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AUDITEE AND AUDIT FIRM CHARACTERISTICS AS  
DETERMINANTES OF AUDIT QUALIFICATIONS

PORTUGAL CASE STUDY

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Dissertation  
Master in Finance

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2019

## **Author's Biography**

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Later in 2015, the author was hired for the Corporate Finance area by Deloitte Portugal, where he had worked in the areas of audit and transaction services.

Nowadays, Carlos Alexandre Sacchetti Corte-Real is currently working in a small audit firm and attending the course for statutory auditor in Portugal.

## **Abstract**

This dissertation's main purpose is to test whether the auditor's opinion can be predicted by jointly analyzing financial and non-financial factors, which may help to foresee companies at greater risk of material misstatement of their Financial Statements and/or to understand if the auditor's opinion is biased by certain factors, presenting a potential additional risk factor in users' decision making. While developing the essay, an econometric analysis was performed using the logistic model created by Caramanis and Spathis (2006) aiming to determine each proxy's impact on the occurrence of audit qualifications: audit fees; audit type of firm; EBIT to total assets ratio; current ratio; accounts receivables to sales ratio and net profit to sales ratio. A randomly sample of 50 companies from the 500 largest companies in Portugal was used. The results show that just EBIT to total assets ratio affects negatively the propensity of auditors for modifying their opinions. Therefore, future researches should try to broaden the scope of existing researches, seeking to follow different paths to determine the fundamental aspects that really influence the auditor's opinion.

**Keywords:** Financial Statements; Audit; Audit report; Qualifications.

## Resumo

O principal objetivo da presente dissertação é determinar se a opinião do auditor pode ser prevista pela análise conjunta de fatores financeiros e não financeiros, permitindo prever quais as empresas que apresentam maior risco de conter distorções materiais nas suas Demonstrações Financeiras e/ou a entender se a opinião do auditor é enviesada por determinados fatores, o que por si identificaria um potencial fator de risco adicional na tomada de decisão dos utilizadores de informação financeira. Durante o desenvolvimento da dissertação foi realizada uma análise econométrica utilizando o modelo logistic criado por Caramanis e Spathis (2006) com o objetivo de determinar o impacto de cada proxy na existência de reservas: honorários de auditoria; tipo de firma de auditoria; rácio EBIT sobre total do ativo; rácio corrente; rácio de contas a receber sobre vendas e resultado líquido do período sobre vendas. Foi utilizada uma amostra aleatória de 50 empresas das 500 maiores empresas em Portugal. Os resultados mostram que apenas o rácio EBIT sobre total do ativo afeta negativamente a propensão dos auditores em modificar as suas opiniões. Portanto, futuros estudos devem tentar ampliar o âmbito das investigações existentes, procurando seguir caminhos diferentes para determinar os aspectos fundamentais que realmente influenciam a opinião do auditor.

**Palavras-Chave:** Demonstrações Financeiras; Auditoria; Relatório de Auditoria/Certificação Legal de Contas; Reservas.

## Index

|                                                                |     |
|----------------------------------------------------------------|-----|
| Author's Biography .....                                       | i   |
| Abstract.....                                                  | ii  |
| Resumo .....                                                   | iii |
| Introduction .....                                             | 1   |
| Chapter 1 – Literature Review.....                             | 4   |
| 1.1. Definition of auditing.....                               | 4   |
| 1.2. Auditing value relevance to the field of Finance .....    | 6   |
| 1.2.1. The value relevance of the accounting information ..... | 11  |
| 1.3. Audit quality.....                                        | 14  |
| 1.3.1. Frameworks to establish audit quality.....              | 16  |
| 1.3.2. Some indicators of audit quality.....                   | 20  |
| 1.3.2.1. Inputs.....                                           | 20  |
| 1.3.2.2 Process.....                                           | 21  |
| 1.3.2.3 Outcomes .....                                         | 22  |
| 1.3.2.4 Context .....                                          | 22  |
| 1.4. Audit reports.....                                        | 23  |
| 1.4.1. Auditing in the Portuguese context .....                | 25  |
| 1.5. Audit qualifications .....                                | 26  |
| 1.5.1. Models of audit qualifications.....                     | 31  |
| Chapter 2 – Hypotheses .....                                   | 34  |
| Chapter 3 – Methodology .....                                  | 36  |
| 3.1. Model.....                                                | 36  |
| 3.2. Variables .....                                           | 37  |
| 3.2.1. Audit firm characteristics .....                        | 37  |
| 3.2.2. Auditee financial information.....                      | 38  |
| 3.3. Method .....                                              | 39  |
| Chapter 4 – Sample .....                                       | 41  |
| Chapter 5 – Results .....                                      | 47  |
| Chapter 6 – Conclusions .....                                  | 50  |
| References.....                                                | 53  |

## Tables Index

|                                                                                                                             |    |
|-----------------------------------------------------------------------------------------------------------------------------|----|
| Table 1 – Sample validation .....                                                                                           | 41 |
| Table 2 – Descriptive statistics of AUDITFEES for qualified and unqualified opinions....                                    | 42 |
| Table 3 – Descriptive statistics of EBIT/TA for qualified and unqualified opinions .....                                    | 42 |
| Table 4 – Descriptive statistics of CA/CL for qualified and unqualified opinions .....                                      | 43 |
| Table 5 – Descriptive statistics of REC/SAL for qualified and unqualified opinions.....                                     | 43 |
| Table 6 – Descriptive statistics of NP/SAL for qualified and unqualified opinions .....                                     | 44 |
| Table 7 – Correlations.....                                                                                                 | 44 |
| Table 8 – Normality tests .....                                                                                             | 45 |
| Table 9 – Mann-Whitney Test.....                                                                                            | 47 |
| Table 10 – Assessment of the type of opinion obtained (qualified or unqualified) by Big Four and Non-Big Four clients ..... | 48 |
| Table 11 – Pearson Chi-Square Tests to assess the relationship between TYPEOFAUDITFIRM and qualified opinion.....           | 48 |
| Table 12 – Model Statistics .....                                                                                           | 48 |
| Table 13 – Confusion Matrix.....                                                                                            | 49 |
| Table 14 – Regression results .....                                                                                         | 49 |

## Acronyms Index

**EBIT/TA** – Earnings Before Interests and Taxes to Total Assets ratio

**CA/CL** – Current Assets to Current Liabilities ratio

**FRC** – Financial Reporting Council

**ISA** – International Standards on Auditing

**NP/SAL** – Net Profit to Sales ratio

**REC/SAL** – Accounts Receivables to Sales ratio

**SOX** – Sarbanes-Oxley Act

**UTADIS** – Utilities Additives Discriminants

## Introduction

Financial models and financial analysis use accounting data as variables, basis for assumptions and inputs. More precisely, financial statement information is a primarily source of publicly available market information (Fama, 1970) and provides inputs to investors (Holthausen & Watts, 2001). According to Mautz (1964), the concept of auditing is related to the verification of accounting data, more precisely to the determination of the reliability and accuracy of the accounting statements and reports. Moreover, as stated by the European Commission (2010), despite it is not reasonable to expect that the audited accounts are free of misstatements, the overall objective of auditors is to minimize such risk on financial data. Therefore, information asymmetry leads stakeholders to demand for audit services, including users/developers of financial models and analysis, since their output depends on the accounting information used, which depends of audit conclusions reflected on audit report.

Regarding audit reports, according to Arens *et al.* (2012) its purpose is to support the decision of investors and potential investors. In fact, there are numerous stakeholders interested in audit to be performed, such as managers, directors, investors, creditors and any individuals who have any interest in the company (Gramling *et al.* 2012). As well, Lennox and Pittman (2011) and Dedman and Kausar (2012) established that banks, investors and other stakeholders consider auditing as a quality assurance to financial statements and an increasing reliability to the company. So, it is possible to conclude that audit is an important topic to several stakeholders.

Moreover, according to Ballesta and García-Meca (2005), stakeholders main concern regarding audit results is to be aware of the existence of qualifications in the audit report, since in the audit reports, which gives stakeholders an independent, professional and objective opinion about how both financial statements and management report give a proper and fair view of the financial position and performance in accordance with accounting and legal framework, audit qualifications are the statements that allow stakeholders to have knowledge of concrete or potential material distortions. Such information can be crucial to investors and other stakeholders' decisions.

Regarding the importance of audit quality, according to DeAngelo (1981a) and Carcello *et al.* (1992) it is directly related to the occurrence of qualifications in audit reports,

since it depends on the auditor himself to discover and to report a misstatement in financial data. Furthermore, Palmrose (1988) states that higher quality of audit services corresponds to lower probability of financial statements contain material omissions or distortions.

Given the importance of audit qualifications to a wide spectrum of stakeholders, several researchers seek to ascertain if there are factors that allow to predict the occurrence of qualifications. According to Dopouch *et al* (1987), researchers can use empirical models comprising financial measures and audit firms' characteristics to assess the likelihood of a company receiving a qualified opinion based on publicly available data. Overall, the consensus of these models has been related to the fact that both financial and non-financial factors affect the auditor opinion.

The output of such models its valuable to auditors as planning and quality tools (Bell & Tabor, 1991; Chen & Church, 1992; Kleinman & Anandarajan, 1999) and to other stakeholders as a predicting tool in order to analyze how changes in specific variables could impact the likelihood of obtaining a qualified opinion (Kleinman & Anandarajan, 1999).

Therefore, through this dissertation it is intended to test if there are factors that affect the likelihood of an auditor issue a qualified opinion. Regarding the previous research, it is expected that factors related with auditee financial position and performance (as liquidity, performance and specific audit task difficulty) and audit firm characteristics (as size, quality and independence) can be used to predict qualifications on audit reports. Nevertheless, in order to consider such factors, it is necessary to define proxies of them as variables.

The aim of this dissertation is to test the level to which combinations of auditee companies' financial information with respective audit firms' non-financial information, such as audit fees and type of audit firm, can be use in predicting modified audit opinions, thus allowing audit report readers to realize the potential factors that influence the occurrence of audit qualifications.

It is expected that the present dissertation contributes to the pertaining literature.

In order to empirically test the hypotheses formulated based on the literature review, one of the logistics models developed by Caramanis and Spathis (2006) was selected from the existing models, since it was successful in classifying 89,20% of the total

sample. This model assumes auditee financial measures and audit firm characteristics as variables that fit on the formulated hypotheses and addresses the research purpose. Furthermore, this model was developed to Greek companies, which are subject to a similar macroeconomic and regulatory environment as the Portuguese reality.

The data was randomly taken from a sample of 50 Portuguese companies included in the group of the 500 largest companies in Portugal. The defined population allows data collection, including only companies subject to statutory audit and comprising companies audited by Big Four and Non-Big Four.

It is expected that the outcome of such model truly estimates the likelihood of a company receiving a qualified opinion.

The remainder of this dissertation is organized as follows:

- Chapter 1 presents the literature review, where previous researches and several concepts are defined, explained and reviewed, such as: auditing, auditing value relevance to the field of Finance, value relevance of the accounting information, audit quality, audit reports and audit qualifications;
- Chapter 2, in turn, presents the hypotheses of the present study.
- Chapter 3 presents the methodology of the present study, outlining the variables (six in total) and the methods employed (statistical analyses);
- Chapter 4 presents study's sample (50 Portuguese companies) and its analysis;
- Chapter 5 presents and discusses the obtained results, therefore demonstrating the main empirical contributions of the present study;
- Chapter 6 presents the main conclusions and implications of the present study, both related to the theoretical and empirical aspects of the investigation, summarizing the main contributions at both levels and discusses its limitations.

## Chapter 1 – Literature Review

This chapter introduces the definition of auditing, focuses on the auditing relevance for the field of Finance, comprises some evidence about audit quality, presents the main characteristics of auditor reports and presents the definition of audit qualifications as the possible determinants of audit qualifications.

### 1.1. Definition of auditing

Etymologically, the term "auditing" arises from the Latin word *audire*, which means "to hear" and justifies why the auditor was considered to be a "listener" (Costa, 2007). The concept of auditing arose in the 19<sup>th</sup> century and in Great Britain, having spread to the rest of Europe, as well as to Canada and to the United States of America (Robertson & Smieliauskas, 1998). The global diffusion of such concept can be justified by the demands that emerged during the Industrial Revolution, which led to the development of the economic activity and to the subsequent need for an organized accounting and control systems, more specifically to avoid errors and fraud, as well as to obtain credible information (Marques, 1997).

According to Mautz (1964), the concept of auditing is related to the verification of accounting data, more precisely to the determination of the reliability and accuracy of the accounting statements and reports. Overall, this verification of accounting data is performed by extensively evaluating both the available internal and external evidence of the company's transactions. Therefore, the auditing of financial statements is based on an objective evaluation of those same financial statements, which refer to a specific company, namely by an independent auditor.

More recently, Taborda (2006) argues that auditing consists of a judgment process, since it is based on the collection and further analysis of appropriate and enough evidence, justifying the auditor's opinion on the existing conformity between certain procedures and a previously defined framework.

Nonetheless, Christensen (2010) adds that auditing includes an essential part of the control, given the fact that it enables the communication of private information to decision

makers, with two specific meanings: as quality control and as independent credibility provider to the report.

For Arens *et al.* (2012), auditing is the accumulation and evolution of evidence on the information, aiming to determine and to communicate the level of correspondence between the information and the previously established criteria, which is why it should be performed by a competent and independent person.

The European Commission (2010) established that the limited liability of the companies' annual accounts is required, and by the law, to be audited, specifically to ensure that the existing financial statements provide a true and fair view to all users. Furthermore, the same institution argues that, despite being acknowledged that it is not quite reasonable to expect that the audited accounts are entirely free of misstatements, the overall goal of auditors is to minimize such risk on financial data.

The auditing's purpose can be classified in audits of financial statements and in compliance audits. The audits of financial statements include an examination of the financial statements of organizations, more precisely to express an opinion on their conformity to the existing regulations. The compliance audits, in turn, are based on the verification of compliance with regulations and rules, which are individually imposed and for each entity. However, they also include operational audits, that is, a systematic review of the operational areas of the organization, which assesses the efficiency, effectiveness and economy of the activities that are developed (Arenas & Moreno, 2008; Costa, 2007).

Hence, and by auditing the company's financial statements, the auditor will provide a certain opinion to all stakeholders, such as investors and shareholders, more precisely regarding the fact that all the company's financial statements are accurately presented.

As it is demonstrated by Lennox and Pittman (2011), as well as by Dedman and Kausar (2012), banks, investors and other stakeholders consider auditing as a quality assurance to a company's financial statements, as well as a decreasing earnings management and an increasing reliability to the company.

In sum, the quality of the financial information aims to increase the efficiency of the investment, that is, to convey the real performance of the company, as well as to reduce the problems that are inherent to the information asymmetry, to increase the financing ability and to decrease its costs in terms of capital, being used by partners or shareholders

to supervise managers in their investment activities (Hope & Thomas, 2008; Lambert *et al.*, 2007).

## **1.2. Auditing value relevance to the field of Finance**

Regarding the importance of auditing to the field of finance, in the present work it is important to highlight the following theories: the (positive) agency theory; the theory of inspired confidence; the insurance theory; the assurance theory; the positive accounting theory; the stewardship theory; and the legitimacy theory.

