Lead Auditors,
their Client Portfolios and Performances

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# Table of Contents

Acknowledgements iii  
Abstract v  
Svensk sammanfattning vi  
Summary 1  
1.1 Introduction 1  
1.1 Background 6  
1.1.1 Lead Auditors 6  
1.1.2 Accounting Firms 8  
1.1.3 Lead Auditors’ Client Portfolios 10  
1.1.4 Audit Quality 14  
1.2 Research Hypotheses and Research Questions 19  
1.2.1 Lead Auditor - Performance 20  
1.2.2 Situation 25  
1.3 Research Design 28  
1.3.1 Data 28  
1.3.2 Operationalisation 29  
1.3.3 Statistical Models 31  
1.4 Results and Conclusions 33  
References 39  
Studies I, II, III and IV 62
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Abstract

This thesis focuses on lead auditors’ differences in terms of client portfolios and performances. First, lead auditors are surveyed and their responses on professional scepticism linked to their performances. Second, survey and archival data are combined to check whether self-control is related to performance. Third, lead auditors’ client portfolios are examined with regard to industry similarity, portfolio dispersion and client grouping. Finally, auditors’ independence is tested in the private firm setting. Overall, the findings indicate that performance is not homogenous across lead auditors in the same (tier) audit firm(s), and that the characteristics of lead auditors and accounting firms are determinants that partly explain the differences.
Svensk sammanfattning

Avhandlingen fokuserar på skillnader i klientportföljer och prestation mellan ansvariga (alternativt påskrivande) revisorer och består av fyra huvudsakliga delar (alternativt studier). I den första delen kopplas mått på professionell skepticism, som bygger på enkätvar från ansvariga revisorer, till prestation. I den andra delen kombineras enkätdata med arkivdata för att undersöka sambandet mellan självkontroll och prestation. I den tredje delen analyseras revisorernas klientportföljer utifrån dimensionerna branschtillhörighet, klientgruppering och portföljspridning. I den sista delen genomförs tester av revisorns oberoende för uppdrag i privata företag. Sammantaget indikerar resultaten att prestation varierar mellan revisorer från samma revisionsbyrå och att egenskaper hos ansvariga revisorer och revisionsbyråer delvis kan förklara dessa skillnader.
Summary

1.1 Introduction

Financial statement audits seek to reduce potential agency problems\(^1\) by providing reasonable assurance about the accuracy of the information provided in financial reports. High quality audits play a crucial role in the proper functioning of the financial market (DeFond and Francis 2005, 5) and in the viability of the auditing profession (IFAC 2009, 6). The importance of delivering high quality audits increased as a result of the accounting scandals at the beginning of the 21\(^{st}\) century (DeFond and Francis, 2005). Given these, the enhancement of audit quality has been one of the main concerns of regulatory bodies and academics. Prior auditing studies have examined the different factors that are important in auditing (see e.g., Defond and Zhang 2014; Knechel et al. 2012; Francis 2011). However, there are still many under-researched or unexplored areas, one of which is the individual auditor (Defond and Zhang 2014; Francis 2011).

Auditors bring their individual characteristics to audit process and audit task (Nelson and Tan 2005, 48) and it is likely that those characteristics affect the quality of audits. The effect arises because auditing is replete with unstructured tasks, where subjective judgment plays a major role (Abdolmohammadi and Wright 1987, 5). Individual auditors work in accounting firms.\(^2\) Accounting firms employ individual auditors, train them and provide them with incentives. The accounting firms are often categorised as professional service firms (PSFs). Three distinctive characteristics that are associated with PFSs are knowledge intensity, low capital intensity and professionalised workforces. The distinctive characteristics of accounting firms make it difficult to determine the quality of service, which also increases the challenges related to the retaining and directing of a skilled workforce (Von Nordenflycht 2010, 160). Accounting firms devise various mechanisms to control the behaviour of lead auditors (Covaleski et al. 1998, 294), although the

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\(^1\) Agency relationship refers to “a contract under which one or more persons (principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent” (Jensen 1976, 308). According to agency theory: “(a) the desires and goals of the principal and agent conflict and (b) it is difficult or expensive for the principal to verify what the agent is actually doing” (Eisenhardt 1989, 58).

\(^2\) In this thesis, the terms accounting firm and audit firms are used interchangeably.
effectiveness of this control is controversial.\textsuperscript{3} Accounting firms may respond to managerial challenges by decentralising decision-making to individual auditors and choosing to guide and nudge, rather than fully control lead auditors (Malhotra et al. 2006). The knowledge intensity basis of accounting firms, combined with the decentralised decision-making system, will in turn intensify the role of individual auditors. Therefore, if we want to understand why audit firms do the things they do, or how they perform the way they do, the dispositions of their individual auditors need to be considered.

In fact, accounting researchers are well aware of the need to investigate different aspects of individual auditors. Behavioural audit research constitutes a major part of the audit literature (see e.g., Trotman et al. 2011; Nelson and Tan 2005; Nelson 2009). For example, the majority of the papers published in Behavioural Research in Accounting (BRIA), focus on individuals (Shields 2007, 9). Moreover, judgement and decision making\textsuperscript{4} research has been an important research paradigm, constituting 5,745 papers between 1970 and 2009 in four major journals (Trotman et al. 2011, 278-280). Although experimental research on auditors’ attributes has a long and enduring tradition in auditing research, very little archival research has been conducted in the past two decades (Francis 2011, p. 134). Experimental research usually has a higher level of precision in terms of control and measurement than other research strategies, but does not always have a high degree of generalisability (McGrath 1981, 183). In other words, the results from experimental research cannot be generalised, because samples are often limited to a small number of individuals. