17	13.21	1.525	465
CR	.00	124.41	4.4023	9.99557	465
LEVER	.00	281.88	2.0925	17.38830	465
ROCE	-3.57	3.65	.0266	.34097	465
LnINTAN	.00	14.81	4.3163	4.24271	465
INV	.00	.71	.1322	.13913	465

	Minimum	Maximum	Mean	SD	Total number		
REC	.00	105.38	1.3610	8.11549	465		
NetAssetTurnover	-35.03	24.26	.7964	2.74533	465		
<b>Dependent variable, Model 2</b>							
NumAM	0	12	1.52	2.029	465		
		<i>n</i>	%	<i>n</i>	%	<b>Total number</b>	
<b>Dependent variable, Model 1</b>							
Modified audit reports	No modifications	199	42.8	With modifications	266	57.2	465
<b>Predictors:</b>							
Audit firm size	Big4	55	11.8	Non-Big4	410	88.2	465
Loss in current year	Loss	133	28.6	Profit	332	71.4	465
Industrial classification	Manufacturing	271	58.3	Non-manufacturing	194	41.7	465
Debt & Equity Issued	No	335	72.0	Yes	130	28.0	465

Source: own calculations

Audit qualifications are related to disregard for the requirements imposed by certain IAS and IFRS standards in the presentation of the financial data by the companies in our sample.

Audit report qualifications are frequently related to the presentation of inventory in the Statement of financial position. IAS 2 Inventories requires companies to show inventory at the lower of cost and net realizable value, thus leading to overestimated profits and financial position for the observed year. Other auditor remarks indicate that the auditor is appointed following the inventory count date or that the audit firm was not invited to the inventory count.

Quite a few qualifications discuss the issue of investments in associates in the financial statements. The auditors verbalize a doubt that some of these investments recorded at cost are now significantly impaired. This is supported by evidence that the associate entity still exists but without property or functional core business.

Furthermore, some of the year-end financial statements show available-for-sale financial assets consisting of securities and equity shares of legal entities in the country and abroad, initially recognized at cost. However, the auditee failed to make a subsequent assessment of the fair value at the reporting date as per IAS 39 Financial Instruments: Recognition and Measurement. Most of the qualifications conclude that the carrying amount of the securities in the Statement of financial position needs to be reduced in order to reflect the current market value, which leads to overstated financial results and financial position.

Some entities fail to record reservations for uncollectible interest-bearing loans issued to related companies where there is no ground for collection or compensation. In much the same manner, quite a few auditees show outdated receivable balances and refuse to undertake a value adjustment in compliance with IAS 39, thus producing overestimated receivables and financial performance.

Also, some remarks emphasize misstatements in the registered share capital of the auditee given that it is not harmonized with the share capital registered in the Central Register of the Republic of North Macedonia, as well as with the share capital balance recorded in the shareholder book issued by the Central Bank. Under these circumstances, the auditors are unable to obtain reasonable assurance about the amount of the share capital recorded in the Company's statement of financial position.

Moreover, some auditees do not calculate depreciation on property, plant and equipment items, classifying them as investments for sale in accordance with IFRS 5. The correct classification and measurement under IAS 16 requires mandatory depreciation as these assets do not meet the criteria of IFRS 5. This practice leads to overstatement of profits and assets. In some instances, entities recognize assets they do not own which too overstates the asset balance at year-end.

Certain qualifications point out that the audited firm failed to follow the matching principle that stems from the mandated use of the accrual method by IFRS.

Emphasis paragraphs are found in both qualified and unqualified audit reports and are mainly related to going concern matters, annual report publication delays, regulatory and future tax audit uncertainties. In most cases, the audit firm emphasizes the lack of liquidity whereby current liabilities exceed current assets or even no core business revenues, questioning the going concern ability in the foreseeable future. Some paragraphs discuss impending litigations with potentially detrimental consequences to the operations and financial well-being of the auditee.