The agency theory, one of the most relevant theories within this field, points the difference in the interests of the agent and of the principal or even between the employee and the owner. According to Jensen and Meckling (1976), agency relationship is a “contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf”. In certain organizations, especially where the operational management is handed over to a manager, the manager is in a position that has a knowledge advantage in terms of the operational activities, namely when compared to the owner’s position. Considering that this manager can exploit such knowledge advantage for personal gains, consisting of a disadvantage to the owner, it is possible to conclude that both interests are quite opposite (Jensen & Meckling, 1976). More specifically, the interest of achieving personal gain by the manager, for example by under reporting or even by false reporting, is not the interest of the owner and of the company itself, who must be properly informed in order to realize the maximum results (Conyon & Murphy, 2000). As a matter of fact, owners do not achieve the maximum results when the interest of the managers is to pursue their personal interests (Eisenhardt, 1989). Hence, the agent is not acting according to the interest of the principal, arising an agent risk or an agency problem, since the agent is not controlled by the owner, who presents a knowledge gap.

Furthermore, the agency theory can truly explain the extent of auditing activities that are performed by the internal control department and by the external auditor. However, it is important to add that differences in branches may actually impose some specific requirements on the control activities that are performed, since research has shown that within more complex organizations, with multiple owners, it is more difficult to perform the audit and to control all the management activities, especially when compared

to smaller organizations, whose owners are only stockholders. Therefore, the degree of cohesion and the heterogeneity in ownership presents a huge influence in the auditing activity (Eisenhardt, 1989). These control problems can be solved by turning the internal control department as independent, namely from the management department, since it directly reports lines to the board of directors, and especially to the audit committee. Nevertheless, it is also important to emphasize that the information asymmetry can be found and affect the salary of the manager, more precisely due to the auditing costs. Thus, the manager is encouraged to be transparent in his work in order to keep the “bonding costs” as low as possible, considering that these highly influence his salary (Jensen & Meckling, 1976).

According to Adams (1994), agency costs are the expenses that are incurred due to the contracting process. Even though the principal/owner can reduce agency costs by monitoring, monitoring can also involve costs. Fama and Jensen (1983), in turn, consider that agency costs are the costs of structuring, monitoring and bonding a set of contracts between agents that present conflicting interests. Still, and as it is pointed out by Jensen (1983), agency costs also include the costs that are related to the assumption that it is not appropriate to perfectly monitor all contracts. However, Adams (1994) argues that to ensure the optimal level of information asymmetry and of interest alignment both agents and principals will incur contracting costs. For example, agents incur costs for external financial reporting and for internal controls, while principals will incur monitoring costs from subjecting the financial statements to external audits. In sum, and as it is pointed out by Jensen and Meckling (1976), agency costs include: 1) the monitoring costs (expenditures by the principal to limit the agent’s activities); 2) the bonding costs (expenditures by the agent in order to guarantee that harmful actions are not performed); and 3) the residual losses. Monitoring activities include auditing, which contributes to decrease information asymmetries between principals and agents (Healy & Papelu, 2001). Thus, based on the agency theory, it is possible to conclude that statutory audit is an important mechanism to enhance the confidence of principals through its independent role on providing reliability and fairness on the financial reporting provided by the agent (Hosseinniakani, 2014).

In sum, based on the separation of ownership and control, being the firm a nexus of incomplete contracts, agency relationship drives to asymmetric information problems

between the agent and the principal, which can be mitigated by monitoring activities as audit procedures.

Moreover, the theory of inspired confidence addresses both the demand and the supply for audit services. Indeed, the demand for audit services results from the participation of third parties in the company, that is, from the interested parties of a company, who demand accountability from the management in return for their investments in the organization. Hence, accountability is realized through the issuance of periodic financial reports, even though the provided information by the management may be biased. In this scenario, outside parties do not have direct means of monitoring, therefore demanding an audit in order to assure the reliability of the information. In turn, and regarding the supply of the audit assurance, it is suggested that the auditor should always strive to meet the public general expectations (Limperg, 1932). More recently, according to the Limperg Institute (1985), the auditor's function derives from the need for an expert and independent opinion, which is based on the examination and on trust, considering that if that trust is betrayed, such function is also destroyed. In sum, the principles of this specific theory are quite relevant in the development of auditing, since they allow us to understand the social meaning of the auditing, its effects and how it should be performed (Carmichael, 2004).

The insurance theory is related to the auditor's role, which is to manage the risk that is transferred from companies and managed as insurance, even though it is not an insurance per se. Indeed, auditors will take some of the risks, especially by assuring that companies will comply with regulatory frameworks. If that is not the case, auditors will suffer potential problems due to reputation and legal issues (Wallace, 2004). Nevertheless, more sophisticated accounting information systems have significantly reduced the compliance costs, which made it easier to comply with those same regulatory frameworks (Yoon *et al.*, 2011). Moreover, and due to technological developments, information asymmetries have also decreased, which justifies the diminish of the transfer of risk, since the risk is already known by stakeholders. Therefore, the role of insurance should also diminish (Cosserat & Rodda, 2009).

Additionally, the assurance theory establishes that an assurance service occurs when a public accountant expresses a conclusion regarding the reliability of a written assertion, which is the responsibility of another party. In other terms, an assurance service truly

improves the quality of the information, specifically for decision makers (Elder *et al.*, 2010). Furthermore, it is important to add that one category of the assurance services that are provided by auditors is related to “attestation services”, where auditors issue a report about the reliability of the assertion that is used by another party. Overall, there are five distinct categories of attestation services, namely:

- 1) The audit of historical financial statements, in which the auditor issues a written report that expresses an opinion on the financial statements. That is, if they are in accordance with the applicable accounting standards;
- 2) The audit of internal control over financial reporting, in which the auditor evaluates the management’s assertions that internal controls have been developed and implemented in accordance to well-established criteria;
- 3) The review of historical financial statements, in which the auditor provides a moderate level of assurance, since less evidence is needed when compared to the performance of an audit of historical financial statements;
- 4) Attestation services on information technology, in which the auditor evaluates the management’s assertions regarding both the reliability and the security of the electronic information;
- 5) Other attestation services that may apply a broad range of subject matter, in which the auditor must provide an attestation, but only after the management provides an assertion (Elder *et al.*, 2010).

The positive accounting theory is related to the explanation of the accounting practice, predicting which companies will, or will not, use a specific method (Watts & Zimmerman, 1990). Furthermore, this theory focuses on the relationship between all the individuals that are involved in the provision of resources to a certain organization, as well as in the way that accounting can truly assist in the functioning of these relationships. This theory is essentially based on the assumption that all individuals’ activities are driven by their self-interest and that they will always present an opportunistic conduct, since their actions will eventually increase their wealth (Deegan & Unerman, 2006).

According to Deegan and Unerman (2006), Watts and Zimmerman (1990) developed the positive accounting theory based on the agency theory, since the latter provided a necessary explanation of why the selection of specific accounting methods might be important. As a matter of fact, an agency relationship exists when a principal

engages an agent in order to perform a certain service on his behalf. When the decision-making authority is delegated to the agent, it can lead to some loss of efficiency and to several costs (the agency costs). Thus, and based on the assumption of Positive Accounting Theory, managers will always behave opportunistic and intent to perform self-serving activities, which may be opposite to the welfare of the principal. It is precisely due to this opportunistic behavior that organizations try to implement mechanisms, which aim to align the interests of the agents with the interests of the principals. Nonetheless, these mechanisms are not always effective, namely when avoiding earning management by managers, which results in an agency problem (the agency risk). Hence, and to compensate themselves for the agency risk, investors must require a higher rate of return.

On the other hand, the stewardship theory holds that there is no inherent and general problem of executive motivation. As a matter of fact, Donaldson and Davis (1991) argue that “the executive manager, under this theory, far from being an opportunistic shirker, essentially wants to do a good job, to be a good steward of the corporate assets”. Additionally, this specific theory assumes that performance variations result from the structural situation in which the executive is located, facilitating an effective action. That is, the executive manager aims to succeed at his/her job and to be a good steward of the corporate assets. Unlike the agency theory, the stewardship theory claims that the fusion of the roles of executive manager and chair of the board of directors will enhance effectiveness and produce higher returns to shareholders, more precisely when compared to the separation of these roles as Chief Executive Officer (CEO) and chair (Donaldson & Davis, 1991).

More recently, Davis *et al.* (1997) established that in the stewardship theory the model of man is based on a steward, whose behavior is congruent with pro-organizational and collectivistic principles, since they are more useful than individualistic and self-serving behaviors. Hence, to this specific theory managers are stewards, being adequately aligned with the goals of their principals. Indeed, and according to the same authors, the stewardship theorists assume a quite strong relationship between both the success of the organization and the principals’ satisfaction. “A steward protects and maximizes shareholders’ wealth through firm performance, because, by doing so, the steward’s utility functions are maximized” (Davis *et al.*, 1997). This theory, as stakeholder theory (Jensen 2000), do not seem to be supported by the latter scandals in Portugal.

Like stewardship theory, the legitimacy theory assumes that organizations constantly seek to ensure that their operations are legal and congruent with the limits and norms implemented by their societies. That is, organizations try to ensure that all their activities are legitimate. This particular theory also relies on a “social contract”, namely between the organization and the society, since this “concept is used to represent the multitude of implicit and explicit expectations that society has about in which way the organization should conduct its operations” (Deegan & Unerman, 2006).

Furthermore, the link between the legitimacy from society’s perspective and the right to operate is quite evident in this theory, since society truly allows the organization to continue with its operations, to the extent that they generally meet their own expectations. Therefore, the legitimacy theory predicts that management will adopt specific strategies in order to assure the society that the organization is truly complying with all its values and norms (Deegan & Unerman, 2006).

#### **1.2.1. The value relevance of the accounting information**

The studies conducted by Ball and Brown (1968) and Beaver (1968) have been considered has the catalysts for a significant amount of studies, specifically in the context of the value relevance of accounting information. As a matter of fact, both studies are the first attempts to explore the relationship between accounting variables and stock prices. The main goal of the existing value relevance research is related to the investigation of whether the reported accounting numbers provide some valuable corporate information, especially for investors and other users, as it is pointed out by Negakis (2005).

The key purpose of the value relevance research is “to extend our knowledge regarding the relevance and reliability of accounting amounts as reflected in equity values” (Barth *et al.*, 2001). Moreover, and according to Beaver (2002), value relevance research examines the existent association between the stock price as a dependent variable and a set of independent accounting variables, which are considered to be value relevant if they are significantly associated with a dependent variable, such as the stock price.

The value relevance research is not only important for investors, considering that it also provides useful insights into accounting matters for standard setters and other users. Some of the most desirable attributes of the accounting quality are the following ones:

persistence, accrual quality, persistence, timeliness, value relevance, smoothness, conservatism and predictability, which suggests that value relevance, and even if it is not the only attribute, is one of the most important ones of the accounting quality (Francis *et al.*, 2004).

Despite consisting of a major area of interest throughout the last 10 years, research in value relevance, and similarly to other research areas, has been quite controversial (Beaver, 2002). For instance, in their study Holthausen and Watts (2001) assess value relevance literature's inferences for a standard setting, arguing that it is quite difficult to draw standard setting inferences from the existing literature. Furthermore, these authors also establish that much of the value relevance research is motivated by a specific assumption, more precisely that financial statements provide inputs to investors' valuations and that equity investors dominate in terms of the use of financial reports. Nevertheless, Barth *et al.* (2001) present a different perspective, claiming that the value relevance research truly provides useful insights for standard setters.

It is important to add that the Efficient Market Hypothesis provides the theoretical framework, as well as the basis for much of the capital market-based research in accounting. Hence, it is possible to establish that value relevance research is a part of the capital market research, which is based on the premise that if accounting information is useful, then investors will adjust their behavior and the market will quickly respond, more precisely through a change in the stock price. Thus, information is truly considered as relevant, particularly if changes in the stock price are associated with accounting information (Kothari, 2001).

More recently, Scott (2006) explained how security prices respond to the release of accounting information, which can be used in order to measure the value relevance of accounting numbers to investors. As a matter of fact, Scott claims that the value relevance of the reported net income can be measured by the extent of the security price change around the time that the market learns the current net income. Still, Scott (2006) also rationalizes the use of the stock price as a measure of the value of relevance, especially by claiming that rational and informed investors revise their expectations regarding future performance and stock returns, more precisely based on the current earnings information. These revised expectations are the trigger of the investors' decisions, which may be either to buy or to sell, since investors move in order to restore the risk-returns tradeoffs in their

portfolios to the desired levels. Consequently, accounting information is value relevant since it truly leads investors to change their actions and decisions.

Within the capital market research, the market is semi-strong efficient. According to the Efficient Market Hypothesis, under such type of efficiency, stock prices quickly adjust in order to respond to all publicly available information. Therefore, when new information is released, the market will fully and promptly incorporate it into the price. Overall, and considering that the financial statement information is a primary source of publicly available market information, the semi-strong-form efficiency hypothesis is assumed within the value relevance research (Fama, 1970).

However, and since there are four distinct interpretations of value relevance, it is pertinent to approach such construct, aiming to better understand its full scope. First, and according to the first interpretation, the financial statement information leads security prices, especially by capturing intrinsic share values, towards which security prices actually drift. Hence, value relevance is measured as the profit that is generated through the implementation of several accounting-based trading rules. In turn, the second interpretation is related to the assumption that the financial statement information is value relevant if it contains all the variables that are used in a valuation model or when it truly predicts such variables. In this case, the valuation model refers to the discounted dividend valuation model, a discounted residual income model or even a discounted cash flow valuation model. Thus, this interpretation considers that value relevance is measured through the usefulness of the earnings, more precisely in predicting future cash flows, dividends, book values or earnings (Francis & Schipper, 1999).

Regarding the third interpretation, the value relevance is indicated by a statistical association between stock price or returns and financial information, or whether if investors truly use such information in order to revise their expectations and to set prices. Overall, the value relevance is measured by the ability of financial statement information to change the total mix of information within the market. In other words, it is basically related to the fact that the value relevance is measured in terms of news, assuming value relevant information changes security prices since it causes investors to revise their own expectations. Therefore, this interpretation focuses on whether investors truly care about the content of the financial statements, as well as the predictability and the timeliness of that same information. Consequently, an information content study is adopted, especially

to implement this interpretation in an empirical context, and to consider some concerns, such as the timeliness and the formation of expectations. Finally, the fourth and last interpretation considers that value relevance is measured through the “ability of financial statement information to capture or summarize information, regardless of sources, that affects share values” (Francis & Schipper, 1999). Hence, this interpretation assumes that value relevance is assessed by measuring the statistical association between stock prices or returns and accounting information for a long period of time.

### **1.3. Audit quality**

The importance of audit quality for the present dissertation is related to the conclusion of some studies that directly associate the occurrence of audit qualifications to the notion of audit quality (DeAngelo, 1981a and Carcello *et al.*, 1992).

Over the past few decades, the definition of audit quality has been addressed and stated by several distinct authors and scholars. However, the most well-known definition, which has actually been broadly accepted by scholars in this specific area, is the one presented by DeAngelo (1981a), stating that “The quality of audit services is defined to be the market-assessed joint probability that a given auditor will both (a) discover a breach in the client’s accounting system, and (b) report the breach”. In general, this definition means that the audit quality depends on the probability that the auditor himself discovers a misstatement in financial data and reports such misstatement.

Furthermore, DeAngelo (1981a) adds that the probability of discovering such a breach depends on several other aspects, namely the technological capabilities of the auditor and the employed procedures of the developed audit. However, DeAngelo also emphasizes that the probability that the auditor reports the discovered misstatement is essentially a measure of the auditor’s independence regarding his specific client. Thus, the auditor is independent when he is quite able to withstand the client’s pressure to not report the discovered misstatement (DeAngelo, 1981b). On the other hand, and if auditors are not independent, it will be less likely that they report such misstatements, thus negatively influencing the audit’s quality. Overall, it is possible to conclude that, the lower the degree of the auditor’s independence, the lower the audit’s quality will be.

According to Palmrose (1988), the audit quality is related to “the level of assurances – the probability financial statements contain no material omissions or misstatements”. Hence, this Palmrose (1988) basically argues that a higher level of assurances corresponds to a higher quality of audit services. Palmrose (1988) presents a significant contribute, since she implies that audit failure, being a financial statement with misstatements and/or omissions, is less likely to occur when the audit services are of higher quality. As a matter of fact, high quality auditors with a substantial reputation in the detection and report of irregularities have greater incentives to reduce the likelihood of audit failures, aiming to retain their own reputation. In a context of litigation, the auditor frequently tries to solve the issue out of court, thus avoiding a potential damage to his reputation. Finally, Palmrose also argues that the audit quality is inversely related to a litigation against the auditor. Hence, and when the litigation rate is used as a measure of the audit’s quality, the auditors that present a relatively low litigation rate are those that provide a superior quality of audit services (Palmrose, 1988).

Francis (2004), on the other hand, defines audit quality as “a theoretical continuum ranging from very low to very high audit quality”, adding that audit failures occur on the lower end of the quality continuum. Essentially, Francis argues that audit failures can result from two distinct contexts, either when the Generally Accepted Accounting Principles were not applied by the auditor, or when the auditor fails to issue a qualified audit report in specific circumstances that require that same report. Regardless of the context of the audit failure, in both cases the audited financial statements will potentially mislead their users. Therefore, Francis (2004) suggests that the degree to which audits meet the minimal legal and professional requirements can be used as an approximation of the audit quality, and that this latter is inversely related to the audit failures. In sum, the higher the audit failure rate, the lower the audit quality is.

Duff (2004) divides audit quality in two ways: technical quality and service quality. The technical quality is formed by reputation, capacity, know-how, experience and independence, while the service quality is formed by non-audit service, responsiveness, empathy and customer service. Duff (2004) also argues that the two audit qualities are interdependent, since that reputation, capability and expertise are positively related to the customer service and the responsiveness and empathy are related to the provision of non-audit services.

For Casterella *et al.* (2009), the audit quality is related to the technical-professional capacity of the independent auditor, therefore the companies that have qualified staff, provides the necessary training and certified experience, and the companies that have the most resources available for quality control have fewer shortcomings, especially when compared to other audit firms.

Gul *et al.* (2009) share the same opinion of Casterella *et al.* (2009), arguing that expert auditors are associated with higher quality accounting information. Moreover, it is important to add that Behn *et al.* (2008) consider that the largest audit firms offer higher quality audit services.

The audit quality, besides depending on the technical factors of the audit process, also depends on the quality of the auditor (the independence and ethics of the auditor) and on the organizational characteristics of the audit firm (Manita & Elommal, 2010).

Finally, some authors focus on defining “poor audit quality”, namely by identifying all adverse outcomes from an audit (Peecher & Piercey, 2008). In fact, the definition of audit quality in terms of failure is quite appealing, since it is quite easy to operationalize this definition. Nonetheless, and even though Casterella *et al.* (2009) argue that “we believe poor audit quality is observable with hindsight if an engagement results in litigation or a claim of malpractice against the audit firm”, there are few cases of detectable audit failures (Francis, 2011).

### **1.3.1. Frameworks to establish audit quality**

The U.K.’s Financial Reporting Council (FRC) undertook the first formal attempt in order to develop an audit quality framework, which was established in 2006. After proceeding to an extensive consultation, the FRC (2008) identified the five drivers of audit quality, namely: 1) the culture within an audit firm; 2) both the skills and the personal qualities of audit partners and staff; 3) the effectiveness of the audit process itself; 4) the reliability and the usefulness of audit reporting; 5) factors that are external to the auditors’ control and that affect the audit quality.

For each one of these drivers, the FRC (2008) identified several potential indicators of audit quality. As an example, some of the indicators that are related to the culture of an audit firm actually include the creation of an environment where the achievement of high

quality is valued, rewarded and nurtured; the insurance that all partners and staff have sufficient time and resources to solve the arising issues; and the insurance of robust systems for client acceptance and continuation. Some other examples are related to the effectiveness of the audit process in a firm, such as the design of the audit methodology and tools, the availability of technical support, and the enforcement of independence and ethical standards.

Other aspects that determine the audit quality are the size of the audit firm, the gender of the auditor, the dispute of the auditor, the auditor's reputation, the duration of the auditor-client relation, the provision of non-audit services and the auditor's experience.

The size of the audit firm can represent the audit quality, since large audit firms are less likely to compromise their independence rather than smaller ones, and also have a high capability to specialize and innovate in the field of technology, which increases the possibility of detecting distortions, such as errors or manipulations in a company's accounting system. This means that, the larger the size of the audit firm, the higher the quality of the audit (Chen *et al.*, 2013; Choi *et al.*, 2010; Wang *et al.*, 2014). Moreover, in their study Kilgore *et al.* (2011) support the assumption that larger companies are more competent and independent than smaller ones.

Regarding the gender of the auditor, Chung and Monroe (2001) and O'Donnell and Johnson (2001) note that female auditors are more accurate and effective in more complex audit judgments. Similarly, Chin and Chi (2008) and Hardies *et al.* (2010) analyzed the relationship between the gender of the auditor and the issuance of a modified audit report. The results demonstrate that female auditors are less likely to issue modified opinions, as well as less likely to issue an opinion on the continuity of the activity for companies with greater financial difficulties. Hardies *et al.* (2010) argue that the fact that female auditors avoid issuing modified opinions is due to the fear that the customer will terminate the service contract if the audit opinion is not favorable.

As for fees, Fondas and Sassalos (2000) confirm that women tend to have greater expectations regarding their responsibilities, which can lead them to a greater effort in their tasks, and consequently to higher fees. Also, Ittonen *et al.* (2013) emphasize that in companies where auditors are mainly women the audit fees are higher, which corroborates that the gender of the auditor may affect the auditing effort. Nevertheless, some studies

demonstrate that there is no difference between the gender of the auditor and the audit opinion, which is the case of the study that was developed by Breesch and Branson (2009).

The dispute of the auditor is another aspect that is related to the audit quality, since the auditor is subjected to rules, regulations and responsibilities. That is, rules and regulations are connected to the auditors (in personal terms) and to audit firms and may suggest possible failures of the auditors, especially when complying to those same rules and regulations (Casterella *et al.*, 2010; Kaplan & Williams, 2013; Sun & Liu, 2011).

Regarding the auditor's reputation, Teoh and Wong (1993) suggest that both the reputation and credibility of the auditor are positively related to the audit quality. However, Lawrence *et al.* (2011) argue that audit firms provide higher quality services, considering that they have a reputation to maintain and protect.

The duration of the auditor-client relation may present a significant impact on the audit quality, as it is pointed out in the studies conducted by Davis *et al.* (2009), Jackson *et al.* (2008), Knechel and Vanstraelen (2007) and Lin and Hwang (2010), which demonstrate a quite positive impact of the duration of the auditor-client relation in the audit quality. Nonetheless, Chen *et al.* (2008), Chi *et al.* (2009) and Gul *et al.* (2009) argue that there is a negative relationship between the duration of the auditor-client relation and the audit quality, which can be related to the loss of independence or audit quality, therefore contradicting the results of the previous studies

In terms of the provision of non-audit services, Okaro and Okafor (2014) suggest that the provision of non-audit services does not affect the independence of the auditor and, consequently, the audit quality. In turn, the studies conducted by Quick and Warming-Rasmussen (2005), Wang and Hay (2013) and Wines (1994) demonstrate that there is a negative relation between the audit quality and the non-audit services, since it actually threatens the independence of the auditor and reduces the objectivity of the audit. However, DeFond *et al.* (2002) did not find a significant relation between the non-audit services, the audit quality and the independence of the auditor, therefore not corroborating any of the previous findings.

Finally, the auditor's experience includes several aspects, such as: technical competence, knowledge, level of education and ethics (Mahdavi & Houshmand, 2012). In this regard, Kilgore *et al.* (2011) and Knechel (2007) argue that auditors with all these characteristics can perform an audit with quality. Gul *et al.* (2013) add that the experience in

large audit firms (Big N) and the political affiliation also contribute to the audit quality. For Carcello *et al.* (1992), the industry knowledge, the responsiveness to the customer's needs and a performance in accordance with the audit standards are relevant to the audit quality. The audit quality, and when performed by qualified auditors in a specific sector, can improve the results of the audit, that is, the auditors will be more conservative in the audit opinions, using lower levels of materiality (Reichelt & Wang, 2010).

More recently, Francis (2011) presented a specific framework to understand and research audit quality (Table 1). Indeed, Francis concludes that audit quality is a quite complex concept, since there are several gradations of audit quality across a continuum. Therefore, and based on a particular structural view of the audit environment itself, as it is reflected through distinctive paradigms of research, Francis (2011) argues that audit quality is essentially influenced by six levels of analysis, which range from a granular view of the audit process to a broader view of its outcomes: 1) audit inputs; 2) audit process; 3) accounting firms; 4) audit industry and audit markets; 5) Institutions; 6) Economic consequences of audit outcomes.

Overall, the several existing frameworks for audit quality emphasize that the evaluation of the audit's quality is a multi-dimensional challenge, more precisely from both theoretical and practical perspectives. As a matter of fact, by crossing Francis' levels of audit quality with the theoretical attributes of an audit in general, the complexity of the problem becomes quite transparent. Nonetheless, it is important to mention that, for each level of the framework that was presented by Francis (2011), the issues related to incentives, uniqueness, outcomes, process and judgment actually manifest in distinct ways, considering that different participants (auditor, team, firm or regulator) present different, and potentially conflicting, incentives. Moreover, the own nature of the process at each level varies, while the outcome inherently feeds into the next higher level of analysis. It is vital to emphasize that, and based on the level where an observer stands, the nature of the necessary judgment will also vary. Thus, and considering such complexity, which is combined with the difficulty of defining audit quality from several perspectives, a "balanced scorecard" for auditing might provide a solution to simultaneously address different stakeholder perspectives.

### 1.3.2. Some indicators of audit quality

In this specific issue, it is quite relevant to mention the study conducted by Knechel *et al.* (2013), namely since proceeded to a discussion of quality indicators from a “balanced scorecard” perspective, which comprehends four distinct categories: inputs, process, outcomes, and context. Firstly, they emphasize that the *inputs* to an audit are essentially reflected in the more individual characteristics of the audit team, such as in the professional skepticism, in the knowledge and in the expertise. Afterwards, they highlight that the audit quality is significantly influenced by those characteristics that are inherent to the audit *process*, namely: risk assessment, analytical procedures and workpaper review. As a matter of fact, the uniqueness of each engagement is quite apparent in all these process indicators, considering that there are some variations across clients in certain business plans, management incentives, transactions, controls and risks. Thirdly, Knechel *et al.* (2013) argue that the *outcomes* are quite relevant, given the fact that they can be reflected in several observable characteristics such as restatements, financial reporting quality, results of regulatory reviews and accuracy of audit reports. At last, and to summarize this brief introduction to their discussion, they examine indicators that are associated with the context of the audit, thus including the existence of audit tenure, abnormal audit fees, audit fee premiums and audit partner compensation, all of which may influence the auditor’s incentives.

#### 1.3.2.1. Inputs

The audit risk model that drives both the audit planning and the evidence gathering presents the presumption that the riskiness of each client is quite unique (i.e., idiosyncratic). Nonetheless, it is crucial to add that such riskiness of a specific client is dependent on the complexity of the accounting systems in place and of transactions, being also able to be influenced by the management’s incentives in order to produce reliable financial statements. Therefore, it is possible to conclude that the resources that are needed to obtain a “reasonable assurance” vary across engagements. As a matter of fact, and considering that an audit is a knowledge-based professional service that produces an uncertain and unobservable outcome, the resources that are needed depend on the

personnel that are available for an engagement, on the abilities and expertise of the audit team, and on the audit technology and methodology that is being used.

On the other hand, the idiosyncratic nature of the audit process means that the auditor's effort must be proportional to each client, namely within the structure of the basic audit methodology, as it is applied by the auditor through his best judgement. In turn, this ability to make sound judgments truly influences the quality of the audit by itself, which justifies the fact that, the better the personnel, the better the outcome of the audit. Nonetheless, and to fully understand the quality of judgement, it is also fundamental to understand the nature of incentives and cognition in the audit process, as well as how they relate to the inherent uncertainty of the specific engagement (Knechel *et al.*, 2013).

Overall, it has been established that the quality of an audit is significantly influenced by the level of inputs into the audit process itself. Hence, improvements in those inputs should lead to improvements in other indicators that are directly linked to the audit's quality (such as outcomes). Yet, and considering the riskiness of audits, as well as the idiosyncratic nature of audit engagements, the inputs that are required to effectively carry out an audit engagement may substantially vary across audit engagements. Therefore, the level of inputs is qualitative and merely based on the auditor's professional judgement. Several authors suggest that some increases in the quality of inputs, such as the auditor knowledge and expertise as well as the applied levels of professional skepticism, increase the quality of the auditor's judgments (Brown-Liburd *et al.*, 2013; Stephens, 2011). It is still important to contrast that client-related incentives, namely the client retention and the within-firm economic pressures, can truly threaten the quality of the auditor judgments and thus the audit quality (Blay, 2005; Sweeney & McGarry, 2011).

#### **1.3.2.2 Process**

An audit is composed by several phases, including the risk assessment, the internal control evaluation, the testing and the review phases. Therefore, and according to Knechel *et al.* (2013), the quality of the audit depends on the quality of the auditor's judgments during all these stages. Considering that there are large amounts of uncertainty, particularly both during the audit process and in audit outcomes, auditor's judgments are quite susceptible to individual cognitive biases. As a matter of fact, Knechel *et al.* (2013) focused

on several common factors and biases that were found to truly threaten the audit quality, specifically when making professional judgments during all the audit processes. Finally, the same authors also recognized that the audit process has some steps that are essentially designed in order to mitigate the effects of individual errors in judgments, such as the review and several quality controls processes.

### **1.3.2.3 Outcomes**

According to a traditional perspective, the literature in general considered the presence of a higher audit quality in terms of lacking certain negative outcomes (such as litigation or restatements) or having certain positive outcomes (such as the issue of going concern opinions when merited) (Francis, 2004; Knechel *et al.*, 2013). On the other hand, given the fact that the outcome of an audit is quite uncertain and unobservable, several researchers actually turn to indirect, but measurable, proxies, specifically for audit outcomes. Furthermore, they tend to establish what high audit quality is not (namely its errors and deficiencies) rather than what it truly is.

Regarding the most common measures for audit outcomes, particularly to proxies for low audit quality, they include the presence of auditor-related litigation, financial statement restatements, poor financial quality (that is, the presence of abnormal accruals), inaccurate audit reports, and audit deficiencies that are identified during the regulatory reviews (Carson *et al.*, 2013; DeFond, 2010; Francis & Yu, 2009). It is important to add that the presence of going concern reports for financially distressed firms is used, namely as a positive audit quality outcome measure, as it is argued by Knechel *et al.* (2013).

Overall, all these measures are quite indirect and present a unique limitation as a proxy for audit quality. Nonetheless, the use of indirect measures might be the best solution, considering that there is a lack of ability in the observation of audit outcomes.

### **1.3.2.4 Context**

Finally, Knechel *et al.* (2013) argue that several contextual features have been found to influence audit quality, even though they simply focus on a few, particularly on those

that are prevalent in the literature, such as audit partner compensation, non-audit fees and auditor tenure (Knechel *et al.*, 2011; Lin & Hwang, 2010; Schmidt, 2012).

