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# **VOLUNTARY AUDIT**

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I hereby declare that the work submitted is mine and that where I have made use of another's work, I have attributed the source(s) according to the Regulations set in the Student's Handbook.

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## **Abstract**

This dissertation was written as part of the MSc in Management at the International Hellenic University.

This study deals with investigating the underlying causes of voluntary audit of firms that may opt for not being audited. The study consists of two main parts dedicated to the topic's theoretical overview and empirical investigation. Relevant theory proposes that voluntary audit could be mainly seen as the result agency, management, and signaling factors. However, the different criteria applied by different countries to exempt firms from auditing as well the contradictory existing empirical evidence, highlight the importance of continuous research on this study's topic.

On the empirical level, the study focuses Greek firms. Despite the obvious interest of the topic, Greek researchers have not so provide conclusive evidence as to why Greek firms choose to be voluntarily audited. In brief, the study's evidence suggests that voluntary audit is mainly the result of firm size. Other factors, often cited in relevant literature, were found to have marginal or no effect at all.

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**Keywords: Voluntary Audit, Small Firms, Greece, Logistic Regression**

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## Introduction

Auditing and, particularly, external auditing has been present since ancient times. According to Lee and Azham (2008), proofs of auditing are reported by Aristotle, the Greek philosopher. In general, auditing serves as reassurance mechanism to individuals that cannot themselves assure the trustworthiness of the audited object. Internal auditing can be tracked in more recent times, i.e. the 20th century.

With respect to economic entities (especially corporations), auditing has to do mainly with financial (economic) information reported to both internal and external stakeholders. Stakeholders have an obvious interest in objective financial information given the economic nature of their relationship with companies. For instance, creditors are interested in lending their money to organizations that will be able to repay it in the future, investors seek to find prosperous investments to put their money on, employees normally prefer work for financially viable employers and so on. From an insider's point of view, auditing is crucial in assuring that resources are consumed the way they are supposed to according to relevant decisions, people involved act in a legitimate manner and so on.

Despite audit's long history and significance, there exists enough evidence to support that not all relevant issues have been resolved. A number of corporate scandals with tremendous (negative) social impact as well as the absence of obligatory auditing for many, if not most, companies can prove this. Although auditing is, in many countries, obligatory for large companies, among which listed ones, most small and/ or medium size (SMEs) companies are not required to perform financial report auditing. However, as Ayyagari et al. (2011) reveal, SMEs, by number, dominate the world business stage. The authors report that despite the difficulty of obtaining relevant data, estimates suggest that more than 95% of enterprises across the world are SMEs, accounting for approximately 60% of private sector employment. Apart from their contribution to employment, SMEs are responsible for 51% of high-income countries GDP (Edinburgh Group, 2012). Despite SMEs importance to worldwide economy, relevant literature has put but limited effort to investigate a number of topics regarding such firms among

which the investigation of voluntary audit by companies alike. This topic is important for several reasons, the most obvious one being that most SMEs are free to avoid auditing. Thus, the following question comes in mind: why do some SMEs choose to have their financial reports audited while others don't? A number of theories have been proposed to explain the aforementioned choice, the major ones being presented in this paper. From a more practical point of view, revealing the factors affecting voluntary auditing could be helpful to numerous company stakeholders. It should be reminded that information regarding SMEs is, by nature, limited or, at least, not as freely available as for larger companies. Consequently, it is important to know which factors determine voluntary audit and, thus, improve the quality of information about SMEs.

This study's motivation is mostly based on the fact that, in Greece, almost no effort has been made so far to explain why some companies choose to be voluntarily audited. A research for related academic articles in some widely used academic article databases, e.g. Scencedirect, Emerald Insight, Business Source Complete, returned but limited results none of which investigates the topic of voluntary audit of Greek firms. For example the search for articles including the words "audit" and "Greece" or "audit" and "Greek" in their title returned 364 results none of which deals with voluntary audit of firms. A similar search in Emerald Insight returned no result while doing so in Business Source Complete returned 12 results that do not relate to the topic. It is, thus, evident that there exist space to conduct relevant research with respect to Greek firms in order to assist both the academic and professional community. By definition, our interest is on SMEs that, in Greece, account for about half of economic activity in terms of employment<sup>1</sup> (GSEVEE, 2014). In brief, this study reveals that the vast majority of Greek SMEs chooses not to opt for audit making it difficult, in the first place, to conduct relevant research. According to this study's findings, corporate size significantly and positively affects voluntary audit of Greek firms. It is then possible that factors, like the ability to deal with auditing costs and the intention to use voluntary audit as "forerunner" (e.g. of creditworthiness) or, similarly, protective device against internal control loss, explain voluntary audit of Greek firms. It is also found that voluntary audit is not a

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<sup>1</sup> SMEs are often called the "backbone" of Greek economy.

matter of ownership structure. This is quite interesting since Greek SMEs are usually family owned and it is then expected to be reluctant to outsiders (even to auditors).



## **Theoretical Review**

This chapter deals with auditing from a theoretical point of view. In particular, the history of auditing is first reviewed. Criteria of exception from mandatory audit are then reported and theories of voluntary auditing are developed. Existing empirical evidence is summarized at the end of the chapter.

### ***History of auditing***

According to Gill and Cosserat (1996), auditing was born simultaneously with the industrial revolution in UK at late 19<sup>th</sup> century. Both the size of companies and frequent corporate scandals leading to major losses for many stakeholders highlighted the necessity of auditing in order to protect investors' interest (Porter et al., 2005). However, Leung et al. (2004) report that there were no predefined auditing standards or rules and auditor's duties were largely defined by judicial decisions regarding fraud scandals.

In more recent years, the Great Recession, following the 1929 crash, resulted in loss of faith in financial information published and, along with increasing corporate size, made the need for auditing even greater (Porter et al., 2005). Financial statements auditing was made obligatory in 1943 by the Securities and Exchange Commission (SEC) in USA and 1948 by the Company's Act in UK. Increase in transactions' number and complexity is, according to Davies et al. (1999), another reason for the development of audit's content. Salehi (2007) reports that, during the mid 80s, reliance on internal audit systems became greater. This, according to Porter et al. (2005) was favored by the increase in transactions' automation.

Since 1990, the major factor of audit development is globalization. Porter et al. (2005) note that, nowadays, the most important feature of auditing is incorporation of risk. The authors report also that fraud has become increasingly popular, thus forcing audit to put more focus on this issue. Action taken (e.g. the Sarbanes-Oxley Act) to deal with major corporate fraud scandals, like those at Worldcom and Enron, prove that preventing fraud has become an increasingly important topic for auditors.

### ***Criteria of exception from mandatory auditing***

Despite the obvious importance of auditing, not all companies are obliged to perform it. For instance, the application of International Financial Reporting Standards (IFRS), formerly International Accounting Standards (IAS), is synonymous with obligatory auditing. However, firms not adopting IFRS, are or are not forced to execute formal auditing depending on several factors of which legislation is the most important one. For instance, UK's legislation required all companies to audit their financial statements, however this has recently changed. Nowadays a privately held company may be exempted from mandatory auditing of financial statements if at least two of the following three criteria are met simultaneously: a) sales  $\leq$  £5.6 million, b) assets  $\leq$  £2.8 million, and c) employees  $\leq$  50 (Dedman et al., 2014). According to GrantThornton (2015), the sales (assets) threshold value is expected to increase to £10.2 (£5.1) million after January 1<sup>st</sup>, 2016 (the threshold value regarding the number of employees is not expected to change).

With respect to Greece, the European Directive 2013/34 which has been adopted by Greek legislation states that companies may choose not to audit their financial statements if two of the following are valid: a) sales no more than €5 million, b) assets no more than €2.5 million, and c) number of employees no more than 50. It must be noted that these criteria apply only to companies that do not publish their financial statements according to IFRS and are not “public interest entities”, i.e.: a) companies with listed securities in EU, b) financial institutions including insurance companies, and c) companies considered of major public impact-interest (e.g. due to their nature of operations) (Mitrellos, 2014).

Similar criteria are used to exempt EU companies from auditing, however a complete analysis is beyond this study's scope. Readers can find a complete list of exemption criteria on Crowe Horwath's website<sup>2</sup>.

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<sup>2</sup> [www.crowehorwath.net](http://www.crowehorwath.net)

### ***Theories of Voluntary Audit***

By definition, voluntary audit is a matter of choice and does not stem from legal or other formal obligations. A number of theories has so far been proposed for explaining why companies choose to voluntarily audit not only their financial reports but also their operations. Relevant literature has classified relevant theories into three major groups: a) agency factors, b) management factors, and c) signaling factors. In what follows, we briefly review each theory.

#### Agency factors

Agency theory has its origins in the work of Jensen and Meckling (1976). In brief, the theory explains the reasons, effects, and means of dealing with the conflict between owners and managers. Company owners are capital providers and, in this way, they pursue wealth maximization. Managers are or, more precisely, are supposed to be owners' agents, i.e. persons acting in owners' best interest. However, maximizing owners' wealth is not always synonymous to maximizing managers' wealth and, hence, a conflict between the two parties arises. Such conflicts are costly to resolve and, thus, decrease corporate value and, by extension, owners' wealth.

Agency theory is further expanded to include conflicts between groups with similar characteristics, e.g. institutional investors vs. non-institutional investors, upper level managers vs. lower level managers and so on. A particularly interesting part of relevant theory applies to family owned (and, also, controlled) companies. In general, these companies are expected to be associated with lower agency costs because of ownership concentration and the fact that family members usually act as a single owner. However, in cases where family members do not fully control the company, agency conflicts can also be costly (Carey et al., 2000).

