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ANTON DE KOM UNIVERSITY OF SURINAME

FACULTY OF SOCIAL SCIENCE

Audit quality and earnings management: Evidence used from companies in Suriname

Thesis to obtain the degree of Master of Science in Accountancy

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Preface

This thesis is written with the purpose of obtaining my Master of Science degree in Accountancy at the Anton De Kom University of Suriname. It is the concluding piece of my two-year education at the beforementioned university. I perceive the skills and knowledge I have gained throughout this study as very valuable components of my future career.

Successfully finishing the writing process of this master thesis would not have been possible without the indispensable help of some people. Therefore, I would like to seize this opportunity to convey my gratefulness. For without them, executing this research, and writing down the results in the way they are written down now, would not have been achievable.

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"*Hard work leads achievement of success*"

Jogieta Sitaram

Paramaribo, February 2022

Abstract

The main aim of this study is to examine the effect of audit quality on earnings management in Suriname companies. Audit quality in this research is measured by three different proxies, i.e., audit tenure, auditor opinion, and auditor industry specialization, while earnings management is measured by discretionary accruals. Meanwhile, leverage of debts and sales of growth are the control variables. The sample involved in this research contains companies listed on the Suriname Stock exchange and consists of 10 firms for the period 2011-2018 and two companies not listed from the Stock exchange. For this research, a multiple regression analysis was applied to examine the relationship between audit quality and earnings management. Discretionary accruals were used to measure earnings management as the dependent variable. This study employs for the dependent variable the Modified-Jones model of 1995. The Jones model has been shown to outperform other discretionary accrual models in detecting accruals earnings management. The result of this study shows that audit quality reduces earnings management.

Keywords: audit quality, earnings management, auditor opinion, audit firm specialization, and audit tenure

List of abbreviation

CEO	Chief executive officer
DA	Discretionary Accrual
EY	Ernst and Young
ERC	Response coefficient
EM	Earnings management
GAAP	Generally Accepted Accounting Principles
IFRS	Financial Reporting Standards
IPO	Initial Public Offering
ISA	International Standards on Auditing
LEV	Debt of leverage
NBA	Dutch Professional Organizations of Accountants
PAT	Positive accounting Theory
PIE	Public interest entities
PwC	PricewaterhouseCoopers
QA	Quality assurance
SG	Sales growth
SCAI	Suriname Chartered Accountants Institute
SUVA	Suriname Institute of Chartered Accountants
USA	United States of America

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1 Introduction

1.1 Audit quality

Auditors have an important role to express an unqualified audit opinion of a company's financial statement which has been issued in the public (Yulius Kurnia Susanto et al., 2021). It is widely recognized that auditing is a cornerstone in developing and enhancing the global economy and business firms (Lukman, Edi & Ysri, 2016). Several prior studies show that the difference in audit quality results from variation in auditors' credibility and client's earnings quality, whereas the important factors that influence the credibility of an auditor are audit tenure, audit firm size, auditor independence, auditor opinion, and audit specialization (Yulius Kurnia Susanto et al., 2021).

Prior studies also show that client firms with industry specialists are associated with a higher quality of financial reporting (Balsam et al., 2003). Simunic & Stein (1987) and Dunn & Mayhew (2003) state that auditors specialize in various industries to achieve product differentiation and provide higher quality audits. Higher quality audits by industry specialists have also attributed to the fact that they invest heavily in technologies, physical facilities, personnel, and organizational control systems that enable them to detect irregularities and misrepresentations more easily (Simunic & Stein, 1987). Their ability to provide higher quality audits comes from their experience in serving other clients in the same industry and learning and sharing best practices across the industry (Dunn & Mayhew, 2004).

Audit tenure is the agreed period of engagement between the auditor and client (Yulius Kurnia Susanto et al., 2021). Prior research generally provides evidence that longer audit firm tenure is associated with lower levels of earnings management and, therefore, higher earnings quality (Gul, Fung & Jaggi, 2009). Myers et al. (2003) report empirical evidence on the association between longer audit firm tenure and improved earnings quality and conclude that auditors place greater constraints on extreme management decisions because of longer audit firm tenure. Audit tenure is highly related to the professionalism of auditors and consequently audit quality (Salama Maria Dias IKA, 2018). There are two primary streams related to the effect of audit tenure. The first stream of thought assumes that longer audit tenure could create a deeper knowledge of the company business and industry for auditors and thus lead to higher audit quality (Johnson et al., 2002; Myers et al., 2003; Carcello & Nagy, 2004). While the other stream claimed that the independence of auditors could be harmed by the impact of close relationships or the presence of unnecessary social ties between auditor and auditee due to the relationship built through a long audit period (Arel et al., 2005; Gates et al., 2007; Dao et al., 2008).

Audit quality is a factor that influences audit opinion because of its ability to detect and report false financial statements or manipulation of material financial statements (Yulius Kurnia Susanto et al., 2021). Arens et al. (2017) define the quality of the audit to mean how well an audit detects and reports material misstatements in financial statements, the detection aspects reflect auditor competence, while reporting reflects ethics or auditor integrity, particularly independence.

1.2 Earnings management

Earnings information is a measurement of firm performance. Therefore, it becomes a key target to be managed by a manager (AdhityaAgri Putra & Nanda FitoMela, 2019), hence the term earnings management. For example, if the accruals income is greater than the previous year, the managers may adopt a kind of method to transfer the accruals to future periods to adjust current earnings, increase future earnings, and negatively report discretionary accruals in the current year (Maranjory, 2013). Earnings management rises from agency conflict between managers and shareholders because of information asymmetries (AdhityaAgri Putra & Nanda FitoMela, 2019). Earnings management leads to high needs of an auditor (AdhityaAgri Putra & Nanda FitoMela, 2019). An auditor is needed to give assurance service that financial information can be reliable for decision making (AdhityaAgri Putra & Nanda FitoMela, 2019). High audit quality results make decision-makers sure of their decision. The auditor comes as a mediator in the middle of a conflict between managers and shareholders because the auditor reduces information asymmetries (AdhityaAgri Putra & Nanda FitoMela, 2019). In conclusion, a higher quality of audit has a greater ability to constrain earnings management, hence reducing the uncertainty in the reported earnings.

1.3 Research question and sub-questions

There is a lot of research done on the relationship between audit quality and earnings management in the United States of America (USA), Europe, and other western countries. But similar research is yet to be done at companies in Suriname. Previous studies show that high audit quality improves earnings management (AdhityaAgri Putra & Nanda FitoMela, 2019). Hayes et al. (2014) state in their study that auditing reduces information asymmetries that exist between managers and firm stakeholders by allowing outsiders to verify the validity of financial statements. The study of Ardiati (2005) argued that high audit quality led to an effective deterrent of earnings management, because management reputation will be ruined, and the company value will go down if there is any incorrect earnings statement detected and exposed to the public. Setiawan (2014) states that the role of high audit quality is crucial, as the user of financial statements will make decisions based on financial statements that have been audited by external auditors, therefore an auditor as an independent party is expected to be able to limit any violence in accounting regulations and increasing trustiness of company’s financial statements.

Based on several prior studies, this research will focus on audit quality and earnings management. On the above information that is presented the following research question is formulated:

Does audit quality reduce earnings management in Suriname companies?

Sub-questions:

To correctly answer the research question, the following sub questions are formulated:

1. What is audit quality?
2. What is earnings management?
3. What are the developed hypotheses?

1.4 Purpose of this study

The main purpose of this study is to obtain a master’s degree at the Anton de Kom University of Suriname. Furthermore, the purpose of this research is to determine whether audit quality has an effect on earnings management in companies of Suriname. In Suriname, there are no regulators and legislators regarding mandatory auditor rotation as mechanisms to improve audit quality. Some audit firms in Suriname used to rotate the engagement partner so that the audit firms do not lose the client they audit, in other words, the audit firms are the same, but the engagement partner is someone else within the audit firm. Lastly, this study may also contribute to the earnings management literature in Suriname.

1.5 Relevance

This master thesis contributes to knowledge about the relationship between audit quality and earnings management. This is the first research that will focus on data of the companies in Suriname. Furthermore, this master thesis is relevant because the outcome will provide the users of the financial statement knowledge of how important the quality of auditing is to mitigate agency conflict between managers and outside shareholders. This research will also be giving an overview of the importance of the auditor's role in contributing to the credibility of the financial statements.

1.6 Methodology

This research consists of two parts. The first part is a literature review regarding audit quality and earnings management. Literature review is important to answer the sub-questions. The second part of this research regards the quantitative analysis. The data for the second part of the research is collected from the website of stock exchange companies and not-stock exchange companies. The sample which is used to examine the hypothesis contains 12 Suriname companies from the period 2011-2018. The source of the data is the annual report of all the companies. This study employs the Modified-Jones model of 1995 for the dependent variable. The multiple linear regression analysis method is used to examine the relationship between earnings management and audit quality.

1.7 Limitations

This study has some limitations. The availability of the data can be seen as limitation of this study because some companies only have the consolidated balance sheets and profit & loss state. For the data period considered in this thesis, only 12 companies are listed on the Suriname Stock Exchange and some of the annual reports of these companies are not available. Regarding information about auditing in Suriname this research relies on the research of Professor Diekman. This study only considers the unqualified audit opinion.

1.8 Structure of the thesis

This thesis consists of eight chapters. Each chapter provides an answer about the sub-questions as mentioned above.

Chapter 1 provides an overview of the introduction

Chapter 2 provides a literature review regarding earnings management and audit quality.

Chapter 3 provides information about auditing in Suriname.

