Determinants of Voluntary Audit Adoption in Finnish Micro-Companies

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Thesis submitted for examination for the degree of Master of Science in Economics and Business Administration.

Helsinki 16.8.2018

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This study examines drivers for voluntary audit adoption among Finnish micro-companies. More precisely, it is tested if customer demand and perceived tax benefits drive voluntary audit adoption. Furthermore, the study investigates whether plans on international expansion or intentions to sell the company in the future have a positive association with voluntary audit demand. The study is motivated by the proposal of Ministry of Economic Affairs and Employment to extend the audit exemption to cover all micro-companies.

The data are gathered via an e-mail survey that was sent to micro-companies that are currently mandated to purchase an audit but would become exempted should the proposed increase in audit thresholds be effectuated. The empirical testing is conducted with a modified version of the model used by Niemi et al. (2012).

The results show that customer demand for audit and perceived tax-related benefits arising from audit drive voluntary audit adoption. However, no evidence is found to support the hypothesized positive association between voluntarily opting for audit and plans on international expansion. Similarly, no association between voluntary audit adoption and intentions to sell the company in the future are found either.

Keywords: financial auditing, audit exemption, micro-companies, audit regulation
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## Työn nimi
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## Päivämäärä
16.8.2018

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## Laskentatoinen laitos


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Tutkimuksessa käytettävä aineisto on kerätty sähköpostikyselyn avulla, joka osoitettiin tilintarkastusvelvollisille mikroyrityksille, jotka tulisivat vapautuksen piirin, mikäli mietinnön mukainen ehdotus toteutuisi. Empiirinen testaus toteutetaan modifioidun Niemi et al. (2012) mallin avulla.

Tulokset osoittavat asiakkaiden vaatimuksen tilintarkastuksesta ja verotuksellisiin seikkoihin liittyvien hyötyjen ajavan vapaaehtoisen tilintarkastuksen käyttöönottoa. Tulosten avulla ei voida luotettavasti osoittaa, että ulkomaille laajentumista koskevat suunnitelmat tai aikomus myydä yritys tulevaisuudessa vaikuttaisivat vapaaehtoisen tilintarkastuksen kysyntään.

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## Avainsanat
tilintarkastus, tilintarkastusvelvollisuus, mikroyritykset, tilintarkastuksen sääntely
## Contents

**Abstract**  

**Abstract (in Finnish)**

**Contents**

1 **Introduction**

1.1 Background and motivation ........................................ 1

1.2 Research questions and objectives of the research .............. 3

1.3 Results and limitations ........................................... 3

1.4 Contribution to the field ......................................... 4

1.5 Structure of the thesis ........................................... 5

2 **The Concept of Audit**

2.1 Definition by the American Accounting Association .......... 6

2.2 Demand for Audit .............................................. 7

2.2.1 Audit as a Social Concept ................................... 7

2.2.2 Policeman Theory ............................................ 9

2.2.3 Lending Credibility Theory .................................. 10

2.2.4 Theory of Inspired Confidence .............................. 12

2.2.5 Agency Theory ............................................. 14

2.2.6 Improved quality of financial statements ................. 18

2.2.7 Insurance role of audit ..................................... 20
3 Institutional setting 22
  3.1 Legal environment ............................................. 22
  3.2 Mandatory audit and audit thresholds .......................... 24

4 Hypothesis development 27
  4.1 Demand for audit from customers ............................... 27
  4.2 Benefits from audit in taxation matters ........................ 28
  4.3 Exit plan and overseas expansion .............................. 29

5 Data and methods 31
  5.1 Sample data and sampling method ............................. 31
  5.2 Questionnaire design ........................................... 33

6 Quantitative analysis 36
  6.1 Regression models used in the study ........................... 36
  6.2 Control variables ................................................. 42

7 Results 56
  7.1 Descriptive statistics ........................................... 56
  7.2 Correlations ...................................................... 60
  7.3 Regression results .............................................. 63
    7.3.1 Binary logistic regressions .................................. 63
    7.3.2 Multinomial logistic regressions ............................ 67
  7.4 Tests on the exclusion of control variables .................... 70
  7.5 Tests on sample adequacy ...................................... 70
8 Summary and conclusions 74

References 78

A English translation of the survey 84
# List of Tables

1. Sampling method ................................................. 32
2. List of variables .................................................. 40
4. Mean, median and standard deviation - continuous variables ............... 57
5. P-values from Fisher’s tests - continuous variables .......................... 57
6. Mean values - dichotomous variables .................................. 59
7. P-values from Fisher’s test - dichotomous variables ......................... 59
8. Multicollinearity matrix ............................................. 62
9. Binary logistic regressions ............................................ 65
10. Multinomial logistic regressions ...................................... 69
11. Tests on sample adequacy ........................................... 71
1 Introduction

1.1 Background and motivation

The purpose of conducting an audit is to ‘enhance the degree of confidence of intended users in the financial statements.’ (IFAC 2015b) Financial information, such as financial statements, is at the core of the modern economy that is based on the efficient allocation of capital. Providing assurance, auditors play a key role in making sure that different stakeholders such as shareholders, lenders and suppliers get reliable financial information which they need for decision-making. (Horsmanheimo & Steiner 2017, p. 25)

Due to the benefits that arise from audit, many countries have imposed regulatory obligations to purchase it. However, usually the smallest companies are exempted from mandatory audit. Finland has particularly low audit thresholds which are the second lowest in the European Union. Among EU countries, only Malta has lower audit thresholds than Finland. (Hellberg-Lindqvist 2018)

As a result, in January 2018, a committee under the Finnish Ministry of Economic Affairs and Employment published a memorandum proposing the extension of the exemption from mandatory audit to cover all micro-companies (Hellberg-Lindqvist 2018). As of now, only the smallest micro-companies are eligible for audit exemption in Finland. The proposed increase in audit thresholds is part of a broader goal of the Finnish government to reduce the administrative burden of Finnish companies. (Hellberg-Lindqvist 2018) Furthermore, the proposal also belongs to the larger European development on business legislation which manifests itself in the ‘think small first’ approach that the EU has recently taken (Weik et al. 2018)

The ‘think small first’ approach adopted by the European Union is a result of acknowledging the importance that small and medium sized enterprises have on the European economy (EC 2009b). Indeed, small and medium-sized enterprises (SME) account for 99.8% of all non-financial enterprises in the EU countries and 66% of all non-financial employment
(65.4% in Finland). Furthermore, the smallest SME’s, defined as micro-companies make up 93% of all EU enterprises (EC 2017).

However, the amount of research on small and medium sized enterprise accounting is limited (ICAEW 2015). This applies to audit research as well (Ojala et al. 2016). The lack of research can pose a threat to the appropriateness of public policy decisions as they become almost arbitrary instead of being founded on well designed research on the subject. Indeed, it has been argued that this can be a partial reason for the wide range of choices countries have made in respect to the public policy on SME accounting. (ICAEW 2015)

One of the reasons for the limited amount of research on SME’s can be attributed to the scarcity of data. For one, due to the private nature of SME’s there is no share trading data or analysts’ forecast like there is for large listed companies. In addition, the data that exists is often not publicly available. (ICAEW 2015)

However, Finland provides a suitable setting for small company audit research as the financial statements of even the smallest Finnish companies have to be filed in a public register (Ojala et al. 2015). This makes possible finding the companies that are of interest to this study. Those companies were sent a questionnaire and the results from the questionnaire are used as data for the empirical testing.

Earlier research has found a lot of heterogeneity in the drivers for and the value derived from voluntary audit among private companies. Furthermore, the differences in the determinants driving audit demand has been shown to be greater among private companies than in public companies, for which the primary source of demand for audit is the agency conflict arising from the separation of management and ownership. (Vanstraelen & Schellemann 2017) This study continues the strain of research which is aimed for creating a better understanding of the vast range of drivers for audit demand among private companies.
1.2 Research questions and objectives of the research

The intention of this study is to answer to the question: what drives voluntary audit adoption? More specifically, four hypotheses are proposed with regard to potential determinants of voluntary audit demand. Firstly, it is hypothesized that customer demand for audit drives voluntary audit adoption. Secondly, it is hypothesized that the extent to which a company perceives tax benefits coming from audit is associated with voluntarily opting for audit. The third hypothesis suggests that plans on overseas expansion is positively associated with voluntary audit demand. Lastly, it is hypothesized that intentions to sell the company in the future drives voluntary audit adoption.

The study aims to test and find additional determinants of voluntary audit adoption. More precisely, it focuses on Finnish micro-companies and attempts to provide further evidence on the subject of mandatory audit thresholds in Finland.

1.3 Results and limitations

The results show that 30% of the respondents plan on opting for audit even without regulatory obligation. 32% of companies would not purchase an audit. The remaining 38% of the survey participant are uncertain. Furthermore, when excluding uncertain respondents, only 49% of the companies would opt for audit whereas 51% would not. This is significantly lower than what was earlier found among Finnish micro-companies by Niemi et al. (2012) who observed that when excluding uncertain respondents, 80% of the companies were willing to voluntarily opt for audit.

As proposed by hypothesis one, the results show that a highly significant positive association between customer demand for audit and voluntary audit adoption. This is the case both when excluding uncertain respondents and using the binary logistic regression model as well as when including them with the use of a multinomial logistic regression model. Furthermore, the positive association between perceived tax benefits and opting for audit as suggested by hypothesis two is found at a highly significant level. Lastly, the tests for
hypotheses three and four provide no grounds to reject the null hypothesis for the association between voluntary audit adoption and plans on overseas expansion and intentions to sell the company, respectively.

The results of this study should be interpreted with caution. Firstly, the method that is used to study voluntary audit demand measures intentions of business owners rather than actions. This might create deviation between the results of this study and the actual decisions taken by businesses with regard to audit. However, there is no reason to believe that intentions differ from actions in a systemic way which reduces the threat of skewed data.

Moreover, with a typical response rate of 13%, the survey might suffer from response bias (Curran & Blackburn 2000). However, when tested for non-response bias with days elapsed between receiving the survey and answering it as a proxy for not responding, no such bias could be found.

1.4 Contribution to the field

The study contributes to existing literature in several ways. As prior evidence on small firms’ audit decisions is scarce, it provides valuable insight into the inadequately explored field of small company audit demand. Furthermore, it confirms past evidence with more recent data and provides evidence of additional determinants of voluntary audit adoption.

More specifically, it shows that customer demand drives voluntary audit adoption among micro-companies. Similar association has been proven to exist among UK companies by Collis (2012), who found that demand for audit from major suppliers and customers measured together drives voluntary audit adoption. This study provides direct evidence on demand from customers in the Finnish context, a typical Continental European setting. Furthermore, it shows that customer demand alone drives audit adoption. Secondly, the results indicate that the extent to which a company perceives taxation-related benefits arising from audit is positively associated with its willingness to voluntarily opt for audit. This is in line with the findings of Ojala et al. (2015) and Ojala et al. (2016). Lastly,
prior literature has not examined the association between voluntary audit and plans on overseas expansion nor with the intentions to sell the company. This study fails to establish a statistically significant association between these two potential drivers of voluntary audit demand.

1.5 Structure of the thesis

The thesis consists of eight sections. Section two addresses the concept of audit by introducing relevant theories that have been created on the subject of audit. More precisely, the need for which the demand for audit arises and the role of audit are discussed.

Section three considers the institutional setting surrounding audit. Specifically, it examines the regulation on audit that has emerged in EU and in Finland. In Section four, the hypotheses of the study are introduced. While deriving the hypotheses, relevant literature and previous research results on similar studies are introduced to the reader.

Section five starts by introducing the sampling method for acquiring the data with which the hypotheses are tested. This includes forming the list of companies that are examined in the study and designing the questionnaire that is used for collecting the views of the companies regarding voluntary audit adoption. In addition, the section goes through the design of the questionnaire design. Section six introduces the models that are used for hypothesis testing. Also, a broad examination of the controlling variables is provided.

Section seven presents the results of the study. More precisely, descriptive analysis and multivariate analysis that are run with the data are shown. Lastly, Section eight consists of a summary and conclusions on the study. This includes discussing the results and presenting the limitations of the study. To conclude the section and the study, avenues for future research on the audit function are proposed.
2 The Concept of Audit

2.1 Definition by the American Accounting Association

It would be reasonable to assume that anyone who has been involved with accounting has some idea of what auditing is. However, there is no uniformly agreed upon definition of audit to which everyone subscribes. Instead, as (Power 1997, p. 4) argues, there are 'clusters of definitions which overlap but are not identical’. The American Accounting Association has given the following definition to audit (Hayes et al. 2015, p. 11):

'An audit is a systematic process of objectively obtaining and evaluating evidence regarding assertions about economic actions and events to ascertain the degree of correspondence between these assertions and established criteria, and communicating the results to interested users.'

To break down the definition, there are five components of which it consists that need to be analyzed. First, the approach audit takes is systematic, meaning that it is based on an audit plan which is structured and documented. The audit plan needs to be designed in a way that it allows for gathering all the important evidence for the purposes of the audit. Secondly, the audit must be conducted in an objective way. The auditor must be independent and not have a bias in their judgment. (Hayes et al. 2015, p. 11)

Third component of the definition is the notion that the auditor obtains and evaluates evidence. In addition, the auditor must assess the reliability and sufficiency of the evidence regarding the economic assertions of the management. The fourth component considers the correspondence between assertions and established criteria. This means that the auditor assesses whether the assertions are compatible with the existing financial accounting framework such as the International Accounting Standards and other applicable regulation. (Hayes et al. 2015, p. 11)

Lastly, the fifth component relates to the communication aspect of audit. The goal of the
audit is to communicate the findings of the audit to the interested users of the financial statements. The communication is conducted by a written report that states whether the financial statements "give a true and fair view" of or "present fairly, in all material respects" the financial position of the audited company. (Hayes et al. 2015, p. 12)

Similar characterizations of the definition of audit have also been given by other organizations such as the International Federation of Accountants (Flint 1988, p. 5). Even though forming an important part of the sources for regulation of auditing (Halonen & Steiner 2010, p. 37), the International Standards on Auditing do not explicitly state the definition of audit. (Hayes et al. 2015) However, as expressed in the introductory chapter, they state the purpose of audit which is to 'enhance the degree of confidence of intended users in the financial statements' (IFAC 2015b, p. 72).

Nonetheless, as Power (1997, p. 4) states, the production of official definitions is only an 'idealized, normative projection of the hopes invested in the practice'. Therefore, they do not actually describe the practice as it is with all its restrictions, but rather show what is longed for from audit. Thus, they are not optimal as a source for a descriptive definition of audit.

Indeed, as argued by Flint (1988, p. 4–5), it can not be guaranteed that the official purpose of the audit is easily interpretable and that it reflects the expectations of the public regarding the audit. In order to ensure that the defined purpose is in line with society’s expectations and that the needs are interpreted correctly, there needs to be an understanding of the circumstances that give rise to the need for an audit.

2.2 Demand for Audit

2.2.1 Audit as a Social Concept

The function of audit is to examine whether the conduct of a certain actor corresponds with some societal norms, making the basic issue in audit an ethical one. The interpretation of the concept of audit is therefore always subject to the ever-changing societal values that
determine the aspects of accountability\(^1\) that are desired to be audited. Therefore, it is the changes in societal needs and ethical standards that determine how the audit is to evolve. Due to this sensibility to society’s needs and ethical standards, the interpretation of the rather universal auditing principles can vary between countries. This cultural dependency of audit causes the audit to be shaped according to the course of economical development, set of traditions and many other factors of the country. (Flint 1988, p. 7)

The changes in the society’s values over time relating to audit can be observed in the way the development of Finnish financial markets shaped the attitudes towards financial statement information. In the 1960’s, as the role of the stock exchange as a provider of capital was limited and the economy predominantly relied on bank financing, doubtful practices, such as arbitrary valuation of inventory, were widely used with the approval of auditors. Nowadays, the use of such practices would be not be viewed as acceptable. (Riistama 1994, p. 22)

A significant growth in the demand for audit and the creation of auditing as an organized function in society traces back to the British industrial revolution. This can be attributed to the simultaneous increase in capital and the chaotic state of financial information. Since then, the demand for audit has evolved and changed, usually in the aftermath of financially challenging times. (Riistama 1994, p. 18)

In the early 1900’s, bankruptcies of their clients resulted in banks demanding audits to assure the correctness of their financial statements. In 1917, the U.S. Department of Treasury published the first guidelines of auditing, also due to a wave of companies going insolvent. As a consequence of the Great Depression in the 1930’s, all companies in the New York Stock Exchange became mandated to have audited financial statements. A couple of decades later, the significant bankruptcies and scandals of the 1970’s and 1980’s lead to reforms of the audit profession. (Riistama 1994, p. 18)

\(^1\)Accountability refers to relationships such as that of the management and the shareholders of a company in which one party owes a duty of acceptable conduct or performance to another party (Flint 1988, p. 23). Accountability can be based on a contract between the associated parties or it can stem from regulation (Riistama 1994, 26–29).
More recently, the infamous Enron and Worldcom scandals in the beginning of the new millennium which lead to the demise of the international accounting company Arthur Andersen, raised questions about the audit process (Hayes et al. 2015, p. 49). The effect of these events were reflected on the revised international auditing standards and the Sarbanes-Oxley Act in the U.S.A that followed in the subsequent years. (Securities and Exchange Commission 2005) One of the new pieces of regulation in the act was the requirement for auditors to render their opinion on the internal controls of the company (Goelzer 2005), shifting the aspect of accountability that is under the scrutiny of audit.