The bottom line of agency conflict relates to the consumption of free cash flow, i.e. cash flow available after all positive net present value projects (investments) have been undertaken. As previously mentioned, dealing with this conflict, as with any other economic conflict, is costly and relevant costs decrease firm value. Thus, the basic question becomes "how to resolve agency conflicts with zero cost"? Several solutions

have been proposed, among which: a) the use of debt financing that poses pressure to managers to achieve higher performance and b) the alignment of both owners and managers' interests through connecting management's reward to organizational performance (e.g. providing corporate stocks to managers so that they seek corporate value maximization). Auditing and internal controls can also play a major role in controlling the use of financial resources. Thus, owners may voluntarily choose to impose auditing in order to assure that financial resources are consumed to their (i.e. the owners') best interest. Simply put, auditing can serve as owners' defensive mechanism against managers' self-serving incentives. With respect to family owned companies, Carey et al. (2000) suggest that auditing may be used to resolve both the conflict between managers and owners and that between family and non-family owners. Hay and Davis (2004) also note that the choice of voluntary auditing is expected to be more probable in cases where agency costs are (expected to be) higher.

#### Management factors

The theory relating to management factors interprets voluntary auditing as the result of precautionary action. As Collis et al. (2004) note, "the demand for external audit may be attributable to management's need for a check on internal controls" (p.90). Normally, companies exempted from mandatory auditing are expected not to have internal auditing procedures because of either the absence of respective requirements by reporting standards (e.g. IFRS) or the lack of financial resources to permanently deal with auditing costs. The lack of internal control systems increases both inherent risk and control risk. Inherent risk consists of material misstatement arising while control risk has to do with the ability to detect such misstatement. Thus, external (voluntary) auditing may serve as protection mechanism against these risks.

Inherent and control risks are natural effects of internal inefficiencies. To explain, a low degree of automation will normally be associated with a higher probability of both committing and preventing misstatements due to lack of precautionary measures. However, there exists a case where misstatements are not the result of "natural" causes or environmental conditions but stem from illegitimate human behavior. As Collis (2010) indicates, managers may wish to voluntarily audit not only financial

statements but also the organization as whole in order to prevent fraud. Although, audit is not supposed to successfully deal with fraud, Collis' opinion is supported by several other authors, among which Guntert (2000) and Ramos (2003). From a theoretical point of view, inherent risk, control risk, and risk of fraud are expected to increase with organizational levels because as, Abdel-Khalik (1993) explains, "the reduced observability in hierarchies gives rise to the risk of moral hazard and opportunism" (p.35). The author attributes this phenomenon to three factors. First, the longer the distance between someone and their subordinates, the weaker the ability of the former to observe the latter. Second, more levels of hierarchy are associated with higher probability of message distortion in the sense of changing the original message till it gets to its final destination (receiver) because of filtering (summarization, misinterpretation, or even intentional manipulation). Third, a large number of hierarchical levels can lead to information being "ping-ponged" between different layers (the "this is not my job" case). Based on the above, importing external monitoring systems is of particular significance to small companies that usually lack the resources necessary to establish complete internal control systems.

It must be noted that voluntary audit may be in fact imposed by contractual agreements, e.g. loan covenants. In this case, audit is used as resolving mechanism to the conflict between creditors (usually banks) and the ownership and/ or management (Collis et al., 2004).

### Signaling

Signaling essentially consists of using means to decrease information asymmetries between insiders and outsiders. Information asymmetries exist because managers who run the business know a lot more than other stakeholders, e.g. owners, creditors, and customers, with respect to a firm's current financial performance and future prospects. Assuming that managers pursue value maximization, they have an incentive to signal positive future prospects that will increase firm value. To do so, however, they need to use several convincing mechanisms such as debt financing or dividend distribution. Debt financing can be interpreted as sign of positive future performance as it is widely believed that creditors and, especially banks and bondholders who are viewed as "spe-

cialists”, would not provide capital to a company facing high probability of default. Dividend distribution operates in a similar way. Provided that dividends, once distributed, are difficult to decrease, increasing dividends yields information on the ability of the company to keep up with them in the future. Otherwise stated, managers signal their belief in the company's future prospects.

Among others, Willenborg (1999) suggests that voluntary audit may serve as signaling device. The reasoning behind this statement is quite simple. If a company has the right not to be audited but chooses to be so, its performance is such that there exists no “fear” of auditing. Otherwise stated, financial statements are (seen as) more objective or trustworthy than non-audited ones. Consequently, objections to financial performance on behalf of external stakeholders may, thus, be limited. This is particularly important for non-listed companies because the absence of publicly traded stocks decreases information that can be used by outsiders to evaluate a firm's financial performance. Dedman and Kausar (2012) also report that voluntary audit may help privately held companies to increase their credit scores (ratings), thus increasing their access to and lowering the cost of debt financing. Hay and Davis (2004) further report that signaling can be more effective depending on auditor's quality. For example, being audited by a Big 4 auditor would increase the positive effect of voluntary audit compared to being audited by an auditor that does not belong to the group of Big 4s. Similarly, the authors report that a number of factors relating to auditor's qualifications, reputation and so may also be significant in increasing voluntary audit's benefits.

### ***Relevant Empirical Findings and Hypotheses Development***

A number of variables have been used to test theories earlier reported. In this section we focus on the relationship between each variable and the choice of voluntary audit. It must be noted that some variables are used to account for different theoretical considerations. For example, debt financing may be examined to test agency theory in the sense that auditing may be imposed by creditors but, at the same time, it may be used to test signaling theory. Where necessary, we provide with appropriate explanations. Additionally, we must note that it is practically impossible to report all variables so far

examined in order to explain why companies choose voluntary audit. Hence, the focus is on most often reported variables.

## Size

Size has been basically used as a proxy of management factors, agency conflicts, and the benefits and costs of voluntary audit. Relevant theory suggests that size is positively related to voluntary audit in the sense that larger firms naturally suffer from more serious control and agency problems (due to both the resources available and the difficulty of efficiently controlling them) than smaller ones. Furthermore, it is expected that the greater the firm, the higher the expected benefit of voluntary audit and the lower is (relative) cost. With respect to variables used to measure size, all but few studies reported below consider the number of employees, the value of total assets, and total turnover to approximate size.

Abdel-Khalik (1993) finds that size is positively related to voluntary audit because larger firms have more wealth at risk and, thus, a greater incentive to ask for voluntary audit. Evidence reported by Carey et al. (2000) leads to conclude that size is not significantly correlated with the existence of external auditing in family businesses, a finding largely not consistent with relevant literature. Collis et al. (2004) conclude that size is positively related to demand for external audit, however this conclusion largely depends on the measure used (only turnover proves to be significantly related to demand for external audit). Furthermore, the authors report that size is not the most significant variable in explaining demand for external audit. According to Collis' (2010) empirical findings, size is significantly and positively related to voluntary audit and this conclusion is robust across three different samples (UK firms, Danish firms, and their combined sample). Collis (2012) also finds that size is significantly and positively related to demand for voluntary external audit and this finding is valid both for the sample of small companies and the sample of large ones. Dedman et al. (2014) find that size is significantly and positively related to voluntary audit.

The above evidence suggest that most studies find a significant and positive relation between size and voluntary audit. This leads us to form the following Hypothesis:

*Hypothesis 1: Firm size is significantly and positively related to voluntary audit.*

## Debt

Debt is used to account for agency and signaling factors. Contrary to what was reported earlier for size, it seems that there is no universal agreement regarding debt's measurement. In particular, Abdel-Khalik (1993) uses a dummy variable to account for lender's demand for auditing that takes the value of 1 if lenders demand voluntary audit and 0 otherwise. A similar variable is used by Collis et al. (2004) and Collis (2010). In particular, their dummy takes the value of 1 if statutory accounts are given to creditors (banks) and 0 otherwise. Collis (2012) also uses a dummy to account for the effect of debt but, in this case, the value of 1 is given if the audited firm's managers believe that lenders (and other stakeholders) as well use the firm's financial statement. Carey et al. (2000), Hay and Davis (2004), Lennox and Pittman (2011), Dedman and Kausar (2012), and Dedman et al. (2014) use the debt to assets ratio.

Debt is found to be positively related to demand for auditing by Abdel-Khalik (1993) who further explains that lenders' demand for auditing is positively related to wealth at risk and, thus, companies are more willing to opt for audit when their creditors ask for it. According to evidence reported by Carey et al. (2000), debt financing is positively related to voluntary demand for external audit by family owned companies. As the authors explain, this is attributed to the fact that, in the presence of more debt financing, stockholders have strongest incentives to transfer wealth from bondholders. Thus, audit is necessary to resolve the (more intense) conflict between the two stakeholder groups. Hay and Davis (2004) find that debt financing is positively related to the choice of qualified versus non-qualified accountants to serve as auditors. This means that increasing debt financing also increases the need for auditing of higher quality to deal with agency issues between owners and creditors. Collis et al. (2004) also find a positive relationship between debt and voluntary audit and explain that the desire for non-mandatory audit is positively associated with companies with agency relationships with lenders and, thus, voluntary audit is seen as means of maintaining good relations with lenders. Collis (2010) reports rather mixed evidence. In more detail, although debt is positively related to voluntary audit both in UK and Denmark, the respective



relationship is significant (to an acceptable level) only within Danish firms indicating that differences may exist among different contexts (in this case countries). Evidence reported by Collis (2012), shows that the perception of managers that creditors require audited accounts is significantly and positively related to demand for voluntary audit. As the author explains: “small companies are likely to have fewer assets and/ or a shorter track record with which to demonstrate the success... and audited accounts may mitigate the risk to banks”. Dedman et al. (2014) provide evidence suggesting that leverage is not a significant predictor of company's decision to undergo a voluntary audit. Although this conclusion depends on the sample examined, it must be noted that it is valid in most cases (in two out of three years and in the full, three year, sample).