Chapter 4 provides prior academic research

Chapter 5 explains the development of the hypotheses.

Chapter 6 explains the research design.

Chapter 7 provides the research findings, and

Chapter 8 contains the conclusion, recommendations, limitations, and future research

2 Literature review

2.1 Introduction

This paragraph provides a literature review regarding audit quality, the history of audit quality, audit quality and accountancy, theories related to earnings management, and a description regarding audit tenure, auditor opinion, audit firm specialization, and earnings management.

2.2 History of Audit quality

With the emergence of financial scandals from a number of companies, such as Enron, Xerox, and WorldCom in the United States, and Ahold, Adecco, and Parmalat in Europe, the independence of the auditor, the role of the external auditor in the company and consequently the quality of the audit was called into question (Bekiris & Doukakis, 2011). For the external auditor, an independent body that issues opinions on accountability documents and on which users rely for decision-making, there is an increased need for independent audits of financial statements that inspire confidence and guarantee the reliability of financial information (Lopes et al., 2018). According to Khaled Isam AL-Qatamin et al. (2020), various stakeholders are directly or indirectly related or affected by the audit quality of financial statements. If a company receives various audit quality notes where auditors have raised a number of questions relating to various controls and audit procedures, this will severely affect the audit quality and it would also compel many stakeholders to determine their future relationship with that company (Khaled Isam AL-Qatamin et al., 2020). If an audit firm issues an unqualified audit report, this would reflect the audit quality of that company's financial statements. The study of Herawaty (2008) states that audit quality is assessed from the role of auditors that having more accurate and effective training and auditing procedures, auditor independency, and the number of human resources in order to provide certainty related to accounting numbers reported by the management. The study of DeAngelo (1981) was the first study to focus on auditing quality. DeAngelo (1981) defines audit quality as a two-dimensional definition: (1) Detecting misstatements and errors in financial statements and (2) reporting these material statements and errors.

2.3 Audit quality and accountancy

As mentioned before, auditing reduces information asymmetries that exist between managers and firm stakeholders by allowing outsiders to verify the validity of financial statements (Becker et al., 1998). The effectiveness of auditing, and its ability to constrain earnings management, are expected to vary with the quality of the auditor (Becker et al., 1998). The value of auditing arises, in part, because auditing reduces the misreporting of accounting information (Becker et al., 1998). According to Zahmatkesha and Rezazadeh (2017), work experience will improve the auditor's ability to do the audit. Auditor's work experience influences the length of time and number of tasks that have been performed by the auditor (Zahmatkesha & Rezazadeh, 2017). Increase in personal quality, general knowledge, and special skill will increase auditor professional competence and expertise and give higher audit quality. In performing their duties, auditors will certainly attempt to meet the standards, which then raise accountability (Zahmatkesha & Rezazadeh 2017). Singgih and Bawono (2010) define accountability as a form of psychological encouragement that marks someone trying to account for all actions and decisions taken by the environment. If the auditor has accountability, then work will be done with the entire efforts and thinking, so that the auditor conducts an audit completed on time in accordance with the auditing standards. Thus, the auditor's work will be better and audit quality will increase. Auditors should maintain objectivity and should be free from conflicts of interest in fulfilling professional obligations. Auditors who are free from conflicts of interest will be able to act fairly without being influenced by pressure or demand from certain parties. This suitability indicates that the audit quality is higher. Audit quality is the auditor's work result shown with a reliable audit report based on the determined standards (Sukriah, Akram, & Inapty, 2009). Audit qualities are positively influenced by work experience, professional competence, motivation, accountability, and objectivity. The research conducted by Saripudin et al. (2012) indicates that there is a simultaneous positive effect of independence, experience, due professional care, and accountability on audit quality. Ramdhanis (2012) finds that professional competence, independence, and motivation simultaneously give positive effects on audit quality. Research by Sukriah et al. (2009) also finds that work experience, independence, objectivity, integrity, and professional competence of auditors simultaneously affect audit quality. Auditor's professional competence is the ability of an auditor to apply the knowledge and experience that have been possessed in auditing so that the auditor can perform the audit carefully, accurately, and objectively (Carolita & Rahardjo, 2012). The higher the competency level, the more audit quality (Sukriah et al., 2009).

2.4 Audit quality and earnings management

As mentioned before, one of the important roles of auditing is to reduce agency costs between managers and firms' stakeholders (Lukman Ahmad et al., 2016). In this perspective, auditors are supposed to assist financial statement users by verifying the validity of financial reporting (Lukman Ahmad et al., 2016). Titman and Trueman (1986) suggested that the information asymmetry between management and shareholders creates a suitable environment and an opportunity for managers to engage in earnings management. In addition, as Chen (2006) argued, managers also have self-interested incentives to take advantage of such information asymmetry to window-dress reported earnings. Therefore, shareholders need to rely on contracting and monitoring to reduce agency costs (Chen, 2006). In this sense, a high-quality auditor can be an effective monitoring tool (Chen, 2006). Khurana and Raman (2004) state that the capability to detect as well as the independence level do disclose material misstatements in financial reports varies across audit firms. Lukman Ahmad et al. (2016) claimed that big audit firms tend to spend more money and time on training and formal education for their auditors in an effort to enhance their auditors' capacity and capability. Meanwhile, Francis and Krishnan (1999) found that an increase in accrual revenue tends to lead to legal problems so that big audit firms tend to choose clients with lower accrual revenue to avoid legal problems and a bad reputation. In the context of Chinese cases, Chen et al. (2006) finds that companies engaging in earnings management are more likely to receive modified audit opinions. Their findings suggested that to meet the profitability requirements, asymmetric profitability requirements exacerbate managers' propensity to engage in earnings management. Francis and Krishnan (1999) argue that high-accrual companies have greater opportunities for engaging in earnings management. These companies are more likely to hire a big audit firm to assure that earnings are credible. Companies also tend to respond to debt contracting and income-decreasing incentives by strategically reporting discretionary accruals and reporting lower discretionary accruals, consistent with big auditors constraining opportunistic reporting of accruals (Lukman Ahmad et al., 2016). In addition, they found that companies with incentives decrease discretionary accruals when they are audited by non-big audit firms (Lukman Ahmad et al., 2016). Previous studies focusing on the relationship between audit quality and earning management generally suggested that audit quality can play an important role to constrain earnings management (Lukman Ahmad et al., 2016).

2.5 Theories related to earnings management

2.5.1 Introduction

This paragraph describes the theories that are related with earnings management, the agency theory, and Positive Accounting theory.

2.5.2 Agency theory

The practice of earnings management in a company is explainable by the agency theory. The agency theory is a common practice in research that explains the relationship between the principal (shareholders) and the agent Chief Executive Officer (CEO) (Pei Cheong Ching et al., 2015). Separation of ownership and control leads to potential conflicts of interest between both parties (Pei Cheong Ching et al., 2015). This may be because the parties may have different goals, and the managers may not act on behalf of the best interests of the shareholders (Jensen & Meckling, 1976). Gerayli et al. (2011) confirmed that this agency problem leads to the demand for external auditing. Principals have access to the company's internal information, on the other side agents have their rights and knowledge of the company's overall performance. The agency theory focuses on working people and on how they behave in their work environment (Felix Zogning, 2017). The difference in role and position may lead to agency conflict (Richardson, 1998). One of the causes is information asymmetry, a condition where managers have access to a company's information that is not publicly known by external parties (Rahmawati et al., 2006).

The agency conflict between managers and principals (shareholders and creditors) may affect the quality of reported information. Managers may dishonestly provide financial information to protect their own interests while the principals cannot directly observe managers' behavior (Ramadan, 2015; Williams, 1988). External audits help to reduce information asymmetries between managers and principals by lending credibility to financial statements (Almomani, 2015; Carey, 2008). Thus, audit quality needs to be high to ensure their client firms disclose better quality of the information in a timelier manner to protect principals. The agency theory is a key to explaining the managers' choice of accounting methods. Agency theory is mainly related to the incentive problems (self-interest) of the principal and the agent (Deegan & Unerman, 2011).

2.5.3 Positive accounting theory (PAT)

Watss and Zimmerman (1986) developed the Positive Accounting Theory (PAT). PAT explains and predicts which firms will and which firms will not use a particular accounting method, but it explains nothing as to which accounting method a firm should use (Deegan & Undermans, 2006). PAT focuses on the relationships between the various individuals involved in providing resources to an organization and how accounting is used to assist in the functioning of these relationships (Deegan Craig, 2014). For example, the relationships between the owners (as suppliers of equity capital) and the managers (as suppliers of managerial labour), or between the managers and the firm's debt providers (that is, the creditors) (Deegan Craig, 2014). PAT, as developed by Watts and Zimmerman (1986), is based on the central economics-based assumption that all individuals' actions are driven by self-interest and that individuals will always act opportunistically to the extent that the actions will increase their wealth (Deegan Craig, 2014).

Scott (2003) states that PAT is related to the prediction of managerial accounting choice and performance and how the managers react to accounting policies and newly proposed accounting standards in different circumstances and across different types of firms. In PAT, firms are organizing their selves by using the most efficient way in order to maximize their prospects for survival (Scott, 2003). According to the hypothesis of PAT, we can think of earnings management as opportunistic behavior by managers to maximize their utility in the face of compensation, debt contracts, and political costs (Scott, 2003). However, we can view earnings management from an efficiency perspective and consider it as a communicator of inside information to investors (Hashem Nikoomaram et al., 2012).