2.2.2 Policeman Theory

Using a theoretical approach to the demand for audit, earlier literature has produced four theories that explain the demand for audit. The first theory is called the policeman theory which is an indicative theory, meaning that it attempts to explain the audit practice by observing it. (Porter 1990) The policeman theory proposes that the auditor’s focus is on preventing and detecting fraud as well as assuring arithmetic accuracy. This view of the auditors tasks was prevalent up until the 1940’s. (Hayes et al. 2015, p. 44)

The shift away from the demand for audit as explained by the policeman theory started in the mid-1930’s when investments in businesses started increasing. As a consequence, the monitoring of honest behavior was extended to cover how efficiently the financial resources were used. In addition, the use of financial statements as a basis for investment decisions gained popularity. These changes lead to the focus of audit to move from detecting fraud to assuring the truth and fairness of the financial statements, as explained by the lending credibility theory. (Porter 1990, p. 46)

Even though having since lost relevance to the verification of the assertions in the financial statement as the primary function of audit, fraud detection and its role in auditing have again become a subject of public debate in the aftermath of the early 2000’s accounting scandals. (Hayes et al. 2015, p. 45) According to a Finnish study the biggest problem the users of financial statement perceive in the work of the auditor relates to the reporting on
fraudulent conduct. This indicates an expectation gap in this regard in the audit-client relationship. (Kosonen 2005)

2.2.3 Lending Credibility Theory

Like the policeman theory, the lending credibility theory is an indicative one as opposed to being a normative theory. As stated previously, the new theory emerged from the need to explain the shift in audit demand for which the policeman theory proved insufficient. (Porter 1990)

The main idea behind the theory is that the audit lends credibility to the financial statements in the eyes of the users of the financial statements, that is, outside stakeholders such as investors. This need for added credibility comes from the notion that with the separation of management and ownership, the managers are incentivized to be biased in their financial reporting as it considers the quality of their stewardship. (Porter 1990)

Given that the management has a better access to the information about the actual financial state of the company, they are better informed than the outside stakeholders about the subject - that is, there is information asymmetry between the associated parties (Hayes et al. 2015, p. 46). Accordingly, in order to alleviate the problems relating to information asymmetry and for the financial statements to be a sound basis for making investment decisions, they must be checked for any bias by an independent auditor (Porter 1990). Therefore, in the view of the lending credibility theory, the service that auditors are selling in form of an audit is credibility (Ittonen 2010).

As stated in Porter (1990), auditors lending credibility to financial statements is associated with the efficient allocation of capital. This is because rational investors naturally seek the best return for their capital for which they have to rely on financial statements that provide information about the firms’ financial performance.

For the investors to make successful investment choices and to contribute to the efficient allocation of capital, they need to maintain their confidence in the markets. This can be
achieved by providing them with reliable (audited) financial information. Indeed, as stated in (Porter 1990, p. 49), 'the role of the auditor, in lending credibility to these financial statements, is vital in establishing and maintaining confidence in the capital markets. Without such confidence the whole basis of our capitalist system would be destroyed.'

Relevant to the companies examined in this study, Ojala et al. (2015) and Ojala et al. (2016) have examined the capability of a statutory audit to lend credibility to Finnish small companies in the eyes of the tax authority. Indeed, they hypothesize and find evidence of voluntary audits with an unqualified audit opinion having a negative effect on the probability of tax adjustment, suggesting enhanced credibility in tax matters. Furthermore, they report that if a company is in a need for tax reporting credibility, they are more likely to voluntarily opt for audit.

The lending credibility theory manifests itself in the definitions that the accounting literature has given to audit in the latter half of the 20th century. For instance, it is apparent how the theory in question is at the core in how the audit function is described in (Flint 1988, p.6):

'The role of auditing in an advanced economic society can and has been stated in very simple term - to add credibility to financial statements.'

The lending credibility approach is also observable in other definitions given to audit. For instance, such an approach have been taken in the definition laid by ISA 1 (paragraphs 4 and 5) (Riistama 1994, p. 20)

'The objective of an audit of financial statements, prepared within a framework of recognized accounting policies, is to enable an auditor to express an opinion on such financial statements. The auditor’s opinion helps to establish the credibility of the financial statements.'

However, earlier research has also questioned the explanatory power of the lending credibility theory by debating whether its premise of audited information being the primary source for
investors' decision-making holds true. For instance, Porter (1990) points out the findings on efficient markets indicating that unaudited interim reports have more value relevance to investors than audited annual reports.

Furthermore, Porter (1990) states that audit research has found audit reports having little value to investors. In addition, as Ittonen (2012) argues in his literature review on the subject, the evidence on whether the markets react negatively to a qualified audit opinion is not consistent. Lastly, in his argumentation against the lending credibility theory, Porter (1990) refers to the findings showing that in addition to audited financial statements and interim reports, investors use a wide range of other (unaudited) sources for their decision-making.

2.2.4 Theory of Inspired Confidence

Constructed by the Dutch professor Theodore Limperg, the theory of inspired confidence (Limperg 1932, p. 16) views the demand for audit arising from the 'need for expert and independent examination and the need for an expert and independent opinion based on that examination'. From the theory's perspective, the audit function can be divided into two separate branches, auditing body of management, and auditing body of the community.

With auditing body of management, Limperg refers to a branch of the audit function that is demanded by the upper management of the company for controlling all the levels of management in a hierarchical organization. He argues that it is rational to have a separate controlling body in place instead of having managers performing both management and the control function. This is because for one, there are benefits to be obtained from differentiation of people. Secondly, an independent controlling body is more likely to report honestly about performance than management which would evaluate the result of their own management activities.

Furthermore, Limperg's argument goes that the audit for management purposes is usually purchased from an external auditor instead of having an audit body internally in the organization. According to him, this is because firstly, only if a company is large enough to employ an auditing body with the same division of labor (and the benefits of differentiation
that follow) with which a separate accounting organization would conduct the audit, it is rational to have the audit done internally. In addition, he states, a separate accounting organization possesses expertise obtained from having audited a variety of companies which is beneficial for the audit. Lastly, because the external auditor is not part of the hierarchical structure of the organization, there are less irrational relationships interfering with the audit when conducted by an external auditor than there would be if an internal body was to perform the audit.

With regard to the auditing body of the community, (Limperg 1932) states that the demand for that branch of the audit function arises from the conflicting interests of the company and the outside stakeholders. More specifically, because of the company’s incentive for biased reporting, the community wants an independent auditor to verify the information on the company’s financial statements. In Limperg’s argumentation, this is the most significant function of the auditor, that is, being the ’confidential agent of the community at large’.

Limperg further argues that the function of the audit is based on confidence of the society and that if the confidence is lost, the function of the audit no longer exists. Moreover, he argues that while confidence is essential in many occupations the audit profession makes an exception in the way that it exists because of the notion that people do not have confidence in each other. Therefore, society’s confidence on the auditor ‘forms the raison d’être of his function’ (Limperg 1932, p.16).

Indeed, as Flint points out in his commentary to the Limperg’s theory (Limperg 1932), confidence is at the core of the theory. In Limperg’s argumentation, the confidence is built on two factors. First is the continuous interaction between the society’s expectations of the auditor’s role and the auditor’s own interpretation of it. The second factor is the relationship between the confidence that is inspired in the public and the work auditor must perform to legitimize that confidence.

Limperg addresses the relationship between the society and the auditor by stating that the auditor ’is obliged to carry out his work in such a way that he does not betray the
expectations which he evokes in the sensible layman’ (Limperg 1932, p. 18). In addition, he argues that the auditor must always consider the expectations they arouse in the public and make sure those expectations can be met with the work done.

2.2.5 Agency Theory

Among the theories of auditing, the agent theory is the most widely used (Ittonen 2010). As explained by Jensen & Meckling (1976), the agent theory states that whenever an actor hire another to do services for them while delegating decision-making authority, an agency relationship is formed. In the agency relationship, the actor doing the hiring is called the principal, whereas the actor that is hired to do the service is described as the agent. Agency relationships can take many different forms\(^2\), but for the purposes of this study, the primary interest lies in the relationship between the shareholders of a company and a manager that works on their behalf.

Inherent in any agency relationship is some form of information asymmetry which leads to the principal being unable to verify the agent’s behavior as well as conflicting interests of the parties of the agency relationship resulting from differences in the parties’ wealth positions and utility functions. Due to the divergence of interest among the parties and by assuming that all parties strive to maximize their own utility, the relationship results in agency costs, which are borne by the said parties. (Jensen & Meckling 1976)

As Jensen & Meckling (1976) argues, in an owner-manager relationship the agency costs arise from three sources which include monitoring costs, bonding costs, and residual loss. With monitoring costs, Jensen and Meckling refer to the expenses that the principal incurs when they monitor the behavior of the agent as well as those that are incurred from setting incentives that better align the interests of the agent with those of the principal. Examples of such costs include observing the behavior of the agent and setting up compensation policies.

\(^2\)Broadly defined, agency costs are incurred in any situation where multiple people work together (Jensen & Meckling 1976). To name a few examples from the corporate world in addition to the owner-manager relationship, agency relationships can be formed between lawyers and their clients, suppliers and their customers and employers and employees (Eisenhardt 1989).
With regard to bonding costs, Jensen and Meckling argue that these costs are borne by the agent. This is because it is beneficial for the agent to convince the principal that they do not deviate in their work from the purpose of advancing the interests of their employer. As Wallace (1980) further argues, it is beneficial for the agent to bear these costs because in the absence of such contracting, the principal would reflect the possibility of the undesirable behavior in the compensation of the agent by reducing it. Therefore, to the extent that the benefits of a higher compensation exceed the costs for the agent, that is, lost benefits such as a plush office for themselves, it is beneficial for the agent to engage in contracting that ensures that they act in the interest of the principal.

Lastly, as argued by Jensen and Meckling, due to the notion that the undertakings that cause the aforementioned monitoring and bonding costs can not assure the full enforcement of the contract causing the agency relationship, the relationship contains residual losses. In another words, residual losses consist of the benefits that are lost due to the divergence of interest between the agency relationship parties that are left after conducting monitoring and bonding activities.

As noted earlier, agency costs arise from the conflicting interests of the agency relationship. Following the argumentation of Jensen & Meckling (1976), this can be a result of a situation where the compensation of the agent and the principal are not dependent on the same factors. By increasing managerial ownership of the company shares, Jensen and Meckling argue, the agency costs that come with the separation of ownership and management can be alleviated. As Jensen and Meckling further state, the reduction in agency costs occurs due to the notion that with ownership of the company shares, the agent becomes one of the residual claimants of the company, making their compensation directly dependent of the performance of the company as well.

In addition, as Eisenhardt (1989) points out, it has been argued that managers and shareholders of a company have differing views towards risk taking, which results in conflicting interests. The difference in attitudes towards risk, the argument goes, arises from the notion that while shareholders are able to diversify their ownership and therefore
be risk-neutral on decisions regarding the company, the manager can’t diversify their employment, making them risk averse in their decision-making.

The argumentation of (Jensen & Meckling 1976, p. 310) on the agency theory is based on the view that a company is not an individual but rather a ‘nexus for contracting relationships’. Therefore, being composed of the actions of multiple different actors with conflicting interests, the behavior of the firm can be seen as ‘the outcome of a complex equilibrium process’. Furthermore, as Eisenhardt (1989) argues, the agency theory reminds of the fact that all the actors within an organization act on self-interest rather than advancing the company’s agenda without considering their own interests.

However, the assumption of actors behaving solely in their own interest has been questioned. More precisely, Ouchi (1979) argues that a socialization process called the clan mechanism alleviates the divergence of interests among organizational actors. With the clan mechanism, Ouchi refers to a process where the actors of a organization engage in the values and objectives of the firm, making their interest better aligned with those of the organization. Furthermore, Perrow (1986, p. 224) criticizes the agency theory of completely dismissing the notion that in addition to acting solely on self-interest, people’s behavior can be driven by other-regarding behavior (even with him recognizing the complicated nature of the concept of self-interested behavior), which can be characterized as ‘common decency’ or ‘mutual respect’.

Perrow (1986) sees other weaknesses in the agency theory as well. Firstly, he does not accept the agency theory’s assumption of efficient labor markets where agents are able to switch between jobs if they are not satisfied with the current one. Moreover, he criticizes the theory for accepting the self-interest motivated behavior as is when we should be looking for the factors that cause such behavior. Finally, Perrow even states that the agency theory ‘may be dangerous’. Due to the notion that theories shape our view of the world, the emergence of the agency theory might, with its cynical idea of man, lead to harmful courses of action. Perrow gives an example of managers focusing on capturing cheating while ignoring the causes of such behavior. Also, he argues, due to the view of the world imposed
by the agency theory, any problems might be erroneously attributed to agent’s self-interest motivated behavior when they would be better explained by structurally generated problems or poor assessment of the agent’s behavior.

In addition, literature on the agency theory has identified that pressures from the outside labor market motivate managers to opt out of acting against the interests of the principal (Fama 1980). In more detail, Fama argues that labor markets evaluate the performance of the manager, which makes it undesirable for them to shirk or consume perquisites. According to Fama, this is because the self-interest motivated behavior would be reflected in the manager’s future wages if they were to change employers.

Moreover, as Fama (1980) argues, in addition to the labor market’s impact on the manager’s behavior, there are pressures from inside the organization that encourage the managers as organizational actors to abstain from shirking. More precisely, in a multilevel hierarchical organization the organizational actors are subject to monitoring and measurement of their behavior by the managers above them. In addition, the managers below the organizational actor can be assumed trying to step over their manager. Due to these pressures arising from above and below the manager in the organizational hierarchy, it is beneficial for the manager to not deviate from acting in the interest of the principal.

Relevant for the demand of auditing, the agency relationship comes with information asymmetry (Hayes et al. 2015, p. 46). Because of this, Hayes et al. argue, the parties of the agency relationship want to purchase an audit in order to verify the correctness of the financial statements provided by the manager. Indeed, as (Ittonen 2010) states, auditing has a significant role in the monitoring function of a agency relationship.

Furthermore, Wallace (1980) argues that the demand for audit can be explained with a theory he calls the Stewardship theory. The theory states that because of the value-relevance for investors and widespread usage in managers’ compensation contracting, financial statements are provided by the agent to the principal. Moreover, as Wallace (1980) argues, it is beneficial from the point-of-view of the agent to purchase an audit to verify the
correctness of the financial statements due to its positive effect on compensation. This is because, the argument goes, without the verification on the financial statements provided by the audit, the principal would lower the compensation of the agent to take into account the risk of the agent acting against their interest.

In addition to the agency relationship between the manager and the shareholder, the agency theory can be applied to a situation where an owner-manager of a firm acquires equity financing (Jensen & Meckling 1976). According to Jensen and Meckling, in such situation it is beneficial for the owner-manager to increase the consumption of perquisites as they no longer have to bear the full cost of such expenses, creating agency costs. In addition, they argue, agency costs arise from the notion that the owner-manager’s willingness to put effort in the management of the company decreases with the ownership.

Therefore, due to the divergences of interest between the owner-manager and outside stakeholders, it is rational for the outside stakeholders to use resources for monitoring activities. Since auditing is an important part of the monitoring function (Ittonen 2010), it would be reasonable to think that the demand for audit increases with owner-manager acquiring equity financing.

### 2.2.6 Improved quality of financial statements

While the stewardship theory, being in close connection with the concept of agency costs, focuses on the benefits that audit provide as a monitoring device for the principal, the information theory, also designed by Wallace (1980), is concerned with the role audit has in improving investing and other decisions. The argument goes that due to the value-relevance of financial statements, the audit is demanded for the purposes of improving the quality of the financial statement information.

In the view of the information theory, the demand for audit arises from three sources. Firstly, audit is seen as a way to reduce risks related to firms. Secondly, it improves the decision-making of internal and external parties and finally, the conduct of audit improves trading profits.
With regard to risk reduction, the argument goes that audit is beneficial for the investors through the reduction of both firm-related and market-related risk (Wallace 1980). The theory states that with the assumption of a risk-averse investor, the value of audit can be derived by adding together investors’ risk premiums, which are demanded due to the financial statements being unaudited, and subtracting the cost of audit. If the end result is positive, an audit is demanded. In addition, Wallace argues that in the absence of audit, the company’s unaudited financial statements increase the market risk by making the markets more volatile. Hence, the risk-averse investor receives benefits from audit due to the resulting reduction of undiversifiable market risk.

When it comes to audit improving decision-making, Wallace (1980) argues that with the assumption that the audit improves the quality of the information and that audited numbers are used in decision models both internally in the firm as well as externally, the quality of the decisions improve with that of the information. The improvement in the quality of the information is attained by the audit finding errors as well as preventing workers from committing errors as they are aware of the upcoming audit.\(^3\)

Considering the trading gains that are hypothesized to be attained from audit, the theory relies on the efficient market theory and its implications on investors’ ability to obtain abnormal returns. In more detail, Wallace’s theory states that as the markets are efficient in assessing the value of the firm, there are no benefits from abnormal returns for investors from conducting an audit. However, the argument goes, the audit releases new information which can be beneficial for investors in assessing the relationship of risk and return specific to the audited company. With the new information, the investor is able to make changes to their investment portfolio so that it better reflects their utility function, that is, their attitude towards the relationship of risk and return.

\(^3\)However, with regard to employees making less errors when expecting an audit, it could also be hypothesized that they are more prone to making errors if knowledgeable of a future audit. This theorization is based on the view of a shirking accountant relying in their decision-making on the idea that ‘if it’s wrong, the auditor will find it and demand it to be corrected’. Nonetheless, the author is not aware of any empirical evidence supporting this hypothesis.
2.2.7 Insurance role of audit

The last of theories on auditing by (Wallace 1980), the insurance theory, concerns the benefits that can be obtained with audit from sharing litigation risk with the auditor. More specifically, in the American legal context on which Wallace bases his theory on, the Securities Exchange Act exposes the auditor to litigation risk in the case of defective financial statements.

Therefore, in the view of the investor, the benefit from audit increases as their litigation risk grows due to the possibility to shift potential losses arising from legal actions to the auditor. In this regard, the argumentation goes, the audit can be seen as an insurance for potential losses.

In addition, according to Wallace (1980), the audit performs better than an actual insurance company in providing hedging of risk due to four reasons. Firstly, with the role that audit has in the modern society, a company might be seen as neglectful solely for the reason that they have not engaged in an audit, therefore exposing them to increased litigation risk. Secondly, having specialized in disclosure issues, accounting firms are better than insurance companies in defending the audited company against the regulators’ legal actions.