It is then concluded that, with minor exceptions, that both the presence of debt financing and the extent to which a company uses debt financing, is significantly and positively related to voluntary audit. Consequently, our second research hypothesis is as follows:

*Hypothesis 2: Debt is significantly and positively related to voluntary audit.*

#### Family ownership

Family ownership relates to agency theory and is measured by dummy variables, i.e. variables that take the value of 1 if a company is wholly family owned and 0 otherwise. Results by Collis et al. (2004), Collis (2010), and Collis (2012) suggest that family ownership is significantly and negatively related to the demand for voluntary audit which means that wholly family owned companies are less probable to seek voluntary audit because agency conflicts are weaker (since there exist no other stockholders) and thus the need for audit as mechanism to resolve agency conflicts is not extensive. The effect of family ownership on voluntary audit is indirectly investigated by Carey et al. (2000). The authors find that, in family owned businesses, the relation between internal and external audit is significant and negative suggesting that companies pursuing internal audit are less likely to demand external audit as well.

The above evidence suggests that ownership concentration is negatively related to voluntary audit. Simply put, the more owners, the higher the probability of a firm being voluntarily audited. Similarly, the more power of controlling shareholders the less probable is for a company to be voluntarily audited. Provided that small ownership has, by definition, little impact in corporate decisions and/ or conflicts, our next hypothesis considers solely controlling shareholders and is as follows:

*Hypothesis 3: The controlling shareholder's stake is significantly and negatively related to voluntary audit.*

#### Financial performance

Financial performance measures include variables such as revenue structure, the ratio of salaries and wages to sales (Hay and Davis, 2004), liquidity (Lennox and Pittman, 2011), and interest coverage (Lennox and Pittman, 2011; Dedman et al., 2014). Financial performance is measured using both continuous (scale) and dummy variables. For example, Lennox and Pittman (2011) define interest coverage as “interest expenses divided by earnings before interest and taxes” while Dedman et al. (2014) use a dummy variable that takes the value of 1 if the ratio of profit before interest and taxes to interest expenses exceeds 1 and 0 otherwise. Hay and Davis (2004) found that, in general, the ratio of salaries and wages to sales is significantly and positively related to audit fees. By contrast, their findings show that the donations and grants as portion of revenues are positively but insignificantly related to audit fees. Liquidity (defined as the quick ratio) has been found to be significantly and positively correlated to the choice of a company to abandon voluntary audit, i.e. the better the liquidity the higher the probability that the company no longer continues to be voluntarily audited. This finding may suggest that companies with more financial strength, at least in terms of liquidity, have limited incentives to use voluntary audit as signaling device in order to signal their wealth (Lennox and Pittman, 2011). Lennox and Pittman (2011) report a significant and negative correlation between “interest expenses divided by earnings before interest and taxes” and a company's choice to abandon voluntary audit. Hence, lower interest coverage is associated with more need for signaling and, therefore, voluntary audit. This conclusion is also supported by Dedman et al. (2014) with minor ex-

ceptions but the respective relation is insignificant in all cases (the authors examine four different samples).

It is then obvious that financial strength is negatively related to voluntary audit. This is somewhat “natural”, at least within the context of signaling theory. Simply put, increased financial strength limits the need to use voluntary audit as means to externalize positive news about a firm's financial condition. Thus, Hypothesis 4 is as follows:

*Hypothesis 4: Financial performance is significantly and negatively related to voluntary audit.*

#### Audit Characteristics

Audit characteristics include variables such as audit cost, auditor's level of education etc. Collis (2010) finds that the cost of audit (approximated by a dummy variable that takes the value of 1 if company managers agree that the cost of audit is a substantial expense and 0 otherwise) is negatively related to the demand for voluntary audit showing that the more costly external auditing is perceived, the lower the probability that a company will go for it. However, the respective relationship is significant for UK firms but insignificant for Danish firms. Dedman et al. (2014) conclude the exact opposite. In their study, audit fees are measured by a continuous variable (particularly: the natural logarithm of audit fees) and found to be significantly and positively related to the demand for voluntary audit (this finding is valid in four different samples). Simply put, the more costly the audit, the higher the probability that the company will go for it. This controversy of findings could possibly yield that different measurements (i.e. perception of cost versus actual cost) may be responsible for extremely different conclusions. Collis et al. (2004) report that the perceived (by the company's managers) necessity and quality of voluntary audit are significantly and positively related to the demand for voluntary audit. This implies that the choice to be voluntarily audited results, among others, by the degree to which managers believe that voluntary audit is both necessary and expected to increase the quality of financial information. Collis (2010) and Collis (2012) report identical evidence although evidence reported by Collis (2012) is valid only for part of the sample studied (particularly: for small companies). Finally, Dedman et al. (2014) report that, in most cases (in 3 out of 4 different samples of

firms), a firm audited by a “Big-4” auditor in a particular year is more probable of choosing to be voluntary audited in subsequent years. This could be interpreted as certainty, on behalf of the audited company, that the voluntary audit will not question the quality of the company's financial information.

Contrary to the rest of variables reported in this section, audit characteristics seem to provide with case sensitive evidence. Furthermore, sensitiveness depends both on measures (variables) used and samples considered. It is then preferable to leave the last research hypothesis “open”, i.e. to make no statement on the direction of relationship between voluntary audit and audit characteristics. Thus:

*Hypothesis 5: Audit characteristics are significantly related to voluntary audit.*

## Empirical Research

This chapter deals with the empirical investigation of factors affecting demand for voluntary audit. Variables used are first presented followed by description of statical models. Sampling procedure is then explained. The chapter continues with the analysis and discussion of relevant findings.

### *Variables*

Hypothesis 1 deals with corporate size. In line with almost all empirical studies so far reported, we use total assets, turnover, and the number of employees to measure size.

LN\_A            Natural logarithm of total assets

LN\_S            Natural logarithm of total turnover (sales)

LN\_E            Natural logarithm of the number of employees

To account for debt (Hypothesis 2), we adopt the approach of Carey et al. (2000), Hay and Davis (2004), Lennox and Pittman (2011), Dedman and Kausar (2012), and Dedman et al. (2014) that use the debt to assets ratio. However, a note should be made. Using only the total gearing ratio is associated with the risk of not being able to distinguish between creditors who have the power to ask for audited financial reports (e.g. banks) and those who don't (e.g. accounts payable or other operating liabilities). Simply put, a gearing ratio of 2 is very differently interpreted when long-term liabilities account for the greatest part of total liabilities than when long-term liabilities are minimal. Normally, the former case refers to a situation where creditors (e.g. banks and bondholders) have more power to "impose" voluntary audit than the latter one (where accounts payable and similar accounts form the greatest part of total liabilities).

GEAR            Total liabilities / Total Assets, to account for the extent of gearing

GEAR\_S        Non-current liabilities / Current liabilities, to account for gearing' structure (long-term vs. short term liabilities)

Concentration of family ownership (Hypothesis 4) is usually measured, as, for example, in Collis et al. (2004), Collis (2010), and Collis (2012), by dummy variables, e.g. 1 if the company is wholly family controlled and 0 otherwise. However, our focus is on a more general approach of ownership concentration. To explain, we are interested in conflicts that could arise between all major shareholders and not just between family members and the rest of shareholders. Agency conflicts are expected to be more intense in the presence of more major shareholders, i.e. more “stakes” are expected to lead to more conflicts. For example, it is more difficult to deal with 5 different parts than to deal with 2 parts. Similarly, agency conflicts are expected to depend on major shareholders' power. To explain, a situation where a company's equity is equally divided among 3 major shareholders (each with 33% of stocks) is expected to be associated with more severe agency conflicts compared to a situation where three shareholders own 80%, 10%, and 10%, respectively. In the latter case, the dominant shareholder may exhibit almost absolute control over company decisions. Consequently, we examine both the quantitative and qualitative part of ownership concentration (number of controlling shareholders and stake of controlling shareholders. Consequently:

N\_CSH            Number of controlling shareholders

S\_CSH            Stake of controlling shareholders (as %)

Financial performance is approximated by four aspects. Following Lennox and Pittman (2011) we account for liquidity. Additionally, we examine interest coverage as in Lennox and Pittman (2011) and Dedman et al. (2014). Two more aspects, namely profitability and asset utilization, are added to provide with a more complete picture of financial “strength”. Before proceeding with variable definition, a note on the inclusion of asset utilization should be made. As will be reported latter on, our sample consists of retailers and manufacturers (i.e. the service industry is excluded from the analysis) whose assets consists, due to their nature of operations, largely by tangible assets (inclusive of inventories). Asset utilization was, therefore, considered an important aspect of financial performance.

CURRENT        Current ratio

EBIT Earnings before interest and taxes margin

INT\_CON Interest coverage

TURNOVER Net assets turnover

Hypothesis 5 relates to audit characteristics. Due to lack of relevant data, we are only able to focus on two relevant aspects. First, we examine whether the audit is performed by a “Big-4” auditor as in Dedman et al. (2014). Additionally, we use a variable to account for audits done by audit companies versus audits by independent auditors (members of SOEL, the body of independent auditors in Greece). Although relevant data are not available, it is expected that the cost of audit by an independent auditor will be somehow lower than the respective cost arising from audits by auditing companies.

BIG4 1 if audit is performed by one of the “BIG-4” audit firms and 0 otherwise

IDENTITY 1 if audit is made by an audit company and 0 if an independent certified auditor performs the audit.

### ***Methods***

Logistic regression has been used by most of relevant studies reviewed in this study, e.g. Carrey et al. (2000), Collis et al. (2004), Hay and Davis (2004), Collis (2010), and Collis (2012). Its basic advantage lies in the fact that any kind of independent variable (continuous, dichotomous, and so on) can be used to estimate an event's probability, in our case the probability of being voluntarily audited. Hence, the dependent variable (labeled AUDIT) takes the value of 1 if the company has been voluntarily audited and 0 otherwise. The following basic models will be estimated:

Model 1:  $AUDIT_t = LN\_A_t + GEAR_t + GEAR\_S_t + N\_CSH_t + S\_CSH_t + CURRENT_t + EBIT_t + INT\_CON_t + TURNOVER_t$

Model 2:  $AUDIT_t = LN\_S_t + GEAR_t + GEAR\_S_t + N\_CSH_t + S\_CSH_t + CURRENT_t + EBIT_t + INT\_CON_t + TURNOVER_t$

$$\text{Model 3: } \text{AUDIT}_t = \text{LN\_E}_t + \text{GEAR}_t + \text{GEAR\_S}_t + \text{N\_CSH}_t + \text{S\_CSH}_t + \text{CURRENT}_t + \text{EBIT}_t + \text{INT\_CON}_t + \text{TURNOVER}_t$$

Basic models are estimated for 2014. This is due to data availability which will be further explained later on. Apart from these models, it will be investigated whether timing effects do exist. To explain, the choice of being voluntarily audited in year “t” will be regressed upon independent variables in year “t-1” to check whether the respective choice can be explained by existing size, debt and other independent variables. Alternative models are as follows:

$$\text{Model 4: } \text{AUDIT}_t = \text{LN\_A}_{t-1} + \text{GEAR}_{t-1} + \text{GEAR\_S}_{t-1} + \text{CURRENT}_{t-1} + \text{EBIT}_{t-1} + \text{INT\_CON}_{t-1} + \text{TURNOVER}_{t-1}$$

$$\text{Model 5: } \text{AUDIT}_t = \text{LN\_S}_{t-1} + \text{GEAR}_{t-1} + \text{GEAR\_S}_{t-1} + \text{CURRENT}_{t-1} + \text{EBIT}_{t-1} + \text{INT\_CON}_{t-1} + \text{TURNOVER}_{t-1}$$

$$\text{Model 6: } \text{AUDIT}_t = \text{LN\_E}_{t-1} + \text{GEAR}_{t-1} + \text{GEAR\_S}_{t-1} + \text{CURRENT}_{t-1} + \text{EBIT}_{t-1} + \text{INT\_CON}_{t-1} + \text{TURNOVER}_{t-1}$$

Alternative models are estimated for 2014, i.e. independent variables come from 2013. Note that N\_CSH and S\_CSH are omitted from the analysis due to missing data for 2013 (refer to next section).

Goodness of fit tests will be used to test for differences between the proportion of audited and unaudited firms across all samples (see further details on the following section). Cross tabulation (chi-square tests) will be used to test for the effect of BIG4 and IDENTITY. In particular, it will be examined whether the proportion of voluntarily audited firms by a “Big-4” auditor significantly differs from the proportion of voluntarily audited firms by a non “Big-4” auditor. The same tests will be used to examine the effect of IDENTITY on voluntary audit. Similarly, retailers and manufacturers will be compared in terms of proportion of audited firms to reveal any effect of industry on the decision to be voluntarily audited. Readers should already have noted that BIG4 and IDENTITY are not included in the set of independent variables for regression models. The reason for this is obvious. To explain, values of BIG4 and IDENTITY are missing for unaudited firms: BIG4 and IDENTITY values are available only for audited firms. Finally,



the notations “\_14” and “\_13” will be used denoted that data come from 2014 and 2013, respectively.

### ***Sampling***

To construct the sample used, the Amadeus database (amadeus.bvdinfo.com) was used. Sampled firms come from Greece and two broad groups, namely retailers and manufacturers, in order to allow for conclusions regarding the effect of type of operations on the decision to perform voluntary audit. The sampling procedure is described below.

The first criterion used concerns the country of origin (Greece). The inclusion of location returned a total of 24,112 firms. Next, results were limited to “manufacturing” (codes 31, 32, and 33 on the Amadeus database) and “retail trade” (codes 44 and 45 on the Amadeus database) companies only<sup>3</sup>. After including this criterion, the number of firms was limited to 6,466. Next, we included the criterion of turnover to include companies with turnover of no more than €5 million in 2014, 2013, 2012<sup>4</sup>. The same procedure was followed for total assets (threshold: €2.5 in 2014, 2013, or 2012) and number of employees (threshold: 50 in 2014, 2013, and 2012). After these steps, the number of sampled firms was limited to 5,217. It must be noted that including all three criteria, instead of at least two, does not significantly alter the number of sampled companies. In particular, if the turnover criterion is only used, the number of firms is 6,438. Adding the criterion regarding total assets leads to 6,437 firms. Thus, approximately 5 out of 6 companies (5,217 from 6,438) satisfy all three criteria simultaneously. Next, only unlisted companies were considered to avoid including companies for which audit is mandatory (listed firms in Greece are required to adopt IFRS). The num-

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<sup>3</sup> Amadeus uses the NACE (Statistical Classification of Economic Activities in the European Community) for 2012.

<sup>4</sup> Despite data from 2012 are not examined, this year was considered to assure that companies were classified as SMEs in at least one out of three most recent years with available data.

ber of firms decreased from 5,217 to 5,208 (only 9 firms were dropped out). This is reasonable, since listed firms do not normally satisfy the quantitative criteria used here to construct our sample. Finally, we limited the search to limited companies (“societe anonymes” in Greek “Anonymi Etairia”) to include only stock companies, i.e. companies of no other form of ownership. The number of firms samples decreased to 4,038.

The 4,038 firms sampled operate in 212 sub-industries some of which contain but a few companies (107 sub-industries include less than 10 companies each). It was, thus, decided to set a minimum size requirement for a sub-industry to be included in the final sample. Excluding industries with no more than 30 firms leads to a new sample of 2,306 firms operating in 32 sub-industries: 1,560 (67.6%) manufacturers and 746 (32.4%) retailers.

Table 1: Structure of sampled firms

NACE code <sup>5</sup>	Description	N	% of total
<b>MANUFACTURING</b>		<b>1,560</b>	<b>67.6</b>
1011	Processing and preserving of meat	63	2.7
1039	Other processing and preserving of fruit and vegetables	143	6.2
1041	Manufacture of oils and fats	86	3.7
1051	Operation of dairies and cheese making	78	3.4
1061	Manufacture of grain mill products	38	1.6
1071	Manufacture of bread; manufacture of fresh pastry goods and cakes	84	3.6
1089	Manufacture of other food products n.e.c.	40	1.7
1091	Manufacture of prepared feeds for farm animals	35	1.5
1102	Manufacture of wine from grape	71	3.1
1413	Manufacture of other outerwear	84	3.6
1610	Sawmilling and planing of wood	33	1.4
1721	Manufacture of corrugated paper and paperboard and of containers of paper and paperboard	45	2.0
1812	Other printing	84	3.6

<sup>5</sup> Codes based on NACE. Further details can be found on: [http://ec.europa.eu/competition/mergers/cases/index/nace\\_all.html](http://ec.europa.eu/competition/mergers/cases/index/nace_all.html)

2059	Manufacture of other chemical products n.e.c.	34	1.5
2222	Manufacture of plastic packing goods	66	2.9
2229	Manufacture of other plastic products	48	2.1
2363	Manufacture of ready-mixed concrete	123	5.3
2370	Cutting, shaping and finishing of stone	74	3.2
2511	Manufacture of metal structures and parts of structures	108	4.7
2512	Manufacture of doors and windows of metal	55	2.4
2599	Manufacture of other fabricated metal products n.e.c	52	2.3
2712	Manufacture of electricity distribution and control apparatus	31	1.3
3109	Manufacture of other furniture	52	2.3
3299	Other manufacturing n.e.c.	33	1.4
<b>RETAIL</b>		<b>746</b>	<b>32.4</b>
4511	Sale of cars and light motor vehicles	243	10.5
4532	Retail trade of motor vehicle parts and accessories	34	1.5
4711	Retail sale in non-specialized stores with food, beverages or tobacco predominating	67	2.9
4752	Retail sale of hardware, paints and glass in specialized stores	107	4.6
4754	Retail sale of electrical household appliances in specialized stores	68	2.9
4759	Retail sale of furniture, lighting equipment and other household articles in specialized stores	70	3.0
4771	Retail sale of clothing in specialized stores	125	5.4
4775	Retail sale of cosmetic and toilet articles in specialized stores	32	1.4
	<b>TOTAL</b>	<b>2,306</b>	<b>100</b>

It must be noted that the number of firms examined in the rest of the study will not always be equal to 2,306 due to some missing data.

The following table reports the proportion of audited and unaudited firms (AUDIT\_14) in the sample of manufacturers, retailers, and all firms along with the results of respective goodness-of-fit (chi-square) test.

Table 2: Proportion of voluntarily audited and unaudited firms

	<b>MANUFACTURERS</b>	<b>RETAILERS</b>	<b>TOTAL</b>
<b>Unaudited</b>	1288	631	1919
<b>Audited</b>	272	115	387

<b>Total</b>	1560	746	2306
<b>Chi-Square</b>	661.703	356.912	1017.79
<b>df</b>	1	1	1
<b>Asymp. Sig.</b>	.000	.000	.000

The table above suggests that the majority of Greek firms do not chose to be voluntarily audited. In particular only 17.4% of manufacturers, 15.4% of retailers, and 16.8% of all firms chose to be voluntarily audited. The difference between the proportion of voluntarily audited firms and unaudited firms is significant in all samples studied (chi-square sig. = 0.000 < 0.05 in all samples). Thus, it is concluded that voluntary audit is not a choice for the majority of firms irrespective of the industry they operate in. Results for cross tabulation (Pearson's chi-square) for the effect of industry on being voluntarily audited are reported on the following table.

Table 3: Effect of industry on the decision to be voluntarily audited

		<b>MANUFACTURERS</b>	<b>RETAILERS</b>	<b>TOTAL</b>
	<b>Unaudited</b>	1288	631	1919
	<b>Audited</b>	272	115	387
	<b>Total</b>	1560	746	2306
	<b>Value</b>	1.475		
<b>Pearson Chi-Square</b>	<b>df</b>	1		
	<b>Asymp. Sig. (2-sided)</b>	0.225		

As expected, the effect of industry on audit choices is not significant. In more detail, it is noted that the proportion of manufacturers choosing to be voluntarily audited ( $272/1560 = 17.4\%$ ) is not significantly different to that of retailers voluntarily audited ( $115/746 = 15.4\%$ ) as evidenced by the chi-square test (chi-square sig. = 0.225 > 0.05).

## Findings

### Descriptive statistics

We begin our analysis by reporting descriptive statistics for independent variables. Descriptive statistics are reported separately for audited (the respective sample is denoted “A”) and unaudited firms (the respective sample is denoted “UN”). For each sample, we report the number of cases (N), mean (M), median (ME), and standard deviation (SD). The hypothesis of normal distribution is tested with the Shapiro-Wilk test (degrees of freedom are omitted because, by definition, they are equal to the number of cases). “SW-st” and “SW-sig” are used to denote the test's statistic and significance, respectively. The following table refers to size variables in 2014 and 2013 (LN\_A\_14, LN\_A\_13, LN\_S\_14, LN\_S\_13, LN\_E\_14, and LN\_E\_13).

Table 4: Descriptive statistics and normality tests: size variables

		LN_A_14	LN_A_13	LN_S_14	LN_S_13	LN_E_14	LN_E_13
UN	N	1200	1748	1197	1741	1145	1635
	M	14.410	14.408	13.763	13.716	2.343	2.299
	ME	14.381	14.376	13.899	13.805	2.398	2.303
	SD	0.941	0.935	1.222	1.174	0.821	0.799
	SW-st	0.993	0.995	0.954	0.962	0.983	0.982
	SW-sig	0.000	0.000	0.000	0.000	0.000	0.000
A	N	284	370	283	368	280	362
	M	15.578	15.573	15.421	15.378	3.229	3.196
	ME	15.556	15.566	15.505	15.459	3.401	3.350
	SD	0.813	0.875	0.965	1.006	0.640	0.665
	SW-st	0.995	0.991	0.965	0.942	0.931	0.928
	SW-sig.	0.409	0.020	0.000	0.000	0.000	0.000

First of all, we note that the assumption of normality is rejected in all but one case (LN\_A\_14 for audited firms) given that SW-sig is less than 0.05. Consequently, median values should be used to describe the central tendency of variables. With respect to

unaudited firms, we note that size, in terms of assets, slightly increases from 1.752\$ million to 1.76\$ million, a change of 0.5%. Same conclusions are drawn when size is measured in terms of sales and number of employees (increase of 9.9% and 10%, respectively). Size of audited firms also increases but only in terms of sales and number of employees (4.7% and 5.2%, respectively). However, when size is measured in terms of assets, we note a negative change from 5.76\$ million to 5.7\$ million (a decrease of 1%). As far as the differences between the two groups are concerned, audited firms are larger than unaudited ones and this finding is valid irrespective of the measure and/ or year considered. It must also be noted that the respective percentage differences are quite large ranging from 172.6% (number of employees in 2014) to 422.% (sales in 2013). Given that the assumption of normality is rejected in all pairs of variables, we use the Wilcoxon (Mann-Whitney) test to test for the difference of median values between the two groups. The respective results are reported on the following table.

Table 5: Test for the significance of median difference between audited and unaudited firms:  
size variables

	<b>Mann-Whitney U</b>	<b>Wilcoxon W</b>	<b>Z</b>	<b>Asymp. Sig. (2-tailed)</b>
<b>LN_A_14</b>	57675	778275	-17.358	0.000
<b>LN_A_13</b>	112349	1640975	-19.747	0.000
<b>LN_S_14</b>	41591	758594	-19.763	0.000
<b>LN_S_13</b>	76160	1592571	-23.006	0.000
<b>LN_E_14</b>	62662	718747	-15.829	0.000
<b>LN_E_13</b>	112736	1450166	-18.469	0.000

As expected based on findings earlier reported, differences between the two groups in terms of median size are significant for all measures and/ or years considered (the test's significance is always less 5%). Consequently, audited firms are larger than unaudited ones and, at this point, we may not rejected Hypothesis 1 "Firm size is significantly and positively related to voluntary audit".

The following table reports descriptive statistics and normality tests for debt variables in 2014 and 2013 (GEAR\_14, GEAR\_13, GEAR\_S\_14, and GEAR\_S\_13).

Table 6: Descriptive statistics and normality tests: debt variables

		GEAR_14	GEAR_13	GEAR_S_14	GEAR_S_13
<b>UN</b>	<b>N</b>	1200	1748	1199	1746
	<b>M</b>	0.576	0.571	0.634	0.660
	<b>ME</b>	0.545	0.548	0.033	0.027
	<b>SD</b>	0.414	0.375	2.288	5.450
	<b>SW-st</b>	0.797	0.858	0.249	0.061
	<b>SW-sig</b>	0.000	0.000	0.000	0.000
<b>A</b>	<b>N</b>	284	370	284	370
	<b>M</b>	0.605	0.636	0.293	0.452
	<b>ME</b>	0.587	0.606	0.080	0.068
	<b>SD</b>	0.566	0.602	0.505	1.585
	<b>SW-st</b>	0.469	0.468	0.629	0.251
	<b>SW-sig.</b>	0.000	0.000	0.000	0.000

As with size variables, the normal distribution assumption of debt variables is also rejected in all cases (variables and years). Thus, our focus is on median values. The table above shows that the gearing ratio decreases for both audited and unaudited firms (from 54.8% to 54.5% and 60.6% to 58.7%, respectively). This means that both groups of firm decreased their gearing from 2013 to 2014, possibly as the result of the recent economic downturn in Greece. As far as the relation between long-term and short-term liabilities is considered, it is evident that both groups of firms rely more on long-term liabilities in 2014. In particular, the ratio of non-current liabilities to current liabilities increases from 2.7% to 3.3% for unaudited firms and from 6.8% to 8% for audited ones. This finding could further imply that the recent economic crisis decreased trade credits (included in current liabilities) and, thus, the ratio of long- to short-term liabilities increased. It must also be noted that median gearing is higher for audited firms (60.6% versus 54.8% in 2013 and 58.7% versus 54.5% in 2014) and audited firms rely

more on non-current liabilities than unaudited ones (6.8% versus 2.7% in 2013 and 8% versus 3.3%). The significance of these difference is tested on the following table.

Table 7: Test for the significance of median difference between audited and unaudited firms:  
debt variables

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
<b>GEAR_14</b>	162831	883431	-1.166	0.244
<b>GEAR_13</b>	297171	1825797	-2.452	0.014
<b>GEAR_S_14</b>	158358	877758	-1.888	0.059
<b>GEAR_S_13</b>	298715	1823846	-2.344	0.019

The table above merely verifies earlier findings on debt variables. In particular, we note that the median difference is significant only for GEAR\_13 and GEAR\_S\_13. To explain, the difference in median gearing is not significant in 2014 (the test significance is  $0.244 > 0.05$ ) but audited firms have significantly higher gearing in 2013 (the test significance is  $0.014 < 0.05$ ). Similarly, there is no significant difference in the 2014 ratio of non-current liabilities to current liabilities (the test significance is  $0.059 > 0.05$ ) but audited firms rely more on long-term liabilities compared to unaudited ones in 2013 (the test significance is  $0.019 < 0.05$ ). In short, the two groups differ in terms of debt variables in the year before the audit is performed but not in the year of audit. Thus, with some reservation we may not rejected Hypothesis 2 “Debt is significantly and positively related to voluntary audit” at this point.

The following table reports descriptive statistics and normality tests for ownership variables in 2014 (N\_CSH\_14 and S\_CSH\_14).

Table 8: Descriptive statistics and normality tests: ownership variables

		N_CSH_14	S_CSH_14
<b>UN</b>	<b>N</b>	1487	745
	<b>M</b>	3.115	77.578
	<b>ME</b>	3	80.000
	<b>SD</b>	1.716	18.566



	<b>SW-st</b>	0.735	0.884
	<b>SW-sig</b>	0.000	0.000
<b>A</b>	<b>N</b>	365	173
	<b>M</b>	3.189	76.190
	<b>ME</b>	3	76.690
	<b>SD</b>	2.085	20.770
	<b>SW-st</b>	0.681	0.878
	<b>SW-sig.</b>	0.000	0.000

Once again, our analysis focuses on median values given that the normality assumption is rejected in all cases. With respect to the number of controlling shareholders both groups of firms have a median value of 3 suggesting that at least half of sampled firms are controlled by at least 3 major shareholders. Similar conclusions are drawn for the share of controlling shareholders. In more detail, controlling shareholders control about 76.69% of audited firms and 80% of unaudited firms, a difference of 4.1%. The significance of respective differences is tested on the following table.

Table 9: Test for the significance of median difference between audited and unaudited firms: ownership variables

	<b>Mann-Whitney U</b>	<b>Wilcoxon W</b>	<b>Z</b>	<b>Asymp. Sig. (2-tailed)</b>
<b>N_CSH_14</b>	269860	1376188	-0.173	0.863
<b>S_CSH_14</b>	64323	79374	-0.038	0.970

As expected, none of the median differences is significant (the test's significance is always less than 5%). Consequently, at this point we find no evidence to support Hypothesis 3 "The controlling shareholder's stake is significantly and negatively related to voluntary audit".

The following table reports descriptive statistics and normality tests for financial performance variables in 2014 and 2013 (CURRENT\_14, CURRENT\_13, EBIT\_14, EBIT\_13, INT\_COV\_14, INT\_COV\_13, TURNOVER\_14, and TURNOVER\_13).

Table 10: Descriptive statistics and normality tests: financial performance variables

		<b>CURRENT</b> <b>_14</b>	<b>CURRENT</b> <b>_13</b>	<b>EBIT</b> <b>_14</b>	<b>EBIT</b> <b>_13</b>	<b>INT_COV</b> <b>_14</b>	<b>INT_COV</b> <b>_13</b>	<b>TURNOVER</b> <b>_14</b>	<b>TURNOVER</b> <b>_13</b>
<b>UN</b>	<b>N</b>	1196	1740	1162	1691	1048	1504	1150	1196
	<b>M</b>	2.73	2.63	0.4	-1.4	28.2	18.9	3.0	2.7
	<b>ME</b>	1.56	1.492	3.2	2.6	1.4	1.2	1.0	1.6
	<b>SD</b>	4.34	4.407	18.0	19.3	111.2	89.7	12.1	4.3
	<b>SW-st</b>	0.435	0.391	0.831	0.843	0.364	0.338	0.171	0.435
	<b>SW-sig</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>A</b>	<b>N</b>	284	370	280	365	257	338	268	284
	<b>M</b>	2.600	2.285	2.888	2.045	24.941	24.968	4.710	2.600
	<b>ME</b>	1.434	1.326	3.597	3.112	2.088	1.362	1.662	1.434
	<b>SD</b>	4.667	3.306	14.169	12.817	83.732	96.469	21.145	4.667
	<b>SW-st</b>	0.384	0.479	0.758	0.797	0.365	0.324	0.140	0.384
	<b>SW-sig.</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

First of all, the assumption of normally distributed variables is rejected for all financial performance variables. With respect to liquidity, the current ratio increases for both groups of firms from 2013 to 2014 (from 1.492 to 1.56 for unaudited firms and from 1.326 to 1.434 for audited ones). Keeping in mind earlier comments on trade credits, the increase in current ratio could be the result of diminishing current liabilities (the ratio's denominator) that include trade credits. Interestingly, unaudited firms seem to be in better position than audited ones in terms of liquidity: their current ratio is higher in both 2013 (1.492 versus 1.326) and 2014 (1.56 versus 1.434). Alternatively, the higher current ratio for unaudited firms could be attributed to excessive inventories and/or other current assets (e.g. accounts receivable). Profitability, measured in terms of earnings before interest and taxes margin, also increases from 2013 to 2014 in both groups of firms (from 2.6% to 3.2% for unaudited firms and from 3.112% to 3.597% for audited ones). Contrary to what have been reported for liquidity, however, audited firms are in a better position than unaudited ones in terms of profitability: their profit margin is higher in both year (3.112% versus 2.6% in 2013 and 3.597% versus 3.2% in

2014). Similar conclusions are drawn for interest coverage that increases from 2013 to 2014 in both groups of firms (from 1.2 to 1.4 for unaudited firms and from 1.362 to 2.088 for audited ones). As with profitability, audited firms are in a better position in terms of interest coverage compared to unaudited once in both 2013 (1.362 versus 1.2) and 2014 (2.088 versus 1.4). Findings regarding turnover of net assets are rather mixed. First, turnover decreases from 1.6 (in 2013) to 1 (in 2014) for unaudited firms but increases from 1.434 (in 2013) to 1.662 (in 2014) for audited ones. This changes also change the direction of difference between the two groups in terms of turnover. In particular, audited firms are in a worse position in terms of turnover compared to unaudited ones in 2013 (1.434 versus 1.6) but in a better position in 2014 (1.662 versus 1). The significance of differences between the two groups in terms of financial performance is tested on the following table. Once again nonparametric tests are imposed by non-normally distributed variables.

Table 11: Test for the significance of median difference between audited and unaudited firms:  
financial performance variables

	<b>Mann-Whitney U</b>	<b>Wilcoxon W</b>	<b>Z</b>	<b>Asymp. Sig. (2-tailed)</b>
<b>CURRENT_14</b>	158837	199307	-1.698	0.089
<b>CURRENT_13</b>	294308	362943	-2.593	0.010
<b>EBIT_14</b>	153152	828855	-1.523	0.128
<b>EBIT_13</b>	289923	1720509	-1.817	0.069
<b>INT_COV_14</b>	120329	670005	-2.649	0.008
<b>INT_COV_13</b>	232321	1364081	-2.473	0.013
<b>TURNOVER_14</b>	112373	774198	-6.912	0.000
<b>TURNOVER_13</b>	204086	1614446	-8.792	0.000

As can be seen on the table above, the two groups significantly differ in terms of financial performance except for when profitability is examined (the test's significance is less than 5% in both 2013 and 2014). However, the rejection of significant median difference in terms of profitability is marginally rejected in 2013. In this case the test's significance is 6.9% suggesting that if the 10% level of significance is used (instead of the 5% threshold used so far), the two groups of firms are not significantly different to

each other. The same is valid for the median difference in terms of 2014 liquidity (the test's significance is again less than 10%). Taken together these findings suggest that, during the year of audit, voluntarily audited firms are in better financial position than unaudited ones in terms of interest coverage and turnover but no significant difference exists in terms of liquidity and profitability. In the year preceding audit, audited firms are in a worse financial position than unaudited ones in terms of liquidity and turnover but they are better off in terms of interest coverage and the two groups do not significantly differ in terms of profitability. These rather “mixed” evidence lead us to reject, with some reservations, Hypothesis 4 “Financial performance is significantly and negatively related to voluntary audit”.

The following table reports evidence on the effect of audit characteristics (as measured by BIG4\_14 and IDENTITY\_14) on voluntary audit. The goodness-of-fit (chi-square) test is used to test whether the proportion of firms that are audited by a “Big 4” auditor is significantly different to the proportion of firms not audited by a “Big 4” auditor and, similarly, whether the proportion of firms audited by an independent auditor is significantly different to the proportion of firms audited by an auditing company.

Table 12: Effect of audit choices on voluntary audit

	<b>“Big 4” auditor</b>	<b>Independent auditor</b>
<b>NO</b>	362	206
<b>YES</b>	25	181
<b>Total</b>	387	387
<b>Chi-Square</b>	293.46	1.615
<b>df</b>	1	1
<b>Asymp. Sig.</b>	.000	.204

The table above suggests that most of voluntarily audited firms (362 out of 387, or 93.5%) choose not to be audited by a “Big 4” auditor and the difference between the proportion of firms audited by a “Big 4” auditor and those audited by a different auditor is significant (chi-square sig. = 0.000 < 0.05). Thus, it is evident that most firms that

are voluntarily audited have their reports audited by an auditor that does not belong to the group of “Big 4” auditors. Additionally, we note that the choice between auditing companies and independent auditors is not clear given that, approximately, 1 out of 2 companies (181 out of 387 or 46.7%) choose to be voluntarily audited by an independent auditor and the difference between the proportion of firms audited by an independent auditor and that of firms audited by an auditing company is not significant (chi-square sig. is 0.204 > 0.05). Taken together, most audited firms do not prefer “Big 4” auditors but there is no apparent difference in terms of preference between independent auditors and auditing companies. Hence, at this point we should only partly reject (or, equivalently not reject) Hypothesis 5 “Audit characteristics are significantly related to voluntary audit”.

#### Logistic Regression

The following 3 tables report results for the basic models (Model 1, Model 2, and Model 3, respectively). For each model, the -2 log-likelihood ratio (a measure of unexplained variance) and Cox-Snell and Nagelkerke R-square (although they should be interpreted with caution) are first reported. Additionally, the Hosmer and Lemeshow (chi-square) test is then reported to test the model's goodness-of-fit. With respect to independent variables, we report B-coefficients (denoted “B”), standard errors (denoted “S.E.”), Wald statistic along with its significance value (denoted “Wald” and “Sig” respectively), and Exp(B).

Table 13: Model 1:  $AUDIT_{14} = LN\_A_{14} + GEAR_{14} + GEAR\_S_{14} + N\_CSH_{14} + S\_CSH_{14} + CURRENT_{14} + EBIT_{14} + INT\_CON_{14} + TURNOVER_{14}$

<b>Model Summary</b>	<b>-2 Log likelihood</b>	<b>Cox &amp; Snell R Square</b>	<b>Nagelkerke R Square</b>			
	330.825	0.261	0.417			
<b>Hosmer and Lemeshow Test</b>	<b>Chi-square</b>	<b>df</b>	<b>Sig.</b>			
	3.011	8	0.934			
<b>Variables in the Equation</b>		<b>B</b>	<b>S.E.</b>	<b>Wald</b>	<b>Sig.</b>	<b>Exp(B)</b>
	LN_A_14	1.776	0.201	78.482	0.000	5.908
	GEAR_14	0.176	0.669	0.069	0.793	1.192

GEAR_S_14	-1.046	0.319	10.766	0.001	0.351
N_CSH_14	-0.180	0.129	1.935	0.164	0.836
S_CSH_14	-0.010	0.008	1.664	0.197	0.990
CURRENT_14	-0.051	0.056	0.850	0.357	0.950
EBIT_14	0.010	0.011	0.840	0.359	1.010
INT_COV_14	-0.001	0.002	0.358	0.549	0.999
TURNOVER_14	0.011	0.008	1.832	0.176	1.011
Constant	-26.738	3.015	78.651	0.000	0.000

Table 14: Model 1: AUDIT\_14 = LN\_S\_14 + GEAR\_14 + GEAR\_S\_14 + N\_CSH\_14 + S\_CSH\_14 + CURRENT\_14 + EBIT\_14 + INT\_CON\_14 + TURNOVER\_14

Model Summary	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square			
	245.353	0.380	0.608			
Hosmer and Lemeshow Test	Chi-square	df	Sig.			
	2.666	8	0.954			
Variables in the Equation	B	S.E.	Wald	Sig.	Exp(b)	
	LN_S_14	2.758	0.310	79.086	0.000	15.776
	GEAR_14	-0.369	0.853	0.188	0.665	0.691
	GEAR_S_14	-0.160	0.314	0.257	0.612	0.853
	N_CSH_14	-0.049	0.150	0.106	0.745	0.952
	S_CSH_14	-0.011	0.009	1.553	0.213	0.989
	CURRENT_14	-0.015	0.062	0.059	0.809	0.985
	EBIT_14	-0.046	0.014	10.447	0.001	0.955
	INT_COV_14	0.002	0.002	0.694	0.405	1.002
	TURNOVER_14	-0.022	0.040	0.290	0.590	0.978
Constant	-41.149	4.619	79.365	0.000	0.000	

Table 15: Model 1: AUDIT\_14 = LN\_E\_14 + GEAR\_14 + GEAR\_S\_14 + N\_CSH\_14 + S\_CSH\_14 + CURRENT\_14 + EBIT\_14 + INT\_CON\_14 + TURNOVER\_14

Model Summary	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square			
	350.867	0.218	0.349			
Hosmer and	Chi-square	df	Sig.			

<b>Lemeshow Test</b>	4.383	8	0.821			
<b>Variables in the Equation</b>		<b>B</b>	<b>S.E.</b>	<b>Wald</b>	<b>Sig.</b>	<b>Exp(b)</b>
	LN_E_14	1.950	0.243	64.299	0.000	7.028
	GEAR_14	0.929	0.647	2.065	0.151	2.532
	GEAR_S_14	-0.519	0.254	4.193	0.041	0.595
	N_CSH_14	-0.028	0.124	0.050	0.823	0.973
	S_CSH_14	-0.003	0.007	0.215	0.643	0.997
	CURRENT_14	0.035	0.049	0.510	0.475	1.035
	EBIT_14	-0.002	0.012	0.026	0.872	0.998
	INT_COV_14	0.000	0.001	0.026	0.871	1.000
	TURNOVER_14	-0.011	0.020	0.285	0.593	0.989
	Constant	-7.186	1.198	36.006	0.000	0.001

First, all models reported above fit well the data according to Hosmer and Lemeshow test (chi-square sig. > 0.05). The percentage of variance explained varies from 21.8% to 38% (according to Cox & Snell R Square) or from 34.9% to 60.8% (according to Nagelkerke R Square). It is reminded that these values should be interpreted with caution as they constitute approximations of linear regression's R Square. With respect to classification accuracy (results not reported on preceding tables), Models 1, 2, and 3 correctly classify 84.6%, 90.2%, and 82.2% of firms, respectively. Given that the respective models without variants correctly classify 80.7%, 80.7%, and 80.8% of firms, it is noted that all models lead to improvement in classification accuracy. Among the three, Model 2 seems to do the best job (classification accuracy increases by about 10 percentage units). With respect to variables included in models, size enters all models, debt enters Models 1 and 3 while profitability enters only Model 2. Size variables have the highest Exp(B) value in all models, hence they can be consider the most important predictors of a firm's choice to be voluntarily audited. Their significance is also evident by the fact that estimating Models 1, 2, and 3 using the likelihood ratio forward step-wise method, size variables continue to enter each model. Size is always positively related to the probability of being voluntarily audited given that its coefficient's sign is positive and  $\text{Exp}(B) > 1$  in all models. This is sufficient evidence not to reject Hypothesis 1: the larger the firm, the more probable it is to opt for audit. As far as the rest of sig-

nificant variables are concerned, the ratio of non-current liabilities to current liabilities (Models 1 and 3) is negatively related to the probability of voluntary audit given both its coefficient's negative sign and that  $\text{Exp}(B) < 1$ . Consequently, an increase in this ratio by 1 unit leads to a decrease of voluntary audit probability. Hence, we reject Hypothesis 2 that predicts a positive relationship between voluntary audit and debt (at least with respect to debt structure). Instead, it seems that debt has but limited effect on voluntary audit. Profitability enters only Model 2 with an  $\text{Exp}(B)$  very close to 1 that implies a marginal effect of profitability on the choice of voluntary audit. Consequently, there is evidence to reject Hypothesis 4 that predicts a significant relationship between financial performance and audit. Finally, it must be noted that ownership variables enter no model leading us to fully reject Hypothesis 3.

The following 3 tables report results for alternative models (Model 4, Model 5, and Model 6, respectively).

Table 16: Model 4:  $\text{AUDIT}_{14} = \text{LN}_{A_{13}} + \text{GEAR}_{13} + \text{GEAR}_{S_{13}} + \text{CURRENT}_{13} + \text{EBIT}_{13} + \text{INT}_{\text{CON}_{13}} + \text{TURNOVER}_{13}$

<b>Model Summary</b>	<b>-2 Log likelihood</b>	<b>Cox &amp; Snell R Square</b>	<b>Nagelkerke R Square</b>			
	1217.079	0.221	0.361			
<b>Hosmer and Lemeshow Test</b>	<b>Chi-square</b>	<b>df</b>	<b>Sig.</b>			
	4.848	8	0.774			
<b>Variables in the Equation</b>		<b>B</b>	<b>S.E.</b>	<b>Wald</b>	<b>Sig.</b>	<b>Exp(B)</b>
	LN_A_13	1.692	0.104	267.115	0.000	5.432
	GEAR_13	-0.165	0.331	0.249	0.618	0.848
	GEAR_S_13	-0.354	0.107	10.946	0.001	0.702
	CURRENT_13	-0.022	0.030	0.529	0.467	0.979
	EBIT_13	0.013	0.005	6.621	0.010	1.013
	INT_COV_13	0.000	0.001	0.119	0.730	1.000
	TURNOVER_13	0.016	0.006	7.335	0.007	1.016
	Constant	-26.765	1.570	290.700	0.000	0.000

Table 17: Model 5:  $\text{AUDIT}_{14} = \text{LN}_{S_{13}} + \text{GEAR}_{13} + \text{GEAR}_{S_{13}} + \text{CURRENT}_{13} + \text{EBIT}_{13} + \text{INT}_{\text{CON}_{13}} + \text{TURNOVER}_{13}$



<b>Model Summary</b>	<b>-2 Log likelihood</b>	<b>Cox &amp; Snell R Square</b>	<b>Nagelkerke R Square</b>			
	1023.045	0.303	0.495			
<b>Hosmer and Lemeshow Test</b>	<b>Chi-square</b>	<b>df</b>	<b>Sig.</b>			
	21.824	8	0.005			
<b>Variables in the Equation</b>		<b>B</b>	<b>S.E.</b>	<b>Wald</b>	<b>Sig.</b>	<b>Exp(b)</b>
	LN_S_13	2.128	0.124	292.422	0.000	8.395
	GEAR_13	-0.394	0.376	1.099	0.295	0.675
	GEAR_S_13	0.030	0.064	0.220	0.639	1.030
	CURRENT_13	0.003	0.030	0.011	0.916	1.003
	EBIT_13	-0.022	0.007	9.581	0.002	0.978
	INT_COV_13	0.000	0.001	0.000	0.984	1.000
	TURNOVER_13	-0.011	0.008	2.016	0.156	0.989
	Constant	-32.590	1.860	307.049	0.000	0.000

Table 18: Model 6:  $AUDIT_{14} = LN_{E_{13}} + GEAR_{13} + GEAR_{S_{13}} + CURRENT_{13} + EBIT_{13} + INT_{CON_{13}} + TURNOVER_{13}$

<b>Model Summary</b>	<b>-2 Log likelihood</b>	<b>Cox &amp; Snell R Square</b>	<b>Nagelkerke R Square</b>			
	1256.135	0.190	0.306			
<b>Hosmer and Lemeshow Test</b>	<b>Chi-square</b>	<b>df</b>	<b>Sig.</b>			
	24.823	8.000	0.002			
<b>Variables in the Equation</b>		<b>B</b>	<b>S.E.</b>	<b>Wald</b>	<b>Sig.</b>	<b>Exp(b)</b>
	LN_E_13	1.820	0.122	220.806	0.000	6.174
	GEAR_13	0.132	0.327	0.164	0.686	1.141
	GEAR_S_13	-0.134	0.091	2.189	0.139	0.875
	CURRENT_13	0.002	0.028	0.004	0.947	1.002
	EBIT_13	0.004	0.006	0.457	0.499	1.004
	INT_COV_13	0.001	0.001	1.867	0.172	1.001
	TURNOVER_13	0.000	0.006	0.003	0.956	1.000
	Constant	-6.683	0.434	237.366	0.000	0.001

From the 3 models presented above, only Model 4 fits the data according to Hosmer and Lemeshow test (chi-square sig < 0.05). This model correctly classifies 84.1% of

firms compared to 81.8% of correctly classified firms by the model without variables. Consequently, classification accuracy increases though not dramatically. Size, the ratio of non-current liabilities to current liabilities, profitability, and net assets turnover are the only variables having a significant coefficient (with Wald-sig < 0.05). Exp(B) is higher than 1 for size implying that larger firms have a higher probability of being voluntary auditing. This further supports Hypothesis 1. Exp(B) is less than 1 for profitability and net assets turnover implying a negative relationship between the respective variables and the probability of voluntary audit. This evidence partially supports Hypothesis 3. In this absence of significant coefficients for debt variables, Hypothesis 2 is rejected at least regarding the significance of debt variables. Instead, it could be stated that debt affects voluntary audit neither positively nor negatively. It must also be noted that Hypothesis 4 cannot be tested by Models 4, 5, and 6 in the absence of ownership variables for 2013.