Moving on to the predictor variables behind our two models, Table 4 shows that it takes on average 117 days to publish the audit report, or close to 4 months, which is in line with the legal requirement for publicly traded entities in North Macedonia (Law on securities, 2018). We depict a delay in 68 audit reports, which constitutes 14.6% of the data sample. 10 of the 68 disputed opinions are delayed by over 6 months, which exceeds the upper legal boundary defined by article 482 of the Trade Company Law (2011). These particular cases are entirely related to qualified reports and opinion disclaimers, which explains the lack of timeliness depicted. Looking into profitability, the research sample ROCE has a mean value of 2.7% indicating a challenging bottom line, a status that is reflected across many developing countries (Moalla, 2017). This stands apart from the average recommended value of 15% by financial analysts worldwide, but may be explained by the exceptionally high liquidity where the current ratio has a mean of 4.4 raising questions about inadequate use of liquid funds. The high current ratio is tightly connected to the high mean of receivables to sales, 136%, which stems from the slow collection of debts from customers the country has been struggling with in the past two decades. An additional concern comes from the default risk measurement represented by the debt ratio in our tests, where the average value revolves around 209% indicating an elevated financial leverage.

## 4.2. Correlation testing

In order to verify the absence of correlation between the explanatory variables, we ran a Pearson correlation test. The outcome displayed in Table 5 indicates the absence of multicollinearity in the two models taking into account the recommended upper value of 0.8 (Landau & Everitt, 2004, p. 116). The maximum value of 0.534 represents the correlation between the auditee size and intangibles, demonstrating that larger entities pursue higher intangible investments.

**Table 5. Pearson's correlation**

	NumAM	MAR	Big4	CYLoss	Ln ASSETS	DEI	CR	LEVER	ROCE	NAT	MANUF	LnINTAN	INV	REC	LAG
NumAM	1														
MAR		1													
Big4	-.078	.007	1												
CYLoss	.293**	.288**	.107*	1											
LnASSETS	-.138**	-.138**	.313**	-.315**	1										
DEI	-.065	.035	.113*	-.034	.198**	1									
CR	-.032	-.103*	-.112*	-.085	-.066	-.142**	1								
LEVER	.012	.089	.243**	.161**	-.234**	-.049	-.050	1							
ROCE	-.060	-.066	.022	-.186**	-.027	.002	.008	-.007	1						
NAT	-.074	-.119*	.079	-.085	.132**	.180**	-.044	-.027	-.175**	1					
MANUF	-.211**	-.115*	.175**	-.092*	.248**	.138**	-.107*	.069	.091*	.054	1				
LnINTAN	-.176**	-.090	.289**	-.174**	.534**	.159**	-.113*	-.093*	.033	.140**	.188**	1			
INV	-.174**	-.162**	.078	-.029	.217**	.172**	-.039	-.074	-.016	.055	.513**	.195**	1		
REC	.157**	.115*	.035	.187**	-.133**	-.068	.003	.218**	-.172**	-.029	.027	-.087	-.090	1	
LAG	.392**	.354**	-.003	.234**	-.159**	.019	-.160**	.069	-.090	-.031	.076	-.150**	.024	.066	1

\*. Correlation is significant at the 0.05 level (2-tailed). \*\*. Correlation is significant at the 0.01 level (2-tailed).

Note: NAT stands for Net Asset Turnover, DEI stands for Debt and Equity Issued.

Source: own calculations

## 4.3. Testing the regression models

Tables 6 and 7 present the Model 2 test results. The null hypothesis can be rejected ( $F(13,451) = 13.287$ ,  $p < 0.001$ ) as at least one of the thirteen explanatory variables depict an association with the number of audit modifications issued. The coefficient of determination has a value of 27.7% indicating that more than one fourth of the number of audit modifications variability can be explained by Model 2.

Table 7 further confirms that several predictor coefficients differ statistically significantly from zero.

Table 6. Model 2 Summary

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R <sup>2</sup> Change	F Change	df1	df2	Sig. F Change	
2	.526	.277	.256	1.750	.277	13.287	13	451	.000	.911

Notes: Predictors: (Constant), NetAssetTurnover, LEVER, CR, INV, ROCE, LAG, DebtandEquityIssued, REC, Big4, CYLoss, LnINTAN, MANUF, LnASSETS