Contextual features directly influence audit inputs (e.g., pressures and incentives) and/or the audit process (e.g., evidence evaluation and judgments), which in turn indirectly influence the audit outcomes (e.g., financial reporting quality and accuracy of audit reports). Nevertheless, and given the fact that changes to audit inputs and the audit process are frequently unobservable, the current literature tends to test all associations between contextual features and audit outcomes.

Following that perspective, Knechel *et al.* (2013) discovered that there are some mixed findings regarding the effects on audit quality of many of these contextual features, as well as that there are some limitations that are considered to be inherent to the research methods that are used in this same context, given the fact that causal inferences are not so easily obtainable. Still, it is important to establish that these contextual factors must be considered, since they present significant interactive effects with both the audit inputs and the audit process, thus ultimately influencing the quality of the audit itself.

#### **1.4. Audit reports**

The independent auditor role is to verify the financial statements prepared by management and issue an opinion about the financial statements and company's internal control effectiveness (Hosseinniakani, 2014).

Overall, an audit report is related to the issuance of an opinion by the auditor, more precisely on whether certain financial statements are free from materially relevant distortions, mainly due to fraud or error, therefore enabling the auditor to express an opinion regarding the analyzed statements, especially if they have been prepared according to an applicable financial reporting framework and if they report the financial statements, since these are the required aspects by the International Standards on Auditing (ISA) (International Federation of Accountants, 2015). The circumstances in which a modified opinion is issued are described in paragraph 6 of ISA 705.

As a matter of fact, the ISA 700 has been modelling the content and wording of the report for the independent auditor since 1983, being constantly revised in order to fill some

gaps in the international standardization of the audit report in general. Moreover, it is crucial to emphasize that the ISA 700 also determines the content of the two categories of audit reports, namely: 1) the audit report on the separate financial statements; and 2) the audit report on the consolidated financial statements. As it is pointed out by Fakhfakh (2016), financial communication involves consolidated audit reports, which improve both the reading and the interpretation of the financial information. Indeed, the credibility and legitimacy of independent auditors is truly improved by their linguistic quality, which is visible in their audit reports. Hence, if the audit report is not readable by most of the users of the financial statements, the auditor's opinion will lose its usefulness. Furthermore, the intelligibility of the audit report is influenced by the competence of the auditor, by the educational level of all the financial statements' users and by the quality of the communication that is used.

Fakhfakh (2016) also claims that the performance of the audit report is a vital issue for the quality of financial reporting, adding that linguistic characteristics can truly influence their effectiveness, as well as the interpretation of the opinion issued by the auditor. Therefore, it is important that audit reports are readable by all users of the financial statements, considering that the concept of readability is based on several theoretical assumptions, such as the text structure, the style of presentation of the information and the writing style, among others. Nevertheless, and by reviewing the existing literature, it is possible to conclude that the auditor's report does not seem to be completely understood by the majority of the financial statements' users (Fakhfakh, 2013). Moreover, some studies also demonstrate that the hypothesis of harmonization of audit reports is not always well accepted (Fakhfakh & Fakhfakh, 2010; Gangolly *et al.*, 2002; Jones & Karbhari, 1996) and that the structure of the audit reports (word length, length of paragraphs and sentence length) vary between countries (Zeghal *et al.*, 1999).

In more detail, and according to Fakhfakh (2016), the correct transmission of the audit information depends on the quality and characteristics of the reports, which is why the auditors are encouraged to optimize the use of the communication technologies and of the linguistic principles. As a matter of fact, corporate groups consider that the communicative power of the auditor's opinion is directly influenced by the content and the form of the audit reports, which corroborates the assumption that these reports must be neatly prepared and that their information must be well structured.

However, and according to the ISA 700, 705 and 706, the auditor's report may contain several modalities, which are related to the main characteristics and purposes of the report itself, namely:

1) The unmodified opinion (clean opinion) – which includes the opinion expressed by the auditor, especially when he concludes that the financial statements are prepared, and in all material respects, in accordance with the applicable financial reporting framework;

2) The opinion with qualifications by limitation of scope or disagreement – the opinion with qualifications by limitation of scope occurs when there are limitations to the scope of the audit, whose effects have, or may have, significant importance in the information that is provided by the financial statements, as well as when there is no cashflow statement nor income statement by function, whenever they are of mandatory elaboration. In turn, the opinion with qualifications by disagreement occurs when the financial statements have, in their form or content, materially relevant distortions, as well as there are fundamental uncertainties which are not properly disclosed in the financial statements or when the derogation from accounting principles or change in accounting policies are not mutually agreed or not justified and properly disclosed;

3) The adverse opinion – which occurs when the effects of the disagreements are so profound and significant, therefore affecting the financial statements that mislead the recipients;

4) The excuse of opinion –, that occurs when there are profound and significant scope limitations which do not allow the auditor to obtain enough evidence;

5) The emphasis of matter paragraph – that occurs when in the auditor's report is required, and by the Generally Accepted Auditing Standards, or is included at the auditor's discretion, referring to a matter that is appropriately presented or disclosed in the financial statements that, and in the auditor's professional judgement, is considered to be important, being fundamental to the users' understanding of the financial statements (Abrantes, 2017).

#### **1.4.1. Auditing in the Portuguese context**

Regarding the Portuguese context, the first time that the legal certification of accounts became mandatory was in 1969, more precisely through the implementation of

the Decree-Law 49/381, of November 15, which assigned the role of public interest in the field of auditing to statutory auditors. The Decree-Law 7/72, of January 3, proclaimed the Statutory Auditor Profession, as well as the former Chamber of Statutory Auditors, which is currently the Order of Statutory Auditors.

In Portugal, the Legal Revision of Accounts for public limited companies is mandatory, as it is established in the Commercial Companies Code, more precisely in its article 278, which defines the possible structures for both the administration and the supervision of these companies. Furthermore, the Commercial Companies Code also proclaims that private limited companies can hire an auditor, or an auditor can be required in order to certify their accounts, namely if they exceed two of the three following limits during two consecutive years, which are established in its article 262: 1) balance sheet of a total of € 1.500.000; 2) total of the net sales and other incomes of € 3.000.000; 3) an average of 50 employees per year.

## **1.5. Audit qualifications**

In this context, studies have been conducted by several authors (Bartov *et al.*, 2001; Butler *et al.*, 2004; García, 2000; DeAngelo, 1982; Francis & Krishnan, 1999; García-Benau *et al.*, 2000; Gómez Aguilar & Barbadillo, 2000; Raghunandan, 1993; Segura, 2001).

DeAngelo (1982) evidenced that the causal relationship between qualifications and auditor change can be seen from two perspectives: qualifications may cause a change of the auditor and the auditor's change may lead to the issuance of qualifications.

For García-Benau *et al.* (2000), there is a significant relation between the type of opinion issued in the last audit report and the change of auditor. The results obtained in the study conducted by García (2000) are congruent with those obtained in the study of García-Benau *et al.* (2000): the companies that receive qualifications and that change their auditor do not present favorable reports after that change, since the majority maintained the qualified opinion over time. In contrast, Gómez Aguilar and Barbadillo (2000) did not find statistical evidence between qualifications and auditor change. Nevertheless, nowadays in Portugal, for the most important companies it is mandatory to change of auditor at defined time intervals, according to the Legal Regime of Portuguese Statutory Auditors.

In Segura's (2001) study, the types of audit qualifications that may be associated with accounting manipulation were observed. The qualifications were classified as very serious and serious, as well as moderate and mild. The very serious qualifications were associated with the principle of continuity, adverse opinion and lack of opinion. The moderate and mild qualifications refer to the lack of consistency, omissions of additional information (attached notes), uncertainty in the realization of assets and excess of provisions. The remaining qualifications were classified as serious, mainly those related to deficiencies in inventories, customers and provisions. The results show that the association of audit qualifications with the explanatory variables is more evident in the very serious and serious qualifications, which are justified by the existence of losses during the year and by the size of the company.

In this regard, Bartov *et al.* (2001) note the existence of a significant relation between the manipulation of results and the audit opinion, namely the presence of some types of qualifications, such as those that are related to disagreements and to the lack of consistency.

As for qualifications due to uncertainty and continuity of exploitation, Francis and Krishnan (1999) found that companies with the highest total accruals have a higher probability of receiving this type of qualifications. In contrast, Butler *et al.* (2004) demonstrated that the companies with qualifications due to uncertainty about continuity have higher negative accruals. As for material uncertainties for the realization of assets, Raghunandan (1993) states that they are more likely to present an unfavorable outcome for the client.

Nevertheless, and more recently, Habib (2013) provided a meta-analysis regarding the determinants of the modified audit opinion decisions, therefore demonstrating the effect of auditor and audit-related variables and of firm-specific variables on auditors' propensity to issue modified audit opinions. Overall, auditor and audit-related variables include: 1) Big N affiliation; 2) audit firm industry specialization; 3) audit firm and audit partner tenure; 4) audit fees; 5) provision of non-audit services and their fees; 6) client importance; 7) and audit report lag. In turn, some of the most important firm-specific variables are related to: 1) the firm size; 2) its leverage; 3) its profitability; 4) its default status; 5) and the probability of bankruptcy.

In more detail, Big N audit firms, and according to an audit reporting perspective, are expected to issue more accurate audit opinions than Non-Big N counterparts. As a matter of fact, Big N auditors deploy more audit efforts in a less procedural and a more contextual approach, especially by allocating way more resources into planning and risk assessment. Hence, they are better equipped in order to measure the client's risk of business failure, despite imposing stricter quality standards on their staff, more precisely when they develop and perform such procedures. Furthermore, the higher threat of litigation that is faced by Big N audit firms truly provides an additional incentive and motivation to provide more accurate audit opinions (Reichelt & Wang, 2010).

Audit firm industry specialization, in turn, is one of the audit quality dimensions that truly differentiates high quality auditors from their low-quality counterparts. Indeed, industry specialist auditors can spread industry-specific training costs over more clients, therefore producing scale economies that are not easily duplicated by those who are not specialists. It is important to add that these industry specialist auditors present a greater propensity to express modified opinions and in distinct ways, more precisely since: 1) they can better evaluate whether an industry-specific client has substantial doubt about its ability to continue as a going-concern entity, given their superior knowledge regarding their clients' industries; 2) they expend significant resources in the development of a reputation, especially for a higher audit quality, which they will protect by expressing a going-concern audit opinion, which is in turn based on a lower probability of client business failure than that of those that are not specialists (Mayhew & Wilkins, 2003).

In terms of the audit firm and audit partner tenure, it is crucial to emphasize that the rotation of these elements is one of the main policy initiatives that has been implemented in several jurisdictions around the world in order to deal with concerns about the audit quality. As a matter of fact, the section 203 of the Sarbanes-Oxley Act (henceforth "SOX") clearly states that the lead and the reviewing partner cannot audit for more than five years, even though such prescription has been continuously criticize, namely on the grounds that long-tenure does not compromise independence owing to auditor reputation concerns, and that the audit's quality may suffer under certain new engagements, mainly due to the lack of client-specific knowledge and if rotation is mandatory. Therefore, long tenure may be positively associated with higher audit quality, essentially due to the higher audit costs that are associated with the earlier periods of the auditor tenure and to

the increase in the client and in the industry's knowledge, which can be gained over repeated audits. However, and if the SOX concern for mandating rotation is justified, a negative association may be observed between audit firm tenure and the issuance of modified audit opinion, mainly due to the diminished independence and to the deterioration of the audit partner's capacity to critically form the appropriate audit judgements (Carcello & Nagy, 2004).

Regarding the joint provision of audit and non-audit services by the auditor, it is possible to argue that such issue has been truly contentious, since opponents argue that the joint provision of both of these services can diminish the auditor's independence, mainly due to the fact that the client-specific future quasi-rents derives from non-audit services. Hence, if no client-specific quasi-rents are expected, then the auditor does not have any economic incentive to conceal financial misstatements, being considered as perfectly independent from the client. Proponents, in turn, claim that the provision of non-audit services results in considerable scope economies, which are categorized into knowledge spill-over benefits and into contractual economies (Arrunada, 1999). Thus, the existing literature on the association between non-audit services proxied by non-audit fees and the auditors' propensity to issue modified opinions truly provide mixed evidence, suggesting that there might not be any association between the level of non-audit fees and the modified audit reporting (Habib, 2012).

As it is pointed out by Habib (2013), another variable that is used to proxy for auditor independence is "client importance", which presents several arguments regarding its effect on auditors' modified audit reporting decisions. On one hand, the economic dependence can make auditors more lenient in modifying reports, truly suggesting a negative association. Still, and on the other hand, the "reputation protection" arguments truly suggest that auditors will be more cautious when auditing large clients, since post-audit failure could significantly damage an audit firm's reputation. Moreover, it is important to establish that client importance is measured as either the ratio of a specific client's total assets to the combined total assets of all the listed clients of the audit firm or as the ratio of a specific client's total fees to the aggregate annual fees that are generated by the auditing practice office (Francis & Yu, 2009).

According to Bamber *et al.* (1993), the audit report lag is the period between a company's fiscal year end and the audit report date, consisting of one of the few externally

observable audits output variables that truly allow outsiders to measure audit efficiency. Overall, audit report lag is positively associated with modified audit reporting, considering that: 1) the longer audit report lag may reflect lengthy negotiations between the client and the auditor, while they try to solve their disagreements; 2) a longer audit report lag may represent some additional work, which needs to be performed by auditors in order to solve the identified problems; and 3) a longer audit report lag may simply reflect a high inherent and/or control risk of the client, therefore requiring additional audit work (Ireland, 2003).

In terms of the firm-specific variables, one of the most studied company characteristics, and which is used to explain auditor-issued modified opinion, is the firm size. As a matter of fact, it is commonly argued that the probability of receiving a modified audit opinion is greater for smaller firms rather than for larger ones. Nevertheless, smaller firms may be more sensitive to several factors that affect the firm's going-concern status, while larger companies have more resources to employ in order to avoid bankruptcy, as well as more negotiating power with auditors in the opinion-decision process. Moreover, auditors may fail to issue modified audit opinions to larger firms, since they can compromise their independence due to client or audit fee pressures. Hence, it is considered that there is a negative association between firm size and the modified audit reporting (Mutchler *et al.*, 1997).

The main variables that represent business risk are the frequency of negative earnings, firm leverage, default status and the probability of bankruptcy, which were all hypothesized to demonstrate a positive association with modified audit opinion decisions (Chen & Church, 1992). Even though firm loss provides a very important clue regarding the likelihood of a company receiving a modified audit opinion, several authors also use market-based performance measures, such as stock returns, beta and volatility, which capture the riskiness of the business operation. In addition to market return measures, the variability measures actually provide early warning signals to auditors, since that greater variability of a company's return may be followed by a significant decline in the stock price, therefore prompting auditors to issue qualified audit opinions in order to avoid lawsuits (Dopuch *et al.*, 1987).

At last, the role of prior audit opinions was considered to be an important determinant for current period audit opinions, being proved by Mutchler (1984) that auditors considered going-concern status in the preceding year as an important determinant

in the issuance of qualified audit opinion for the current period. Therefore, there is a positive association between prior qualified audit opinion and auditors' propensity to issue modified audit opinion in the current year, as it is argued by Habib (2013).

#### **1.5.1. Models of audit qualifications**

In the audit literature, several models have been developed in order to explain the qualifications in audit reports. Overall, the consensus of these models has been related to the fact that both financial and non-financial factors affect the audit opinion decision.

In their study, Dopouch *et al.* (1987) present a probit model to investigate the extent to which models that are based on financial and market variables actually predict auditors' decisions, namely to issue a qualified audit report. They concluded that the most significant variables in the prediction of qualifications are the current year loss, the industry rate of return and the change in the ratio of the total liabilities to total assets.