Thirdly, compared to an insurance company, auditors’ interests are better aligned with the audited company in terms of reputation, making them more inclined to opt for settlement rather than taking the case to trial. As Wallace (1980) argues, an insurance company would instead make the choice between the two options solely based on monetary consideration and the case would be more likely to end up in court. Finally, Wallace argues that in case something goes wrong with the business, investors have a better change of getting reimbursed by the auditor than the business that is in bad financial health.

Wallace further argues that the courts seem to use auditors as a way to socialize investor

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4Similarly, in the Finnish context, the auditor is liable to compensate for any damage that they have caused because of deliberate intent or neglectful behavior, as stated in the Auditing Act section 10 subsection 9 (1141/2015). For more on the Finnish legal environment and its implications on audit, see Niemi (2002).
risk to the society. More specifically, Wallace argues that auditors have been made to pay
for bad investment decisions. The losses that auditors have to bear are then reflected in the
price of audit, spreading the cost of bad investment decisions to the society.

As Wallace concludes on his theories on auditing, all three theories are somewhat
overlapping. With regard to the monitoring theory, a principal that expends monitoring
resources for alleviating the effect of divergent interests of the agent can think that exposing
the auditor to litigation risk forms a part of the compensation they hope to get if the agent
acts against their interest. In relation to the information theory, investors might see the
verification of the auditor more assuring as they are aware of the auditor being held liable
in case of defective financial statements.

Moreover, Wallace argues that the combined explanation of the auditor’s role provided by
the three theories illustrates the auditor’s success as a monitoring device and a source of
information. It is the audit that is uniquely capable of providing independent attestation
that is based on specialized knowledge of disclosure issues. Moreover, the auditor is
knowledgeable in defending against legal actions pursued by the Securities and Exchange
Commission and shares the concern of preserving reputation in case of litigation. Lastly,
according to Wallace, the use of audit is beneficial compared to other monitoring devices
and sources of information due to the notion that it can be used as a device to socialize
business risk.
3 Institutional setting

3.1 Legal environment

The first Auditing Act in Finland was passed in 1995. Before the act, regulations on auditing were included in other legislation, such as the Limited Liability Company Act and the Accounting Act (Niemi & Sundgren 2008). As stated in the Government Proposal for the Auditing Act (HE 70/2016), the act was replaced with a new Auditing Act in 2007 which made the Finnish audit legislation compliant with the EU Audit Directive (2006/43/EC). Furthermore, in 2016, the Finnish parliament passed a new Auditing Act (1141/2015) which renewed the audit examination process.

As stated by Niemi & Sundgren (2008), with the introduction of the EU Audit Directive, also called the Directive on the Statutory Audits of Annual Accounts and Consolidated Accounts (2006/43/EC) the use of International Standards on Auditing (ISA) became obligatory for audits performed in the EU. The obligatory use of ISA’s is stated in section 3 subsection 3 of the Auditing Act (1141/2015). Before becoming stipulated by the Auditing Act, the ISA’s served merely as recommendations for the auditors (Niemi & Sundgren 2008).

The ISA’s are issued by the International Auditing and Assurance Standards Board (IAASB) which is an independent standard-setting body and part of the International Federation of Accountants (IFAC) (Niemi & Sundgren 2008). This means that the guidance for how Finnish auditors carry out an audit comes from international, rather than national level. The shift to international audit bodies is not happening only in Finland. In many countries, new audit regulation that was previously designed nationally nowadays comes from international bodies Niemi et al. (2018).

Like other Nordics, Finland is a civil law country and belongs to the Scandinavian family of civil law, as stated by La Porta et al. (1998). La Porta et al. further states that civil law countries in general have lower interest protection and high ownership concentration
than common law countries such as the United States of America or the United Kingdom. Furthermore, La Porta et al. find this to be the case particularly with the French family of civil law, but finds the tendency to exist among Scandinavian-civil-law countries as well. Therefore, it seems reasonable that the country’s legal system has an effect on the audit practice in each country. Indeed, as Francis (2004) points out, the vast evidence on audit in the American context might not be generalizable to a civil law country due to the differences between the legal systems.

Furthermore, as argued by Niemi (2002), with regard to the extent to which auditors can get sued, Finland is mildly litigious relative to other countries. Niemi further elaborates that there are several reasons that alleviate the legal liability of auditors compared to more litigious countries. For one, the amount that the auditor is liable to pay can not exceed what is carried in losses by the plaintiff resulting from the auditor’s negligence. Secondly, attorneys in Finland are not allowed to work for a contingent fee which would mean that they only get paid if the result of the court session is favorable for their client. Also, class action lawsuits are not allowed in Finland. Lastly, if the plaintiff loses the case, they are obligated to cover the legal expenses of the defendant.

As stated by Karjalainen (2011), the mildly litigious legal environment in Finland stands in contrast to common law countries such as the USA which are seen as highly litigious. Karjalainen continues that, with regard to audit, in highly litigious environments, the audit can be seen to serve an insurance role (as theorized by Wallace (1980) with his Insurance theory on auditing). This means that investors see the auditor as a means to cover losses if the audit fails to comply with the regulation, since the legal environment allows it. Karjalainen concludes that in Finland, such insurance value of audit can be expected to be lower due to the less litigious legal environment.

Another consequence of the relatively low litigious legal environment is the low level of compliance with the auditing standards among auditors. Indeed, Niemi et al. (2018) argues that, because the auditors do not have to fear litigation from their clients, they refuse to comply with complicated auditing standards. As further stated by Niemi et al., in the
absence of a serious threat of litigation, the need for companies to follow the auditing standards comes from the notion that oversight boards conduct inspections into auditing companies in order to see if the statutory audits are conducted in line with the regulation.

However, as pointed out by Niemi et al. (2018), Finnish auditing companies do not perform well in the inspections conducted by the oversight board. In 2014, 6% of Finnish auditors did not pass the oversight board’s inspection, with the most common reason being to fail meeting the requirements of the ISA’s. Furthermore, 15% of the companies had to go through re-inspection, leaving only 79% of the companies passing the inspection. Most of the auditors that did not pass were second-tier auditors \(^5\), who are often associated with small audit companies (Hellberg-Lindqvist 2018).

### 3.2 Mandatory audit and audit thresholds

Finland, among other countries, has mandatory audit in place for companies that do not qualify for audit exemption based on the size of the company, as stated by (Hellberg-Lindqvist 2018). As pointed out in the report by Hellberg-Lindqvist, the use of mandatory audit has been justified by the notion that the statutory audit serves greater good in addition to benefiting the audited company. Also, it has been viewed to serve as a substitute for tax audit and to provide benefits in the fight against black market. However, in small companies, the ownership and management are often not separated which decreases the need for audit, as stated in the Government Proposal for the Auditing Act (HE: 194/2006). As argued by Hellberg-Lindqvist, the case of whether to impose mandatory audit on small firms or not boils down to the question of whose interest should the audit serve. Only if the audit is intended to serve the interest of the society at large in addition to the audited company, can the mandatory audit be justified. If the audit was to serve solely the interest of the audited company, no obligation for audit should be imposed on a company.

Requiring companies to purchase an audit can be seen as harmful due to several factors. For one, mandatory audit may pose a significant administrative burden for small companies.

\(^5\)Finland has a two-tier audit system where only first-tier auditors are allowed to audit public-interest entities (Hellberg-Lindqvist 2018).
In addition, in their study on Korean companies, Kim et al. (2011) found that the positive benefits of audit were alleviated if the audit was mandated rather than voluntarily opted for. This happened because the positive signal that a company sends to the stakeholders when voluntarily purchasing an audit is lost when it is audited due to regulatory reasons. Furthermore, as stated in Limperg (1932), in case of a mandatory audit, the audit profession is less sensitive to changes in the society’s view on the objective of the audit, than it would be in case the audit market was unregulated.

Indeed, the Accounting Directive (2013/34/EU) does not recommend having small companies mandated to purchase an audit but leaves it up to the Member states to decide on the audit thresholds. According to paragraph 43 of the Directive, mandatory audit can be imposed on small companies as well, ‘taking into account the specific conditions and needs of small undertakings and the users of their financial statements.’ The Directive defines a small company as a company that does not exceed at least two of the following thresholds: balance sheet total of 4 000 000 EUR; net turnover of 8 000 000 EUR; average number of employees during the financial year of 50.

Finland has chosen to have mandatory audit for small companies as well. Indeed, according to the subsection 2 of section 2 in the Auditing Act (1141/2015), companies may be exempted from audit only if during two consecutive years up to one of the following size limits are exceeded: balance sheet total of 100 000 EUR; net turnover of 200 000 EUR; average number of employees during the financial year of 3.

Relative to other EU countries, Finland applies low audit thresholds, making a large portion of Finnish companies mandated to purchase an audit. As stated by Hellberg-Lindqvist (2018), the low thresholds for audit in Finland have been justified by the small average size of Finnish companies. According to Hellberg-Lindqvist, among EU countries, only Malta has lower audit thresholds than Finland whereas Sweden applies the smallest thresholds after Finland. On the contrary, Germany and the Netherlands do not use the option to require mandatory audit on small companies. Instead they apply the EU maxima for audit thresholds, which are balance sheet total of 6 000 000 EUR, net turnover of 12 000 000
EUR and average number of employees during the financial year of 50. In general, EU countries have significantly higher audit thresholds than Finland.

Recently, a Ministry of Economic Affairs and Employment committee has proposed that the audit exemption should be extended to cover all micro companies (Hellberg-Lindqvist 2018). As pointed out by the committee, this proposition is set in the context of the common pursue of the European Union and the Finnish government to decrease small and medium-sized companies’ administrative burden. As proposed by the committee, the new thresholds would exempt companies that have up to one of the following size limits exceeded during two consecutive years: balance sheet total of 350 000 EUR, net turnover of 700 000 EUR and average number of employees during the financial year of 10.
4 Hypothesis development

4.1 Demand for audit from customers

In addition to the company’s shareholders, who hire the auditor, many other stakeholders are also interested in the work of the auditor. One of these stakeholders are customers, who are interested in the continuity of their supplier’s operations. This is especially the case if the client-supplier relationship includes a continuous service component such as a maintaining service. (Riistama 1994, p. 24)

The role of audited financial statements can be seen as more relevant in the case of customers than it is with other stakeholders such as lenders. This is because while lenders such as banks in most cases gain an access to their client’s informations that goes beyond publicly available information, customers usually have to depend on information that is available to the public (EC 2009a). However, EC (2009a) also acknowledges that with small companies, mutual trust often plays a bigger role in a customer-supplier relationship than access to financial information.

Earlier literature is scarce on customer demand for audit driving audit demand. In her study on British companies, Collis (2012) finds weak support for an unexpected negative relationship between voluntary audit and company’s perception that customers and suppliers demand an audit from them. However, Collis did not test for customer demand separately, leaving an interesting gap for further research.

With the argumentation above on customers demanding audit from their suppliers and due to scarce evidence on the subject, the following hypothesis is formulated

**Hypothesis 1 (H1):** Voluntary audit is more likely if customers are demanding it.
4.2 Benefits from audit in taxation matters

One of the aspects of audit demand that has not been given a lot of attention in the literature is taxation (Ojala et al. 2015). As a collector of taxes, the state can be viewed as the largest shareholder of the company as it has a claim in the company’s profits (Desai et al. 2007). Therefore it can be said that the characteristics of a principal-agent relationship described by Jensen & Meckling (1976) can be found in the relationship between the tax authority and the company as well (Ojala et al. 2015). Furthermore, as Ojala et al. (2015) point out, tax authority can be the primary principal for small companies in which external funding play little to no role at all. In firms like this, taxation can be the only reason for preparing the financial statements.

When it comes to taxation and the auditing function, it seems that the two are in interaction. Indeed, in their study consisting of interviews of companies, lenders and tax authorities, Ojala et al. (2016) find that companies do have many taxation related needs that are met with the assistance of an auditor. More specifically, the auditor might be the primary source of tax advice. Indeed, as pointed out by Ojala et al. (2015), auditors are professionals in the area of taxation. Therefore, they are able to provide their customers with advice in tax-related issues.

In addition to providing advice, audit can be hypothesized to decrease the likelihood of a tax audit. This aspect of audit benefits comes up in interviews conducted by Ojala et al. (2016), indicating that some companies purchase audit in order to avoid being audited by the tax authorities. Furthermore, this view is supported by the proposal of Hellberg-Lindqvist (2018) of targeting more resources to the tax audit of exempted companies in case the audit thresholds are increased. In addition, the Tax Administration of Finland (Verohallinto 2018) also states that should the audit exemption thresholds be raised, additional resources should be allocated to the supervision of companies. Therefore, it seems that the governmental actors view the statutory audit as a substitute for tax audit, indicating that a negative association between being audited and the likelihood of tax audit exists.
Lastly, empirical evidence has been provided on companies’ demand for audit for enhancing the credibility of their financial statements for tax purposes. Indeed, Ojala et al. (2016) found that the need for tax credibility and demand for voluntary audit are positively correlated.

Due to the evidence presented above, it is hypothesized that there is a positive association between perceiving audit as beneficial for tax purposes and voluntarily opting for audit. Therefore, the following hypothesis is formulated

**Hypothesis 2 (H2): Voluntary audit is more likely if the company is anticipating tax benefits from the use of auditor.**

### 4.3 Exit plan and overseas expansion

Lastly, two additional attributes of a company are examined to determine whether they drive voluntary audit adoption. For one, it is predicted that if the company plans on an international expansion, it is more likely to voluntarily purchase an audit. This prediction stems from the interviews of Finnish owner-managers conducted by Ojala et al. (2016), indicating that auditors might be seen as valuable advisors when expanding the business to foreign markets. Therefore, the complexity and a range of issues that come with going global provide a role for the auditor to become an advisor who helps the business owner in the difficult growth phase of the company that is overseas expansion.

For another, it could be assumed that if there is a plan to sell the company in the future (exit planning), the demand for voluntary audit is higher. This assumption comes from the notion that when aiming for a high value exit, it seems reasonable for companies to have a strong incentive to manage earnings upwards in order to create an alluring narrative of the company’s performance for the potential investor. A rational investor would acknowledge the incentive for earnings management and would refuse to consider investing in the company if they could not trust the financial information provided of the company.

As stated by the lending credibility theory, the role of audit is to provide credibility to the financial statements (Porter 1990). It could therefore be hypothesized that in order to avoid
the buyer discounting their offer to reflect the existence of asymmetric information or to refuse to consider buying altogether, owners of companies with an intention to make an exit would have a strong demand for audit.

Bearing in mind the aforesaid considerations with the evidence from owner-managers’ perception, the following hypotheses are formulated

**Hypothesis 3 (H3):** *Voluntary audit is more likely if the company is anticipating international growth.*

**Hypothesis 4 (H4):** *Voluntary audit is more likely if the owners of the company are anticipating to sell their ownership share.*
5 Data and methods

5.1 Sample data and sampling method

The data for the study was gathered from answers to an on-line form. The form was sent by e-mail to those Finnish limited liability companies that are mandated to purchase an audit under current regulation but would be exempted if the audit exemption thresholds were increased to be identical with the thresholds for qualifying as a micro-company. More specifically, the group that is in the focus of this study consists of companies that are micro-companies but big enough to not be qualified for audit exemption under current regulation. According to the Auditing Act (1141/2015) (which sets out the current audit exemption thresholds and the low end of the size range for the companies in this study) and the Accounting Act (1336/1997) (laying out the criteria for a company to qualify as a micro-company and the upper end of the size range for this study), this means companies that have revenue between 200,000 EUR and 700,000 EUR, total assets between 100,000 EUR and 350,000 EUR and average number of personnel between 3 and 10.

Fortunately for the purposes of this study, even small Finnish companies are required to publish financial statement information, which makes possible the use of the Orbis database containing, among others, the financial statement data for Finnish companies. The Orbis data were used in order to find the companies that were of interest for the study.

The set of companies that were studied was formed based on revenue and total assets of the companies. The average number of employees was emitted from the filtering due to lack of appropriate data in the Orbis database. It seems reasonable to assume that ignoring the employee factor would not skew the data. At the time of data gathering in May 2018, the 2017 financial statements were partially still in preparation so the data was filtered based on 2016 figures.

The sole use of 2016 figures is done for simplicity purposes given that the size limit tests laid out in the Auditing Act and the Accounting Act require considering company size
figures of two subsequent years. Indeed, both the audit exemption and the micro-company definition only apply if not more than one of the size limits are met during two consecutive years. This means that in order to obtain the subset of companies that are of interest to this study (micro-companies that are currently not exempted from audit), both the audit exemption threshold as well as the micro-company threshold would require testing the size limits for two consequent years.

In addition to only using 2016 data for simplicity reasons, the subset of companies under investigation was obtained by selecting companies that met the size range for both revenue and total assets. In this regard, the selection also diverted from what is stated in the law with regards to both thresholds as the size tests should be conducted also for the average number of employees. In addition, determining whether either threshold is met should be done by assessing if more than one of the three size limits were exceeded. However, it seems reasonable to believe that the aforementioned selection process would not skew the data as it should not systematically favor larger or smaller firms.

Table 1: Sampling method

<table>
<thead>
<tr>
<th>Criteria</th>
<th>No of companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finnish limited liability companies that are micro-companies but not exempted from audit</td>
<td>15 449</td>
</tr>
<tr>
<td>- that have an e-mail address in ORBIS database and</td>
<td>7 095</td>
</tr>
<tr>
<td>- that have a working e-mail address that is not connected to multiple companies (= number of companies that received the survey)</td>
<td>7 019</td>
</tr>
<tr>
<td>Total number of responses in the survey</td>
<td>962</td>
</tr>
<tr>
<td>- that can be used in the regressions (= final sample)</td>
<td>886</td>
</tr>
</tbody>
</table>

Using the method described above, a set of 15,449 limited liability companies was selected from Orbis database, representing 5.5 percent of the total population of 279,909 active Finnish limited liability companies (according to the ORBIS database as of July 1st 2018). Due to the notion that the study was conducted as a survey that was sent to companies via e-mail, only companies with e-mail addresses in the Orbis database were selected in the final sample, reducing the population under examination to 7,095. The described sampling criteria and the resulting sample size are also illustrated in Table 1.
In order to achieve a sufficiently high response rate, the answers were gathered in a way that retains the anonymity of the respondent, meaning that the answers could not be connected to the answerer. Also, for technical reasons it was not possible to include the company name in the e-mail message to let the receiver know which company was the subject of interest. These two factors meant that if the e-mail was connected to multiple companies, the receiver was not necessary cognizant for which company the message was directed.