Dependent Variable: NumAM

Source: own calculations

Table 7. Model 2: Linear regression coefficients

Model 2	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
(Constant)	-2.491	.976		-2.552	.011					
<b>LAG</b>	.019	.002	.368	8.658	<b>.000</b>	.392	.378	.347	.888	1.126
Big4	-.480	.294	-.076	-1.634	.103	-.078	-.077	-.065	.732	1.366
<b>CYLoss</b>	.966	.205	.215	4.703	<b>.000</b>	.293	.216	.188	.764	1.309
<b>LnASSETS</b>	.172	.073	.129	2.372	<b>.018</b>	-.138	.111	.095	.539	1.854
CR	.002	.008	.008	.190	.849	-.032	.009	.008	.927	1.079
LEVER	-.003	.005	-.025	-.548	.584	.012	-.026	-.022	.795	1.258
<b>MANUF</b>	-.778	.202	-.189	-3.843	<b>.000</b>	-.211	-.178	-.154	.661	1.513
<b>REC</b>	.029	.011	.117	2.761	<b>.006</b>	.157	.129	.111	.888	1.126
LnINTAN	-.033	.023	-.068	-1.393	.164	-.176	-.065	-.056	.673	1.486
INV	-1.071	.701	-.073	-1.527	.127	-.174	-.072	-.061	.693	1.443
ROCE	.327	.256	.055	1.278	.202	-.060	.060	.051	.869	1.151
Debtand Equity Issued	-.099	.191	-.022	-.518	.604	-.065	-.024	-.021	.900	1.111
NetAsset Turnover	-.011	.031	-.014	-.343	.731	-.074	-.016	-.014	.909	1.100

Dependent Variable: NumAM.

Note: the statistically significant relationships between variables are emphasized with bolded letters.

Source: own calculations

The binary logistic regression testing of Model 1 shows that the percentage of correct classification is 73.1%, whereby the model is significant (LR test:  $X^2(13) = 152.033$ ,  $p < 0.001$ ), indicating that all the regression coefficients are different from zero. The model explains 37.4% (Nagelkerke  $R^2$ ) of the variance in audit modifications. Furthermore, the Hosmer & Lemeshow test of the goodness of fit suggests that Model 1 is a good fit to the data given that  $p=0.117 (>.05)$ .

**Table 8. Model 1: Logistic regression results**

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
<b>LAG</b>	.024	.004	31.936	1	<b>.000</b>	1.025	1.016	1.033
Big4(1)	-.069	.451	.023	1	.879	.933	.385	2.262
<b>CYLoss(1)</b>	.769	.303	6.421	1	<b>.011</b>	2.157	1.190	3.908
LnASSETS	.068	.110	.386	1	.534	1.071	.863	1.328
CR	.006	.012	.221	1	.638	1.006	.983	1.029
<b>LEVER</b>	1.869	.576	10.538	1	<b>.001</b>	6.479	2.097	20.022
ROCE	-.930	.515	3.258	1	.071	.395	.144	1.083
<b>MANUF(1)</b>	-.585	.278	4.427	1	<b>.035</b>	.557	.323	.961
LnINTAN	.021	.035	.384	1	.535	1.022	.955	1.093
<b>INV</b>	-2.844	.987	8.302	1	<b>.004</b>	.058	.008	.403
REC	.314	.197	2.547	1	.111	1.368	.931	2.011
<b>NetAssetTurnover</b>	-.256	.077	11.029	1	<b>.001</b>	.774	.666	.901
DebtandEquityIssued(1)	.369	.256	2.071	1	.150	1.446	.875	2.388
Constant	-3.591	1.473	5.942	1	.015	.028		

Note: the statistically significant relationships between variables are emphasized with bolded letters.

Source: own calculations

Per Table 8 we can conclude that LAG ( $p = .000$ ), CYLoss ( $p = .011$ ), LEVER ( $p = .001$ ), MANUF ( $p = .035$ ), INV ( $p = .004$ ), and Net Asset Turnover ( $p = .001$ ) add significantly to Model 1. Table 7 establishes that LAG ( $p = .000$ ), CYLoss ( $p = .000$ ), LnASSETS ( $p = .018$ ), MANUF ( $p = .000$ ), and REC ( $p = .006$ ) add significantly to Model 2, thus establishing corresponding results to Model 1 in the case of three explanatory variables.