## Conclusions

This study investigated the choice of voluntary audit by firms in Greece. Audit has been present since ancient times and has then evolved to become one of the most important prerequisites of sound corporate financial decisions on behalf of not only internal but also external stakeholders. Financial report audits are not obligatory for every company however. In Europe (in particular: EU), a number of criteria, mainly regarding firm size (in terms of assets, sales and the number of employees), are used to provide exemptions from mandatory audit but the fact that some firms choose to have their financial reports voluntarily audited rises questions as to what factors could explain such decisions. A number of theories, most of them based on existing corporate finance theories, have been proposed to explain both the incentives and benefits of voluntary audit.

Agency, signaling, and management factors are assumed to affect a firm's decision to have their financial reports voluntary audited. Agency theory supports the view that voluntary auditing may serve as a mechanism to deal with agency conflicts between ownership and management arising because corporate owners differ from managers in terms of incentives, each group pursuing the maximization of personal wealth. In the presence of audit, however, the ability of managers to exploit corporate wealth to their personal benefit is expected to significantly decrease. Agency conflicts arise also between management and other stakeholders as well. A particular case refers to the conflict between the company and its creditors where audit could serve as reassurance of sincere financial reporting and is often imposed to the company within the context of contractual agreements (e.g. loans). Signaling generally refers to a company's effort of sending messages ("signals") regarding its positive future prospects. Voluntary audit can, in this case, be used as a proof that the company has no fear of having its financial reports audited despite the right not to do it. In other words, it is expected that auditing provides a company's financial reports with increased quality, in terms of trustworthiness, that could help companies in a variety of negotiating situations. Management factors that are used to explain the choice of voluntary audit are based on the assumption that management could possibly lose or be afraid of losing internal control when a

company's size, in terms of administrative or operational levels, starts to highly increase. In this case, voluntary audit is used as an internal control mechanism to eliminate the probability of any internal "misconduct". Based on these theories, as well as other less popular, a number of hypotheses have been developed and empirically tested. However, agreement on the factors affecting the decision of voluntary audit has yet to be achieved. This calls for further research in order to assist the establishment of a stronger theoretical background for the topic under investigation.

Despite the worth noticing attention given to the topic abroad, relevant research is almost entirely absent in the case of Greek firms. Consequently, empirical investigation of voluntary audit on behalf of Greek companies is necessary from both a theoretical and practical point of view. Simply put, providing relevant empirical findings could, on the one hand, assist the formulation of a more complete theoretical background for the topic and, also, offer a deeper know-how of relevant corporate practices in Greece. Empirical investigation was based on a sample of 2,306 unlisted firms located in Greece that satisfy the most recent official criteria of audit exemption. This sample includes 387 firms that decided to be voluntarily audited in 2014 and another 1,919 ones that preferred reserve their right to be exempted from auditing. The fact that most firms choose not to be audited gives additional support for the need to explain Greek firms' attitude towards voluntary audit. In doing so, both univariate and multivariate statistical methods were applied to test whether voluntarily audit results from a number of factors such as the size of a company, its debt, ownership characteristics, and financial performance.

In the first place, we found that most Greek SMEs choose not to be voluntarily audited and this is valid separately for retailers and manufacturers as well as for all firms altogether. Our findings suggest, also, that the decision of voluntarily audit can only be partially explained, at least as far as the approach adopted here is concerned. To explain, conclusions change depending on the methodological approach adopted, i.e. univariate measures versus multivariate models.

Corporate size significantly and positively affects the decision to be voluntarily audited and this is verified by both uni- and multivariate analysis. Findings based on univariate

analysis show that audited firms are significantly larger than unaudited ones both in the year of auditing and the preceding one. Additionally, size enters all logistic regression models and increases the probability of being voluntary audit in all cases even when it is lagged, i.e. when size of year “t” is used to predict voluntary audit in year “t+1”. Simply put, larger firms are more probable to “go for it” and this holds irrespective of methodology. This could have several explanations. First, larger companies may more easily deal with the costs of auditing since they are, normally, considered as being in a better position in terms of economic resources. Another possible explanation lies in the fact that larger companies are more probable to rise external finance, especially in the form of bank loans for several reason (e.g. higher value of collateral). This possibility is further enhanced by the fact that the debt ratio as well as the ratio of long- to short-term liabilities is higher for audited firms both in the year of audit and the preceding one. Therefore, voluntary audit of larger firms could be the result of contractual requirements (in our case bank loans). Third, the number of managerial and/ or operational layers is expected to be higher in larger firms and, consequently, the positive relation between size and voluntary audit could be attributed to management's intention to preserve internal control. Another possible explanation of the positive relation between size and voluntary audit is provided by signaling theory. In particular, larger firms may choose to be voluntarily audited in order to enhance their “image” probably because their stakeholders would feel more “comfortable” to do business with a partner whose financial reports (and, in general, operations) are audited even when they could be exempted from this. It must be noted that conclusions regarding size and voluntary audit are in line with the greatest part of existing literature.

Debt seems to significantly and positively affect the decision of voluntary audit but, in most cases, the underlying relationship is not significant. In particular, univariate analysis suggests that gearing is higher for voluntarily audited firms in the year preceding auditing but not in the year of audit. Additionally, audited firms rely more heavily in long-term liabilities but, once again, this is valid only for the year before the audit. Regression analysis marginally supports any significant relationship between debt and voluntary auditing. Taken together, these conclusions oppose relevant evidence in ex-

isting literature. A possible explanation could be centered around the role of size in explaining voluntary audit earlier reported. To explain, it is possible that the information content of debt variables is dominated by that of size and, thus, debt fails to further explain the choice of voluntary audit. This could perhaps be the case especially if one accepts that size accounts, among others, for external financing (see relevant comments above).

Interestingly, ownership variables seem to be totally unable to explain voluntary audit. In terms of univariate analysis, we found that both groups of firms are owned by 3 major shareholders that, altogether, control approximately 80% of stocks. This is obviously the reason why these variables fail to enter any logistic regression model. To explain, ownership characteristics are usually considered as signs of potential agency conflicts. Therefore, if both audited firms and unaudited ones face the same agency conflicts it is natural that such conflicts cannot help discriminate between the two groups. Thus, contrary to a number of existing studies suggesting a strong relationship between ownership characteristics (particularly, family ownership) and voluntary audit, we find absolutely no evidence to support a similar conclusion.

Conclusions about the relationship between financial performance and voluntary auditing are not totally clear. In particular, the two groups of firms do differ in terms of all respective measures one year before the audit according to univariate analysis. However, the cases of significant differences not only decrease in the year of audit but also change direction (one of them). From the four measures of financial performance considered, only profitability seems to be significantly related to the probability of voluntary auditing but, still, this does not alter aforementioned conclusions. Therefore, our conclusions are not in line with existing evidence suggesting that financial performance, at least some of its aspects, significantly affects a firm's decision to be voluntarily audited. Given that different aspects of financial performance were examined, the only logical explanation that comes to mind about the weak role of financial performance in voluntary auditing relates to variable definition (we will return to this point latter on).

Further evidence on audit choices reveals that neither “Big 4” auditors nor auditing companies are particularly “popular” in Greece. In fact, most audited firms choose to have their financial reports audited by auditors that do not belong to the “Big 4” group and their preference towards auditing companies is equally strong compared to that towards independent auditors. The “rejection” of “Big 4” auditors could be attributed to cost issues: “Big 4” auditors are expected to be more costly and, thus, Greek companies prefer other auditing companies. Additionally, it may be the case that Greek companies do not perceive “Big 4” auditors as superior auditors (to pay for) compared to the rest of auditing companies and/ or independent auditors. This possibility is further enhanced by the fact that auditing companies (except for “Big 4”) and independent auditors are equally preferred by audited companies. Simply put, Greek firms that are voluntarily audited may think that what matters is the audit per se and not the auditor. It must be noted, that mixed evidence on audit characteristics is not “news”. Part of existing literature also provides with inconclusive evidence.

Before concluding, two major shortcomings of the present study should be mentioned. First, the sample used is rather limited from a time perspective as audit and ownership data were only available for 2014 (due the database used to collect them). This means that potentially valuable information has not been considered. For instance, it was impossible to investigate whether voluntary audit in a certain year is related to the voluntary audit of previous or next years, a relationship found to be significant in some related studies. Similarly, we were unable to examine possible effects of changes in ownership structure on voluntary audit. More importantly, the nature of major shareholders was totally neglected due to lack of relevant data. However, it has been well documented that different shareholders have different incentives and, by extension, agency conflicts depend not only on quantitative but also qualitative features of ownership. Additionally, there was no way to investigate factors affecting a company's decision to stop being voluntarily audited, i.e. why companies voluntarily audited in a specific year choose not to be audited in the following one. The second major disadvantage of this study is inherent in almost all studies that aim explaining corporate decisions based on publicly available data and regards variable definition. For instance, debt was defined using two measures but it is obvious that numerous other could have

been considered. Similarly, profitability could be accounted for by at least thirty or so measures instead of using just one. However, as already stated, this is something any researcher must live with and there can be no a priori guarantee that some measures are superior than others, especially when the measures used in a particular study are identical or, at least similar, to those examined elsewhere in relevant literature. Furthermore, it is worth mentioning that both the study's quantitative nature and the database used excluded, by definition, the consideration of qualitative factors that have so far been proved useful in explaining voluntary audit.

To sum up, preliminary evidence reported here could be further supplemented with relevant methodological, as well as other, improvements in order to more fully investigate the underlying topic. It is reminded that, to the author's knowledge, this is the first effort to explain why some companies in Greece choose not to be exempted from financial report auditing. Although some very basic questions have been answered, the major part of relevant research in Greece is yet to be done.



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