Furthermore, in case an e-mail address was connected to more than one company in the final sampling group, these companies received only one e-mail and therefore were given only one chance to answer. Fortunately, there were only three such instances, all of which had an e-mail address connected to two companies. Therefore, since some e-mail accounts were connected to multiple companies and some were no longer in use, the resulting amount of surveys that were sent was 7,019, representing 45.4 percent of micro-companies under mandatory audit.

For the purposes of achieving a higher response rate, a couple of representatives of the Ministry of Economic Affairs and Employment were asked if they were willing to allow naming the organization in the cover letter for the questionnaire. They kindly concurred and it was agreed that the text on the e-mail message would say that the results would be handed over to the Ministry. Assuming that people are more willing to take the time to respond to surveys if they view that their input has value and is given for an important cause, it can be assumed that mentioning the Ministry in the message had a major positive impact on the amount of responses that were received.

5.2 Questionnaire design

As the study was targeted at Finnish companies, the survey and the message were written in Finnish and required knowledge of Finnish to be answered. Soon after sending the questionnaires, a few requests for translation of the questionnaire and the message into Swedish were received, but these could not be satisfied due to the author’s limitations in producing text in Swedish. Therefore, the minority of Swedish speaking people without a
working proficiency in Finnish were unfortunately not able to answer the questionnaire.

In order to receive a higher response rate, the questionnaire was designed so that it could be answered by only ticking boxes and so that no manual input was required from the respondent. A time period of 3 to 5 minutes was estimated to be sufficient for answering all the questions in the questionnaire.

The questionnaire\(^6\) was divided into three parts. First, the respondent was asked to provide certain background information about the company. Due to the requirement of anonymity with regard to the answers, no background information could be imported from the Orbis database to be matched with the answers. This meant that all the background information needed for the analysis had to be gathered from the responses. Secondly, the respondent was asked to give their assessment on their willingness to purchase an audit in the absence of mandatory auditing. For this, the survey gave three options, which were 'Yes', 'No' and 'Maybe'. Lastly, there were questions regarding the respondent's perceptions of the potential benefits of the audit. Also, they were asked to assess as to which extent different stakeholders of the company demanded an audit to be purchased.

Within the three sections of the questionnaire, a total of 12 questions were included in the questionnaire. Of the 12 questions, two were given in a form that listed characterizations of the company or possible future events regarding the company and the respondent was asked to tick the boxes that could be associated with the company. With regard to the questions on possible future events, the respondent was given a chance to decline from answering due to their potentially delicate nature. Apart from these two questions that assumed a 'Yes' answer if the box was ticked and a 'No' answer if the box was not ticked, all of the questions required an answer in order to submit the questionnaire. This can be assumed to improve the reliability of the answers. Four of the 12 questions were designed using the five-point Likert scale (Allen & Seaman 2007) in which one signifies strong disagreement, three means neither agreement or disagreement and five stands for strong agreement.

\(^*\)An English translation of the questionnaire can be found in appendix A.
The questionnaire was sent to 7,019 potential respondents in May 16th 2018. The questionnaires were sent with a personal link for answering so that only the targeted companies were able to answer. However, in order to preserve anonymity, the answers could not be connected to the answerer. Two weeks after sending the initial message, a reminder message was sent for the purposes of gathering more responses. The questionnaire was closed on June 13th 2018, four weeks after sending the first messages.
6 Quantitative analysis

6.1 Regression models used in the study

The regression models used for testing the hypotheses have the survey participant’s assessment on whether they would voluntary opt for audit as a dependent variable. The independent variables consist of potential factors that might influence the demand for audit, such as characteristics of the company and the respondent’s perceptions on the benefits of audit.

As the dependent variable can take values 0 (‘No’), 1 (‘Maybe’) and 2 (‘Yes’), both binary logistic regression models and multinomial regression models are used. Binary logistic regression models are used in order to assess the independent variables’ impact on the voluntary audit demand without considering responses that indicate uncertainty regarding the decision whether to purchase an audit. Therefore, the observations with dependent variable value of 1 (‘Maybe’) are excluded from the data that is used for the binary logistic regression model, making the dependent variable a dichotomous variable that is suitable for such regression model.

Additionally, two multinomial regression models are used in order to include uncertain respondents in the regression 7, increasing the amount of observations and resulting in a more complete picture of the determinants of voluntary audit adoption. The multinomial logistic regression uses the dependent variable value 0 (‘No’) as a reference point to which the observations with dependent variable values of 1 (‘Maybe’) and 2 (‘Yes’) are compared.

In addition, two separate models were used for each regression type. More specifically,

7The multinomial regression model does not require dependent variable values to be ordered, meaning that it can be used with nominal dependent variables. As the dependent variable values used in this study are ordered (they can be meaningfully put in order from No to Maybe to Yes), the use of ordinal logit regression could result in more effective predictions. This is because the ordered nature of the dependent variable could be used to improve the predictive power of the model. However, the use of ordered logit regression requires that the proportional odds assumption is met. After running a test to see if such assumption applies, it was concluded that this was not the case. Therefore, the regression that includes all three categories of the dependent variable values was done with multinomial logistic regression models.
the first model includes all independent variables. The second model excludes those independent variables that concern future plans of the company. This was done because in the questionnaire, the set of questions related to future plans could be disregarded by choosing the 'I don’t want to answer' option, which was selected by 298 respondents. This makes all the answers for the set of questions on future plans invalid for those responses, meaning that a model that employs variables relating to future plans must exclude observations that have the 'I don’t want to answer' option selected. The binary logistic regressions included 548 observations for model 1 (excluding future plan variables) and 374 observations for model 2 (full model). Multinomial logistic regressions had 886 observations for model 1 and 588 observations for model 2.

All in all, two models were constructed, with which the hypotheses could be empirically tested. The models that were used for testing are

\[
\text{Prob(VOLAUDIT)} = \frac{1}{1 + e^{-Z}} \tag{1}
\]

where in model 1

\[
Z = \beta_0 + \beta_1 \text{CUSTOMERS} + \beta_2 \text{TAXATION} + \beta_3 \text{REVENUE} + \beta_4 \text{ASSETS} + \beta_5 \text{GROWTH} + \beta_6 \text{QUALITY} + \beta_7 \text{CHECK} + \beta_8 \text{NONAUDIT} + \beta_9 \text{ACCOUNTANT} + \beta_{10} \text{MANOWN} + \beta_{11} \text{QUALIFIED} + \epsilon_i \tag{2}
\]

and in model 2

\[
Z = \beta_0 + \beta_1 \text{CUSTOMERS} + \beta_2 \text{TAXATION} + \beta_3 \text{EXPANSION} + \beta_4 \text{EXIT} + \beta_5 \text{REVENUE} + \beta_6 \text{ASSETS} + \beta_7 \text{GROWTH} + \beta_8 \text{QUALITY} + \beta_9 \text{CHECK} + \beta_{10} \text{NONAUDIT} + \beta_{11} \text{ACCOUNTANT} + \beta_{12} \text{MANOWN} + \beta_{13} \text{QUALIFIED} + \beta_{14} \text{EQUITY_ISSUE} + \epsilon_i. \tag{3}
\]
The variables used in the models are explained in Table 2. The full model includes 14 independent variables, with nine ordinal categorical variables and five dichotomous variables. Four of the variables are hypothesized variables and the remaining 10 are used as control variables.

The hypothesized variables include TAXATION which takes a value from 1 ("Strongly disagree") to 5 ("Strongly agree") based on the respondents' position on the claim 'Audit benefits the company with regards to taxation issues (in form of tax advice from the auditor or reduced possibility of tax audit)'. Moreover, the second hypothesized variable CUSTOMERS takes a value from 1 ("Strongly disagree") to 5 ("Strongly agree") based on the respondents' position on the claim 'Audit is demanded of the company by customers'. Third hypothesized variable EXPANSION takes the value 1 if the respondent thinks that the company they represent will expand its operations abroad in the future and 0 if not. Lastly, EXIT takes the value 1 if the respondent thinks that the company they represent will be sold in the future and 0 if not.

The control variables in the model include REVENUE which takes a value from 1 to 7 depending on the company's revenue in the most recent financial statements as reported by the respondent with 1 representing revenue below 200,000 EUR, 2 to 6 corresponding to the succeeding hundred thousands (200,000 - 299,999; 300,000 - 399,999.. etc.) and 7 indicating revenue over 700,000 EUR. ASSETS takes a value from 1 to 5 depending on the company's total assets in the most recent financial statements as reported by the respondent with 1 representing total assets below 100,000 EUR, 2 to 3 corresponding to the succeeding hundred thousands, 4 indicating total assets of 300,000 to 350,000 and 5 indicating total assets over 350,000 EUR.

Furthermore, GROWTH takes a value from 1 to 4 depending on the respondent's view on the near future growth outlook for the company, with 1 indicating that the company's operations are expected to decrease, 2 meaning that they are predicted to stay at the current level, 3 indicating an expectation of a slight increase in company operations and 4 indicating that the respondent expects significant growth. QUALITY takes a value from 1 ("Strongly
disagree’) to 5 (‘Strongly agree’) based on the respondents position on the claim 'Audit improves the quality of company’s financial information'. CHECK takes the value from 1 (‘Strongly disagree’) to 5 (‘Strongly agree’) based on the respondents position on the claim 'Audit provides a check on the accounting processes and records'.

Moreover, NONAUDIT takes the value 1 if the survey participant has responded that the company has purchased services in addition to statutory audit from the auditor and 0 if not. ACCOUNTANT takes a value from 1 (‘Strongly disagree’) to 5 (‘Strongly agree’) based on the respondents position on the claim 'The amount of trust the company has on its external bookkeeper has an effect on whether the company purchases an audit'. MANOWN takes a value from 1 to 5 depending on the proportion of the shares that are owned by the company managers with 1 representing no managerial ownership, 2 indicating ownership portion of 1 to 33 percent, 3 representing a portion of 34 to 66 percent, 4 meaning a percentage of 67 to 99 and 5 corresponding to full managerial ownership.

In addition, QUALIFIED takes the value 1 if the survey participant has responded that the company has at some point received a qualified audit opinion from their auditor and 0 if not. Lastly, EQUITY_ISSUE takes the value 1 if the survey participant has responded that the company will seek equity financing in the next 12 months and 0 if not.

The hypothesized variables EXPANSION, EXIT and the control variable EQUITY_ISSUE are not included in model 1 as they belong to the question set for which it was possible for the respondent to choose a 'I don’t want to answer' option. These variables can only be included in the model once the observations with the 'I don’t want to answer' option selected are excluded, which is done for the data that is used for model 2.

Initially, the survey resulted in 22 independent variables that could have been used in the analysis. However, eight of these were excluded from the model as they either proved to have high levels of multicollinearity with the hypothesized variables or were excluded in order for this study to focus on the most essential results.
Table 2: List of variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome variable</strong></td>
<td></td>
</tr>
<tr>
<td>VOLAUDIT</td>
<td>Gets the value 0 if the respondent would not purchase an audit in the absence of a regulatory obligation, 1 if the respondent is uncertain and 2 if the respondent would opt for audit.</td>
</tr>
<tr>
<td><strong>Hypothesized variables</strong></td>
<td></td>
</tr>
<tr>
<td>CUSTOMERS</td>
<td>Gets a value from 1 ('Strongly disagree') to 5 ('Strongly agree') based on the respondents position on the claim 'Audit is demanded of the company by customers'.</td>
</tr>
<tr>
<td>TAXATION</td>
<td>Gets a value from 1 ('Strongly disagree') to 5 ('Strongly agree') based on the respondents position on the claim 'Audit benefits the company with regards to taxation issues (in form of tax advice from the auditor or reduced possibility of tax audit)'.</td>
</tr>
<tr>
<td>EXPANSION</td>
<td>Gets the value 1 if the respondent thinks that the company they represent will expand its operations abroad in the future and 0 if not.</td>
</tr>
<tr>
<td>EXIT</td>
<td>Gets the value 1 if the respondent thinks that the company they represent will be sold in the future and 0 if not.</td>
</tr>
<tr>
<td><strong>Control variables</strong></td>
<td></td>
</tr>
<tr>
<td>REVENUE</td>
<td>Gets a value from 1 to 7 depending on the company’s revenue in the most recent financial statements as reported by the respondent with 1 representing revenue below 200,000 EUR, 2 to 6 corresponding to the succeeding hundred thousands (200,000 - 299,999; 300,000 - 399,999.. etc.) and 7 indicating revenue over 700,000 EUR.</td>
</tr>
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<td>ASSETS</td>
<td>Gets a value from 1 to 5 depending on the company’s total assets in the most recent financial statements as reported by the respondent with 1 representing total assets below 100,000 EUR, 2 to 3 corresponding to the succeeding hundred thousands, 4 indicating total assets of 300,000 to 350,000 and 5 indicating total assets over 350,000 EUR.</td>
</tr>
</tbody>
</table>
GROWTH  Gets a value from 1 to 4 depending on the respondent's view on the near future growth outlook for the company, with 1 indicating that the company's operations are expected to decrease, 2 meaning that they are predicted to stay at the current level, 3 indicating an expectation of a slight increase in company operations and 4 indicating that the respondent expects significant growth.

QUALITY  Gets a value from 1 ('Strongly disagree') to 5 ('Strongly agree') based on the respondents position on the claim 'Audit improves the quality of company's financial information'.

CHECK  Gets a value from 1 ('Strongly disagree') to 5 ('Strongly agree') based on the respondents position on the claim 'Audit provides a check on the accounting processes and records'.

NONAUDIT  Gets the value 1 if the survey participant has responded that the company has purchased services in addition to statutory audit from the auditor and 0 if not.

ACCOUNTANT  Gets a value from 1 ('Strongly disagree') to 5 ('Strongly agree') based on the respondents position on the claim 'The amount of trust the company has on its external bookkeeper has an effect on whether the company purchases an audit'.

MANOWN  Gets a value from 1 to 5 depending on the proportion of the shares that are owned by the company managers with 1 representing no managerial ownership, 2 indicating ownership portion of 1 to 33 percent, 3 representing a portion of 34 to 66 percent, 4 meaning a percentage 67 to 99 and 5 corresponding to full managerial ownership.

QUALIFIED  Gets the value 1 if the survey participant has responded that the company has at some point received a qualified audit opinion from their auditor and 0 if not.

EQUITYFIN  Gets the value 1 if the survey participant has responded that the company will seek equity financing in the next 12 months and 0 if not.

The variables that were left out included SHAREHOLDERS, LENDERS and SUPPLIER, which depicted the demand for audit from those stakeholders. Also, the variable CREDIT_RATING was left out, which corresponded to the company's perception that audit improves the company's credit rating. In addition, variables PARENT_COMPANY,
BIGGEST_SHAREHOLDER and FAMILY were left out from the model. They depicted whether the company has a parent company, if the biggest shareholder owns at least 25 percent of the company shares and if the company is a family company, respectively.

As is observable from the list above, even after removing some of the variables, the model includes many control variables, each predicted to have an impact to the demand for voluntary audit. In order to understand their predicted behavior in the model, a brief review of them is presented next.

6.2 Control variables

Company size

Among the factors which previous research has identified to affect audit demand, size of the audited company has proved to be the most dominant one (e.g. Abdel-Khalik 1993, Collis et al. 2004, Ettredge et al. 1994, Weik et al. 2018). Company size is also closely connected to audit thresholds. Indeed, all three measures that are used for testing whether the company is eligible for audit exemption all relate to the size of the company: turnover, total assets and average number of employees.

The high significance of size on the demand of auditing has been hypothesized to arise from multiple reasons. One driver is the increased risk of errors in the financial statements as the company size grows. As the company becomes larger, there are more transactions which can turn out erroneous, making the assurance of an external auditor more beneficial for the company (Haapamäki 2018).

Also, with increased size comes higher potential wealth transfer meaning that there is more wealth at play and subject to risk. As the level of risk increases, it can be assumed that the demand for audit grows as monitoring becomes more beneficial (Chow 1982).

In addition, it can be assumed that there is a fixed cost element to an audit resulting from the costs that are incurred as the auditor gets familiar with the audited company (Chow
Due to the fixed element of the audit cost, the marginal cost of audit decreases as the company size increases. In other words, as the relationship with the auditor is established, the cost of the audit does not grow linearly with the size of the company (Chow 1982). Therefore it can be expected that because of the decreasing marginal cost of audit, the demand for audit increases with size, making larger companies more likely to opt for audit even when there is no regulatory requirement to be audited.

Lastly, as the company gets larger and more complex, it becomes more difficult for the owners and managers to monitor all the firm’s operations by themselves. In order to compensate for the loss of control resulting from the increase in company size, the company purchases an external audit. Thus, the demand for audit should increase as the company becomes harder to monitor without external assurance Abdel-Khalik (1993).

As stated before, empirical research has found a strong positive correlation between the company size and the demand for audit. This connection has been proved to exist among both small companies (e.g. Collis et al. 2004) and large companies (e.g. Piot 2005) as well as using data both from as early as the 1920’s (Chow 1982) and with more recent data from the 2000’s (Weik et al. 2018).

Previous research has measured company size by either turnover (e.g. Collis 2012), total assets (e.g. Knechel et al. 2008) and number of employees (Barefield et al. 1993). As stated before, these are also the measures incorporated into the Finnish legislation for the test for eligibility for audit exemption. As the regulation on auditing has been transposed from the Accounting Directive (2013/34/EU), the same measures are applied in all EU countries, although the thresholds are subject to national discretion within certain parameters set by the EU.