On the other hand, Keasey *et al.* (1988) developed a logistic regression approach, which is essentially based on 12 financial and non-financial independent variables in order to explain audit qualifications for small companies. Their results proved that the likelihood that a company receives a qualified audit report increases when: 1) the auditor is a large accounting firm; 2) the number of directors is quite small; 3) there are few non-director shareholders; 4) the auditee has raised a secure loan; 5) there is a long-time lag between the financial year-end and the audit report date.

A few years later, Krishnan and Krishnan (1996) developed audit opinion models, more precisely by incorporating certain economic trade-offs, which arise in the auditor's litigation risk, the extent of outsider ownership, the relative importance of the client to the auditor's overall portfolio of clients, and future growth as essential factors in the audit opinion decision.

Mutchler *et al.* (1997), in modelling the auditor's opinion decision for financially distressed companies, concluded that the qualitative variables, which include good and bad news items, did not present any incremental explanatory power relative to financial variables.

In turn, Laitinen and Laitinen (1998) conducted a logistic regression analysis, particularly based on 17 financial and non-financial variables, to be able to explain qualifications in large companies, specifically in Finland. Their study proved that the likelihood of receiving a qualified audit report is quite higher with a lower growth rate, lower equity/total assets ratio and a smaller number of employees.

Later, Casterella *et al.* (2000) developed an opinion prediction model, more precisely by introducing a bankruptcy resolution variable, a proxy of the auditor's prognosis of the ultimate disposition of the soon-to-be-bankrupt companies. They found evidence that proves that auditors are less able to predict either bankruptcy filing or resolution. However, they concluded that auditors are less likely to issue a modified opinion when the financial prospects of the company are not quite clear and when auditors are faced with incentives in order to delay or avoid issuing a modified opinion.

Some other studies, and regarding the auditor's going-concern assessment, have focused on hybrid approaches, such as those that were used by Lenard *et al.* (2001). These same authors combined a decision support system with a statistical model, which predicts bankruptcy as a component of the auditor's own decision, namely to show that bankruptcy is an important element of the going-concern decision. In more specific details, Arnold *et al.* (2001) present a theoretical framework of the audit decision process, which essentially consists of four broad-based components within the general audit environment, namely: 1) the auditor; 2) evidence gathering and posterior analysis; 3) auditor/auditee contracting; 4) social contracting.

On the other hand, Reynolds and Francis (2001) concluded that Big N auditors do not treat large clients more favorably than smaller auditees. Ireland (2003) conducted an analysis of the audit-reporting outcomes on public and private companies in the UK, aiming to investigate the determinants of the audit reports. The obtained results indicated that large companies, specifically highly geared companies, and companies that received, in prior years, audit modifications are more likely to receive modifications. Hence, large companies, companies with a quite good liquidity and those that pay dividends, are less likely to receive going-concern modifications. Finally, those companies that pay high audit fees are also more likely to receive those related modifications.

Based on a different approach, Spathis (2003) applied logistic and Ordinary Least Squares regression models on Greek data in order to assess the effect of firm litigation and of

financial metrics on audit qualifications. Spathis concluded that the audit qualification decision was positively associated with the financial information, such as financial distress, and with the non-financial information, such as firm litigation. In a quite distinct study, Spathis *et al.* (2003) developed a specific model, namely by using the multicriteria technique UTADIS. Their analysis has suggested that the receivables to sales, the net profit to total assets, the sales to total assets and the working capital to total assets are quite useful predictors for audit qualifications. Furthermore, the UTADIS method was quite effective in the prediction of qualified/unqualified reports, since it provides an estimated classification accuracy of approximately 80 per cent. Therefore, this study emphasizes the potential for identifying pre-engagement factors that are associated with qualified audit reports, namely in the analysis of the publicly available financial statements.

## Chapter 2 – Hypotheses

According to several studies presented in the literature review, there are factors related to the audited company and to the auditor that may influence the existence of qualifications. These factors can be financial or non-financial, may depend on or influence the audit quality and can also be influenced by other factors. From the information gathered and presented in the previous chapter, the research question arises: whether there are factors related to the company (financial or non-financial) and to the auditor that influence the existence of qualifications and, as such, may those factors be used in order to predict qualifications.

In sum, given that reported information in the annual reports is used in financial models as inputs, the main purpose of this dissertation is to find whether in Portugal: 1) auditors' propensity to qualify their opinions are affected by non-financial information, or 2) the occurrence of qualifications is associated with financial metrics.

According to DeAngelo (1981a, 1981b), the qualification in an audit report is related to the concept of audit quality and auditor independence. Therefore, DeAngelo (1981a, 1981b) suggests that larger and more independent audit firms have higher probability for issuing a modified audit report. However, DeFond *et al.* (2002) found that there is not a significant association between going concern opinions and either total fees or audit fees. Also, DeAngelo (1981a, 1981b) and Palmrose (1988) argue that due to their technological capabilities in detecting earnings management, once detected, Big N auditors present a higher probability to report it. In turn, Non-Big N auditors are more likely to qualify their reports, since they are perceived to have inferior technical expertise to detect eventual errors or irregularities, which is why qualification is a frequent strategy to compensate for this lack of capabilities. Hence:

**Hypothesis 1:** *There is a relationship between audit firm characteristics and the occurrence of audit qualifications.*

In terms of the auditee financial information, Krishnan and Krishnan (1996), Laitinen and Laitinen (1998), Reynolds and Francis (2001), Spathis (2003) and Spathis *et al.*

(2003) used financial variables in order to formulate their audit opinion expectations, which include measures of:

- 1) Audit task difficulty;
- 2) Liquidity;
- 3) Performance.

Hence, and based on all these studies:

**Hypothesis 2:** *There is a significant positive association between audit task difficulty and the occurrence of audit qualifications.*

**Hypothesis 3:** *There is a significant positive association between a company's liquidity and the occurrence of audit qualifications.*

**Hypothesis 4:** *There is a significant negative association between a company's performance and the occurrence of audit qualifications.*

## Chapter 3 – Methodology

### 3.1. Model

In order to empirically test the hypotheses formulated based on the literature review, one of the logistics models developed by Caramanis and Spathis (2006) was selected from the existing models, since it was successful in classifying 89,20% of the total sample, assumes auditee financial measures and audit firm characteristics as variables that fit on the formulated hypotheses and addresses the research purpose. Furthermore, this model was developed to analyze Greek companies, which are subject to a similar macroeconomic and regulatory environment.

$$\begin{aligned} \text{LOG(QUALIF}_i) = & b_0 + b_1\text{AUDITFEES}_i + b_2\text{TYPEOFAUDITFIRM}_i + \\ & b_3\text{EBIT/TA}_i + b_4\text{CA/CL}_i + b_5\text{REC/SAL}_i + b_6\text{NP/SAL}_i + e_i \end{aligned} \quad (3.1)$$

LOG(QUALIF<sub>*i*</sub>) embodies the existence of qualification. If the opinion is unqualified the LOG(QUALIF<sub>*i*</sub>) will be equal to zero, otherwise it will be equal to one.

The equation also comprises the independent variables and its parameters, represented by the coefficients  $b_0$ ,  $b_1$ ,  $b_2$ ,  $b_3$ ,  $b_4$ ,  $b_5$  and  $b_6$ . The goal of this dissertation is to estimate these parameters and to interpret the respective results, allowing to conclude if the respective variables have significant association with the occurrence of qualifications.

Furthermore,  $e_i$  represents the disturbance term.

Given the literature review, it is expected:

- $b_1$  to be negative, meaning that the likelihood of a qualified opinion will be lower the higher the fees paid to the audit firm.
- $b_2$  to be positive, meaning that the likelihood of a qualified opinion will be higher if the audit firm is a Big N.
- $b_3$  to be negative, meaning that the likelihood of a qualified opinion will be lower the higher the EBIT to total assets ratio, herein assumed as a proxy of the company's performance.

- $b_4$  to be negative, meaning that the likelihood of a qualified opinion will be lower the higher the current assets to current liabilities ratio, herein assumed as a proxy of the company's liquidity.
- $b_5$  to be positive, meaning that the likelihood of a qualified opinion will be higher the higher the accounts receivables to sales ratio, herein assumed as a proxy of the audit task difficulty.
- $b_6$  to be negative, meaning that the likelihood of a qualified opinion will be lower the higher the net profit to sales ratio, herein assumed as a proxy of the company's performance.

## 3.2. Variables

According with the study made by Caramanis and Spathis (2006) for Greek Case, the variables used in this model derived from: DeAngelo (1981a, 1981b), Keasey *et al.* (1988), Krishnan and Krishnan (1996), Laitinen and Laitinen (1998), Casterella *et al.* (2000), Reynolds and Francis (2001), DeFond *et al.* (2002), Ireland (2003), Spathis (2003) and Spathis *et al.* (2003).

Model variables can be categorized by the hypotheses that test as follows.

### 3.2.1. Audit firm characteristics

This category is represented by two variables:

- Audit fees ("AUDITFEES") that represents the fees (in euros) paid by each company for statutory audit regarding the period ended December 31, 2015, a possible proxy of auditor dependence or auditor quality, according to the literature review. It is mandatory to auditee companies to disclose on their financial report (Rodrigues, 2016) the audit fees paid to the statutory auditor. Such information was not obtained for most of the randomly selected companies, despite the online research on their website, the request made by email to the institutional email and from the research on SABI database. In order to overcome this obstacle, fees were assumed in accordance with the previously mandatory table (previous Legal Regime of Portuguese Statutory Auditors), which was setting minimum fees based on audited company size standards and which was eliminated in 2005

with the liberalization of audit services in Portugal. Nonetheless, based on my professional experience (in particular supporting the quality control of other audit firms), based on other auditors to whom I have questioned their opinion and even comparing with the obtained figures disclosed on the available financial reports, this was the best proxy to real fees.

- Type of audit firm (“TYPEOFAUDITFIRM”) which is a dummy variable that captures audit quality perceived between Big N and Non-Big N audit firms. It is 1 when the audit company is a Big N and 0 when it is not. It is assumed for this study that nowadays there are four bigger sized auditor firms that together form the group known as Big Four: Deloitte & Associados, SROC S.A., Ernst & Young Audit & Associados - SROC, S.A., PricewaterhouseCoopers & Associados - Sociedade de Revisores de Contas, Lda and KPMG & Associados – Sociedade de Revisores Oficiais de Contas, S.A. Therefore, henceforth Big N is assumed to be Big Four.

With these variables it is intended to test if there is a significant association between audit firm characteristics and the occurrence of audit qualifications (**hypothesis 1**).

### **3.2.2. Auditee financial information**

This category is represented with four variables:

- Accounts receivable to sales ratio (“REC/SAL”) which is a ratio that measures how much if the company’s sales occur on credit basis. A very high ratio indicates that a company may run into short-term liquidity problems and may rely on its investing and financing activities for liquidity. Additionally, in an audit process there are many reasons that can difficult the perception of all the meaningful data, being one the receivables because it involves audit time and effort (Houghton and Jubb, 1999). For these reasons, accounts receivable to sales ratio may reflect the business risk and consequently audit risk (Jubb *et al.*, 1996) and likelihood to have more qualifications. Therefore, with this variable it is intended to test if there is a significant positive association between audit task difficulty and the occurrence of audit qualifications (**hypothesis 2**) and also if there is a significant positive association between a company's liquidity and the occurrence of audit qualifications (**hypothesis 3**).

- Current assets to current liabilities ratio (“CA/CL”), also known as current ratio or working capital ratio, is useful to represent a company’s liquidity or solvency, once it measures the company’s ability to cover its short-term obligations with its current assets. Therefore, since liquidity is a strong indicator of financial health, it is expected that as financial health deteriorates, the greater the likelihood of the existence of qualifications (Caramanis and Spathis, 2006). In sum, with this variable it is intended to test if there is a significant negative association between a company's liquidity and the occurrence of audit qualifications (**hypothesis 3**). According to Sakin (2017), current ratio is a measure of liquidity and “liquidity measures had been studied in some previous studies in predicting the audit opinion qualifications”.

- Earnings before interest and taxes (EBIT) to total assets ratio (“EBIT/TA”), also known as return on total assets, measures how much income is generated from the resources invested into the company, thus indicating how effectively a company is using its assets to generate earnings. This ratio is useful to represent the level of company’s financial performance. Therefore, with this variable it is intended to test if there is a significant negative association between a company's performance and the occurrence of audit qualifications (**hypothesis 4**). According to Yasar *et al.* (2015), EBIT/TA is the most efficient variable for predicting audit opinions.

- Net profit to sales ratio (“NP/SAL”), also called net profit margin, measures how much net income is generated by the company from its revenue. This ratio is a useful indicator of company’s financial performance. Therefore, with this variable it was intended to test if there is a significant negative association between a company's performance and the occurrence of audit qualifications (**hypothesis 4**).

### 3.3. Method

In the present work statistical analyses were conducted aiming to test whether there is an association between the selected variables and the obtained opinion (qualified or unqualified).

Firstly, descriptive statistics was conducted in order to know the mean and median value and the standard deviation and (interquartile) range for each variable (except AUDITTYPEOFFIRM). Secondly, correlation test was accomplished in order to verify the

absence of multicollinearity problems. Thirdly, normality tests (Kolmogorov-Smirnov and Shapiro-Wilk) were executed, aiming to determine if the variables truly followed a normal distribution. Fourthly, the Mann-Whitney Test was developed, which consists of a statistical test that aims to assess the median differences between companies with qualified and unqualified opinions. Fifthly, Pearson Chi-Square Tests were conducted to assess the relationship between Big Four companies and qualified opinion. And lastly, the Wald Test was accomplished in order to assess how the model can explain the observed values. For all the statistics tests, it was assumed a significance level of 10%.

Nevertheless, it is important to add that other analyses were conducted, namely to verify the existing relationship between the type of audit firm and the obtained opinion, as well as to assess the used variables in the Equation, that represent the Model used in this work.

SPSS software was used to execute all the statistic analyses and tests presented below.

## Chapter 4 – Sample

For the present study, a sample of 50 companies from the 500 largest companies in Portugal was selected, excluding companies from the financial and insurance sector.

The definition of the population was made based on the annual list presented by the renowned Portuguese economic magazine *Expresso* (Deloitte & Informa D&B, 2016). This option stems from the absence of a public list of audited companies.

The chosen reference year was December 31, 2015, the most recent year for which the SABI database had the necessary information for the variables of the chosen model.

From the population obtained, 25 companies with qualifications and 25 companies without qualifications were randomly selected.

The following table (Table 1) shows the validation of the data used in that variables.

**Table 1** – Sample validation

|           | Qualified | Valid<br>N | Percent | Missing<br>N | Percent | Total<br>N | Percent |
|-----------|-----------|------------|---------|--------------|---------|------------|---------|
| AUDITFEES | 0,00      | 25         | 100,00% | 0            | 0,00%   | 25         | 100,00% |
|           | 1,00      | 25         | 100,00% | 0            | 0,00%   | 25         | 100,00% |
| EBIT/TA   | 0,00      | 25         | 100,00% | 0            | 0,00%   | 25         | 100,00% |
|           | 1,00      | 25         | 100,00% | 0            | 0,00%   | 25         | 100,00% |
| CA/CL     | 0,00      | 25         | 100,00% | 0            | 0,00%   | 25         | 100,00% |
|           | 1,00      | 25         | 100,00% | 0            | 0,00%   | 25         | 100,00% |
| REC/SAL   | 0,00      | 25         | 100,00% | 0            | 0,00%   | 25         | 100,00% |
|           | 1,00      | 25         | 100,00% | 0            | 0,00%   | 25         | 100,00% |
| NP/SAL    | 0,00      | 25         | 100,00% | 0            | 0,00%   | 25         | 100,00% |
|           | 1,00      | 25         | 100,00% | 0            | 0,00%   | 25         | 100,00% |

The following tables (Tables 2, 3, 4, 5, 6) report the descriptive statistics of each variable for each group, except for TYPEOFAUDITFIRM, since the latter is a dummy variable.