2.6 Auditor opinion

The auditor's opinion is the ultimate result of the accountant's investigative work (Hsiao-Fen Hsiao et al., 2010). Audit quality is a factor that influences the auditor's opinion because of its ability to detect and report false financial statements or manipulation of material financial statements (Yulius Kurnia Susanto et al., 2021). Researchers Johl et al. (2007); Abolverdi and

Kheradmand (2017) indicated that earnings management is an indicator of providing an audit opinion. Francis and Krishnan (1999) find that auditors of firms with high levels of accruals in absolute terms are more likely to issue qualified opinions for asset realization uncertainties and going-concern problems than auditors of firms with low absolute levels of accruals. Bartov, Gul, and Tsui (2000) examined the ability of various accruals models to detect earnings management and found that a significant positive link exists between the absolute value of discretionary accruals and the likelihood of receiving a qualified opinion. By contrast, Bradshaw, Richardson, and Sloan (2001) find no evidence that the frequency of qualified audit opinions is higher in firms with sizeable accruals. They conclude that auditors do not alert investors to the increased incidence of future earnings declines and Generally Accepted Accounting Principles (GAAP) violations that are often associated with high levels of accruals on a timely basis (Bradshaw et al., 2001). Francis and Krishnan (1999) argue that because accounting accruals are managers' subjective estimates of future outcomes, and as such cannot be confirmed objectively pre-occurrence, audits of high-accruals auditees exhibit greater uncertainty than audits of low-accruals auditees. Hayes et al. (2014) state that the opinion of the auditor is contained in an auditor report. The different types of opinion are: (1) unqualified opinion (2) qualified opinion (3) adverse opinion and (4) disclaimer of opinion (Hayes et al., 2014).

2.6.1 Audit tenure

According to Yulius Kurnia Susanto et al. (2021), audit tenure is the agreed period of engagement between the auditor and client. When audit firm tenure gets longer, auditors are more likely to compromise on their client's accounting and reporting choices because they are "too familiar" with the management and because they want to retain the client's business (Chih-Ying Chen et al., 2008). A long audit tenure compromises objectivity and increases auditors' bias (Sori & Karbhari, 2005). Vanstraelen (2000) reported empirical evidence that a long auditor-client relationship increases the likelihood of an unqualified audit opinion or, in other words, decreases the auditor's propensity to issue a modified audit opinion. Myers et al. (2003) investigate the relation between audit firm tenure and two measures of accruals: discretionary accruals and current accruals. Their discretionary accruals are estimated using the cross-sectional Jones 1991 model, and their current accruals equal the change in non-cash current assets minus the change in current liabilities other than short-term debt. They find that the magnitude of both measures of accruals declines with longer audit firm tenure. They also find that longer audit firm tenure is associated with both less extreme income-increasing and less extreme income-decreasing accruals, which suggests that earnings management becomes more limited as audit firm tenure grows longer. Overall, they find no evidence that longer audit firm tenure is associated with lower earnings quality.

2.6.2 Audit firm specialization

Industry specialization refers to industry-specific knowledge accumulated from serving clients in the same industry (Gul et al., 2009). Audit firm specialization has an important role in improving the effectiveness and efficiency in many fields, such as the audit field (Mohamed Hegazy, 2015). Prior research (e.g., Balsam et al., 2003; Dunn & Mayhew, 2004) finds that industry specialist auditors can provide high quality audit services to clients. Thus, industry specialist auditors serve an important role in monitoring the financial reporting process. Balsam et al. (2003) examines the association between auditor industry specialization and earnings quality. They find that auditor industry specialization is negatively associated with absolute discretionary accruals and is positively associated with earnings response coefficients. Krishnan (2003) also finds that the level of absolute discretionary accruals is higher for non-specialist auditors than for specialists' auditors. These results are consistent with the notion that industry specialist auditors conduct higher quality audits than a non-specialist. Some studies support the view that the use of an industry-specialist audit firm is associated with higher earnings response coefficients, higher quality voluntary disclosures, lower discretionary accruals, lower levels of fraudulent reporting, and higher market valued earnings surprises (e.g., Balsam et al., 2003; Krishnan, 2003; Dunn & Mayhew, 2004; Francis et al., 2005).

2.6.3 Earnings management

Healy and Wahlen (1999) defined earnings management as "earnings *management occurs when managers use judgement in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers".* Prior studies distinguish earnings management based on discretionary accruals. According to Dechow et al. (1995) discretionary accruals often provide managers the opportunities to manipulate earnings due to the flexibility available. Managers usually use earnings management to achieve their business objectives (Roy Chowdhury, 2006; Cohen et al., 2008; Zang, 2012). To detect earnings management, Healy and Wahlen (1985) were the first to introduce discretionary accruals. Healey and Wahlen (1985) found that managers used accruals to maximize their bonuses. DeAngelo (1981) assumed non-discretionary accruals are arbitrary in nature and used the method of this unusual behavior. The discretionary component of accruals should be reflected from the change in total accruals from the previous year to the current in detecting earnings management. Kothari et al. (2005) introduced other modifications where the return on assets (ROA) was directly used as an additional independent variable into the Modified Jones Model (Dechow et al. 1995) in order to control for the firm's performance.

3 Audit in Suriname

3.1 Introduction

This paragraph provides information regarding auditing in Suriname. Paragraph 3.2 describes the importance of auditing and paragraph 3.3 auditing in Suriname. Paragraph 3.4 provides information regarding the regulation of the accountancy profession in Suriname and regulation of the Act on Annual Accounts in Suriname. Paragraph 3.5 describes earnings management and legal system.

3.2 The importance of auditing

Audit plays an important role as an external corporate governance mechanism and the governance effect of audit is directly reflected in audit quality (Xiao et al., 2020). The overall objectives of the audit are to obtain reasonable assurance that there is no material misstatement caused by fraud or error in financial statements, and to issue audit reports in accordance with auditing standards, and communicate with client management (Xiao et al., 2020). An audit is also an important part of the capital market framework as it not only reduces the cost of information exchange between managers and shareholders but also provides a signaling mechanism to the markets that the information that management is providing is reliable (Marianne Ojo, 2018). An auditor provides independent verification on the financial statements of a company and as a result, the audit loses its value when such independence which gives credibility to the financial statements, is undermined (Marianne Ojo, 2018).

3.3 Auditing in Suriname

Audit firms in Suriname are commercially driven companies that offer audit services to a wide range of organizations in the private and public domains (Diekman, 2021). The market is an oligopoly, in other word, a market in which professional services are offered by few providers. It is an oligopoly because there are quite a lot of audit firms, but the market is still quite dominated by a few large audit firm organizations (Diekman, 2021). The annual audit of large and listed companies in the world is dominated by the “Big4”:

- PricewaterhouseCoopers (PwC)
- Ernst and Young (EY)

- Deloitte Touche Tohmatsu and
- KPMG

EY has an office in Suriname that audits banks and the oil company in Suriname. The second major office in Suriname is BDO, the fifth largest audit firm in the world. Deloitte does work in Suriname but operates from their office in Curaçao (Diekman, 2021).

KPMG also recently ceased to exist in Suriname and was acquired there by EY. Audit organizations are nowadays usually a Public Limited Company, so a legal entity (Diekman, 2021). In addition, there are so-called “salary” partners, who are not shareholders but are on the payroll. In some audit firms, these partners are referred to as “directors” (Diekman, 2021).

3.4 Regulation of the accountancy profession

The Suriname Chartered Accountants Institute (SCAI) is the main regulator of the accountancy profession. It was established through the Act on Annual Accounts of 2018, and membership in the institute is mandatory for all professional accountants seeking to work in public practice-chartered accountants and auditors.

The institute was first operational in 2007 under the name Suriname Institute of Chartered Accountants (SUVA) and was renamed the Suriname Chartered Accountants Institute (SCAI) under the Law on Accountancy of 2018. SCAI is an IFAC (International Federation of Accountants) associate and a full member of the Institute of Chartered Accountants of the Caribbean. All large corporations and public interest entities (PIEs) are required to prepare financial reports in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board. PIE in Suriname is a stock market listed company as, banks, insurers, pension funds, and parastatal companies. In accordance with the Law on Accountancy of 2018, the SCAI is responsible for adopting ethical requirements for all professional accountants. The Law on Accountancy of 2018 designates the SCAI as the audit standard-setter for all companies. SCAI requires the application of Dutch Professional Organizations of Accountants (NBA) Netherlands’ Dutch translated version of International Standards on Auditing (ISA) which are translated in an ongoing manner. The Law on Accountancy of 2018 also delegates authority to the SCAI to develop and conduct a mandatory quality assurance

(QA) review system in the jurisdiction. *Source: Suriname. IFAC. (2021). Retrieved from http://www.ifac.org/about-ifac/membership/country/suriname*.