Turnover has been widely used as a proxy for size. In her studies on British and Danish small private companies using postal questionnaire surveys, Collis (2010, 2012) found consistent evidence that audit demand increases with company size. Other survey-based studies have also found similar results, including a study by Weik et al. (2018) on German
small private companies and a British equivalent by Collis et al. (2004). Uniform results have been obtained using archival data, namely, by Dedman et al. (2014) observing UK firms’ voluntary audit adoption after audit exemption in 2004 and by Tauringana & Clarke (2000) studying the impact of the UK audit exemption in 1994. A Finnish survey study by Niemi et al. (2012) also found support for the positive association of turnover and audit demand.

Moreover, there is a lot of research on the impact of the amount of total assets on the demand for audit. Multiple Finnish studies on audit demand have observed a positive relationship between the two, with Knechel et al. (2008) and Niskanen et al. (2011) studying demand for audit quality and Ojala et al. (2016) focusing on demand for voluntary audit. Similar findings have been obtained from Australian farms (Carey & Tanewski 2013) and New Zealand companies (Hay & Davis 2004). Ettredge et al. (1994) finds this positive association in US listed firms as well, measured by timely purchased quarterly reviews. A French study by Piot (2005) comparing the demand for audit quality in France, Canada and Germany finds the amount of total assets to be a significant determinant of audit demand among listed companies in all three countries despite the noticeable cross-country variance on other variables.

Lastly, Barefield et al. (1993) studied and found a linkage between the number of employees and demand for assurance. They examined the demand for attest services among US manufacturing firms in the 1980’s and found the demand for assurance increasing with the number of employees.

Although the evidence of the positive relationship between company size and demand for audit is rather convincing, the research results on this subject are not completely uniform. In particular, no statistical significant relationship was found between voluntary audit adoption and the amount of total assets among UK small companies by Tauringana & Clarke (2000) and by Collis et al. (2004) who found no significance for the amount of employees either. Likewise, using a principal component analysis to combine the three size criteria (turnover, total assets, number of employees) into a single variable, Carey et al. (2000) found no
relationship between company size and audit demand among Australian family businesses.

Managerial ownership

The relationship between the shareholder and the managers of the firm is an agency relationship in which the manager acts as the agent performing a service to the principal, the shareholder. As characterized earlier in Section 2.2.5, an agency relationship comes with agency costs which arise from multiple sources. As the agent’s interests are not in alignment with those of the principal, it does not pay the agent to maximize the value of the firm the way a sole owner-manager would be incentivized to do (Jensen & Meckling 1976).

Most relevant for the purposes of this study are the monitoring and bonding costs inherent in a agency relationship which are designed to alleviate the amount of residual loss. These constitute of the expenses that are incurred in order for the principal to make sure the agent does not act against the interest of the principal (Jensen & Meckling 1976). One form of monitoring the behavior of the agent is to purchase an external audit which provides assurance for the authenticity of the reported figures.

However, it is reasonable to purchase an audit only if there are enough potential residual losses. Assuming that the interests of the agency relationship parties become more aligned as the manager’s ownership of the company increases, it could be hypothesized that the amount of managerial ownership is negatively associated with the amount of potential residual losses. This would indicate that the value of audit is negatively associated with managerial ownership.

It seems reasonable to say that in companies with publicly traded shares, there are always agency costs arising from the separation of ownership and management due to the diversified structure of ownership. Among private companies, however, there are companies that are fully owned by the manager, representing one extreme in the level of managerial ownership. In other cases, the managers are employees that are compensated with salary but have no equity in the company, which represents the other extreme on this matter. When fully owned by the manager, the company bears zero agency costs arising from the manager-shareholder
relationship. (Ang et al. 2000)

Due to the vast range in levels of managerial ownership among private companies and the theorized association between managerial ownership and agency costs, it could be hypothesized that it would partly explain the decision of the private company regarding the voluntary purchasing of audit. Indeed, Tauringana & Clarke (2000) found that among small UK private companies, there is a negative association between the percentage of director ownership and the demand for voluntary audit. Correspondingly, Rennie et al. (2003) found that 1.3% of the Canadian private companies they examined attributed their decision to retain audit after being exempted primarily to 'separation of owners/managers'.

With regard to the negative association between managerial ownership and voluntary audit adoption, the research has also obtained contradictory results. In her study on British small companies exempted from audit in 1994, Seow (2001) found no association between the percentage of directors’ ownership of the company shares and the demand for voluntary audit. Furthermore, when studying the relationship between internal ownership of shares (all employees included) and audit demand among listed companies from Canada, France and Germany, Piot (2001) could not find the demand for high quality audit to decrease with internal ownership in Canada and France.

Surprisingly, the relationship between the two factors were even found to be positive among German listed companies (Piot 2001). For the European countries in the comparison, the notion that a negative relationship was not found was thought to stem from the 'insider and debt oriented' nature of the countries’ financing systems.

*Growth and raising of equity capital*

Previous research has found a linkage between managers perceptions of future growth of the company and the demand for voluntary audit. By interviewing Finnish owner-managers of small companies, Ojala et al. (2016) identified two reasons for this. Firstly, owner-managers anticipated the company meeting the thresholds for no longer being eligible for the audit exemption and therefore purchased the audit in advance. Secondly, the owner-managers
expected a need for advice from the auditor in the future due to the company becoming more complex to manage as it grows.

Ojala et al. (2016) found a significant relationship with growth (measured as the annual change in revenue) and the demand for voluntary audit among small companies after being exempted from mandatory audit in 2008. However, when examining annual data for the three years following the exemption, they were able to find support for the growth hypothesis only for the years 2008 and 2009, but not for 2010. Similar results have been achieved in Lisowsky and Minnis’ working paper (as cited in Vanstraelen & Schelleman 2017), in which they examined the demand for audit among American privately held large companies and found that growth, among other determinants, drove voluntary audit adoption.

Similarly to the Ojala et al. (2016) paper, this study focuses on the implications of a (potential) shift in audit exemption regulation which is why matching results are expected (notwithstanding the obvious notion that this is an ex-post study whereas Ojala et al. (2016) represents an ex-ante form of research). Moreover, it can be hypothesized that because the companies under examination are mandated to purchase an audit, the growth effect on voluntary audit adoption is emphasized. More specifically, with an existing auditing relationship, it does not seem reasonable for a growing company to end the relationship only to form it again once the new thresholds are met again. Also, earlier research (Weik et al. 2018) has showed a tendency among companies to maintain the audit relationship out of habit (i.e. purchasing an audit because it was taken up previous year as well), indicating rigidity in the decision on audit purchase. This, too, supports the assumption of the lack of impact that a shift in audit exemption thresholds has on voluntary audit adoption among growing firms.

As with growth, it can be assumed that voluntary audit demand can also be driven by equity issuance. In a survey for British small to medium-sized companies, Collis (2008) found that 35% of the companies view potential investors as users of the financial statements. Therefore, companies might use an auditor as a way to enhance the credibility of the financial statements, as suggested by the lending credibility theory (Porter 1990).
Furthermore, Knechel et al. (2008) hypothesize and find evidence that for large firms, auditors play a role in alleviating agency costs between majority and minority shareholders. This role is assumed to arise from being able to affect the level of earnings management. However, they do not find auditors to have such role among small firms. Moreover, in a study on small UK companies, Dedman et al. (2014) hypothesize and find evidence that audit can reduce uncertainty that potential investors feel with regard to a company issuing equity and therefore audit demand increases with plans on equity issuance.

*Perceived benefits from the audit*

It can be hypothesized that companies’ demand for voluntary audit is also driven by the perception that it provides a check on accounting records and systems. As Collis et al. (2004) states, when compared to larger firms, small companies tend to have higher control risks. This means that the internal controls in small firms are weaker, exposing them to the risk of the controls not detecting a material misstatement in the accounting records. In addition, small companies typically have high inherent risk which means that the overall risk of a material misstatement in the financial statement is greater than in larger firms (Collis et al. 2004).

As a result of the heightened risks inherent in small companies, there is a greater probability of misstatements ending up in the financial statements without controls detecting it. If perceived as providing a check on records and systems, the audit could be seen by the managers as a way of improving the discovery of risks in the internal controls and the detection of material misstatements in the accounting records. With regard to misstatements, Clatworthy & Peel (2013) found that among small UK companies, companies that do not purchase an audit are two times more likely to have errors in their financial statements than their counterparts who opt for audit. This finding supports the idea that audits decrease the probability of misstatements.

In addition to preventing the financial statements from containing material misstatements, it can be hypothesized that if the audit is perceived to provide a check on the accounting
records, it would also be regarded as a means to deter fraud. The audit would prevent fraud either by detecting fraud or by deterring employees from committing fraud as they are aware of the possibility that their misconduct could be detected by the audit.

Indeed, Collis et al. (2004) found that the demand for voluntary audit among small British companies is driven by the perceived benefits of audit arising from the check on internal controls. However, in a study comparing the determinants of voluntary audit adoption among British and Danish companies, Collis (2010) did not find the demand for voluntary audit in British companies to increase with the perception that audit provides a check on accounting records and systems. Nonetheless, she finds a positive association between the two among Danish companies. In her latest study on voluntary audit demand in small UK companies, Collis (2012) found the relationship to be true among micro-companies at the 10% significance level, but does not observe a corresponding association among non-micro-companies.

In addition to the UK studies on the subject, Rennie et al. (2003) studied the reasons for Canadian companies to continue with the audit after being exempted in 1994. They found that for 1.3% of the respondents, the primary reason for keeping the audit was 'to enhance internal control/security'.

It can also be hypothesized that the demand for voluntary audit increases with the perception that it increases the quality of financial information. As Güntert (as cited in Collis 2010) states, benefits to purchasing an audit include added confidence in the reported figures making them more reliable to base decisions on.

Indeed, past research has found a positive correlation between the demand for voluntary audit and the perception of audit enhancing the quality of financial information. Collis et al. (2004) found strong evidence for the relationship between the two factors among small UK companies. The connection is also found by Collis (2010) in both British and Danish companies without noticeable differences between the countries in this regard. Surprisingly, however, a later study by Collis (2012) on small British companies could not
find a significant association between the demand for voluntary audit and the perception that audit increases the quality of financial information.

In addition, the aforementioned relationship seems to hold in the Anglo-American context as well. A Canadian study by Rennie et al. (2003) found that for 16.8% of the studied companies, the primary reason for voluntarily opting for audit was ’a desire to provide assurance/comfort about the credibility of the financial statements to users and/or management’. This supports the view that the perception of audit improving the quality of the financial information drives voluntary audit adoption.

*Relationship with the auditor*

Earlier research has observed an association between certain characteristics of the audit relationship and the demand for audit. More specifically, a study by Dedman et al. (2014) showed that companies are more likely to voluntary purchase an audit if the auditor provides non-audit services in addition to conducting the statutory audit. Furthermore, in case the auditor has issued a qualified audit opinion at some point in the audit relationship, the audited company is less likely to voluntarily opt for audit once it has been exempted (Niemi et al. 2012).

With regard to the provision of non-audit services, Key Note Accountancy Market Report (as cited by Le Vourc’h & Morand 2011) identifies four main categories of non-audit services that audit firms provide: accounting and bookkeeping services (e.g. systems assurance, advice on international accounting standards); taxation and legal services (e.g. tax planning and compliance and international tax advice); corporate finance and business recovery (e.g. mergers and acquisitions, debt management, insolvency); business and management consulting (e.g. strategy consulting and IT consulting).

In relation to the provision of non-audit services affecting the demand for voluntary audit, it can be hypothesized that the relationship between the two arises from the benefits that are attained in a joint production of audit and other services (Dedman et al. 2014). These benefits have been attributed to the 'knowledge spillover', which occurs when the
knowledge acquired in the provision of non-audit services can be used when auditing the same company (Simunic 1984). Due to these possible benefits arising from the knowledge spillover, the non-audit services brought by the firm may increase the value of audit for the company, making it more likely that an audit is purchased (Dedman et al. 2014).

However, as Francis (2004) point out, at least in the Big 4 accounting firms the provision of assurance and non-audit services for large listed companies are separated so that the people in the audit team are not necessarily involved in the provision of non-audit services and vice versa. Therefore, the existence of any knowledge spillovers can be contested. Nonetheless, building on the findings of Knechel et al. (2008) indicating a positive relationship between the size of the audited company and a demand for a Big 4 audit, it can be hypothesized that due to the small size (and the fact that they are more likely to be audited by a smaller audit firm) the effect of specialized teams undermining the spillover effect is less crucial among the companies examined in this paper.

Notwithstanding the benefits that are achieved due to the knowledge spillover effect, the provision of non-audit services may also pose a threat to the independence of the auditor (Simunic 1984). In fact, so much so that public companies are reluctant to buy non-audit services from their auditor to preserve a perception of independency of the auditing function (Firth 1997).

When the audit client purchases a non-audit service, the cost for the audit firm to provide the audit decreases due to knowledge spillovers. Instead of reflecting the drop in cost on the bill, the audit company can retain the profit from the increased efficiency at itself. Therefore, the audit company is able to charge economic rents on the client, making it less economical for the auditor to report on defects in the financial statements in fearing that a conflict would result in the client discontinuing the profitable audit relationship. Thus, the independence of the auditor can be thought to be compromised when providing non-audit services in addition to the audit. (Simunic 1984)

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8 According to Tollison (1982) economic rent can be defined as 'a return in excess of a resource owner's opportunity cost'
Despite the hypothesized threat to audit independence, the quality of audit does not seem to deteriorate with the provision of non-audit services (Francis 2006). Nonetheless, it has been shown that the perception of the markets regarding the independence of the auditor is negatively affected by the auditor providing non-audit services to the audit client (Krishnan et al. 2005). With regard to the companies under examination in this study, however, this effect is undermined. This is due to the notion that Finnish micro-companies are not mandated to include the amount of non-audit fees from the auditor in the notes to the financial statements, as stated in the Government Decree on the financial statements of small and micro-companies (1753/2015). This makes it impossible for the users of the financial statements to determine whether there is a possible threat to auditor independence arising from the provision of non-audit services.

In relation to the issuance of qualified opinion and its effect on the demand for voluntary audit, there are three forms of modifying the audit opinion (first being the closest one to receiving an unmodified opinion and the last being the farthest): a qualified opinion, an adverse opinion and a disclaimer of opinion.

The auditor’s choice on which qualified opinion should be issued is based on three criteria. In case of a misstatement to the financial statements, the auditor must assess 'the nature of the matter giving rise to the modification, that is, whether the financial statements are materially misstated'. With restrictions on the ability to gather evidence, the auditor evaluates if the potential undetected misstatements could be material. Lastly, the auditor must consider the 'pervasiveness of the effects or potential effects of the matter on the financial statements'. (IFAC 2015a)

When an audit is being conducted and there is a difference of opinion on a matter in the financial statements, the process may enter into negotiations between the auditor and the audited company. In the negotiations, it has been studied that while clients are lenient towards using common bargaining techniques such as bid high/concede for achieving its goals regarding the final form of the financial statements, auditors are less flexible when negotiating. This is possibly due to auditors being more informed of the GAAP (and the
limits it sets on accounting decisions) and the professional expectations they are subject to. With regard to threatening with a qualified audit opinion, auditors seem to be reluctant to use it as a negotiation tactic. (Bame-Aldred & Kida 2007)

Using the framework of Mohr & Spekman (1994), while constructive conflict resolution techniques such as joint problem-solving can result in more successful relationship, the use of destructive techniques (e.g. domination) ‘are very likely to strain the fabric of the partnership’. As argued by Niemi et al. (2012), the issuance of a qualified audit opinion better qualifies as a destructive than a constructive conflict resolution technique. Therefore, receiving a qualified audit method can be hypothesized as being damaging for the auditor-client relationship which could reduce the desire to opt for voluntary audit. Indeed, Niemi et al. (2012) found evidence for a negative association between receiving qualified audit opinion and voluntary audit adoption among Finnish micro-companies.

It can be hypothesized that there is a cost for a company for receiving a qualified audit opinion, which makes it destructive for the audit-client relationship. However, if the audit opinion doesn’t provide new information (the associated stakeholders are already aware of the circumstances behind the qualification) the audit report should not have any effect. (Ittonen 2012) Previous research results on the matter have been inconsistent. Some studies find modified audit reports having no value relevance to investors, while others prove it having an effect on the investors’ perceptions of the company. (see review of the literature in Ittonen 2012)

For the purposes of this study, it can be hypothesized that any stakeholder cautious enough to do a background check before interacting with a company would view a qualified opinion as a negative sign of the company’s financial health. This could manifest in form of a reluctance to work with the company or a demand for a premium to compensate for higher risk (e.g. higher interest rates, worse payment conditions), thus creating a cost for the company from receiving a qualified audit opinion.

However, some stakeholders are able to get information about the company beyond what is
publicly available. An interview study by Sormunen (2014) on Finnish SME financing found that bank officers perceive the audit report as providing additional information. However, the information provided by the audit report is not particularly useful, as they have other sources of information on the financial health of the company. Nonetheless, the information has value to the bank officers if the audited company is associated with favorable financial expectations and the audit report does not support this.

*External accountant*

As studied by Everaert et al. (2007), in the case of small companies, the accounting function is often outsourced, either fully or partly. They find multiple reasons for why companies outsource the accounting function which include gaining an access to expertise not attainable by using internal resources, being able to focus on core activities and achieving cost reductions. In Finland, a study conducted in 2005 found that 75-80% of micro-companies outsourced their bookkeeping to an external accountant (LTT-Tutkimus Oy 2006).

Despite the benefits that have seen to arise from outsourcing, using an external accountant has also proven to have disadvantages. Indeed, Niemi et al. (2012) argue that as the business is not able to properly monitor the external accountant, an agency-type relationship is created between the external accountant and their client. Thus, Niemi et al. propose that the existence of such relationship creates a demand for audit, which acts as a monitoring device for the work of the external accountant.

Furthermore, Niemi et al. (2012) find that outsourcing the accounting function has lead to external accountants committing misconducts, examples of which include assisting in a fraud and overpricing of work. Moreover, they find that the auditor has, in some cases, helped to reveal such unethical behavior.

In addition, Niemi et al. (2012) find that the extent to which companies view the work of their external accountant important increases with the demand for voluntary audit. This supports the idea that the audit might be purchased for monitoring the work of the accountant.
Furthermore, taking into consideration the quality of the relationship between the client and the external accountant, Ojala et al. (2016) report a positive association with the company's perception on the competence and reliability of the external accountant and the perceived benefits of audit and the financial reporting process in general. This indicates the importance of the external accountants in the provision of advice and accounting services.
7 Results

7.1 Descriptive statistics

The analysis of the results will follow to a large extent the methods used by Niemi et al. (2012). Included in the analysis are descriptive statistics, tests for multicollinearity, binary multiple logistic regressions and multiple logit regressions as well as additional tests.

The survey resulted in 962 responses. Based on the information on the company size (REVENUE and ASSETS variables) given by the respondents, companies for which it could be stated with certainty that they did not meet the definition of micro-company that is currently mandated to purchase an audit were excluded from the data. This included companies that either had revenue over 700,000 EUR as well as total assets over 350,000 EUR or revenue below 200,000 EUR and at the same time total assets below 100,000 EUR. The number of companies that were excluded based on this criteria was 76, resulting in a total of 886 useful responses for the analysis.

With regard to the willingness of the companies to voluntarily opt for audit, the 886 responses consist of 267 companies (30,1% of the useful responses) planning to voluntarily opt for audit and 281 companies (31,7%) that would not purchase audit if not mandated to do so. A total of 338 companies (38,1%) answered 'Maybe' when asked whether they would hire an auditor in the absence of regulatory obligation. When excluding uncertain respondents, the results show that 48,7% of the survey participants would purchase an audit whereas 51,3% of the companies would not.

Tables 4 to 7 present descriptive statistics for the dependent variables. Tables 4 includes continuous variables for which it shows the mean and median values as well as standard deviations for each of the three respondent groups (grouped by dependent variable values 2 ('Yes'), 1 ('Maybe') and 0 ('No')). Table 5 provides the results for t-tests as p-values for each continuous variable. Also, it gives the results for a Mann-Whitney U-test which differ from the t-test in that it does not assume that the variables are normally distributed.
Table 4: Mean, median and standard deviation - continuous variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Yes (N = 267)</th>
<th>Maybe (N = 338)</th>
<th>No (N = 281)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mean</td>
<td>median</td>
<td>sd</td>
</tr>
<tr>
<td>CUSTOMERS</td>
<td>2.539</td>
<td>3.000</td>
<td>1.278</td>
</tr>
<tr>
<td>TAXATION</td>
<td>3.693</td>
<td>4.000</td>
<td>1.035</td>
</tr>
<tr>
<td>REVENUE</td>
<td>4.064</td>
<td>4.000</td>
<td>1.758</td>
</tr>
<tr>
<td>ASSETS</td>
<td>2.682</td>
<td>2.000</td>
<td>1.140</td>
</tr>
<tr>
<td>GROWTH</td>
<td>2.760</td>
<td>3.000</td>
<td>0.782</td>
</tr>
<tr>
<td>QUALITY</td>
<td>4.375</td>
<td>5.000</td>
<td>0.877</td>
</tr>
<tr>
<td>CHECK</td>
<td>4.517</td>
<td>5.000</td>
<td>0.679</td>
</tr>
<tr>
<td>ACCOUNTANT</td>
<td>3.419</td>
<td>4.000</td>
<td>1.299</td>
</tr>
<tr>
<td>MANOWN</td>
<td>4.348</td>
<td>5.000</td>
<td>1.108</td>
</tr>
</tbody>
</table>

Table 5: P-values from Fisher’s tests - continuous variables

<table>
<thead>
<tr>
<th></th>
<th>‘Yes’ versus ‘No’</th>
<th>‘Yes’ versus ‘Maybe’</th>
<th>‘Maybe’ versus ‘No’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>p-value, T-test</td>
<td>p-value, U-test</td>
<td>p-value, T-test</td>
</tr>
<tr>
<td>CUSTOMERS</td>
<td>&lt;0.001***</td>
<td>&lt;0.001***</td>
<td>0.001***</td>
</tr>
<tr>
<td>TAXATION</td>
<td>&lt;0.001***</td>
<td>&lt;0.001***</td>
<td>&lt;0.001***</td>
</tr>
<tr>
<td>REVENUE</td>
<td>&lt;0.001***</td>
<td>&lt;0.001***</td>
<td>0.012**</td>
</tr>
<tr>
<td>ASSETS</td>
<td>0.037*</td>
<td>0.048**</td>
<td>0.003***</td>
</tr>
<tr>
<td>GROWTH</td>
<td>&lt;0.001***</td>
<td>&lt;0.001***</td>
<td>&lt;0.001***</td>
</tr>
<tr>
<td>QUALITY</td>
<td>&lt;0.001***</td>
<td>&lt;0.001***</td>
<td>&lt;0.001***</td>
</tr>
<tr>
<td>CHECK</td>
<td>&lt;0.001***</td>
<td>&lt;0.001***</td>
<td>&lt;0.001***</td>
</tr>
<tr>
<td>ACCOUNTANT</td>
<td>0.016**</td>
<td>0.004***</td>
<td>&lt;0.001***</td>
</tr>
<tr>
<td>MANOWN</td>
<td>0.004***</td>
<td>0.004***</td>
<td>0.025**</td>
</tr>
</tbody>
</table>

*** signifies p < 0.01. ** signifies p < 0.05 and * signifies p < 0.10.

Looking at the mean values for each respondent group, it can be stated that the respondent companies, on average, are mostly owned by their manager(s). All respondent groups, on average, slightly agree that the level of trust in their external accountant influences their decision on audit adoption, with ‘Maybe’ and ‘No’ groups agreeing more with the statement than the ‘Yes’ group. Companies willing to opt for audit view audit as beneficial for taxation matters whereas non-adopters on average do not see audit benefiting the company in that regard.

Companies in none of the groups, on average, view that customers demand the company to conduct an audit. However, there are differences of view among the groups, with ‘No’ responses, on average, slightly disagreeing with the claim that customers demand an audit whereas the average respondent in the ‘Yes’ group has a neutral position on the claim. With
regard to benefits of the audit, companies willing to purchase an audit post-exemption, on average, agree with the claim that audit improves the quality of the financial information and provides a check for internal controls.

As can be seen from Table 5, univariate regressions result in all of the continuous variables being statistically significant when comparing 'Yes' and 'No' answers both when conducting a t-test as well as with a U-test. This is also the case in the 'Yes'/'Maybe' comparison. When comparing 'Maybe' and 'No' answers, statistical significance excludes MANOWN, ASSETS and EXTERNAL variables. The sign of the coefficient can be found comparing the mean values of the variables in the respondent groups. With regard to the hypothesized continuous variables, the results from univariate regressions support both the hypothesized positive association between demand for audit from customers and voluntarily opting for audit (H1) as well as the hypothesized positive association between perceived audit benefits for taxation matters and voluntary audit adoption (H2) in all three comparisons.

For both the t-test and the U-test, the statistical significance of the variables is strongest in the 'Yes'/'No' comparison as can be expected due to the ordinal nature of the dependent variable categories. However, when examining the 'Yes'/'Maybe' and 'Maybe'/'No' comparisons, it is clear that the former bears more explanatory power when predicting the willingness to voluntarily opt for audit. Based on this finding, it seems that uncertain respondents tilt more towards discontinuing the audit relationship once exempted, suggesting that the eventual voluntary audit adoption rate might fall below 48.7% which is the proportion of sure respondents claiming to plan on purchasing an audit even if exempted from mandatory audit.

Table 6 shows the mean values for the dichotomous variables in the model. Table 7 presents the results from the Fisher's test comparing respondent groups on the way model variables affect the demand for voluntary audit. Fisher's test is used as it is capable of providing an exact p-value whereas a chi-square test would only produce an estimate.

The results indicate that in the 'Yes' group, 20% of the companies view overseas expansion
Table 6: Mean values - dichotomous variables

<table>
<thead>
<tr>
<th></th>
<th>Yes (N = 183)</th>
<th>Maybe (N = 191)</th>
<th>No (N = 214)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXPANSION</td>
<td>0.202</td>
<td>0.150</td>
<td>0.105</td>
</tr>
<tr>
<td>EXIT</td>
<td>0.268</td>
<td>0.206</td>
<td>0.225</td>
</tr>
<tr>
<td>EQUITY_ISSUE</td>
<td>0.066</td>
<td>0.103</td>
<td>0.063</td>
</tr>
<tr>
<td></td>
<td>Yes (N = 267)</td>
<td>Maybe (N = 338)</td>
<td>No (N = 281)</td>
</tr>
<tr>
<td>NONAUDIT</td>
<td>0.315</td>
<td>0.204</td>
<td>0.100</td>
</tr>
<tr>
<td>QUALIFIED</td>
<td>0.146</td>
<td>0.098</td>
<td>0.078</td>
</tr>
</tbody>
</table>

Table 7: P-values from Fisher’s test - dichotomous variables

<table>
<thead>
<tr>
<th></th>
<th>'Yes' versus 'No'</th>
<th>'Yes' versus 'Maybe'</th>
<th>'Maybe' versus 'No'</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXPANSION</td>
<td>0.010***</td>
<td>0.185</td>
<td>0.185</td>
</tr>
<tr>
<td>EXIT</td>
<td>0.401</td>
<td>0.155</td>
<td>0.716</td>
</tr>
<tr>
<td>EQUITY_ISSUE</td>
<td>1.000</td>
<td>0.211</td>
<td>0.156</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>'Yes' versus 'No'</th>
<th>'Yes' versus 'Maybe'</th>
<th>'Maybe' versus 'No'</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONAUDIT</td>
<td>&lt;0.001***</td>
<td>0.003***</td>
<td>&lt;0.001***</td>
</tr>
<tr>
<td>QUALIFIED</td>
<td>0.014**</td>
<td>0.077*</td>
<td>0.478</td>
</tr>
</tbody>
</table>

*** signifies p < 0.01, ** signifies p < 0.05 and * signifies p < 0.10.

of their operations as a future event (EXPANSION variable), while only 11% of the companies in the 'No' group plan on going global. Furthermore, 27% of the audit adopters plan on selling the company in the future (EXIT variable). For non-adopters, this number is only 23%. With the EQUITY_ISSUE variable, corresponding to company’s plans to seek equity financing during the following 12 months, the difference between audit adopters and non-adopters is small. While 6.6% of the 'Yes' group plan on seeking equity finance, 6.3% of non-adopters plan on doing so.

In addition, 32% of the companies in the 'Yes' group have purchased non-audit services other from their auditor, depicted by the NONAUDIT variable. The proportion is drastically lower among 'No' respondents where on average, only 10% have purchased non-audit
services. Among audit adopters, almost 15% have at some point received a qualified audit opinion from their auditor (QUALIFIED variable), while the 'No' group has 7.8% of its companies having received a qualified audit opinion at some point.

The p-values from the Fisher's exact test confirm the differences as described above as statistically relevant for some variables. For the hypothesized variable EXPANSION, the difference is significant (with p-value 0.01), supporting the hypothesized positive association between overseas expansion planning and voluntary audit adoption (H3). However, this is not the case for the other hypothesized variable EXIT, suggesting insufficient evidence to accept the hypothesis on the positive association between plans to eventually sell the company and opting for voluntary audit (H4). Non-significance also applies to EQUITY_ISSUE. With regard to other control variables, the differences on the variables NONAUDIT and QUALIFIED are significant at least when comparing the 'Yes' and 'No' groups (with p-value < 0.001 for NONAUDIT and 0.014 for QUALIFIED). For NONAUDIT, the differences are significant (with p-values < 0.01) in every comparison.

7.2 Correlations

Table 8 presents a multicollinearity matrix for all 886 observations which shows the correlations between all pairs of variables. More specifically, the matrix has Spearman correlation coefficients presented above the diagonal whereas Pearson correlation coefficients are showed below the diagonal. While the correlations for variables included only in model 1 are calculated using all useful responses, the calculations for the future plan variables (EXPANSION, EXIT and EQUITY_ISSUE) only include observations that don't have the 'I don't want to answer' option selected for the question set regarding future plans.

Looking at the table, the results indicate that as hypothesized, customer demand for audit as well as perceiving audit as beneficial for taxation matters seem to correlate positively with voluntary audit adoption. In relation to hypothesis 3 (H3), plans for overseas expansion also correlates positively with voluntarily opting for audit. No statistically significant positive association between intentions to sell the company and voluntary audit adoption
as predicted by hypothesis 4 (H4) could be found. The table also shows that managerial ownership correlates negatively with the view that audit improves the quality of financial information and that company plans on an overseas expansion have a positive association with growth projections.

The table shows relatively high levels of multicollinearity between some variables. In order to test whether the level of multicollinearity is acceptable, a variance inflation factor (VIF) test is conducted for the two binary logistic regression models. The results show highest VIF for the CHECK variable in model 2 with a value of 1.33. Since a VIF under 10 is generally viewed as acceptable (Hair et al. 2014, p. 200), there is no reason to believe that multicollinearity poses a threat to the validity of the binary logistic regression model results.

In addition, a similar multicollinearity matrix is constructed for 'Yes' and 'No' answers only (untabulated), with the intention of detecting potential instances of high multicollinearity that could affect the results in the binary logistic regression models. Overall, the correlation coefficients do not significantly differ from the ones in the multicollinearity matrix that includes the observations with 'Maybe' answers (Table 8), with the highest absolute difference between the coefficients being 0.099. However, in the untabulated correlation matrix, the correlation coefficient depicting multicollinearity between QUALITY and CHECK exceeds 0.7 that is often viewed as the threshold for severe multicollinearity. This happens both when measured with the Pearson correlation coefficient as well as with the Spearman coefficient. However, as the multicollinearity only affects the highly intercorrelated variables, which in this case are control variables, the potential threat to the validity of the results is limited.
Table 8: Multicollinearity matrix

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. VOLAUDIT</td>
<td>0.296</td>
<td>0.440</td>
<td>0.108</td>
<td>0.039</td>
<td>0.168</td>
<td>0.065</td>
<td>0.184</td>
<td>0.548</td>
<td>0.513</td>
<td>0.210</td>
<td>-0.103</td>
<td>-0.097</td>
<td>0.086</td>
<td>0.005</td>
<td></td>
</tr>
<tr>
<td>2. CUSTOMERS</td>
<td>0.294</td>
<td>0.273</td>
<td>0.090</td>
<td>-0.029</td>
<td>-0.007</td>
<td>-0.002</td>
<td>0.065</td>
<td>0.338</td>
<td>0.237</td>
<td>0.114</td>
<td>-0.020</td>
<td>-0.027</td>
<td>0.037</td>
<td>0.036</td>
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<tr>
<td>3. TAXATION</td>
<td>0.444</td>
<td>0.258</td>
<td>-0.029</td>
<td>-0.005</td>
<td>-0.001</td>
<td>0.066</td>
<td>0.058</td>
<td>0.507</td>
<td>0.383</td>
<td>0.144</td>
<td>0.041</td>
<td>-0.053</td>
<td>0.089</td>
<td>0.024</td>
<td></td>
</tr>
<tr>
<td>4. EXPANSION</td>
<td>0.108</td>
<td>0.098</td>
<td>-0.030</td>
<td>0.061</td>
<td>0.090</td>
<td>0.042</td>
<td>0.351</td>
<td>0.135</td>
<td>0.091</td>
<td>0.094</td>
<td>-0.037</td>
<td>-0.081</td>
<td>-0.034</td>
<td>0.142</td>
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<tr>
<td>5. EXIT</td>
<td>0.040</td>
<td>-0.018</td>
<td>-0.005</td>
<td>0.061</td>
<td>0.116</td>
<td>0.029</td>
<td>0.073</td>
<td>0.007</td>
<td>-0.041</td>
<td>0.125</td>
<td>0.023</td>
<td>0.057</td>
<td>0.117</td>
<td>-0.010</td>
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<tr>
<td>6. REVENUE</td>
<td>0.167</td>
<td>-0.005</td>
<td>0.002</td>
<td>0.091</td>
<td>0.112</td>
<td>0.084</td>
<td>0.205</td>
<td>0.056</td>
<td>0.101</td>
<td>0.044</td>
<td>0.077</td>
<td>-0.067</td>
<td>0.020</td>
<td>0.062</td>
<td></td>
</tr>
<tr>
<td>7. ASSETS</td>
<td>0.063</td>
<td>0.002</td>
<td>0.070</td>
<td>0.031</td>
<td>0.047</td>
<td>0.088</td>
<td>0.030</td>
<td>0.083</td>
<td>0.084</td>
<td>0.046</td>
<td>0.020</td>
<td>-0.036</td>
<td>-0.026</td>
<td>-0.005</td>
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<tr>
<td>8. GROWTH</td>
<td>0.186</td>
<td>0.068</td>
<td>0.056</td>
<td>0.349</td>
<td>0.061</td>
<td>0.213</td>
<td>0.043</td>
<td>0.112</td>
<td>0.074</td>
<td>0.142</td>
<td>-0.069</td>
<td>-0.153</td>
<td>0.044</td>
<td>0.180</td>
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<td>9. QUALITY</td>
<td>0.535</td>
<td>0.334</td>
<td>0.512</td>
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<td>0.015</td>
<td>0.053</td>
<td>0.087</td>
<td>0.108</td>
<td>0.675</td>
<td>0.198</td>
<td>-0.018</td>
<td>-0.073</td>
<td>0.062</td>
<td>0.030</td>
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</tr>
<tr>
<td>10. CHECK</td>
<td>0.507</td>
<td>0.264</td>
<td>0.421</td>
<td>0.086</td>
<td>-0.030</td>
<td>0.086</td>
<td>0.094</td>
<td>0.078</td>
<td>0.691</td>
<td>0.128</td>
<td>0.020</td>
<td>-0.075</td>
<td>0.027</td>
<td>0.038</td>
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<tr>
<td>11. NONAUDIT</td>
<td>0.210</td>
<td>0.116</td>
<td>0.137</td>
<td>0.094</td>
<td>0.125</td>
<td>0.048</td>
<td>0.045</td>
<td>0.145</td>
<td>0.189</td>
<td>0.124</td>
<td>0.031</td>
<td>-0.007</td>
<td>0.025</td>
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<tr>
<td>12. ACCOUNTANT</td>
<td>-0.086</td>
<td>0.008</td>
<td>0.082</td>
<td>-0.041</td>
<td>0.037</td>
<td>0.072</td>
<td>0.024</td>
<td>-0.066</td>
<td>0.005</td>
<td>0.024</td>
<td>0.032</td>
<td>0.023</td>
<td>-0.010</td>
<td>0.071</td>
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<tr>
<td>13. MANOWN</td>
<td>-0.101</td>
<td>-0.043</td>
<td>-0.051</td>
<td>-0.037</td>
<td>0.077</td>
<td>-0.055</td>
<td>-0.035</td>
<td>-0.115</td>
<td>-0.089</td>
<td>-0.073</td>
<td>0.014</td>
<td>0.030</td>
<td>0.041</td>
<td>-0.073</td>
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<tr>
<td>14. QUALIFIED</td>
<td>0.086</td>
<td>0.042</td>
<td>0.087</td>
<td>-0.034</td>
<td>0.117</td>
<td>0.018</td>
<td>-0.029</td>
<td>0.043</td>
<td>0.069</td>
<td>0.045</td>
<td>0.025</td>
<td>0.000</td>
<td>0.043</td>
<td>0.033</td>
<td></td>
</tr>
<tr>
<td>15. EQUITY_ISSUE</td>
<td>0.005</td>
<td>0.032</td>
<td>0.016</td>
<td>0.142</td>
<td>-0.010</td>
<td>0.067</td>
<td>-0.009</td>
<td>0.185</td>
<td>0.034</td>
<td>0.048</td>
<td>0.184</td>
<td>0.056</td>
<td>-0.023</td>
<td>0.033</td>
<td></td>
</tr>
</tbody>
</table>

The correlation coefficients that are significant at the 1% level are bolded.
7.3 Regression results

7.3.1 Binary logistic regressions

In order to find the relevant determinants for the demand for audit, two binary logistic regressions are run on the data. The binary logistic regression takes only two dependent variable values, so the observations with ‘Maybe’ answers are omitted from the data. This leaves 548 responses with either ‘Yes’ or ‘No’ answer that can be used in the first binary logistic regression (Model 1). Furthermore, a separate subset of observations is created for the purposes of testing the effect of variables EXIT, EXPANSION and EQUITY_ISSUE (Model 2). A separate subset is needed because the respondents were given a chance to abstain from answering questions regarding future plans (included in the model as the aforementioned three variables) by selecting the ‘I don’t want to answer’ option. Therefore, the subset of observations used in the Model 2 excludes observations in which respondents were not willing to give information on their future plans, leaving 374 useful responses for Model 2.

Table 9 presents the results for the binary logistic regression. The hypothesized positive association between customers demanding audit (CUSTOMERS) and voluntary audit purchase (H1) can be found in both models at the 1% significance level. This contradicts with the findings of Collis (2012), who observed a negative relationship among micro-companies at the 10% significance level. However, in Collis’ paper it was examined if major suppliers and major customers together drive audit adoption, while this finding confirms that customers alone, and without specifying whether they are major customers or not, drive audit demand.

Similarly, as hypothesized, a highly significant ($p < 0.001$) positive relationship between the company perceiving audit as beneficial for taxation matters (TAXATION) and voluntary audit adoption (H2) can be found. This highly significant positive relationship is in line with the hypothesized role of audit as lending credibility (Porter 1990) towards the tax authorities. Also, this backs up the empirical findings of Ojala et al. (2015) indicating
that tax aggressiveness increases the likelihood of a tax adjustment imposed by the tax authorities and that an unqualified audit opinion decreases this effect. It also supports the observation of Ojala et al. (2016) that companies are more likely to engage in audit if they need tax reporting credibility. Therefore, when tested with binary logistic regression models, hypothesis 1 (H1) and hypothesis 2 (H2) can readily be accepted.

With regard to hypotheses 3 (H3) and 4 (H4), the variables EXPANSION and EXIT show no statistical significance in explaining the demand for audit. Therefore, based on the binary logistic regressions, there is insufficient evidence for the association between plans of overseas expansion of company operations (EXPANSION) and voluntarily conducting an audit (H3). Furthermore, planning on selling the company in the future (EXIT) and voluntary audit adoption (H4) show no statistically significant association. This is the case even though the univariate regression model, whose results are shown in Table 7, indicated a highly significant positive association for EXPANSION. Since the GROWTH variable correlates positively with EXPANSION with a coefficient of 0.386, it is tested if removing GROWTH from the model makes EXPANSION significant, but this proves not to be the case.

Six of the ten control variables also show statistical significance in the hypothesized models. Both models have company size as measured by revenue (REVENUE) positively associated with voluntary audit adoption, with model 1 showing such relationship at the 1% significance level and model 2 with a p-value of 0.036. The statistically significant positive association is not a surprise considering the overwhelming evidence for audit demand increasing with revenue (e.g. Collis 2012, Niemi et al. 2012, Tauringana & Clarke 2000). However, the amount of total assets, as depicted by the ASSETS variable, shows no significant association with audit demand. This contradicts with the vast amount of evidence that has proven such association to exist (e.g. Ojala et al. 2016, Carey & Tanewski 2013).

The estimated level of the company’s future growth as reported by the respondent (GROWTH) also shows a positive relationship with willingness to voluntarily purchase an
audit at the 5% significance level. This is consistent with the findings of Ojala et al. (2016), who found that past growth drives voluntary audit adoption. Furthermore, perceiving audit as improving the quality of financial information (QUALITY) can be found to increase voluntary audit demand with high statistical significance (p < 0.01). Also, the hypothesized models show viewing audit as providing a check on internal controls and accounting records (CHECK) to drive voluntary audit adoption, also at the 1% significance level. Similar results on the voluntary audit determinants that are depicted by variables QUALITY and CHECK have also been observed by (Collis et al. 2004) in small UK companies and by Collis (2012) among micro-companies in the UK and by Collis (2010) in small Danish and UK companies. The results in this study confirm a similar relationship existing among Finnish micro-companies.

Table 9: Binary logistic regressions

<table>
<thead>
<tr>
<th>Variable</th>
<th>Predicted</th>
<th>Coefficient</th>
<th>SE</th>
<th>z-Value</th>
<th>p-Value</th>
<th>Coefficient</th>
<th>SE</th>
<th>z-Value</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
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<td>?</td>
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<td>1.242</td>
<td>-7.528</td>
<td>&lt;0.001***</td>
<td>-8.561</td>
<td>1.412</td>
<td>-6.065</td>
<td>&lt;0.001***</td>
</tr>
<tr>
<td>CUSTOMERS</td>
<td>+</td>
<td>0.356</td>
<td>0.121</td>
<td>2.954</td>
<td>0.003***</td>
<td>0.414</td>
<td>0.141</td>
<td>2.940</td>
<td>0.003***</td>
</tr>
<tr>
<td>TAXATION</td>
<td>+</td>
<td>0.788</td>
<td>0.131</td>
<td>5.989</td>
<td>&lt;0.001***</td>
<td>0.769</td>
<td>0.153</td>
<td>5.021</td>
<td>&lt;0.001***</td>
</tr>
<tr>
<td>EXPANSION</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXIT</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.384</td>
<td>0.394</td>
<td>0.976</td>
<td>0.329</td>
</tr>
<tr>
<td>REVENUE</td>
<td>+</td>
<td>0.213</td>
<td>0.080</td>
<td>2.648</td>
<td>0.008***</td>
<td>0.196</td>
<td>0.094</td>
<td>2.097</td>
<td>0.036**</td>
</tr>
<tr>
<td>ASSETS</td>
<td>+</td>
<td>-0.103</td>
<td>0.117</td>
<td>-0.879</td>
<td>0.379</td>
<td>-0.156</td>
<td>0.139</td>
<td>-1.124</td>
<td>0.261</td>
</tr>
<tr>
<td>GROWTH</td>
<td>+</td>
<td>0.370</td>
<td>0.168</td>
<td>2.197</td>
<td>0.028**</td>
<td>0.347</td>
<td>0.206</td>
<td>1.682</td>
<td>0.093*</td>
</tr>
<tr>
<td>QUALITY</td>
<td>+</td>
<td>0.601</td>
<td>0.146</td>
<td>4.116</td>
<td>&lt;0.001***</td>
<td>0.476</td>
<td>0.161</td>
<td>2.955</td>
<td>0.003***</td>
</tr>
<tr>
<td>CHECK</td>
<td>+</td>
<td>1.077</td>
<td>0.182</td>
<td>5.919</td>
<td>&lt;0.001***</td>
<td>0.957</td>
<td>0.212</td>
<td>4.509</td>
<td>&lt;0.001***</td>
</tr>
<tr>
<td>NONAUDIT</td>
<td>+</td>
<td>0.818</td>
<td>0.362</td>
<td>2.260</td>
<td>0.024**</td>
<td>0.952</td>
<td>0.444</td>
<td>2.145</td>
<td>0.032**</td>
</tr>
<tr>
<td>ACCOUNTANT</td>
<td>+</td>
<td>-0.413</td>
<td>0.114</td>
<td>-3.619</td>
<td>&lt;0.001***</td>
<td>-0.377</td>
<td>0.133</td>
<td>-2.829</td>
<td>0.005***</td>
</tr>
<tr>
<td>MANOWN</td>
<td>-</td>
<td>-1.017</td>
<td>0.132</td>
<td>-7.811</td>
<td>0.417</td>
<td>-0.067</td>
<td>0.153</td>
<td>-0.439</td>
<td>0.660</td>
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<tr>
<td>QUALIFIED</td>
<td>-</td>
<td>0.555</td>
<td>0.424</td>
<td>1.308</td>
<td>0.191</td>
<td>0.344</td>
<td>0.472</td>
<td>0.729</td>
<td>0.466</td>
</tr>
<tr>
<td>EQUITY_ISSUE</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.273</td>
<td>0.706</td>
<td>-0.386</td>
<td>0.699</td>
</tr>
</tbody>
</table>

Model summary

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>548</td>
<td>374</td>
</tr>
<tr>
<td>Wald x2</td>
<td>136.45</td>
<td>96.258</td>
</tr>
<tr>
<td>p-Value</td>
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<td>&lt;0.001</td>
</tr>
<tr>
<td>-2 log likelihood</td>
<td>354.89</td>
<td>259.1825</td>
</tr>
<tr>
<td>Pseudo-R2</td>
<td>0.533</td>
<td>0.500</td>
</tr>
</tbody>
</table>

*** signifies p < 0.01, ** signifies p < 0.05 and * signifies p < 0.10.

Consistent with the findings of Dedman et al. (2014) and contradicting to the results of Seow (2001), purchasing non-audit services from the auditor (signified by the variable NONAUDIT) also appears to have a positive relationship with voluntarily opting for audit. The positive association can be found in both models at the 5% significance level.
Interestingly, the control variable ACCOUNTANT, which signifies the extent to which the level of trust of the company on their external accountant affects the decision on voluntary audit adoption, is negative at the 1% significance level in both models. This means that for the non-adopters, the level of trust on their external accountant plays a more significant role in the decision on voluntary audit adoption than for the companies that choose to opt for audit. This could be interpreted so that when companies have an external accountant that they can trust their bookkeeping with, they see the competent accountant acting as a substitute for audit. At the same time, a lack of trust in the accountant does not seem to drive voluntary audit adoption to the same extent.

Managerial ownership as expressed with the MANOWN variable shows a p-value of over 0.1, making it statistically insignificant and not a viable predictor for audit demand in the models that are used. This contradicts the findings of Seow (2001), who finds the number of non-director shareholders driving audit demand. Consistent with the findings of Niemi et al. (2012), company’s relationship with their auditor when it comes to having received a qualified audit opinion (QUALIFIED) bears no relevance to the decision on whether to voluntarily opt for audit either. Lastly, the existence of plans on seeking equity financing in the following 12 months (EQUITY) does not seem to drive audit demand. This stands in contrast with the observations of Dedman et al. (2014) on small UK companies, which showed a positive association between equity issuance and opting for audit.

The logistic regression models as a whole prove to be significant at the 1% level when measured by the Wald’s chi-squared test. Furthermore, -2 log likelihoods of 354.89 for Model 1 and 259.18 for Model 2 show that including the variables relating to future plans increases the explanatory of the model, despite the fact they are statistically insignificant when measured separately. However, similar differences can not be found for the models when comparing the values of the McFadden’s pseudo r-squared for the models. Instead, Model 1 shows a higher pseudo r-squared and can explain 53.3% of the variance in the model whereas the corresponding value for Model 2 is only 50.0%. The difference between the results of two goodness-of-fit measures shows how -2 log likelihood allows for more predictors whereas McFadden’s pseudo r-squared punishes more for the use of additional
7.3.2 Multinomial logistic regressions

In addition to the binary logistic regressions, two multinomial logistic regressions are run on the data. The use of multinomial logistic regression allows for the inclusion of 'Maybe' answers in the model as the regression takes more than one dependent variable values.

Table 10 presents the results on the multinomial logistic regression. In the regression model, the 'No' answers are used a reference group to which 'Yes' and 'Maybe' answers are compared.

Similarly to the binary logistic regression, the hypothesized variable CUSTOMERS (H1) shows significance with both 'Yes' and 'Maybe' answers. The associations are positive as hypothesized and can be found in both models at the 1% significance level. Furthermore, the hypothesized TAXATION variable (H2) can also be found positively associated with the dependent variable value in both models, in alignment with the binary logistic regression results. The highly significant positive association between perceived tax benefits and voluntary audit adoption can be found in both 'Yes' and 'Maybe' answers. The results on CUSTOMERS and TAXATION show that companies that plan on opting for audit or are uncertain about whether to voluntarily purchase an audit are more likely to have greater demand from customers to be audited and see more benefits from audit in taxation matters than companies that choose to opt out of audit.

With regard to the hypothesized variables EXPANSION (H3) and EXIT (H4), company's future plans as measured by these variables seemingly don't have statistical significance. This applies both when comparing 'Yes' answers to 'No' answers as well as in the 'Maybe'/'No' comparison, suggesting that there is no statistically significant difference in future plans depicted by EXPANSION and EXIT among the response groups 'Yes', 'Maybe' and 'No'. The results are in line with the results from the logistic regressions, as they did not show statistical significance for the two variables in each of the two models either.
As with the logistic regression, the control variable REVENUE shows a significant (p < 0.01) positive relationship with opting for audit as well as with being uncertain on whether to voluntary purchase an audit. Moreover, the ASSET variable proves to be insignificant in the 'Yes'/'No' comparison in both models and in the 'Maybe'/'No' comparison in Model 2. However, in Model 1, when comparing the 'Maybe' and 'No' answers, the amount of total assets shows a significant negative association at the 5% level with being uncertain on the decision on whether to opt for audit. This is in stark contrast with the other company size measure, revenue, that has a relationship with voluntary audit demand which is positive at a highly significant level in both binary and multinomial logistic regression.

Also, as with the binary logistic regressions, a highly significant (p < 0.01) positive association with voluntary audit adoption can be found for GROWTH in the 'Yes'/'No' comparison in Model 1. However, in Model 2, similar association is significant only at the 10% level. In the 'Maybe'/'No' comparison, there is no statistically significant association for GROWTH. Similarly to the logistic regression, a highly significant (p<0.01) positive association with voluntary audit can be found for QUALITY and CHECK in the 'Yes'/'No' comparison. Similarly, statistically significant coefficients can be found in the 'Maybe'/'No' comparisons for CHECK but for QUALITY only in Model 2.