**Table 2** – Descriptive statistics of AUDITFEES for qualified and unqualified opinions

| AUDITFEES |                     |           |
|-----------|---------------------|-----------|
| Qualified |                     | Statistic |
| 0,00      | Mean                | 16.160,00 |
|           | Median              | 16.000,00 |
|           | Std. Deviation      | 1.818,42  |
|           | Minimum             | 14.000,00 |
|           | Maximum             | 22.000,00 |
|           | Interquartile Range | 2.500,00  |
|           | Skewness            | 1,14      |
|           | Kurtosis            | 3,08      |
| 1,00      | Mean                | 16.240,00 |
|           | Median              | 15.000,00 |
|           | Std. Deviation      | 4.763,40  |
|           | Minimum             | 9.000,00  |
|           | Maximum             | 36.000,00 |
|           | Interquartile Range | 3.500,00  |
|           | Skewness            | 3,01      |
|           | Kurtosis            | 12,83     |

**Table 3** – Descriptive statistics of EBIT/TA for qualified and unqualified opinions

| EBIT/TA   |                     |           |
|-----------|---------------------|-----------|
| Qualified |                     | Statistic |
| 0,00      | Mean                | 0,12      |
|           | Median              | 0,08      |
|           | Std. Deviation      | 0,12      |
|           | Minimum             | (0,09)    |
|           | Maximum             | 0,44      |
|           | Interquartile Range | 0,15      |
|           | Skewness            | 1,10      |
|           | Kurtosis            | 1,13      |
| 1,00      | Mean                | (0,01)    |
|           | Median              | 0,00      |
|           | Std. Deviation      | 0,10      |
|           | Minimum             | (0,40)    |
|           | Maximum             | 0,17      |
|           | Interquartile Range | 0,07      |
|           | Skewness            | (2,13)    |
|           | Kurtosis            | 7,70      |

**Table 4** – Descriptive statistics of CA/CL for qualified and unqualified opinions

| CA/CL     |                     |           |
|-----------|---------------------|-----------|
| Qualified |                     | Statistic |
| 0,00      | Mean                | 1,54      |
|           | Median              | 1,49      |
|           | Std. Deviation      | 0,62      |
|           | Minimum             | 0,16      |
|           | Maximum             | 3,19      |
|           | Interquartile Range | 0,81      |
|           | Skewness            | 0,63      |
|           | Kurtosis            | 1,83      |
| 1,00      | Mean                | 1,68      |
|           | Median              | 1,03      |
|           | Std. Deviation      | 2,96      |
|           | Minimum             | 0,31      |
|           | Maximum             | 15,58     |
|           | Interquartile Range | 0,67      |
|           | Skewness            | 4,68      |
|           | Kurtosis            | 22,67     |

**Table 5** – Descriptive statistics of REC/SAL for qualified and unqualified opinions

| REC/SAL   |                     |           |
|-----------|---------------------|-----------|
| Qualified |                     | Statistic |
| 0,00      | Mean                | 0,49      |
|           | Median              | 0,15      |
|           | Std. Deviation      | 0,83      |
|           | Minimum             | 0,02      |
|           | Maximum             | 3,42      |
|           | Interquartile Range | 0,25      |
|           | Skewness            | 2,54      |
|           | Kurtosis            | 6,19      |
| 1,00      | Mean                | 1,08      |
|           | Median              | 0,26      |
|           | Std. Deviation      | 1,83      |
|           | Minimum             | 0,06      |
|           | Maximum             | 8,60      |
|           | Interquartile Range | 1,68      |
|           | Skewness            | 3,20      |
|           | Kurtosis            | 12,06     |

**Table 6** – Descriptive statistics of NP/SAL for qualified and unqualified opinions

| NP/SAL    |                     |           |
|-----------|---------------------|-----------|
| Qualified |                     | Statistic |
| 0,00      | Mean                | 0,06      |
|           | Median              | 0,04      |
|           | Std. Deviation      | 0,12      |
|           | Minimum             | (0,26)    |
|           | Maximum             | 0,43      |
|           | Interquartile Range | 0,08      |
|           | Skewness            | 1,11      |
|           | Kurtosis            | 5,22      |
| 1,00      | Mean                | 0,02      |
|           | Median              | 0,00      |
|           | Std. Deviation      | 0,24      |
|           | Minimum             | (0,18)    |
|           | Maximum             | 1,11      |
|           | Interquartile Range | 0,07      |
|           | Skewness            | 4,25      |
|           | Kurtosis            | 20,04     |

Since it will be used a regression model, it is necessary to verify the absence of multicollinearity problems by examining the collinearity statistics. Therefore, using Pearson correlation coefficient, the linear correlation degree between variables was measured.

**Table 7** – Correlations

| Pearson correlation coefficient |                     |           |         |         |         |        |         |
|---------------------------------|---------------------|-----------|---------|---------|---------|--------|---------|
|                                 |                     | AUDITFEES | EBIT/TA | CA/CL   | REC/SAL | NP/SAL | BIG 4   |
| AUDITFEES                       | Pearson Correlation | 1         | 0,024   | 0,025   | 0,167   | 0,082  | 0,202   |
|                                 | Sig. (2-tailed)     | -         | 0,867   | 0,865   | 0,247   | 0,571  | 0,160   |
| EBIT/TA                         | Pearson Correlation | 0,024     | 1       | 0,164   | (0,093) | 0,476  | 0,260   |
|                                 | Sig. (2-tailed)     | 0,867     | -       | 0,255   | 0,519   | 0,000  | 0,068   |
| CAL/CL                          | Pearson Correlation | 0,025     | 0,164   | 1       | 0,765   | 0,843  | (0,136) |
|                                 | Sig. (2-tailed)     | 0,865     | 0,255   | -       | 0,000   | 0,000  | 0,345   |
| REC/SAL                         | Pearson Correlation | 0,167     | (0,093) | 0,765   | 1       | 0,539  | (0,287) |
|                                 | Sig. (2-tailed)     | 0,247     | 0,519   | 0,000   | -       | 0,000  | 0,044   |
| NP/SAL                          | Pearson Correlation | 0,082     | 0,476   | 0,843   | 0,539   | 1      | 0,024   |
|                                 | Sig. (2-tailed)     | 0,571     | 0,000   | 0,000   | 0,000   | -      | 0,869   |
| BIG 4                           | Pearson Correlation | 0,202     | 0,260   | (0,136) | (0,287) | 0,024  | 1       |
|                                 | Sig. (2-tailed)     | 0,160     | 0,068   | 0,345   | 0,044   | 0,869  | -       |

Based on the results presented on Table 7, it is possible to conclude that there is no substantial collinearity, given that correlation between any variables are not very strong (all levels of significance are lower than 0,9). Thus, the use of all model variables makes sense since the extent to which they explain each other is not strong enough to make it impossible to ascertain properly their single effect.

Additionally, in the Tables 2, 3, 4, 5, 6 we can see that for the qualified group there is a large disparity in the value of Skewness and Kurtosis, which does not allow validating that these variables follow a normal distribution. As such, some normality tests were conducted (Kolmogorov-Smirnov and Shapiro-Wilk), especially to determine if the variables followed a normal distribution. According to the data (Table 8), it is possible to conclude that only the CA/CL variable for the unqualified group follows a normal distribution, given that the significance value was higher than 0,1. As a matter of fact, it is quite easy to get the opposite interpretation for all the significance values, since they are lower than 0,1.

**Table 8** – Normality tests

| <b>Tests of Normality</b>             |           |                                 |                 |              |              |                 |              |
|---------------------------------------|-----------|---------------------------------|-----------------|--------------|--------------|-----------------|--------------|
|                                       | Qualified | Kolmogorov-Smirnov <sup>a</sup> |                 |              | Shapiro-Wilk |                 |              |
|                                       |           | Statistic                       | df <sup>b</sup> | Significance | Statistic    | df <sup>b</sup> | Significance |
| AUDITFEES                             | 0,00      | 0,202                           | 25              | 0,010        | 0,848        | 25              | 0,002        |
|                                       | 1,00      | 0,241                           | 25              | 0,001        | 0,691        | 25              | 0,000        |
| EBIT/TA                               | 0,00      | 0,172                           | 25              | 0,054        | 0,908        | 25              | 0,027        |
|                                       | 1,00      | 0,203                           | 25              | 0,009        | 0,814        | 25              | 0,000        |
| CA/CL                                 | 0,00      | 0,152                           | 25              | 0,139        | 0,936        | 25              | 0,120        |
|                                       | 1,00      | 0,402                           | 25              | 0,000        | 0,366        | 25              | 0,000        |
| REC/SAL                               | 0,00      | 0,355                           | 25              | 0,000        | 0,576        | 25              | 0,000        |
|                                       | 1,00      | 0,289                           | 25              | 0,000        | 0,590        | 25              | 0,000        |
| NP/SAL                                | 0,00      | 0,240                           | 25              | 0,001        | 0,759        | 25              | 0,000        |
|                                       | 1,00      | 0,384                           | 25              | 0,000        | 0,471        | 25              | 0,000        |
| a. Lilliefors Significance Correction |           |                                 |                 |              |              |                 |              |
| b. Degrees of Freedom                 |           |                                 |                 |              |              |                 |              |

Although very superficial, when comparing the descriptive statistics of each group with the formulated hypotheses, mainly the median value given that there is no variable that follows a normal distribution on both groups, it appears that for the selected sample:

- The median value of AUDITFEES is lower in the qualified group, as expected given the possible greater importance of the client to the auditor.
- The median value of EBIT/TA ratio is lower in the qualified group, as expected since it represents the audited company's financial performance.

- The median value of CA/CL ratio is lower in the qualified group, as expected since it represents the audited company's liquidity. Moreover, given that CA/CL for the unqualified group follows a normal distribution, its mean is in fact the expectable value, which is also lower than the median value for the qualified group.
- The median value of REC/SAL ratio is higher in the qualified group, as expected since it represents both the audit task difficulty and audited company's liquidity.
- The median value of NP/SAL ratio is lower in the qualified group, as expected since it represents audited company's financial performance.

## Chapter 5 – Results

In this chapter, it is shown the results obtained from the application of the selected model. The results of various tests will be presented and analyzed.

In order to assess the median differences between both groups, corresponding to firms with qualified and unqualified opinions, the Mann-Whitney Test was conducted, which is a nonparametric test applied to two independent samples in order to verify if they were selected from populations having the same distribution. The obtained results are presented in the table below (Table 9).

**Table 9** – Mann-Whitney Test

| <b>Mann-Whitney U Test</b>            |           |         |         |         |         |
|---------------------------------------|-----------|---------|---------|---------|---------|
|                                       | AUDITFEES | EBIT/TA | CA/CL   | REC/SAL | NP/SAL  |
| Mann-Whitney U                        | 282,500   | 112,000 | 171,000 | 248,000 | 152,000 |
| Wilcoxon W                            | 607,500   | 437,000 | 496,000 | 573,000 | 477,000 |
| Z                                     | (0,591)   | (3,890) | (2,746) | (1,251) | (3,114) |
| Asymp. Sig. (2-tailed) <sup>a</sup>   | 0,555     | 0,000   | 0,006   | 0,211   | 0,002   |
| Grouping Variable: Qualified          |           |         |         |         |         |
| a. Asymptotic Significance (2-tailed) |           |         |         |         |         |

It is possible to conclude that for the variables AUDITFEES and REC/SAL there are no differences between both groups, of qualified and unqualified opinion, since they both present significative values of 0,555 and 0,211, respectively, being greater than 0,1 (reference value). Therefore, based on Mann-Whitney U Test it is not possible to reject that those variables present the same distribution in both groups. Furthermore, it is also possible to observe that regarding the remaining variables there are differences between both groups, since they present significance values that are lower than 0,1. In fact, EBIT/TA and NP/SAL are the variables that present more differences between the two samples (qualified and unqualified reports).

Nevertheless, it is also important to assess the relationship between the type of audit firm and the obtained opinion, namely if it is qualified or unqualified. Hence, and according to the following table (Table 10), from the 26 Big Four clients, 14 did get an unqualified opinion, while 12 did get a qualified opinion. On the contrary, and regarding other Non-Big Four clients, 13 did get a qualified opinion, while 11 did not, obtaining an unqualified opinion.

**Table 10** – Assessment of the type of opinion obtained (qualified or unqualified) by Big Four and Non-Big Four clients

| TYPEOFAUDITFIRM | Qualified |       |
|-----------------|-----------|-------|
|                 | No        | Yes   |
|                 | Count     | Count |
| Big Four        | 14        | 12    |
| Non-Big Four    | 11        | 13    |

Considering all these findings, more precisely in terms of auditor size, it is important to assess the relationship between Big Four clients and the obtention of a qualified opinion, which is possible to analyze by conducting Pearson Chi-Square Tests (Table 11).

**Table 11** – Pearson Chi-Square Tests to assess the relationship between TYPEOFAUDITFIRM and qualified opinion

| Pearson Chi-Square Tests |              |                |
|--------------------------|--------------|----------------|
|                          |              | Qualifications |
| TYPEOFAUDITFIRM          | Chi-square   | 0,321          |
|                          | Significance | 0,571          |

After analyzing Table 11, since the significance value is 0,571, which is greater than 0,1 (reference value), it is not possible to conclude that there are associations between TYPEOFAUDITFIRM and qualified opinions.

The following table (Table 12), in turn, presents the results of the logistic regression model.

**Table 12** – Model Statistics

| Model Summary                                                                                          |                     |                      |                     |
|--------------------------------------------------------------------------------------------------------|---------------------|----------------------|---------------------|
| Step                                                                                                   | -2 Log likelihood   | Cox & Snell R Square | Nagelkerke R Square |
| 1                                                                                                      | 44,931 <sup>a</sup> | 0,386                | 0,515               |
| a. Estimation terminated at iteration number 6 because parameter estimates changed by less than 0,001. |                     |                      |                     |

Cox and Snell's  $R^2$  is a method based on the log likelihood for the model compared to the log likelihood for a baseline model. However, with categorical outcomes, it has a theoretical maximum value of less than 1, even for a "perfect" model. Nagelkerke's  $R^2$  is an adjusted version of the Cox & Snell R-square that adjusts the scale of the statistic to cover the full range from 0 to 1. Therefore, Nagelkerke's  $R^2$  assesses how the model can explain the observed values – in this case the value was of 0,515, which indicates that these variables explain about 51,50% of the model.

**Table 13 – Confusion Matrix**

| Classification Table <sup>a</sup> |                    |      |           |      |                    |
|-----------------------------------|--------------------|------|-----------|------|--------------------|
| Observed                          |                    |      | Predicted |      |                    |
|                                   |                    |      | Qualified |      | Percentage Correct |
|                                   |                    |      | 0,00      | 1,00 |                    |
| Step 1                            | Qualified          | 0,00 | 19        | 6    | 76,00              |
|                                   |                    | 1,00 | 6         | 19   | 76,00              |
|                                   | Overall Percentage |      |           |      | 76,00              |
| a. The cut value is 0,500         |                    |      |           |      |                    |

Furthermore, it is possible to conclude that the logistic model correctly classified 76% of the sample cases where there is an unqualified opinion and 76% of the cases where there is a qualified opinion. Overall, the logistic model also correctly predicted 76% of the total cases, as it is shown in Table 13. Finally, it is crucial to assess all the variables in the equation, aiming to determine their importance and influence in the obtention of a specific opinion, which can be either qualified or unqualified (Table 14).