3.4.1 Regulation of Act on Annual Accounts in Suriname

The Act on Annual Accounts of 2017 was adopted on 31 August 2017 by National Assembly and establishes basic financial reporting and auditing requirements. The law sets out the accounting and financial reporting framework to be used; identifies responsible parties for the preparation, approval, and distribution of financial statements; and defines classes of companies based on size. Prior to this legislation, there was no overarching accounting and auditing legislation that set accounting standards, regulated the accountancy profession, or enforced financial reporting requirements. Until the new legislation is effective in 2020, the majority of companies in Suriname follow a form of Netherlands national accounting standards because of the historical relationship of Suriname and the Netherlands. Netherlands GAAP is published in the Dutch language, which is the national language of Suriname. The Central Bank of Suriname is responsible for the prudential supervision of financial institutions, including banks, insurance companies, pension funds, and credit unions. However, neither the Bank Act nor regulations adopted by the Central Bank mandate the specific accounting standards to be followed by those financial institutions. *Source: Suriname. IFAC. (2021). Retrieved from http://www.ifac.org/about-ifac/membership/country/Suriname.*

3.5 Earnings management and legal system

There is a substantial difference in legislation and organizational structure between companies in Suriname and companies in the United States (US) and Western Europe. Suriname listed firm's earnings management incentives can differ from those from the US and Western Europe. For example, Francis (2016) argues that a countries legal environment plays an important role in the level of earnings management. Moreover, adoption of the IFRS or Dutch GAAP has an impact on earnings management (Ball et al., 2003; Leuz et al., 2003). Francis et al. (2016) examines the relationship between a country's legislation and earnings management. They conclude that earnings management is more severe in countries with stronger legal systems. Furthermore, the IFRS influences earnings management. It is perceived that higher quality financial reporting reduces earnings management (Ball et al., 2003). However, subsequent studies found that the adoption of IFRS did not necessarily lead to fewer earnings management (Tendeloo & Vanstraelen, 2005; Jean & Stolowy, 2008).

4. Hypotheses development

4.1 Introduction

This paragraph will focus on hypotheses development and will also give an answer to the main research question of the thesis. A hypothesis is a statement of what we expect to observe if the theory is true (Ordho, 2003). The focus of the hypotheses for the multiple linear regression analysis is to test whether audit quality, which is operationalized in auditor tenure, auditor opinion, and auditor industry specialization affected earnings management on Suriname companies' statistically significant. This will be tested by formulating the following alternative hypotheses.

4.2 Audit tenure

Audit firm tenure is defined as the number of years the auditor is retained by the company (Myers et al., 2003). The academic literature shows mixed results about the effect of audit tenure on earnings management. Long audit tenure increases an auditor's understanding of the firm's system and internal controls (Zawawi, 2007). Deis and Giroux (1992) found that the longer the auditors audit their clients, it leads to a closer relationship between the audit firm and clients and consequently decreases audit quality. Myers et al. (2003) report empirical evidence on the association between longer audit firm tenure and improved earnings quality and conclude that auditors place greater constraints on extreme management decisions as a result of longer audit firm tenure. Vanstraelen (2000) found long auditor tenure significantly reduces the auditor's willingness to qualify audit reports. Ghosh and Moon (2005) found that the earnings response coefficient (ERC) increases with the length of audit firm tenure, consistent with earnings being greater as auditor tenure increases. Geiger and Raghunandan (2002) found auditors with longer tenure more independent and not associated with a higher likelihood of audit reporting failure. Johnson et al. (2002) provides evidence of lower-quality financial reporting during the first years (2-3 years), as compared to medium tenure (4-8 years) and long tenure of more than 9 years. They do not find that long tenure leads to a decrease in financial reporting quality. Myers et al. (2003) show that long audit-firm tenure does not impair audit quality, due to repeated audits. Knapp (1991) suggests that an auditor after a five-year period of experience is better at detecting accounting irregularities than a new auditor. Ghosh and Moon (2005) use the ERC as a proxy for investor perceptions of audit quality and find a positive association between perceived audit quality and audit firm tenure. They argue that due to the lack of client-specific knowledge in the first years of the audit, audit quality may decrease.

Considering these prior findings, the first hypotheses is formulated:

H1: Long audit tenure increases earnings management.

4.3 Auditor opinion

An audit opinion is an opinion issued by the auditor to assess the fairness of the financial statements presented by the entity (Hedar Rusman et al., 2018). Thus, the auditor report is considered as the final phase or outcome of an audit examination that the auditor uses to convey a message regarding a company's stance (Porter et al. 2003). Past studies on auditors' reports have focused on the effect of unqualified and discretionary accruals (Murya Habbash and Salim Alghamdi, 2017). Based on data collected from the Chinese stock market, a study undertaken by Chen et al. (2001), it was concluded that firms with modified auditor opinion tend to manage earnings. Likewise, Bartov et al. (2001) suggest that modified auditor opinion is associated with a high level of absolute abnormal accruals. Moreover, Bradshaw et al. (2001) indicate that there is a relationship between modified auditor opinion and discretionary accruals. Herbohn and Ragunathan (2008) used a sample of all Australian companies over the period 1999–2003 and found a negative relationship between accruals and opinion modifications. In contrast, a number of studies have shown there to be no association between auditor opinion and level of earnings management. For example, Butler et al. (2004) claim that earnings management is not associated with modified auditor opinion. In addition, Garcia et al. (2013) investigate whether earnings management activities increase the likelihood of receiving a qualified audit report. Their results do not show a significant relationship between earnings management and qualified audit reports.

Based on these prior findings, the second hypothesis is formulated:

H2: Audit opinion has a positive relationship with earnings management.

4.4 Audit Firm specialization

Jerry Sun and Guoping Liu (2013) defines Industry specialist auditors have more industry-specific knowledge and expertise than non-specialist auditors. Findings of more recent studies are consistent with the theory that auditors specialize in various industries to achieve product differentiation and provide higher audit quality (Moroney & Carey, 2007; Gul et al., 2009). Prior literature found evidence that clients of industry specialists have a lower level of discretionary accruals compared with non-specialists. This finding suggested that industry specialist auditors constrain the use of discretionary accruals (Cahan et al., 2008). More recently, the audit research examined the association between industry specialization and the quality of earnings and documented a positive association between industry specialization and earnings quality (Karjalainen, 2011; DeBoskey & Jiang, 2012). The studies of Balsam et al (2003); Velury (2003); Albring et al (2004) and Jenkins et al. (2006) investigated the association between discretionary accruals and industry specialization. They found a negative association between discretionary accruals and auditor industry specialization. The recent studies of Ittonen et al. (2010) and Karjalainen (2011) documented a negative association between discretionary accruals and auditor industry specialization, implying that auditor industry specialization is a source for variation in audit quality, whether in publicly traded companies or privately held companies. Prior literature found that hiring industry specialist auditors decrease discretionary accruals while increasing earnings response coefficients (Balsam & Krishnan, 2003). That means auditor industry specialization is negatively associated with earnings management but positively with earnings quality.

Based on these prior findings, the third hypothesis is formulated:

H3: Audit firm specialization is negatively associated with earnings management.

5 Prior research

5.1 Introduction

This chapter will focus on prior research regarding audit quality and earnings management. The focus will be also on the main research question as mentioned before.

5.2 Prior research regarding audit quality and earnings management

Vanstraelen (2000)

This paper aims to analyze the impact of renewable long-term audit mandates on audit quality. The results of the study suggest that long-term auditor-client relationships significantly increase the likelihood of an unqualified opinion or significantly reduce the auditor's willingness to qualify audit reports (Vanstraelen, 2000). A significant difference was also found between the auditor's reporting behavior in the first two years versus the last year of the audit mandate. Auditors are more willing to issue an unqualified audit report in the first two years of their official mandate than in the last year of their mandate (Vanstraelen, 2000). The hypothesis in this research is: Auditors are more willing to give an unqualified opinion in the last year of their official mandate compared to the previous years, all other things equal.

Bartov, Gul, and Tsui (2000)

Bartov, Gul, and Tsui (2000) examined in their research the association between discretionary accruals and audit qualifications. Initially, 112,384 firm-year observations for the 18-year period, 1980 – 1997, are retrieved from the annual CompStat database. The hypothesis is: “the association between various models and discretionary accruals receiving likelihood an audit qualification”. The findings are that a significant positive link exists between the absolute value of discretionary accruals and the likelihood of receiving an unqualified opinion (Bartov, Gul, and Tsui (2000).

Geiger and Raghunandan (2002)

These authors research the relationship between audit tenure and audit failures. In this study, the issue is addressed by examining prior audit reports for a sample of companies entering bankruptcy during the period 1996–1998. The authors use a multivariate analysis to test for the association between the type of audit opinion issued on the financial statements immediately prior to bankruptcy and the length of auditor tenure. The results indicate that there were significantly more audit reporting failures in the earlier years of the auditor/client relationship than when auditors had served these clients for longer tenures. The results do not support the arguments of those who propose mandatory auditor rotation and suggest that contrary to the concerns expressed by the SEC, there is an *inverse* relationship between auditor tenure and audit reporting failures (Geiger & Raghunandan, 2002). The hypothesis in this research is “here is a positive relationship between audit firm tenure and the issuance of going concern opinion.”

Johnson et al. (2002)

The study of Johnson et al. (2002) examines whether the length of the relationship between a company and an audit firm (audit-firm tenure) is associated with financial-reporting quality. The research question in this study is whether audit-firm tenure is related to financial- reporting quality. The results are that short relationships between an audit firm and a client are associated with higher absolute levels of unexpected accruals and accruals that are less persistent in subsequent earnings.

Balsem et al (2003)

This study examines the association between measures of earnings quality and auditor industry specialization. The findings include clients of industry specialist auditors that have lower discretionary accruals and higher earnings response coefficients than clients of non-specialist auditors. This finding is consistent with clients of industry specialists having higher earnings quality than clients of non-specialists. The hypothesis in this research were: (1) “The discretionary accruals of a company whose auditor is an industry specialist are lower than the discretionary accruals of a company whose auditor is not a specialist”; (2) The earnings response coefficient of a company whose auditor is an industry specialist is greater than the earnings response coefficient of a company whose auditor is not a specialist. The authors used an initial sample of 62,847 observations with Big 6 (5) auditors was identified from the primary, secondary, tertiary, and full coverage files of the 2001 CompStat annual industrial tape for year-ends from 1991 to 1999 (Balsem et al., 2003).