Also in line with the binary logistic regressions, the NONAUDIT variable can be found significant in both multinomial logistic regression models, with Model 1 showing high significance for the relationship in the 'Yes'/'No' comparison. As hypothesized, the coefficient carries a positive sign, indicating that the purchase of non-audit services increases the demand for voluntary audit. A significant positive relationship can also be found at the 5% significance level in the 'Maybe' 'No' comparison in Model 1 and in the 'Yes'/'No' comparison in Model 2. However, when comparing uncertain respondents to non-adopters in Model 2, the relationship appears to be insignificant. This supports the observation that can be made of Table 5 and Table 7 indicating that on the whole, the 'Yes'/'No' comparison bears more significance among the variables than the 'Maybe'/'No' comparison.
Table 10: Multinomial logistic regressions

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Predicted</th>
<th>Model 1</th>
<th></th>
<th></th>
<th></th>
<th>Model 2</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Coefficient</td>
<td>SE</td>
<td>z-Value</td>
<td>p-Value</td>
<td>Coefficient</td>
<td>SE</td>
<td>z-Value</td>
</tr>
<tr>
<td>INTERCEPT</td>
<td>'Yes'</td>
<td>?</td>
<td></td>
<td>-0.794</td>
<td>1.055</td>
<td>-0.724</td>
<td>&lt;0.001***</td>
<td>-9.533</td>
<td>1.291</td>
</tr>
<tr>
<td></td>
<td>'Maybe'</td>
<td>?</td>
<td></td>
<td>-4.258</td>
<td>0.774</td>
<td>-5.514</td>
<td>&lt;0.001***</td>
<td>-4.949</td>
<td>0.972</td>
</tr>
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<td>+</td>
<td></td>
<td>0.356</td>
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<td>3.515</td>
<td>&lt;0.001***</td>
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<td>0.130</td>
</tr>
<tr>
<td></td>
<td>'Maybe'</td>
<td>++</td>
<td></td>
<td>0.271</td>
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<td>3.052</td>
<td>0.002***</td>
<td>0.346</td>
<td>0.115</td>
</tr>
<tr>
<td>TAXATION</td>
<td>'Yes'</td>
<td>+</td>
<td></td>
<td>0.710</td>
<td>0.116</td>
<td>6.111</td>
<td>&lt;0.001***</td>
<td>0.799</td>
<td>0.144</td>
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<tr>
<td></td>
<td>'Maybe'</td>
<td>+</td>
<td></td>
<td>0.615</td>
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<td>6.721</td>
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<td>0.113</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>'Maybe'</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>EXIT</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>'Maybe'</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REVENUE</td>
<td>'Yes'</td>
<td>+</td>
<td></td>
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<td>0.001***</td>
<td>0.190</td>
<td>0.071</td>
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<td>-0.441</td>
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<td>'Maybe'</td>
<td>+</td>
<td></td>
<td>-0.205</td>
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<td>0.016**</td>
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<td>GROWTH</td>
<td>'Yes'</td>
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<td>0.401</td>
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<tr>
<td></td>
<td>'Maybe'</td>
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<td></td>
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<td>0.148</td>
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<td>+</td>
<td></td>
<td>0.709</td>
<td>0.142</td>
<td>4.987</td>
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<tr>
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<td>'Maybe'</td>
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<td></td>
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<td>3.875</td>
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<td>+</td>
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<td>0.309</td>
<td>3.288</td>
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<tr>
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<td></td>
<td>0.498</td>
<td>0.366</td>
<td>1.359</td>
<td>0.174</td>
<td>0.071</td>
<td>0.429</td>
</tr>
<tr>
<td></td>
<td>'Maybe'</td>
<td>-</td>
<td></td>
<td>-0.022</td>
<td>0.324</td>
<td>-0.069</td>
<td>0.945</td>
<td>-0.335</td>
<td>0.378</td>
</tr>
<tr>
<td>EQUITY_ISSUE</td>
<td>'Yes'</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.787</td>
<td>0.379</td>
</tr>
<tr>
<td></td>
<td>'Maybe'</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.169</td>
<td>0.461</td>
</tr>
</tbody>
</table>

Model summary

<table>
<thead>
<tr>
<th>n</th>
<th>Likelihood ratio test</th>
<th>p-Value</th>
<th>Pseudo-R2</th>
</tr>
</thead>
<tbody>
<tr>
<td>886</td>
<td>590.93</td>
<td>&lt;0.001</td>
<td>0.263</td>
</tr>
<tr>
<td>588</td>
<td>335.98</td>
<td>&lt;0.001</td>
<td>0.261</td>
</tr>
</tbody>
</table>

*** signifies p < 0.01, ** signifies p < 0.05 and * signifies p < 0.10.

Furthermore, the ACCOUNTANT variable shows statistical significance in the 'Yes'/ 'No' comparison, suggesting a negative relationship with planning on opting for voluntary audit. The negative association can be found at the 1% significance level. However, the ‘Maybe’/ ‘No’ comparison shows no significance for ACCOUNTANT. Also similarly to the binary logistic regression results, the control variables MANOWN, QUALIFIED and EQUITY show no significance in either 'Yes'/'No’ or 'Maybe'/'No' comparisons in each of the two models.

The multinomial logistic regression models as a whole perform relatively well. Using the likelihood ratio test to test for the significance of the two models against the null model, both models show high significance with a p-value below 0.01. Moreover, the McFadden
Pseudo r-squared test performed on both models show that they explain a little over 26% of the variance, making them a little less significant than the binary logistic regression models. When comparing the values from the goodness-of-fit tests for the two multinomial logistic regression models against each other, Model 2 appears to be more efficient in explaining the decision on whether to voluntarily opt for audit.

### 7.4 Tests on the exclusion of control variables

As explained in section 6.1, the model excluded some variables in order to avoid multicollinearity with the hypothesized variables and to be able to focus on the most essential results. One of the excluded variables was LENDERS, which depicts lender demand for audit. The association between lenders and audit has been proven to exist in multiple studies (e.g. Collis et al. 2004, Collis 2010). Therefore, additional tests are conducted to examine if results are altered when the LENDER variable is included in the models.

The results for the tests (untabulated) show no validately different results for the variables. This concerns both hypothesized and control variables. Also, the results remain substantially unchanged when conducting the tests both for binary logistic regression models as well as for multinomial logistic regression models.

### 7.5 Tests on sample adequacy

In order for the results to be generalizable, the sample used in the tests needs to be representative of the whole population. The group of companies that received the survey was derived from a population of 15,449 companies that could be classified as micro-companies which are mandated by the law to purchase an audit based on the information provided by the ORBIS database. Of that sample, a total of 886 responses which could be included in the tests were received. For the purposes of testing for sample adequacy, the size distribution of the full population (15,449 companies) is compared with that of the 886 companies that are included in the sample.

As the information on the number of employees could not be retrieved from the ORBIS
Table 11: Tests on sample adequacy

1. Testing for generalisability of the results with the Kolmogorov–Smirnov test

<table>
<thead>
<tr>
<th>Measure</th>
<th>Statistic</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>0.094</td>
<td>&lt;0.001***</td>
</tr>
<tr>
<td>Total assets</td>
<td>0.028</td>
<td>0.537</td>
</tr>
</tbody>
</table>

2. Testing for non-response bias

<table>
<thead>
<tr>
<th>Days elapsed before answering the survey</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.4</td>
<td>0</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of useful responses received before and after the reminder message</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>632</td>
<td>254</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Useful responses by group</th>
<th>'Yes'</th>
<th>'Maybe'</th>
<th>'No'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early respondents</td>
<td>150</td>
<td>156</td>
<td>137</td>
</tr>
<tr>
<td>Late respondents</td>
<td>131</td>
<td>182</td>
<td>130</td>
</tr>
</tbody>
</table>

database, the size comparison is only made on revenue and total assets of the companies. Even though the survey was returned anonymously and single answers could not be connected to their submitter, it was possible to find out which companies had returned the survey. With this information, the revenue and total assets of the respondent companies were compared to those of the full population.

With regard to revenue, the sample companies show a mean value of 400,670 EUR whereas the full population has an average revenue of 393,700 EUR. The amount of total assets among the two groups of companies is more identical, with the sample companies showing a mean value of 196,220 EUR while the average amount of assets in the full population is 196,500 EUR.

Next, a Kolmogorov-Smirnov test is conducted in order to find whether the differences in the size measures are significant. Table 11 present the results for the test and shows that while the amount of total assets among the sample companies show no significant deviance from the full population, the amount of revenue is significantly higher among the sample companies than it is in the full population. As the revenue proved to be a significant predictor of the demand for voluntary audit, it is likely that the actual audit
adoption rate is lower among the population than the 48.7% which was reported for the sample companies.

In addition, the sample is tested for non-response bias. This means estimating if the answers of those companies that did not return the survey would have differed significantly from the answers that were received. In order to do this, late respondents are used as a proxy for non-respondents. The time it took for a respondent to answer the survey is calculated from the day that the survey was sent. As the survey was sent again to non-respondents two weeks after the initial message, the model takes this into consideration by resetting the days count on the day of sending the reminder message. This means that the amount of days elapsed varies from 0 to 15 instead of 0 to 28 which is the amount of days during which the survey was open for answering.

First, it is tested if the amount of days that it took for the respondent to answer is a significant predictor of the decision on whether to voluntarily opt for audit. This is done with a logistic regression, which has the VOLAUDIT variable as dependent variable and the DAYS variable, indicating days elapsed between receiving and answering the survey, as the sole predictor variable. The regression results (untabulated) show no statistically significant relationship between the two variables, showing insufficient evidence for non-response bias. A similar test is conducted with a multinomial regression which includes 'Maybe' answers, which also fails to detect any significant relationship between response time and voluntarily audit adoption. Based on this measure, there appears to be no significant evidence for non-response bias skewing the results.

Secondly, the responses were divided into two same-sized groups based on time that it took for the response to be received after the survey was sent. Table 11 shows the amount of 'Yes', 'Maybe' and 'No' answers for each group, showing that the amount of 'Yes' answers compared to 'Maybe' and 'No' answers seem to be higher among early respondents. Then, a chi-squared test was conducted (untabulated) in order to find if the differences in the position on voluntary audit adoption among these groups were statistically significant. The results on the chi-squared test show no statistical significance for the differences. Therefore,
there seems to be no statistically significant evidence for non-response bias threatening the validity of the research results.
8 Summary and conclusions

The purpose of this study has been to study Finnish micro-companies’ perceptions towards voluntary audit adoption and find additional determinants for voluntarily opting for audit. It adds to the strain of research on voluntary audit demand of Finnish companies (e.g. Niemi et al. 2012, Ojala et al. 2016), bringing more evidence of the audit markets in the Continental European setting. It is relevant as it is set in the Finnish context where the debate on audit thresholds has recently heated up again (Hellberg-Lindqvist 2018).

In order to understand audit demand, existing theories on auditing were examined. Firstly, theories on audit include the agency theory, which describes the divergence of interest between organizational actors and why shareholders might demand audit (Jensen & Meckling 1976). In addition, another relevant theory for audit demand is the lending credibility theory, which states that the role of audit is to lend credibility to the financial statements, making the financial information a more reliable in the eyes of the stakeholders (Porter 1990).

Furthermore, by examining the institutional setting in Finland, insight into the audit markets was provided. Together with Sweden, Finland has low audit thresholds, making a large portion of Finnish companies subject to mandatory audit (Hellberg-Lindqvist 2018). As a part of the Finnish Government’s pursue to alleviate the administrative burden on companies, a Committee under the Ministry of Economic Affairs and Employment published a memo in January 2018 recommending to extend the audit exemption to all micro companies (Hellberg-Lindqvist 2018). The focus of this thesis has been to study determinants for voluntary audit adoption among companies that, based on their size, are currently mandated to purchase an audit but would be exempted if the proposal were put into effect.

In order to discover additional drivers for voluntary audit adoption, four hypotheses were developed. The first hypothesis proposes that customer demand for audit drives audit adoption. Hypothesis two suggests that perceived tax benefits of audit is positively associated with voluntarily opting for audit. Hypotheses three and four depict that the
demand for voluntary audit is driven by plans on overseas expansion and by the current shareholders’ intentions to sell the company in the future, respectively.

The data was gathered by sending an e-mail survey to 7,719 micro-companies that are currently mandated to purchase an audit in Finland. The survey attained a response rate of 13%, from which 886 useful responses could be included in the analysis.

The results from the examined companies suggest that the first hypothesis (H1) on customers demanding audit should be accepted. The results are in line with the findings of Collis (2012), that voluntary audit adoption among small UK companies is driven by demand from suppliers and customers. The findings of this study suggest that observations that were made in the Anglo-Saxon setting can be found to hold true in Continental European setting as well. In addition, the results indicate that customer demand separately from supplier demand drives audit adoption as Collis only tested the joint impact of the two groups of stakeholders. However, based on the descriptive statistics companies do not, on average, view their customers demanding an audit. Therefore, the results only indicate that the extent to which companies view customers demanding an audit is significantly higher among audit adopters than other companies.

Furthermore, the results on perceived tax benefits driving audit adoption lend support to hypothesis two (H2), showing highly significant positive association between the two factors. The findings support the observation of Ojala et al. (2015) on the moderating effect of an unqualified audit report on the positive association between tax aggressiveness and the likelihood of a tax adjustment and the findings of Ojala et al. (2016) on voluntary audit adoption being driven by a need for tax credibility. Furthermore, the results confirm the close association between taxation and auditing in Finland.

In addition, it was hypothesized that voluntary audit adoption is driven by managements’ plans to expand operations overseas (H3) and plans on selling the company (H4). However, the results indicate that for neither hypothesis can the null hypothesis be rejected.

In addition to the hypothesized variables, the control variables used in the models also
show interesting results. Indeed, the findings indicate that companies that have purchased non-audit services from their auditors are more likely to voluntarily opt for audit. In addition, it seems that the extent to which a company views their external accountant as competent and reliable has more importance on the decision on voluntary audit purchase among non-adopters than with companies that choose to voluntarily opt for audit.

In aggregate, this study contributes to existing literature in several ways. First of all, it shows that customer demand, which has not previously been studied as a separate driver for voluntary audit, affects voluntary audit adoption. Secondly, it confirms the findings of Ojala et al. (2016) that benefits on tax related issues affect voluntary audit adoption. Furthermore, it confirms results that have been attained previously with more recent data. Lastly, it examines two previously unstudied determinants for voluntary audit adoption, namely plans on overseas expansion and intentions to sell the company in the future. However, the results do not find a statistically significant association for the two potential drivers of voluntary audit demand.

The results might be of interest to providers of auditing services as the demand for their services might be affected if more companies become exempted from mandatory audit due to raising of audit thresholds. This study provides insight into the potentially exempted companies’ attitudes towards auditing. As the regulatory obligation to purchase the auditing services might be removed from certain companies, it becomes more important to be aware of the determinants that affect voluntary audit adoption. Furthermore, the results on companies’ willingness to voluntarily purchase an audit might be of use in preparing for the potential shift in audit thresholds among auditors. Lastly, the findings might also be useful for regulators as they are trying to assess the potential effects of extending the audit exemption to all micro-companies.

The results of this study should be interpreted with cautiousness due to several reasons. For one, inherent in virtually all small business research is the low response rate that researchers are able to attain from the study subjects. The low response rate threatens the validity of the research as the study might suffer from response bias (Curran & Blackburn
This research, with a response rate of 13 percent, was not an exemption to this rule. However, when using response time as a proxy for not responding, the sample adequacy tests conducted in section 7.5 fail to detect any non-response bias.

In addition, when interpreting the outcomes of the survey, it should be kept in mind that due to the forward-looking nature of the study, the results indicate intentions, not actions taken by small business managers. This means that the voluntary audit adoption rate that the results indicate might not be representable of the eventual rate in case the proposal of raising the audit thresholds is put into effect. However, there is no reason to believe that the results are skewed in either direction as there should not be any systemic difference between the intentions and the actions of the businesses regarding the purchase of audit.

Furthermore, the data for the study was collected using categorical measures instead of actual information. This meant that for instance, respondents were not asked to provide the exact revenue of the company they represent. Instead, they had to choose from predefined ranges the one in which the company’s revenue belongs to. This was done in order to make it easier for the respondents to answer the questions and also to avoid making the respondents identifiable based on the answers, presumably making them more willing to participate in the study. This approach, however, might have been taken at the expense of the accuracy of the model’s explanatory power.

The results of this study leave a lot of room for future research. For instance, should the shift of audit thresholds be effectuated, future research could look into the actual result of audit demand after the change. This could be done in a similar way that Ojala et al. (2016) studied the three years following the previous raising of audit thresholds in 2007.

Also, while this study is focused on the demand side of audit in the context of potential raising of audit thresholds, valuable information could be produced by examining the supply of audit to companies that might be exempted from mandatory audit. More precisely, it could provide relevant information on the employment and other effects among auditing companies arising from the potential change in the audit regulation.
References


A   English translation of the survey

1. The proportion of the company shares owned by the management is
   * 0 %
   * 1-33%
   * 34-66%
   * 67-99%
   * 100 %

2 Which of the following applies to the company
   * The company is owned by a parent company
   * The company is a manufacturer
   * The proportion of ownership of the largest shareholder is
     at least 25 percent
   * The company has at some point purchased services other
     than statutory audit from their auditor
   * The company has at some point received a qualified audit
     opinion
   * One or two people and their family have a majority of voting
     rights in the company

3. The total assets of the company according to the last financial statements were
   * < 100,000 EUR
   * 100,000 - 199,999 EUR
   * 200,000 - 299,999 EUR
   * 300,000 - 349,999 EUR
   * >= 350,000 EUR

4. The revenue of the company according to the last financial statements were
   * < 200,000 EUR
   * 200,000 - 299,999 EUR
   * 300,000 - 399,999 EUR
   * 400,000 - 499,999 EUR
   * 500,000 - 599,999 EUR
   * 600,000 - 699,999 EUR
   * >= 700,000 EUR

5. In the near future, the operations of the company are expected to
   * grow significantly
   * grow slightly
   * stay constant in size
   * decrease in size
6. Are some of the following part of the company’s future plans
   * The company is going to be sold
   * The company is going to expand its operations overseas
   * The company is going to seek equity financing in the next 12 months
   * I don’t want to answer

7. Which of the following describe best your position in the company
   * head of the company
   * head of finance in the company
   * other

8. Estimate whether the company would purchase an audit even if it wasn’t required by the law
   * The company would purchase an audit
   * The company would not purchase an audit
   * The company might purchase an audit

9. The amount of trust the company has on its external bookkeeper has an effect on whether the company purchases an audit
   * Strongly agree
   * Slightly agree
   * Neither agree nor disagree
   * Slightly disagree
   * Strongly disagree

10. The company receives benefits with regard to taxation from audit (in form of tax advice from the auditor or reduced possibility of tax audit)
    * Strongly agree
    * Slightly agree
    * Neither agree nor disagree
    * Slightly disagree
    * Strongly disagree

11. How much do you agree with the following statements? Financial audit for the company is demanded by
    | Strongly agree | Slightly agree | Neither agree nor disagree | Slightly disagree | Strongly disagree |
    |----------------|----------------|---------------------------|------------------|------------------|
    a. shareholders | *              | *                         | *               | *                |
    b. lenders      | *              | *                         | *               | *                |
    c. suppliers    | *              | *                         | *               | *                |
    d. customers    | *              | *                         | *               | *                |

12. How much do you agree with the following statements? Financial audit (Again on a scale from 'I fully agree' to 'I fully disagree' with the leftmost option being 'I fully agree')
    | Strongly agree | Slightly agree | Neither agree nor disagree | Slightly disagree | Strongly disagree |
    |----------------|----------------|---------------------------|------------------|------------------|
    a. improves the quality of company’s financial information | *              | *                         | *               | *                |
    b. acts as a check on accounting processes and records | *              | *                         | *               | *                |
    c. affects positively the credit rating of the company    | *              | *                         | *               | *                |