We can therefore confirm H2 that there is a positive relationship between audit delay and audit modifications, which is in line with previous research (Srbinoska & Srbinoski, 2021; Keasey et al., 1988). Audit qualifications depict an unfavorable attitude towards the operating activities of the auditee, whereby the auditee necessitates more time to conform to auditor requirements, thus prolonging the audit tests and procedures (Francis, 1984; Behn, Kaplan, & Krumwiede, 2001). Audit modifications require a larger audit effort in order to better inspect dubious accounts and to protect the auditor from negligence claims and potential court procedures.

We can further confirm H4 and state that there is a positive relationship between current-year loss and audit modifications, a finding equally confirmed by both models. This finding is compatible with the research conducted by Moalla (2017), Spathis (2003), and Dopuch et al (1987) who detect an association between qualifications and loss, confirming the assumption that companies that profess a negative bottom line are of elevated risk and less likely to receive a clean audit opinion. This is complemented by the significant negative relationship between net asset turnover and the probability of receiving a modified audit report in Model 1, thus confirming that efficient entities are less prone to accounting misstatements and auditor disagreements.

Table 8 confirms the existence of a positive relationship between leverage and audit modifications, as stipulated in H6. These findings are in line with previous research (Moalla, 2017; Dopuch et al., 1987; Laitinen & Laitinen, 1998; Keasey et al., 1988), designating an elevated default risk in case of higher borrowings as a means of asset financing, an aspect that is oftentimes emphasized by auditors in a separate paragraph rather than an audit qualification.

Both models establish a significant negative relationship between manufacturing entities and audit modifications ( $p < 0.05$ ), quite the opposite to Azim (2013) and in line with Moalla (2017) who established the same kind of association in the Tunisian food industry sector. This is in line with the significant negative association between inventory to total assets ratio and the probability of receiving a modified audit opinion given that inventories are a property of production-based entities. The result was looked into more detail and can be explained by the larger profitability in manufacturing companies that was confirmed with an independent-samples t test ( $p < 0.05$ ). Furthermore, we established a significant positive association between auditee size and audit modifications in Model 2 which may be explained by the larger complexity involved in big client audits, and by the fact that auditors cannot disregard the increased lawsuit risks from these clients. The finding is entirely consistent with Ireland (2003), Moalla (2017), and Laitinen and Laitinen (1998).

Lastly, both models depict a positive relationship between receivables to sales ratio and audit modifications, whereby Model 2 establishes a significant association between these two variables. This finding is aligned with the arguments put forth by Sundgren (1998) and Dopuch et al. (1987) who emphasize the perils of working with receivables. Although slow collection and elongated receivables outstanding periods are a major burden of the Macedonian economy, we can still deduct that companies offering a longer payment benefit to customers bear larger operating perils due to lost profits. This is further confirmed by our independent-samples t test that linked current year loss and receivables whereby we established a significant result indicating that the mean of the companies expressing a current year profit is significantly lower than the receivables mean of companies with a negative bottom line.

Contrary to Lennox (1999), Keasey et al (1988), and Xu et al.'s (2011), no relationship was established between audit modifications and audit firm size, refuting H1. As in Caramanis and Spathis (2006), we detect no audit quality difference between Big 4 and local auditors. That is, audit modifications are rather related to the characteristics of the audited firm and not to the auditor.

Again, contrary to Keasey et al (1988), we establish the lack of association between profitability and audit modification, leading to the rejection of H3. As in Moalla (2017), Macedonian entities are not highly profitable overall which may explain the lack of association between the two variables. Nonetheless, professing a negative bottom line

sends out an unfavorable message to the public in a more extreme context, and helps elucidate the positive relationship between current-year loss and audit modifications.

Lastly, we reject H5 as we find no significant correlation between liquidity and audit modifications, although the two models establish an insignificant straight-line relationship. The positive association can be explained by the fact that receivables form a large portion of Macedonian companies' current assets, an account found to be risky and endangering to the bottom line in our study as well as in prior research. The H5 result is quite opposed to the findings of Moalla (2017), Caramanis and Spathis (2006), and Chan and Walter (1996).