Ghosh and Moon (2005)

These researchers analyze how investors and information intermediaries perceive auditor tenure. The authors document a positive association between investor perceptions of earnings quality and tenure (Ghosh & Moon, 2005). Further, the authors find that the influence of reported earnings on stock rankings increases with extended tenure, although the association between debt ratings and reported earnings does not vary with tenure. Finally, the authors find that the influence of past earnings on one-year-ahead earnings forecasts becomes larger as tenure increases. In general, the results are consistent with the hypothesis that investors and information intermediaries perceive auditor tenure as improving audit quality (Ghosh & Moon, 2005). The hypothesis for this research is, H1: "Audited financial statements, and in particular reported earnings, are perceived as more reliable for firms with longer auditor tenure".

Sengupta and Shen (2007)

Sengupta and Shen (2007) investigate whether accruals quality helps explain auditors' decisions. The sample of this research contains 9,477 observations on audit fees and going concern opinions for the period 2000-2004. The findings are that firms with poorer accruals quality are charged higher audit fees and have a greater likelihood of receiving a going concern audit opinion (Sengupta & Shen, 2007). The hypothesis in this research is, H1: earnings management are positively associated with the likelihood of receiving a modified opinion.

Zawawi (2007)

The objective of this study is to examine whether audit-firm tenure is associated with financial reporting quality in the context of Malaysia. The sample consists of 47 randomly selected companies. The duration of the auditor with their client companies was identified from the auditors' reports from 1998-2004. The results state that long audit tenure increases an auditor's understanding of the firm's system and internal controls (Zawawi, 2007).

Herbohn and Ragunathan (2008)

Herbohn and Raghunathan (2008) investigate whether a negative association exists between actual abnormal accruals and the probability of receiving audit opinions in Australia. This paper investigates the reasons that lead to modification of auditors' opinions. They focus on a sample comprised of all firms listed on the Australian Stock Exchange over the period 1999–2003. They document a negative link between the likelihood of a qualified opinion and accruals that is driven by going-concern issues for firms with a greater risk of financial distress and audit litigation. Their results suggest that earnings management is not the cause of audit opinion qualifications.

Karjalainen, 2011

This paper examines the association between the industry specialization of an individual audit partner and the quality of earnings reported for privately held companies. The hypothesis in this research is: "industry specialization by an audit partner is positively associated with the quality of earnings reported by privately-held companies." The results suggest that industry specialization of the audit partner is associated negatively with the quality of earnings reported by private companies. Specifically, private companies audited by industry-leader audit partners (based on aggregate client sales) report lower levels of discretionary accruals, compared to other private companies. This result obtains across Big 4 and non-Big 4 partners, as well as across smaller and larger client companies. The results imply that industry specialization by the audit partner is a source for variation of audit quality in the relatively low auditor-litigation setting of privately held companies (Karjalainen, 2011). Client financial characteristics, such as profitability, size, experience, type of audit opinion in the previous year and prior year loss are determinants of the qualified audit opinion decision.

Garcia et al. (2013)

This study investigates whether earnings management activities increase the likelihood of receiving a qualified audit report, with a sample of Spanish companies for the period 2001–2009. The absolute value of discretionary accruals is issued as a proxy for earnings management by using a cross-sectional variation of the Kothari model. The results do not show a significant relationship between earnings management and qualified audit reports. Hypothesis 1: the longer the auditor-client relationship, the less likely the issuance of 'unclean' audit reports (qualified opinion, adverse opinion, or disclaimer of opinion).

Murya Habbash and Salim Alghamdi (2017)

This paper aims to determine if significant associations exist between audit quality and earnings management in less developed economies, providing their various shortcomings and differences. The sample was based on 337 non-financial Saudi listed firms from 2006 to 2009. The hypothesis in this research is “there is a negative relationship between a specialist auditor and earnings management”. The absolute value of discretionary accruals issued as a proxy for earnings management by using a cross-sectional variation of the Kothari model. The results of this research indicate that only auditor opinion indicates earnings management practice. The results support the argument that auditors are powerless in front of managerial opportunistic activities. Issues that may impair audit quality in Saudi Arabia are discussed.

6 Research Design

6.1 Introduction

This paragraph describes the population size, sample size, data collection, research model, dependent, independent and control variables.

6.2 Research model

The multiple linear regression analysis is to test whether the explanatory variable (x) affected response variable (y) statistically significant (Moore et al., 2009).

The two basic types of regression are simple linear regression and multiple linear regression. Multiple regression uses more than one explanatory variable to explain the variation in the response variable (Moore et al., 2009). Simple linear regression studies the relationship between a response variable and an explanatory variable (Moore et al., 2009).

In this study, the multiple linear regression analysis method is used to test the effect of audit quality and earnings management. The following model is estimated:

$DA = a + \beta_1\ AudTEN + \beta 2\ AudOPIN + \beta 3\ AudFSpec + \beta 4\ SG + \beta 5\ LEV + E$

Variable definition:

Y= Discretionary accruals (DA)

a =constant

β = regression of coefficient

AudTEN = dummy variable, it takes a value of 1 if audit tenure is long, otherwise 0 if it not. An audit service period of four years of more can be treated as long audit tenure.

AudOPIN = dummy variable 1, if the auditor opinion is unqualified, 0 if otherwise.

AudFSpec = auditor industry specialization measures the number of clients audited by the auditor. Dummy variable, 1 if the auditor audits more than 3 clients, 0 if it not.

SG = Current year sales minus previous year sales divided by the current year sales.

LEV: The leverage of debt, is the ratio of total debts to total assets.

E= error term

Previous study used discretionary accruals as measurement of earnings management (Lestari & Aeni, 2019). Discretionary Accrual (DA) are accruals that can be controlled by company management (Lestari & Aeni, 2019). In this study DA are used as dependent variable. This study employs the Modified-Jones model of 1995 (Dechow et al., 1995). The Jones model has shown to outperform other discretionary accrual models in detecting accruals earnings management. Measurement of earnings management model with modified Jones (Dechow et al., 1995) can be calculated as follows:

Value of discretionary accruals (DA) can be calculated by the equation:

1. $DAit = (TA_{it} / A\ it_{-1}) - NDA_{it}$

The formula for determining the total value of the accrual approach to cash flow as follows:

2. $TAit = NIit - CFOit$

3. $NDA_{it} = \alpha_1 (1 / A_{it-1}) + \alpha_2 ((\Delta REV_{it} - \Delta RECit) / Ait\text{-}1) + \alpha 3 (PPEiT / Ait\text{-}1)$

Variable defintion:

Tait = Total accruals for firm i in period t

NIiT = Earnings firm i in period t

CFOit = Cash flow from operations for firm i in period t

ΔREVit = Changes in the company's revenue from i-year t-1 to year t

ΔRECit =Changes in receivables i of year t -1 to year t

PPEit = Fixed assets (property plant and equipment) company i in period t.

NDAi = non-discretionary accruals for firm i in period t

DAit = discretionary accruals firm i in period t

Ait-1 = Total assets of the company i at the end of the year t-1

6.3 Variables

There are three types of variables in this research:

1. The independent,
2. Dependent, and
3. Control variables.

The independent variable in this research is audit quality and is operationalized by audit tenure, audit firm specialization, and auditor opinion. The dependent variable is earnings management and is operationalized by discretionary accruals. The control variables in this research are sales growth (SG) and debt of leverage (LEV).

6.3.1 Independent variables

The independent variables in this research are audit tenure, auditor opinion and audit firm specialization.

Audit tenure

Regarding audit tenure there are no regulators and legislators for mandatory auditor rotation in Suriname. For this research audit tenure will be adapted from existing research where there are similarities with Suriname. Based on audit tenure the measurement will be done when an auditor audits a company more than four years. This will be classified as a long audit tenure. The measurement for the variable audit quality is reliable because this is based on the study of Omid (2015) and Herbohn and Ragunathan (2008) where audit tenure longer than four years receives the value of 1, otherwise 0.

Auditor opinion

Auditor opinion is adapted from existing research where there are similarities with Suriname companies. The measurement for the variable audit quality is reliable because this is based on the study of Hsiao-Fen Hsiao et al (2010) and DeFond et al. (2002) where is stated that auditor's opinion can be seen as a form of audit quality. The study of Andera (2014) and Chi et al. (2011) also used auditor's opinion as a proxy to measure audit quality, where the given opinion (unqualified receives the values of 1, otherwise 0). Based on the reliability of the given measurements, the type of opinion will be proxy to measure the audit quality.

Audit firm specialization

The third theoretical concepts are audit firm specialization. This one is also adapted from the existing research where there are similarities with Suriname. The measurement for this research is reliable because it is based on the study of DeBoskey and Jiang (2012) and Balsem and Krishnan (2003). These author's used audit firm specialization as a proxy to measure audit quality, where audit firm specialization measures the number of clients audited by the auditor. Audit firm specialization receives 1, if the auditor audits more than 3 clients, 0 if it not.

6.3.2 Dependent variable

To analyze the effect of audit quality on earnings management, discretionary accruals are used to measure earnings management (EM). The measurement for this research is reliable because it is based on the study of Abdullah Mohammed Ayedh and Tareq Al-Momani (2018) that adopted the Jones method (1991), which is adjusted by Dechow et al (1995) for measuring earnings quality, which is considered as the most famous model to detect earning management nowadays. The model is based on using the discretionary accruals as an indicator of earnings management.

6.3.3 Control variable

As mentioned before, this study includes two control variables that are associated with earnings management. Based on the study of Lennox (2008) LEV and SG these variables are used as the control variables. These control variables are identified in the prior literature. The measurement of SG are current year sales minus previous year sales divided by the current year sales. The measurement of LEV is the ratio of total debts to total assets.