**Table 14 – Regression results**

| Variables in the Equation |                 |          |       |              |
|---------------------------|-----------------|----------|-------|--------------|
|                           |                 | B        | Wald  | Significance |
| Step 1                    | Constant        | 2,375    | 1,412 | 0,235        |
|                           | AUDITFEES       | (0,000)  | 0,533 | 0,465        |
|                           | TYPEOFAUDITFIRM | 0,929    | 1,154 | 0,283        |
|                           | EBIT/TA         | (26,796) | 8,848 | 0,003        |
|                           | CA/CL           | (0,701)  | 1,752 | 0,186        |
|                           | REC/SAL         | 0,450    | 0,828 | 0,363        |
|                           | NP/SAL          | 10,065   | 2,674 | 0,102        |

By analyzing the results presented in Table 14 it is possible to conclude that there is statistical evidence that the coefficients corresponding to the following variables are not significant for the model for a significance level of 10%: audit fees, type of audit firm, current assets to current liabilities ratio, accounts receivables to sales ratio and net profit to sales ratio. In fact, only EBIT to total assets ratio's beta presented statistical evidence that show at a significance level of 10% to be significant for the model. Nevertheless, the other variable used to proxy as a financial performance indicator, net profit to sales ratio, despite not being statistically significant, it presented in fact a p-value very close to 0,1.

Given the results obtained for the coefficients, for the selected sample it can be concluded that, for a level of significance of 10%, only the coefficient  $b_3$  is significant for the model presented. Given that  $b_3$  is negative, the EBIT to total assets ratio will have a negative impact in the likelihood of issuing qualifications as it was expected.

## Chapter 6 – Conclusions

According to Dopouch et al (1987), researchers can use empirical models comprising financial measures and audit firms' characteristics to assess the likelihood of a company receiving a qualified opinion based on publicly available data. The output of such models is valuable to auditors as planning and quality tools (Bell & Tabor, 1991; Chen & Church, 1992; Kleinman & Anandarajan, 1999) and to other stakeholders as a predicting tool in order to analyze how changes in specific variables could impact the likelihood of obtaining a qualified opinion (Kleinman & Anandarajan, 1999).

The aim of this dissertation is to test the level to which combinations of auditee companies' financial information with respective audit firms' non-financial information, such as audit fees and type of audit firm, can be used in the Portuguese case to predict modified audit opinions, thus allowing audit report readers to realize the potential factors that have impact on the occurrence of audit qualifications.

Based on the literature review summarized on Chapter 1, the following hypotheses were formulated: There is a relationship between audit firm characteristics and the occurrence of audit qualifications (hypothesis 1), there is a positive association between audit task difficulty and the occurrence of audit qualifications (hypothesis 2), there is a positive association between a company's liquidity and the occurrence of audit qualifications (hypothesis 3) and there is a negative association between a company's performance and the occurrence of audit qualifications (hypothesis 4).

In order to test such hypotheses, from the existing models as the ones developed by Keasey *et al.* (1988) and Laitinen and Laitinen (1998), it was necessary to choose one model. A consensual model does not exist, so a more recent model developed by Caramanis and Spathis (2006) was selected from the existing models since it simultaneously proved to be effective and it is suitable to apply to Portuguese companies. Additionally, this model addresses the main hypotheses. In fact, Spathis et al. (2003) proved that the receivables to sales, the net profit to total assets, the sales to total assets and the working capital to total assets are useful predictors for audit qualifications, which clearly corroborates the importance of this study's contribution to the pertaining literature.

For the established hypotheses, the following proxies were assumed:

- For hypothesis 1, audit fees and type of audit firm representatives of the main audit firm characteristics that can affect the occurrence of audit qualifications.
- For hypothesis 2, accounts receivable to sales ratio was selected as an audit task difficulty's proxy.
- For hypothesis 3, current assets to current liabilities ratio was selected as a proxy of company's liquidity.
- For hypothesis 4, EBIT to total assets ratio and net profit to sales ratio were selected as proxies of company's performance.

Considering that the main objective of the present study is to fully understand the meaning of audit quality in practice, statistical analyses were conducted, aiming for the correct characterization of data and also to test whether there are associations between the selected variables and the obtained opinion (qualified or unqualified): descriptive statistics; correlation test (Pearson); normality tests (Kolmogorov-Smirnov and Shapiro-Wilk); Mann-Whitney U Test; Pearson Chi-Square Test; R Square Test and Wald Test.

According to Mann-Whitney U Test, the variables EBIT to total assets ratio, current assets to current liabilities ratio and net profit to sales ratio presented significant differences between both qualified and unqualified groups. Nevertheless, according to Wald Test only the coefficient  $b_3$ , which regards the variable EBIT to total assets ratio, is significant for the model. Regarding the dummy variable type of audit firm, it is not possible based on Chi-Square Test to establish an association with the occurrence of audit qualifications. Nevertheless, it was estimated that regarding the sample used the selected model was capable to predict 76% of the cases. Thus, it was a reliable model for most of the cases.

Considering all the above results, exclusively EBIT to total assets ratio appears to be significant. Regarding its coefficients, EBIT to total assets ratio increase will have a negative impact in the probably of auditor issuing a modified opinion. Thereby, there is a significant negative association between a company's performance and the occurrence of audit qualifications, as expected.

Regarding the original model, the only difference between both researches' results was the finding by Caramanis and Spathis (2006) that there is a significant positive association between a company's liquidity and the occurrence of audit qualifications.

Two main limitations were found while preparing the present dissertation.

- It is mandatory to auditee companies to disclose on their financial report (Rodrigues, J. (2016) the audit fees paid to the statutory auditor. Such information was not obtained to most of the randomly selected companies, despite the online research on their website, the request made by email to the institutional email and from the research on SABI database. In order to overcome this obstacle, fees were assumed in accordance with the previously mandatory table, which was setting minimum fees based on audited company size standards and which was eliminated in 2005 with the liberalization of audit services in Portugal. Nonetheless, based on my professional experience (in particular supporting the quality control of other audit firms), based on other auditors to whom I have questioned their opinion and even comparing with the obtained figures disclosed on the available financial reports, this seems to be a good proxy of the real fees.
- SABI does not present qualifications' detail, being limited for many cases only to inform that auditor report is modified or unmodified, which makes the analysis of other potential factors impossible.

In terms of future research, given that only one variable was proved significant for this sample at a significant level of 10%, in future investigations is important to analyze distinct variables, aiming to obtain more in-depth knowledge regarding the most adequate variables to fully understand the factors that influence the type of auditor's opinion (qualified or unqualified). Additionally, a larger sample can lead to more reliable conclusions.

## References

- Abrantes, S. (2018, Janeiro-Março). Novo normativo de auditoria. *Revisores E Auditores*, 38-39
- Adams, M. (1994). Agency theory and the internal audit. *Managerial Auditing Journal*, 9(8), 8-12.
- Arenas, P. & Moreno, A. (2008). *Auditoría financiera: Teoría y casos prácticos*. Madrid: Mc GrawHill.
- Arens, A., Elder, R. & Beasley, M. (2012). *Auditing and assurance services: An integrated approach*. (14<sup>th</sup> ed.). London: Pearson.
- Arnold, V., Collier, A., Leech, A. & Sutton, G. (2001). The impact of political pressure on novice decision makers: are auditors qualified to make going concern judgments? *Critical Perspectives in Accounting*, 12(3), 323-338.
- Arrunada, B. (1999). The provision of non-audit services by auditors: let the market evolve and decide. *International Review of Law and Economics*, 19(4), 513-531.
- Ballesta, J. & García-Meca, E. (2005). Audit qualifications and corporate governance in Spanish listed firms. *Managerial Auditing Journal*, 20(7), pp. 725-738.
- Ball, R. & Brown, P. (1968). An empirical evaluation of accounting income numbers. *Journal of Accounting Research*, 6(2), 169-178.
- Bamber, E. M., Bmaber, L. S. & Schoderbek, M. P. (1993). Audit structure and other determinants of ARL: an empirical analysis. *Auditing: A Journal of Practice & Theory*, 12, 1-23.
- Barth, M., Beaver, W. & Landsman, W. (2001). The relevance of the value relevance literature for financial accounting standard setting: Another view. *Journal of Accounting & Economics*, 31(1-3), 77-104.
- Bartov, E., Gul, F. & Tsui, J. (2001). Discretionary-accruals models and audit qualifications. *Journal of Accounting and Economics*, 30(3), 421-452.
- Beaver, W. (1968). The information content of annual earnings announcements. *Journal of Accounting Research*, 6(3), 67-92.
- Beaver, W. (2002). Perspectives on recent capital market research. *The Accounting Review*, 77(2), 453-474.

- Behn, B., Choi, J. & Kang, T. (2008). Audit quality and properties of analyst earnings forecasts. *The Accounting Review*, 83(2), 327-349.
- Bell, T. & Tabor, R. (1991). Empirical analysis of audit uncertainty qualifications. *Journal of Accounting Research*, 29(2), 350-370
- Blay, A. (2005). Independence threats, litigation risk, and the auditor's decision process. *Contemporary Accounting Research*, 22(4), 759-789.
- Breesch, D. & Branson, J. (2009). The effects of auditor gender on audit quality. *The IUP Journal of Accounting Research & Audit Practices*, 8(3-4), 78-107.
- Brown-Liburd, H., Cohen, J. & Trompeter, G. (2013). Effects of earnings forecasts and heightened professional skepticism on the outcomes of client-auditor negotiation. *Journal of Business Ethics*, 116(2), 311-325.
- Butler, M., Leone, A. & Willenborg, M. (2004). An empirical analysis of auditor reporting and its association with abnormal accruals. *Journal of Accounting and Economics*, 37(2), 139-165.
- Caramanis, C. & Spathis, C. (2006). Auditee and audit firm characteristics as determinants of audit qualifications. *Managerial Auditing Journal*, 21(9), 905-920.
- Carcello, J., Hermanson, R. & McGrath, N. (1992). Audit quality attributes: The perceptions of audit partners, preparers, and financial statement users. *Auditing: A Journal of Practice and Theory*, 11(1), 1-15.
- Carcello, J. & Nagy, A. (2004). Audit firm tenure and fraudulent financial reporting. *Auditing: A Journal of Practice & Theory*, 23(2), 55-69.
- Carmichael, D. (2004). The PCAOB and the social responsibility of the auditor. *Accounting Horizons*, 18(2), 127-133.
- Carson, E., Fargher, N., Geiger, M., Lennox, C., Raghunandan, K. & Willekens, M. (2013). Auditor reporting on going-concern uncertainty: A research synthesis. *Auditing: A Journal of Practice & Theory*, 32(1), 353-384.
- Casterella, J., Jensen, K. & Knechel, W. (2009). Is self-regulated peer review effective at signaling audit quality? *The Accounting Review*, 84(3), 713-735.

- Casterella, J., Jensen, K. & Knechel, W. (2010). Litigation risk and audit firm characteristics. *Auditing: A Journal of Practice & Theory*, 29(2), 71–82.
- Casterella, J., Lewis, B. & Walker, P. (2000). Modelling the audit opinions issued to bankrupt companies: a two-stage empirical analysis. *Decision Sciences*, 31(2), 507–530.
- Chen, C., Lin, C. & Lin, Y. (2008). Audit partner tenure, audit firm tenure, and discretionary accruals: Does long auditor tenure impair earnings quality? *Contemporary Accounting Research*, 25(2), 415–445.
- Chen, K. & Church, C. (1992). Default on debt obligations and the issuance of going-concern opinions. *Auditing: A Journal of Practice & Theory*, 11(2), 13–28.
- Chen, Y., Hsu, J., Huang, M. & Yang, P. (2013). Quality, size, and performance of audit firms. *International Journal of Business & Finance Research*, 7(5), 89–105.
- Chi, W., Huang, H., Liao, Y. & Xie, H. (2009). Mandatory audit partner rotation, audit quality, and market perception: Evidence from Taiwan. *Contemporary Accounting Research*, 26(2), 359–391.
- Chin, C. & Chi, H. (2008). Gender Differences in Audit Quality. *American Accounting Association Annual Meeting*
- Choi, J., Kim, C. & Zang, Y. (2010). Audit office size, audit quality, and audit pricing. *Auditing: A Journal of Practice & Theory*, 29(1), 73–97.
- Christensen, J. (2010). Conceptual frameworks of accounting from an information perspective. *Accounting and Business Research*, 40(3), 287–299.
- Chung, J. & Monroe, G. (2001). A Research Note on the Effects of Gender and Task Complexity on an Audit Judgment. *Behavioral Research in Accounting*, Vol. 13
- Conyon, M. & Murphy, K. (2000). The Prince and the Pauper? CEO Pay in the US and UK. *Economic Journal*, 110(467), 640–671.
- Cosserat, G. & Rodda, N. (2009). *Modern auditing*. (3<sup>rd</sup> ed.). New Jersey: John Wiley & Sons.
- Costa, C. (2007). *Auditoria financeira: Teoria e prática*. (8<sup>a</sup> ed.). Lisboa: Editora Rei dos Livros.
- Davis, J. H., Schoorman, F. & Donaldson, L. (1997). Toward a stewardship theory of management. *Academy of Management Review*, 22(1), 20–47.

- Davis, L., Soo, B. & Trompeter, G. (2009). Auditor tenure and the ability to meet or beat earnings forecasts. *Contemporary Accounting Research*, 26(2), 517–548.
- DeAngelo, L. (1981a). Auditor size and audit quality. *Journal of Accounting and Economics*, 3(3), 183-199.
- DeAngelo, L. (1981b). Auditor independence, ‘low balling’, and disclosure regulation. *Journal of Accounting and Economics*, 3(2), 113-127.
- DeAngelo, L. (1982). Mandated successful efforts and auditor choice. *Journal of Accounting and Economics*, 4(3), 171-203.
- Dedman, E. & Kausar, A. (2012). The impact of voluntary audit on credit ratings: Evidence from U K private firms. *Accounting and Business Research*, 42(4), 397- 418.
- Deegan, C. & Unerman, J. (2006). *Financial accounting theory*. Berkshire: McGraw-Hill Education.
- DeFond, M. (2010). How should the auditors be audited? Comparing the PCAOB inspections with the AICPA peer reviews. *Journal of Accounting and Economics*, 49(1-2), 104-108.
- DeFond, M., Raghunandan, K. & Subramanyam, K. (2002). Do non-audit service fees impair auditor independence? Evidence from Going Concern Audit Opinions. *Journal of Accounting Research*, 40(4), 1247–1274.
- Donaldson, L. & Davis, J. (1991). Stewardship theory or agency theory: CEO governance and shareholder returns. *Australian Journal of Management*, 16(1), 49-65.
- Dopouch, N., Holthausen, R. & Leftwich, R. (1987). Predicting audit qualifications with financial and market variables. *The Accounting Review*, 62(3), 431-454.
- Duff, A. (2004). *Auditqual: dimensions of Audit Quality*. Edimburgo: The Institute of Chartered Accountants of Scotland.
- Eisenhardt, K. (1989). Agency Theory: An assessment and review. *Academy of Management Review*, 14(1), 57-74.
- Elder, R. J., Beasley, M. S. & Arens, A. A. (2010). *Auditing and assurance services: an integrated approach: global edition*. (13<sup>th</sup> ed.). Englewood Cliffs: Prentice-Hall.