#### 4.4. Additional testing

We ran additional tests in order to check the robustness of our models. We thereby define two additional regression models: Model 1a, logistic regression model, to test the effect of independent variables on the occurrence of non-occurrence of audit qualifications and Model 2a, linear regression model, to test the effect of independent variables on the number of audit qualifications in the annual audit report. These two models differ from Models 1 and 2 solely in terms of the dependent variable

Model 1a:

$$\text{Prob(QAR)} = \alpha + \beta_1 \text{ CR} + \beta_2 \text{ LEVER} + \beta_3 \text{ ROCE} + \beta_4 \text{ CYLoss} + \beta_5 \text{ BIG4} + \beta_6 \text{ LAG} + \beta_7 \text{ LnASSETS} + \beta_8 \text{ MANUF} + \beta_9 \text{ INV} + \beta_{10} \text{ REC} + \beta_{11} \text{ LnINTAN} + \beta_{12} \text{ NetAssetTurnover} + \beta_{13} \text{ DebtandEquityIssued} + \varepsilon \quad (1a)$$

Model 2a:

$$\text{Num(AQ)} = \alpha + \beta_1 \text{ CR} + \beta_2 \text{ LEVER} + \beta_3 \text{ ROCE} + \beta_4 \text{ CYLoss} + \beta_5 \text{ BIG4} + \beta_6 \text{ LAG} + \beta_7 \text{ LnASSETS} + \beta_8 \text{ MANUF} + \beta_9 \text{ INV} + \beta_{10} \text{ REC} + \beta_{11} \text{ LnINTAN} + \beta_{12} \text{ NetAssetTurnover} + \beta_{13} \text{ DebtandEquityIssued} + \varepsilon \quad (2a)$$

where Prob(QAR) – the dependent variable in Model 1a - takes on the value of 1 if the auditee is issued a qualified audit opinion, and 0 for unqualified audit opinion with or without emphasis and/or other regulatory paragraphs, Num(AQ) – the dependent variable in Model 2a – is measured as the number of qualifications issued by the auditor,  $\beta_1$ –  $\beta_{13}$ —are the regression coefficients of the explanatory variables; and  $\varepsilon$ —random error. The explanatory variables along with their symbols and definitions are explained in Table 1.

Tables 9 and 10 present the test results for Models 1a and 2a. We can reject the null hypothesis ( $F(13,451) = 9.806, p < 0.001$ ). The coefficient of determination shows that our predictors explain 22.0% of the dependent variable variability.

Table 9. Model 2a: Linear regression coefficients

Model 2a	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
(Constant)	-2.298	.903		-2.547	.011					
<b>LAG</b>	.013	.002	.287	6.515	<b>.000</b>	.311	.293	.271	.888	1.126
Big4	-.505	.272	-.090	-1.859	.064	-.101	-.087	-.077	.732	1.366
<b>CYLoss</b>	.645	.190	.161	3.393	<b>.001</b>	.227	.158	.141	.764	1.309
<b>LnASSETS</b>	.192	.067	.162	2.859	<b>.004</b>	-.090	.133	.119	.539	1.854
CR	-.003	.008	-.018	-.411	.681	-.038	-.019	-.017	.927	1.079
LEVER	-.005	.005	-.052	-1.113	.266	-.031	-.052	-.046	.795	1.258
<b>MANUF</b>	-.577	.187	-.158	-3.081	<b>.002</b>	-.207	-.144	-.128	.661	1.513
<b>REC</b>	.025	.010	.114	2.591	<b>.010</b>	.151	.121	.108	.888	1.126
<b>LnINTAN</b>	-.048	.022	-.112	-2.207	<b>.028</b>	-.180	-.103	-.092	.673	1.486
<b>INV</b>	-1.362	.648	-.105	-2.101	<b>.036</b>	-.187	-.098	-.087	.693	1.443
ROCE	-.219	.236	-.041	-.928	.354	-.142	-.044	-.039	.869	1.151
DebtandEquityIssued	-.125	.176	-.031	-.708	.480	-.067	-.033	-.029	.900	1.111
NetAssetTurnover	.009	.029	.013	.298	.766	-.025	.014	.012	.909	1.100

Dependent Variable: NumAQ

Note: the statistically significant relationships between variables are emphasized with bolded letters.

Source: own calculations

The Model 1a regression tests show a correct classification of 67.3%, whereby the model is significant (LR test:  $X^2(13) = 89.272$ ,  $p < 0.001$ ). The model explains 23.3% (Nagelkerke  $R^2$ ) of the variance in audit qualifications and is confirmed by the Hosmer & Lemeshow test of the goodness of fit given that  $p=0.077$  ( $>.05$ ).