6.4 population size and sample size

The population for a study is that the group about whom the researcher wants to draw a conclusion (Earl Babbie, 2013). The population, which is used to examine the hypothesis is extracted from Suriname Stock exchange listed companies and consists of 10 firms for the periods 2011-2018 and 2 firms not listed on the Stock exchange (n=12). The source of the data is the annual report of the companies. The annual report is collected from the website of the Suriname Stock exchange listed companies and the website of the companies. This research used manufacturing, banks, and assurance company. Torarica Group and Elgawa from the Suriname Stock exchange listed companies are eliminated because for Elgawa there are no annual reports available on the website and Torarica group has a broken financial year. This study used cross-sectional research to compare the financial position of the companies at a specific point in time.

6.5 Data collection

Data collection is the process of collecting evidence in order to gain new insights about a certain topic to answer the main research question (Ordho, 2003). This research was used for collecting secondary data resources, which refers to previous articles, journals, books, and web-based data about a specific area. Data of independent variables such as audit tenure, audit firm specialization, and auditor opinion are collected manually from annual reports of Suriname companies for the period 2011-2018. The data of dependent and control variables are also collected manually from these annual reports.

7 Results and Analysis

7.1 Introduction

This chapter discusses the data analysis and interpretation of data. As mentioned before, this research used descriptive statistics, correlation, and multiple regression results to analyze the relationship between audit quality and earnings management in the Suriname companies for the period 2011-2018.

7.2 Descriptive Statistics

This study considers the Mean and the Standard deviation with the aim to explain the relationship between audit quality and earnings management for the period 2011-2018. The Mean represents a summary of data and standard deviations show how well the means represent the data. Descriptive statistics describe the value of the characteristic of a sample population (Mehwish Hussain, 2012). Table 1 presents the descriptive statistics for audit quality that is measured with audit tenure, audit firm specialization, and auditor opinion and for the earnings management discretionary accruals as a proxy.

Table 1. Descriptive statistics results

	Mean	Std. Deviation	N
DA	.152	.344	96
AudOPIN	1.00	.000	96
AudFSpec	.760	.429	96
AudTEN	.890	.320	96
SG	.091	.339	96
LEV	.563	.361	96

The results of table 1 show that the variable auditor opinion (AudOPIN) has a mean of 1.00, this indicates that all the companies in the sample selection received an unqualified audit opinion. (AudTEN) has a mean of 0.89, indicating that the average audit tenure is above four years. This shows that an auditor audits a company more than four years. The independent variable audit firm specialization (AudFSpec) is 0.760, indicating that an auditor audits more than three companies, resulting in the fact that the auditor has more practice experience. The control variables leverage, and sales growth show an average value of 0.091 and 0.563 with a standard deviation of 0.339 and 0.361. The results suggest that about 9.1% of the total assets of the Suriname companies are financed by debt, meaning that Suriname companies operate with a low level of financial leverage.

Table 2

Summary multiple regression

Model	R	R Square	Adjusted R Square	Standard Error
1	.431	.186	.150	.317

R indicates the correlation of the variance in the dependent variable that the independent variables explain collectively (Wooldridge, 2009). R Squared measures the strength of the relationship between the independent and the dependent variable on a convenient 0 – 100% scale and it is the percentage of the dependent variable variation that a linear model explains (Moore et al., 2009). R Square has a value of 18.6 % meaning that 18.6 % of the variation in the discretionary accruals is explained by the independent variable (audit tenure, auditor opinion, and audit firm specialization). Audit firm gains expertise and specialization through experience in the industry. The adjusted R Square shows a value of 15%, this indicates that the independent variable only explains 15% of the dependent variable. The difference of 3.6% between the R square and Adjusted R square states that 3.6% of the independent variables are not significant when explaining the dependent variable (earnings management).

Table 3. ANOVA

	df	*Sum of Square*	*Mean Square*	*F*	*Sig.*
Regression	4	2.095	.524	5.191	.001
Residual	91	9.179	.101		
Total	95	11.274			

*and ** is significant at a level of 5% and 10%

The purpose of ANOVA is to assess whether the observed differences among sample means are statistically significant (Moore et al., 2009). ANOVA uses *F* statistic and its P-value. This test was conducted on a significance level of 5%. The P-value in table 3 is 0.001, which means that it is smaller than 5% (0.001<0.05). It can be implied that this model is significant, and the conclusion is these results reject the null hypothesis. Table 3 shows an F-value of 5.191 and a significance level of 0.001 ($p < 0.05$), which indicates that the EM has a significant predictive capability with an adjusted R2 of 15,0%. It can be stated that the regression model is a good fit for the data.

7.3 Correlation coefficients

The correlation measures the direction and the strength of the linear relationship between two quantitative variables (Moore et al., 2009). Correlation is usually written as r (Moore et al., 2009). The value of the correlation r is always between −1 and 1 (Moore et al., 2009). Values of r near 0 indicate a very weak linear relationship. Positive r indicates a positive association between the variables, and negative r indicates a negative association (Moore et al., 2009).

Table 4. Pearson's Correlation

	DA	***AudOPIN***	***AudFSpec***	***AudTEN***	***SG***	***LEV***
DA	1.000		-.229	.120	.050	.222
AudOPIN	.000	1.000	.000	.000		.000
AudFSpec	-.229	0.00	1.000	.488	.027	.088
AudTEN	.120	0.00	.488	1.000	-.080	.034
SG	.050	0.00	.027	-.080	1.000	.158
LEV	.222	0.00	.088	.034	.158	1

7.3.1 Pearson's Correlation coefficient regarding independent variables

Discretionary accruals (DA) are negatively correlated with audit firm specialization and positively correlated with audit opinion and audit tenure. The correlation coefficient between DA and audit firm specialization has a value of -0.229. The negative association between auditor firm specialization and discretionary accruals indicate that when audit firm specialist increase, DA will decrease. Meanwhile, the correlation coefficient between DA and audit tenure is positive and has a value of 0.120. This indicates that if the audit tenure increases, DA will increase. This means that an increase in the length of time of an audit will lead to an increase in DA. DA has a weak relationship with audit opinion. The value is 0.000. This indicates that there is no relationship between audit opinion and DA, because all the Suriname companies in the sample selection have an unqualified audit opinion, as mentioned before.

7.3.2 Pearson's correlation coefficients regarding the control variables

Examining the relationship between sales growth and discretionary accruals, table 4 shows a value of 0.050, indicating a positive correlation. This means that when sales increases in value, DA will decrease. The value of leverage of debts is 0.222. The positive correlation indicates that an increase in leverage of debts will lead to a decrease in DA.

7.4 Hypothesis testing

This paragraph will explain the coefficients of the multiple linear regression analysis for each hypothesis of the independent variables.

Table 5. Coefficients (Hypothesis testing)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	-.336	.108		-3.113	.002
AudOPIN	0.000	0.000	0.000	0.000	0.000
AudFSpec	-.325	.087	-.404	-3.712	.001
AudTEN	.337	.117	.313	2.781	.005
SG	.049	.098	.049	.504	.615
LEV	.227	.092	.239	2.485	.015

*and ** is significant at a level of 5% and 10%

As mentioned before, the Multiple linear regression analysis method is used to test the effect of audit quality and earnings management. The following model is estimated:

$DA = a + \beta_1 \text{ AudTEN} + \beta 2 \text{ AudOPIN} + \beta 3 \text{ AudFSpec} + \beta 4 \text{ SG} + \beta 5 \text{ LEV} + E$

To predict this model, the coefficients are obtained from the coefficient table as shown in table 5. The unstandardized coefficient indicates how much the dependent variable varies with an independent variable when all other independent variables are constant. The statistical significance of each of the independent variables can be indicated in table 5. This is meant to examine whether the unstandardized (or standardized) coefficient is equal to 0 in the population. The t-value and corresponding p-value are in the t and sig columns. The beta coefficient of the variables is positive and negative. That means for every 1-unit of these variables, the positive beta coefficient will increase the dependent variable by 0.337 (AudTEN), 0.049 (SG), and 0.227 (LEV). The negative unstandardized coefficients in table 3 indicate that a unit decrease of the AudFSpec will lead to a change of -0.327 in earnings management.

The hypotheses formulated in this study are:

H1: Long audit tenure increases earnings management

H1 tests the relationship between the long audit tenure and earnings management over a sample period of 8 years (2011-2018), with data which is collected through analysis of the annual reports. Table 5 shows that at a 5% level of significance and 95% level of confidence, the audit tenure has a 0.005 level of significance which indicates that it is statistically significant ($p < 0.05$).

The first hypothesis (H1) is rejected. In other words, long audit tenure does not increase earnings management in Suriname companies.

H2: Unqualified audit opinion has a positive relationship with earnings management.

H2 is expected to have a positive effect on earnings management. The second hypothesis tests the relationship between audit opinion and earnings management. The T-test states a value of 0.000 for this relationship, this means that the P-value is statistically significant ($0.000<0.05$). The second hypothesis (H2) is rejected, meaning that unqualified audit opinion has no association with earnings management.

H3: Audit firm specialization is negatively associated with earnings management.

The third hypothesis (H3) tests the relationship between audit firm specialization and earnings management. The T-test states a value of 0.001 for this relationship, this means that the P-value is statistically significant (0.001<0.05). The third hypothesis (H3) is rejected, meaning that audit firm specialization does not affect earnings management.