- European Commission (2010). *Green paper, audit policy: Lessons from the crisis*. Brussels: European Commission.
- Deloitte & Informa D&B (2016, Novembro 1). Exame 500 Maiores & Melhores, *Revista Exame* – Edição Especial, 27ª Edição
- Fakhfakh, M. (2013). The readability of standardized reports by the international federation of accountants. *Journal of Commerce and Accounting Research*, 2, 10-28.
- Fakhfakh, M. (2016). “Understandability of unmodified audit report on consolidated financial statements: A normative and advanced study of the international normalization.” *Cogent Business & Management*, 3(1), 1-25.
- Fakhfakh, H. & Fakhfakh, M. (2010). The impact of Revised ISA 700: an international empirical comparison. *International Journal of Accounting, Auditing and Performance Evaluation*, 6, 274-326.
- Fama, E. (1970). Efficient capital markets: A review of theory and empirical work. *Journal of Finance*, 25(2), 383-417.
- Fama, E. & Jensen, M. (1983). Separation of ownership and control. *Journal of Law and Economics*, 26(2), 301-325.
- Financial Reporting Council (FRC) (2008). The audit quality framework. Available at: <http://www.frc.org/>. Accessed on 28 June 2017.
- Fondas, N. & Salsalos, S. (2000). A different voice in the boardroom: How the presence of women directors affects board influence over management. *Global Focus*, 12 (2), 13–22.
- Francis, J. (2004). What do we know about audit quality? *The British Accounting Review*, 36(4), 345-368.
- Francis, J. (2011). A framework for understanding and researching audit quality. *Auditing: A Journal of Practice & Theory*, 30(2), 125-152.
- Francis, J. & Krishnan, J. (1999). Accounting accruals and auditor reporting conservatism, contemporary. *Accounting Research*, 16(1), 135-165.
- Francis, J., LaFond, R., Olsson, P. & Schipper, K. (2004). Costs of equity and earnings attributes. *Accounting Review*, 79(4), 967-1010.

- Francis, J. & Schipper, K. (1999). Have financial statements lost their relevance? *Journal of Accounting Research*, 37(2), 319-352.
- Francis, J. & Yu, M. (2009). Big 4 office size and audit quality. *The Accounting Review*, 84(1), 1521-1552.
- Gangolly, J. S., Hussein, M. E., Seow, G. S. & Tam, K. (2002). Harmonization of the auditor's report. *The International Journal of Accounting*, 37, 327-346.
- García, E. (2000), La efectividad comunicativa del informe de auditoria medida a través de su impacto en el mercado bursátil. *Estudios Financieros, Revista de contabilidad y tributación*, N° 209-210, 123-178.
- García-Benau, M., Ruiz Barbadillo, E. & Vico Martínez, A. (2000). Factores que condicionan la elección y el cambio de auditor en la empresa española. *Revista de Contabilidad*, 3(6), 49-80.
- Gómez Aguilar, N. & Ruiz Barbadillo, E. (2000). Un estudio empírico sobre la relación entre informe de auditoria y cambio de auditor. *Revista Española de Financiación y Contabilidad*, XXIX(105), 705-741.
- Gramling, A., Rittenberg, L. and Johnstone, K. (2012). Auditing a business risk approach. 8<sup>th</sup> Edition. *Cengage Learning*.
- Gul, F., Wu, D. & Yang, Z. (2013). Do individual auditors affect audit quality? Evidence from archival data. *The Accounting Review*, 88(6), 1993-2023.
- Gul, F., Fung, S. & Jaggi, B. (2009). Earnings quality: Some evidence of the role of auditor tenure and auditors' industry expertise. *Journal of Accounting and Economics*, 47(3), 265-287.
- Habib, A. (2012). Non-audit service fees and financial reporting quality: a meta-analysis. *Abacus*, 48(2), 214-248.
- Habib, A. (2013). A meta-analysis of the determinants of modified audit opinion decisions. *Managerial Auditing Journal*, 28(3), 184-216.
- Hardies, K., Breesch, D., & Branson, J. (2010). *Are female auditors still women? Analyzing the sex differences affecting audit quality*. Available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1409964](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1409964). Accessed on 01 March 2018.

- Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics*, 31(1-3), 405–440.
- Holthausen, R. & Watts, R. (2001). The relevance of the value-relevance literature for financial accounting standard setting. *Journal of Accounting & Economics*, 31(1-3), 3-75.
- Hope, O. & Thomas, W. (2008). Managerial empire building and firm disclosure. *Journal of Accounting Research*, 46(3), 591–626.
- Hosseinniakani, S. (2014). *Effects of corporate governance on audit quality*. Master dissertation: University of Aveiro.
- Houghton, K. & Jubb, C. (1999). The cost of audit qualifications: the role of non-audit services, *Journal of International Accounting, Auditing and Taxation*, 8(2), 215-240
- International Federation of Accountants (2015). *Handbook of International Quality Control, Auditing, Review, Other Assurance, and Related Services Pronouncements*, 2015 Edition, Vol. I
- International Federation of Accountants (2015). *Handbook of International Quality Control, Auditing, Review, Other Assurance, and Related Services Pronouncements*, 2015 Edition, Vol. II
- Ireland, J. (2003). An empirical investigation of determinants of audit reports in the UK. *Journal of Business, Finance & Accounting*, 30(7-8), 975-1015.
- Ittonen, K., Vähämaa, E. & Vähämaa, S. (2013). Female auditors and accruals quality. *Accountings Horizons*, 27(2), 205-228.
- Jackson, A., Moldrich, M. & Roebuck, P. (2008). Mandatory audit firm rotation and audit quality. *Managerial Auditing Journal*, 23(5), 420–437.
- Jensen, M. (1983). Organization theory and methodology. *The Accounting Review*, 58(2), 319-339.
- Jensen, Michael C. (2001). Value Maximization, Stakeholder Theory, and the Corporate Objective Function., *Journal Applied Corporate Finance*, 14(3).
- Jensen, M. & Meckling, W. (1976). Theory of the firm: managerial behaviour, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Jones, M. & Karbhari, Y. (1996). Auditor's report: A six country comparison. *Advances in International Accounting*, 9, 129-155.

- Jubb, C., Houghton, K. & Butterworth, S. (1996), Audit fee determinants: the plural nature of risk, *Managerial Auditing Journal*, 11(3), 25-40.
- Kaplan, S. & Williams, D. (2013). Do going concern audit reports protect auditors from litigation? A simultaneous equations approach. *Accounting Review*, 88(1), 199–232.
- Keasey, K., Watson, R., & Wynarczyk, P. (1988). The small company audit qualification: a preliminary investigation. *Accounting & Business Research*, 18(72), 323-333.
- Kilgore, A., Radich, R. & Harrison, G. (2011). The relative importance of audit quality attributes. *Australian Accounting Review*, 21(3), 253-265.
- Kleinman, G. and Anandarajan, A. (1999), The usefulness of off-balance sheet variables as predictors of auditors' going concern opinions: an empirical analysis. *Managerial Auditing Journal*, 14(6), 273-285
- Knechel, R. (2007). The business risk audit: Origins, obstacles and opportunities. *Accounting, Organizations and Society*, 32(4), 383-408.
- Knechel, W., Krishnan, G., Pevzner, M., Shefchik, L. & Velury, U. (2013). Audit quality: Insights from the academic literature. *Auditing: A Journal of Practice & Theory*, 32(1), 385-421.
- Knechel, W., Niemi, L. & Zerni, M. (2011). *Financial incentives in big 4 accounting partnerships and the implications for audit quality*. Working paper, University of Florida, Aalto University, and University of Vaasa.
- Knechel, W. & Vanstraelen, A. (2007). The relationship between auditor tenure and audit quality implied by going concern opinions. *Auditing: A Journal of Practice & Theory*, 26(1), 113–131.
- Kothari, S. (2001). Capital markets research in accounting. *Journal of Accounting and Economics*, 31(1-3), 105-231.
- Krishnan, J. & Krishnan, J. (1996). The role of economic trade-offs in the audit opinion decision: an empirical analysis. *Journal of Accounting, Auditing and Finance*, 11(4), 565-586.
- Laitinen, E. & Laitinen, T. (1998). Qualified audit reports in Finland: Evidence from large companies. *The European Accounting Review*, 7(4), 639-653.
- Lambert, R., Leuz, C. & Verrecchia, R. (2007). Accounting information, disclosure, and the cost of capital. *Journal of Accounting Research*, 45(2), 385–420.

- Lawrence, A., Minutti-Meza, M. & Zhang, P. (2011). Can Big 4 versus Non-Big 4 differences in audit-quality proxies be attributed to client characteristics? *The Accounting Review*, 86(1), 259–286.
- Lenard, J., Alam, P., Booth, D. & Madey, G. (2001). Decision-making capabilities of a hybrid system applied to the auditor's going-concern assessment. *International Journal of Intelligent Systems in Accounting, Finance & Management*, 10, 1-24.
- Lennox, C. & Pittman, J. (2011). Voluntary audits versus mandatory audits. *The Accounting Review*, 86(5), 1655- 1678.
- Limperg Institute (1985). *The social responsibility of the auditor. A basic theory on the auditor's function, by Professor Theodore Limperg (1879-1961) of the University of Amsterdam*. Amsterdam: Limperg Institute.
- Limperg, T. (1932). *Theory of inspired confidence*. Amsterdam: University of Amsterdam.
- Lin, J. & Hwang, M. (2010). Audit quality, corporate governance, and earnings management: A meta-analysis. *International Journal of Auditing*, 14(1), 57-77.
- Mahdavi, G. & Houshmand, A. (2012). The impact of national auditing standards on the quality of auditors' opinions: Iranian experience. *African Journal of Business Management*, 6(29), 8620-8629.
- Manita, R. & Elommal, N. (2010). The quality of audit process: An empirical study with audit committees. *International Journal of Business*, 15(1), 87-99.
- Marques, M. (1997). *Auditoria e Gestão*. Lisboa: Editorial Presença.
- Mautz, R. (1964). *Fundamentals of auditing*. New Jersey: John Wiley & Sons.
- Mayhew, B. W. & Wilkins, M. S. (2003). Audit firm industry specialization as a differentiation strategy: evidence from fees charged to firms going public.” *Auditing: A Journal of Practice & Theory*, 22, 33-52.
- Mutchler, J. (1984). ‘Auditors’ perceptions of the going-concern opinion decisions. *Auditing: A Journal of Practice & Theory*, 3(2), 17-30.
- Mutchler, J., Hopwood, W. & McKeown, J. (1997). The influence of contrary information and mitigating factors on audit opinion decisions on bankrupt companies. *Journal of Accounting Research*, 35(2), 295-310.

- Negakis, J. (2005). Accounting and capital markets research: A review. *Managerial Finance*, 31(2), 1-23.
- Okaro, S. & Okafor, G. (2014). Joint provision of audit and non-audit services in Nigeria: An empirical study. *IUP Journal of Accounting Research & Audit Practices*, 13(1), 30.
- O'Donnell, E. & Johnson, E. (2001). The effects of auditor gender and task complexity on information processing efficiency. *International Journal of Auditing*, 5(2), 91-105.
- Palmrose, Z. (1988). 1987 competitive manuscript co-winner: An analysis of auditor litigation and audit service quality. *Accounting Review*, 55-73.
- Peecher, M. & Piercey, D. (2008). Judging audit quality in light of adverse outcomes: Evidence of outcome bias and reverse outcome bias. *Contemporary Accounting Research*, 25(1), 243-274.
- Quick, R. & Warming-Rasmussen, B. (2005). The impact of MAS on perceived auditor independence-some evidence from Denmark. *Accounting Forum*, 29(2), 137-168.
- Raghunandan, K. (1993). Predictive ability of audit qualifications for loss contingencies. *Contemporary Accounting Research*, 9(2), 612-634.
- Reichelt, K. & Wang, D. (2010). National and office-specific measures of auditor industry expertise and effects on audit quality. *Journal of Accounting Research*, 48(3), 647-686.
- Reynolds, J. & Francis, J. (2001). Does size matter? The influence of large clients on office-level auditor reporting decisions. *Journal of Accounting and Economics*, 30, 375-400.
- Robertson, J. & Smieliauskas, W. (1998). *Auditing & other assurance engagements*. Toronto: McGraw-Hill Ryerson.
- Rodrigues, J. (2016). *Sistema de Normalização Contabilística SNC Explicado*. (6<sup>th</sup> ed.). Porto: Porto Editora
- Sakin, T. (2017). Predicting Audit Qualifications Using Firm-Specific and Audit Related Characteristics and Effect of Regulations: Turkish Case. In *Proceedings of the Thirteenth Asia-Pacific Conference on Global Business, Economics, Finance and Banking, Singapore, 3-5, August 2017* (pp. 1-8).
- Schmidt, J. (2012). Perceived auditor independence and audit litigation: The role of non-audit services fees. *The Accounting Review*, 87(3), 1033-1065.

- Scott, W. (2006). *Financial accounting theory*. (4<sup>th</sup> Edition.). New Jersey: Prentice Hall.
- Segura, A. (2001). El informe de auditora y su relación con las características corporativas. *Revista Española de Financiación y Contabilidad*, 30(108), 349-391.
- Spathis, C. (2003). Audit qualification, firm litigation, and financial information: An empirical analysis in Greece. *International Journal of Auditing*, 7(1), 71-85.
- Spathis, C., Doumplos, M. & Zopounidis, C. (2003). Using client performance measures to identify pre-engagement factors associated with qualified audit reports in Greece. *The International Journal of Accounting*, 38(3), 267-284.
- Stephens, N. (2011). External auditor characteristics and internal control reporting under SOX Section 302. *Managerial Auditing Journal*, 26(2), 114-129.
- Sun, J. & Liu, G. (2011). Client-specific litigation risk and audit quality differentiation. *Managerial Auditing Journal*, 26(4), 300–316.
- Sweeney, B. & McGarry, C. (2011). Commercial and professional audit goals: Inculcation of audit seniors. *International Journal of Auditing*, 15(3), 316-332.
- Taborda, D. (2006). *Auditoria, Revisão Legal de Contas e Outras Funções do Revisor Oficial de Contas (16 – 18)*. Lisboa: Sílabo.
- Teoh, S. & Wong, T. (1993). Perceived auditor quality and the earnings response coefficient. *The Accounting Review*, 68(2), 346-366.
- Wallace, W. (2004). The economic role of the audit in free and regulated markets: A look back and a look forward. *Research in Accounting Regulation*, 17, 267-298.
- Wang, C., Kung, F.” & Lin, K. (2014). Does audit firm size contribute to audit quality? Evidence from two emerging markets. *Corporate Ownership and Control*, 11(2A), 96–107.
- Wang, S. & Hay, D. (2013). Auditor independence in New Zealand: Further evidence on the role on non-audit services. *Accounting & Management Information Systems*, 12(2), 235–262.
- Watts, R. & Zimmerman, J. (1990). Positive accounting theory: A ten year perspective. *The Accounting Review*, 65(1), 131-156.
- Wines, G. (1994). Auditor independence, audit qualifications and the provision of nonaudit services: a note. *Accounting and Finance*, 34(1), 75-86.

Yaşar, A., Yakut, E. & Gutnu, M. (2015). Predicting Qualified Audit Opinions Using Financial Ratios: Evidence from the Istanbul Stock Exchange. *International Journal of Business and Social Science*, 6, 8(1), 57-67.

Yoon, H., Zo, H. & Ciganek, A. P. (2011). Does XBRL adoption reduce information asymmetry? *Journal of Business Research*, 64(2), 157-163.

Zeghal, D., Maingot, M. & Tassé, M. (1999). *An examination of the length and organization of the auditor's report – An international comparison*. Working Paper, Canada: University of Ottawa.