Table 10. Model 1a: Logistic regression results

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
<b>LAG</b>	.019	.004	26.696	1	<b>.000</b>	1.019	1.012	1.026
Big4(1)	-.286	.372	.593	1	.441	.751	.362	1.557
<b>CYLoss(1)</b>	.563	.261	4.676	1	<b>.031</b>	1.757	1.054	2.927
LnASSETS	.054	.092	.346	1	.556	1.056	.881	1.265
CR	-.012	.012	.945	1	.331	.988	.966	1.012
<b>LEVER</b>	-.061	.030	4.155	1	<b>.042</b>	.940	.886	.998
ROCE	.107	.421	.065	1	.799	1.113	.487	2.542
MANUF(1)	-.124	.256	.234	1	.629	.883	.535	1.460
LnINTAN	-.046	.030	2.318	1	.128	.955	.900	1.013
<b>INV</b>	-2.945	.927	10.098	1	<b>.001</b>	.053	.009	.323
REC	.119	.068	3.101	1	.078	1.127	.987	1.287
NetAssetTurnover	.031	.041	.577	1	.447	1.031	.952	1.117
DebtandEquityIssued(1)	.294	.237	1.544	1	.214	1.342	.844	2.134
Constant	-2.549	1.247	4.179	1	.041	.078		

Dependent Variable: NumAQ

Note: the statistically significant relationships between variables are emphasized with bolded letters.

Source: own calculations

Table 9 depicts significant coefficients in seven variables: LAG ( $p = .000$ ), CYLoss ( $p = .001$ ), LnAssets ( $p = .004$ ), MANUF ( $p = .002$ ), REC ( $p = .010$ ), LnINTAN ( $p = .028$ ), and INV ( $p = .036$ ). Per Table 10, LAG ( $p = .000$ ), CYLoss ( $p = .031$ ), LEVER ( $p = .042$ ), and INV ( $p = .001$ ) add significantly to Model 1a, thus establishing rather corresponding results to Models 1 and 2 regarding drivers behind qualifications in audit reports. That is, the number of qualifications issued are driven by the audit delay, bottom line result, default risk, and level of inventories, whereas the probability of receiving an audit qualification depends on the audit timeliness, auditee bottom line result, size, level of intangibles, industry classification, as well as the level of inventories.

## 5. Concluding remarks

The core objective of this study is to assess the Macedonian audit report modifications for the period 2014-2018 by looking into the audited annual reports of a sample of 99 non-financial entities listed on the MSE, embracing an eligible sample of 465 observations. At the same time, we sought to develop a model to predict the issuance of audit modifications by encompassing information about the auditee and the audit firm.

We established that qualifications in the assessed data sample are principally attributable to disagreement with auditee management regarding reporting standard interpretation and implementation. Hence, the regression testing confirmed the descriptive statistics observations.

The primary contribution of this research is that it delivers empirical evidence on the development of audit report content in a developing European market. The average clean audit opinion denoted a drop of 20% during the observation five-year period 2014-2018, which spurs a need for an in-depth assessment, especially given the overall low rate of unqualified reports in comparison to other markets (40.9% in 2018). This study contributes to the existing knowledge on audit reports and governance in a developing European economy and has practical implications for auditors as well as financial analysts and regulatory bodies. Auditors will be better able to determine the factors that drive the progress of the audit and test procedures. The model can be implemented at multiple stages in the external assurance process: the beginning of the audit to create expectations about the engagement risk and towards the end to better shape the reporting conclusions. At the same time, analysts, creditors, investors and other interested parties will be able to make decisions based on more meaningful assessments of the financial statements of interest. Regulating agencies could further focus on the precision in defining the level of materiality in audits not only for individual audit qualifications, remarks and findings, but also on an overall level. Materiality concerns can be observed in some of the audit reports that contain multiple qualifications and yet an adverse opinion is not issued.

Nonetheless, there are some limitations to our research findings. We encompassed variables describing the auditor and the auditee, whereby the latter was explored from a financial point of view. Future research could plunge into assessing the impact of corporate governance, not disregarding auditor variables like audit and non-audit fees, auditor age, gender and education which are currently not reported neither by the audit firms, nor by the regulator. Furthermore, future research could go beyond publicly traded entities. Lastly, this study is limited to the legal, political, social and economic context of North Macedonia.

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