8 Conclusions, limitations, and future research

This thesis examines the effect of audit quality on earnings management of Suriname companies. Audit quality is operationalized in three different characteristics: auditor opinion, audit firm specialization, and auditor tenure. Earnings management has been proxied by a firm's discretionary accruals for the period 2011-2018 calculated with a time-series variation of the Modified Jones model (Dechow et al., 1995). For the accomplishment of the statistical tests and the regressions was used the program IBM SPSS Statistics 21.

As mentioned in the introduction, the main research question of this thesis is:

Does audit quality reduce earnings management in Suriname companies?

To correctly answer the research question, the following sub-questions were formulated:

1. What is audit quality?
2. What is earnings management?
3. What are the developed hypotheses?

To know if the audit tenure, auditor opinion and audit firm specialization have an effect on earnings management of the Suriname companies, a multiple linear regression analysis was executed. The following hypotheses were formulated and tested:

1. H1: Long audit tenure increases earnings management
2. H2: Unqualified audit opinion has a positive relationship with earnings management.
3. H3: Audit firm specialization is negatively associated with earnings management.

Based on the hypotheses the following conclusions have been reached:

The first hypotheses analyzed whether long audit tenure increases earnings management. Long audit firm tenure improves audit quality because when an auditor audits a company for more than five years, accounting irregularities can be better detected. According to the study of Geiger and Raghunandan (2002), auditors with longer tenure are more independent and not associated with higher earnings management. Myers et al. (2003) report empirical evidence on the association between longer audit firm tenure and improved earnings quality and conclude that auditors place greater constraints on extreme management decisions because of longer audit firm tenure. The findings of this research support the research done by Meyers et al. (2003) and Geiger and Raghunandan (2002). The hypothesis was rejected, it can be concluded that long audit tenure does not increase earnings management but decrease it.

The second hypothesis tested whether unqualified an audit opinion has a positive relationship with earnings management. The correlation coefficient shows no relationship between audit opinion and earnings management. Prior research of Butler et al. (2004) claims that earnings management is not associated with unqualified auditor opinion. Based on these findings the second hypothesis is rejected. Bradshaw et al. (2001) indicate that there is a relationship between modified auditor opinion and discretionary accruals. The results of this research contradict the findings of Bradshaw et al. (2001) where it was pointed out that there is no association between qualified audit opinion and earnings management.

The third hypothesis analyzed whether Audit firm specialization is negatively associated with earnings management. The evidence shows a negative correlation between audit firm specialization and earnings management. Balsam & Krishnan (2003) states that auditor industry specialization is negatively associated with earnings management. The results of this research contradict the findings of Balsam & Krishnan (2003) point out that audit firm specialization is not negatively associated with earnings management. The study of Karjalainen (2011); DeBoskey and Jiang (2012) find a positive association between audit firm specialization and earnings management. These findings support the finding of this research on Suriname companies.

The availability of the data can be seen as a limitation of this study because some companies have only consolidated balance sheets and profit & loss state. For the data period considered in this thesis, only 12 companies are listed on the Suriname Stock Exchange and some of the annual reports of these companies are not available. For this research, only the unqualified audit opinion has been taken into consideration. This research shows the effect of audit quality on earnings management in Suriname companies. Future researchers can consider a longer data period. This research can also be done for small companies of Suriname and companies that are not listed on the Suriname Stock Exchange.

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Appendix A Summary of prior research

Author(s)	Research object	Sample	Method	Results	Limitations
Balsem et al (2003)	The study examines the association between measures of earnings quality and auditor industry specialization	Sample are 62,847 observations for year-ends from 1991 to 1999.	Multiple regression	This study examines the association between measures of earnings quality and auditor industry specialization	No limitations
Bartov, Gul, and Tsui (2000)	This research the association between discretionary accruals and audit qualifications	The sample selection procedure is 112,384 firm-year observations for the 18-year period, 1980 – 1997	Cross-sectional regression	Results are that a significant positive link exists between the absolute value of discretionary accruals and the likelihood of receiving a qualified opinion	No limitation’s
Garcia et al. (2013)	This study investigates whether earnings management activities increase the likelihood of receiving a	The sample is Spanish company for the period 2001-2009.	Matched sample	The results do not show a significant relationship between earnings	No limitations

	qualified audit report			management and qualified audit reports.	
Geiger and Raghunandun (2002)	Association between type of audit opinion on financial statement immediately prior to bankruptcy and auditor.	study considers the population of Australian first-time going-concern-modified opinions from 1994 to 1997	Multiple regression	Auditors with longer tenure more independent and not associated with higher likelihood of audit reporting failure.	A potential limitation of the study is the method of selection of control companies in the financially stressed, non-going-concern-modified audit opinion group.
Ghosh and Moon (2005)	This research analyzes how investors and information intermediaries perceive auditor tenure	The sample selection procedures in a maximum of 38.794 observations for the full sample over the years 1990 through 2000.	Year- by -year cross sectional regressions	Positive relationship between audit firm tenure and several measures of reliance on reported earnings. (Proxy for audit quality).	No limitations
Herbohn and Ragunathan (2008)	This paper investigates the reasons that lead to modification of auditors' opinions	The study sample comprises all firms listed on the Australian		The result of this research is a negative relation between	The scope limitations arose for a variety of reasons, The 12 cases of

		Stock Exchange over the period 1999–2003		accruals and audit opinion modifications that is attributable to going concern opinion firms.	disagreement with management over accounting policies and estimates concerned goodwill write-offs
Johnson et al. (2002)	The research question in this study is whether audit-firm tenure is related to financial-reporting quality	11,148 firm-year observations in the 10-year test period 1986–95	Cross-sectional regression		No limitations
Karjalainen (2011)	This paper examines the association between industry specialization of an individual audit partner and the quality of earnings reported for privately held companies	The sample yield is 166,168 companies for the period 2006-2010	Ordinary least squares regression (OLS)	The results suggest that industry specialization of the audit partner is associated positively with the quality of earnings reported by private companies	One limitation of this study is that it does not explicitly address the extent to which endogeneity and self-selection may be driving the results, given that private companies whose business operations produce higher-quality earnings may prefer to

					appoint auditors who are industry specialists
Murya Habbash and Salim Alghamdi, 2017	This paper aims to determine if significant association exist between audit quality and earnings management.	The sample of 337 non-financial Saudi listed firms from 2006 to 2009	Cross-sectional variation	The results of this research indicate that only auditor opinion indicates earnings management practice. The results support the argument that auditors are powerless in front of managerial opportunistic activities	The limitation is these settings such as Saudi Arabia and overall other developing economies, the use of agency theory alone may not unravel the problem. Th us, we encourage future research to further explore this research question using alternative theories
Sengupta and Shen (2007)	Whether auditor decions can explain accruals quality	First sample is auditor opinion and audit fee, the observation is 9477 firms. The second sample is auditor change, the observations is 827 firms. The period is 2000-2004	Cross-sectional regression	findings are that firms with poorer accruals quality are charged higher audit fees and have a greater likelihood of receiving a	No limitations

				going concern audit opinion.	
Ann Vanstralen (2000)	This paper aims to analyse the impact of renewable long-term audit mandates on audit quality	The first sample contains financially stressed non-bankrupt large companies, and the second sample contains financially non-stressed non-bankrupt large companies	Logistic regression	The results of the study suggest that long-term auditor client relationships significantly increase the likelihood of the auditor to issue an unqualified audit report.	No limitations
Zawawi (2007)	The objective of this study is to examine whether audit-firm tenure is associated with the financial reporting quality in the context of Malaysia	The sample consists of 47 randomly selected companies. The duration of the auditor with their client companies was identified from the Auditors' Reports from 1998-2004	Multiple regression	The results are that long audit tenure increases an auditor understanding of the firm's system and internal controls.	

Appendix B Data Summary

Ending date of Fiscal year	Company	Auditor	Audit firm	Audit Opinion
12-31-2011	NV VSH FOODS	Drs. M. R. A. Lutchman RA	Lutchman & Co N.V	Unqualified audit opinon
12-31-2012	NV VSH FOODS	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2013	NV VSH FOODS	Drs. M. R. A. Lutchman RA	Lutchman & Co	Unqualified audit opinon
12-31-2014	NV VSH FOODS	Drs. M. R. A. Lutchman RA	Lutchman & Co	Unqualified audit opinon
12-31-2015	NV VSH FOODS	Drs. M. R. A. Lutchman RA	Lutchman & Co	Unqualified audit opinon
12-31-2016	NV VSH FOODS	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2017	NV VSH FOODS	D. de Keyzer AA chartered accountant	Lutchman & Co N. V	Unqualified audit opinon
12-31-2018	NV VSH FOODS	D. de Keyzer AA chartered accountant	Lutchman & Co N. V	Unqualified audit opinon
12-31-2011	NV Consolidated Industries Corporation (CIC)	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2012	NV Consolidated Industries Corporation (CIC)	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2013	NV Consolidated Industries Corporation (CIC)	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2014	NV Consolidated Industries Corporation (CIC)	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2015	NV Consolidated Industries	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon

	Corporation (CIC)			
12-31-2016	NV Consolidated Industries Corporation (CIC)	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2017	NV Consolidated Industries Corporation (CIC)	D. de Keyzer AA chartered accountant	Lutchman & Co N. V	Unqualified audit opinon
12-31-2018	NV Consolidated Industries Corporation (CIC)	D. de Keyzer AA chartered accountant	Lutchman & Co N. V	Unqualified audit opinon
12-31-2011	Hakrinbank NV	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2012	Hakrinbank NV	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2013	Hakrinbank NV	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2014	Hakrinbank NV	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2015	Hakrinbank NV	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2016	Hakrinbank NV	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2017	Hakrinbank NV	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2018	Hakrinbank NV	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2011	Varossieau Suriname NV	Drs. R. Abrahams RA Partner/E.H. Pater AA Senior Manager BDO Assurance N.V	BDO Assurance N. V	Unqualified audit opinon
12-31-2012	Varossieau Suriname NV	Drs. R. Abrahams RA	BDO Assurance N. V	Unqualified audit opinon
12-31-2013	Varossieau Suriname NV	Drs. R. Abrahams RA Partner/E.H.	BDO Assurance N. V	Unqualified audit opinon

		Pater AA Senior Manager		
12-31-2014	Varossieau Suriname NV	Drs. R. Abrahams RA Partner/E.H. Pater AA Senior Manager	BDO Assurance N. V	Unqualified audit opinon
12-31-2015	Varossieau Suriname NV	Nicole Baptiste RA	KPMG assurance	Unqualified audit opinon
12-31-2016	Varossieau Suriname NV	A.J.M. Oude Weernink RA	KPMG assurance	Unqualified audit opinon
12-31-2017	Varossieau Suriname NV	D. de Keyzer AA (certificerend accountant)	Lutchman & Co	Unqualified audit opinon
12-31-2018	Varossieau Suriname NV	D. de Keyzer AA (certificerend accountant)	Lutchman & Co	Unqualified audit opinon
12-31-2011	NV VSH United	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2012	NV VSH United	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2013	NV VSH United	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2014	NV VSH United	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2015	NV VSH United	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2016	NV VSH United	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2017	NV VSH United	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2018	NV VSH United	D. de Keyzer AA (certificerend accountant)	Lutchman & Co N. V	Unqualified audit opinon
12-31-2011	De Surinaamse Bank	W.K. Achthoven RA/ Drs. R. Abrahams RA	BDO Assurance N. V	Unqualified audit opinon

12-31-2012	De Surinaamse Bank	W.K. Achthoven RA/ Drs. R. Abrahams RA	BDO Assurance N. V	Unqualified audit opinon
12-31-2013	De Surinaamse Bank	W.K. Achthoven RA/ Drs. R. Abrahams RA	BDO Assurance N. V	Unqualified audit opinon
12-31-2014	De Surinaamse Bank	W.K. Achthoven RA/ Drs. R. Abrahams RA	BDO Assurance N. V	Unqualified audit opinon
12-31-2015	De Surinaamse Bank	W.K. Achthoven RA	BDO Assurance N. V	Unqualified audit opinon
12-31-2016	De Surinaamse Bank	W.K. Achthoven RA	BDO Assurance N. V	Unqualified audit opinon
12-31-2017	De Surinaamse Bank	w.g. R.D. Ferrier MSc. RA	BDO Assurance N. V	Unqualified audit opinon
12-31-2018	De Surinaamse Bank	w.g. R.D. Ferrier MSc. RA	BDO Assurance N. V	Unqualified audit opinon
12-31-2011	Hakrinbank	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2012	Hakrinbank	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2013	Hakrinbank	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2014	Hakrinbank	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2015	Hakrinbank	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2016	Hakrinbank	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2017	Hakrinbank	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2018	Hakrinbank	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2011	Surichange bank	L. Bhawanie AA/Drs. R. Abrahams RA	BDO Assurance N.V	Unqualified audit opinon

12-31-2012	Surichange bank	L. Bhawanie AA/Drs. R. Abrahams RA	BDO Assurance N.V	Unqualified audit opinon
12-31-2013	Surichange bank	w.g. drs. R. Abrahams RA	BDO Assurance N.V	Unqualified audit opinon
12-31-2014	Surichange bank	w.g. drs. R. Abrahams RA	BDO Assurance N.V	Unqualified audit opinon
12-31-2015	Surichange bank	w.g. drs. R. Abrahams RA	BDO Assurance N.V	Unqualified audit opinon
12-31-2016	Surichange bank	w.g. drs. R. Abrahams RA	BDO Assurance N.V	Unqualified audit opinon
12-31-2017	Surichange bank	w.g. drs. R. Abrahams RA	BDO Assurance N. V	Unqualified audit opinon
12-31-2018	Surichange bank	w.g. drs. R. Abrahams RA	BDO Assurance N. V	Unqualified audit opinon
12-31-2011	Fina bank	drs. R.A. Tjong A Hung R	Tjong A Hung Accountants N.V	Unqualified audit opinon
12-31-2012	Fina bank	drs. R.A. Tjong A Hung R	Tjong A Hung Accountants N.V	Unqualified audit opinon
12-31-2013	Fina bank	Marc Lie-Kwie RA	KPMG Assurance Services N.V.	Unqualified audit opinon
12-31-2014	Fina bank	Nicole Baptista RA	KPMG Assurance Services N.V.	Unqualified audit opinon
12-31-2015	Fina bank	Nicole Baptista RA	KPMG Assurance Services N.V.	Unqualified audit opinon
12-31-2016	Fina bank	Lindomar L.P. Scoop RA (MD)/ Mehdi Salehi RA	KPMG Assurance Services N.V.	Unqualified audit opinon

12-31-2017	Fina bank	F. de Windt-Ferreira CPA	Ernst & Young Accountants	Unqualified audit opinon
12-31-2018	Fina bank	F. de Windt-Ferreira CPA	Ernst & Young Accountants	Unqualified audit opinon
12-31-2011	Staatsolie	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2012	Staatsolie	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2013	Staatsolie	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2014	Staatsolie	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2015	Staatsolie	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2016	Staatsolie	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2017	Staatsolie	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2018	Staatsolie	Drs. M. R. A. Lutchman RA	Lutchman & Co N. V	Unqualified audit opinon
12-31-2011	Assuria	W.K. Achthoven RA/Drs.R. Abrahams RA	BDO Assurance N. V	Unqualified audit opinon
12-31-2012	Assuria	W.K. Achthoven RA/Drs.R. Abrahams RA	BDO Assurance N. V	Unqualified audit opinon
12-31-2013	Assuria	W.K. Achthoven RA/Drs.R. Abrahams RA	BDO Assurance N. V	Unqualified audit opinon
12-31-2014	Assuria	W.K. Achthoven RA/Drs.R. Abrahams RA	BDO Assurance N. V	Unqualified audit opinon
12-31-2015	Assuria	W.K. Achthoven RA	BDO Assurance N. V	Unqualified audit opinon
12-31-2016	Assuria	W.K. Achthoven RA	BDO Assurance N. V	Unqualified audit opinon
12-31-2017	Assuria	W.K. Achthoven RA	BDO Assurance N. V	Unqualified audit opinon
12-31-2018	Assuria	W.K. Achthoven RA	BDO Assurance N. V	Unqualified audit opinon
12-31-2011	Self-reliance	drs. R.K. Burgos RA	Tjong A Hung Accountants N.V.	Unqualified audit opinon

12-31-2012	Self-reliance	drs. R.K. Burgos RA	Tjong A Hung Accountants N.V.	Unqualified audit opinon
12-31-2013	Self-reliance	drs.J.D. Kortram RA	Tjong A Hung Accountants N.V.	Unqualified audit opinon
12-31-2014	Self-reliance	drs.J.D. Kortram RA	Tjong A Hung Accountants N.V.	Unqualified audit opinon
12-31-2015	Self-reliance	drs.J.D. Kortram RA	Tjong A Hung Accountants N.V.	Unqualified audit opinon
12-31-2016	Self-reliance	drs.J.D. Kortram RA	Tjong A Hung Accountants N.V.	Unqualified audit opinon
12-31-2017	Self-reliance	drs.J.D. Kortram RA	Tjong A Hung Accountants N.V.	Unqualified audit opinon
12-31-2018	Self-reliance	M.S.A. Tjong A Hung RA MSc	Tjong A Hung Accountants N.V.	Unqualified audit opinon

Appendix C Summary Data Audit Firm Specialization

Audit Firm	**Audit firm Specialization**
Drs. M. R. A. Lutchman RA	5
D. de Keyzer AA chartered accountant	4
drs. R.K. Burgos RA	1
Drs. R. Abrahams RA	6
drs.J.D. Kortram RA	1
W.K. Achthoven RA	3
Nicole Baptista RA	1
A.J.M. Oude Weernink RA	1

Audit Firm	**Audit firm specialization**
M.S.A. Tjong A Hung RA MSc	1
w.g. R.D. Ferrier MSc. RA	1
Andrew Tom	1
L. Bhawanie AA	1
Lindomar L.P. Scoop RA (MD)/ Mehdi Salehi RA	1
Marc Lie-Kwie RA	1
E.H. Pater AA	1
F. de Windt-Ferreira CPA	1

Appendix D Summary Data Audit tenure

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Audit firm	NV VSH FOODS	NV VSH CIC	Brouwerij	Varossieau	NV VSH Holding	DSB	Hakrinbank	Surichangebank	Finabank	Staatsolie	Assuria	Self-reliance
Lutchman & Co	8	7	4	2	8	-	8	-	-	6	-	-
BDO Assurance N. V	-	1	4	4	-	8	-	8	-	-	8	-
KPMG Accountants B. V	-	-	-	2	-	-	-	-	4	-	-	-
Tjong A Hung Accou	-	-	-	-	-	-	-	-	2	-	-	8

ntants N.V.												
Ernst & Young Accountants	-	-	-	-	-	-	-	-	2	2	-	-

Appendix E Libby boxes

Libby boxes are a predictive validity framework. This framework is used to examine the distinction between underlying constructs of strategic objectives and their proxy measures to illustrate causal models related to some objectives in an organization (Smit, 2011). The effect of audit quality on earnings management will be operationalized through Libby boxes in this research.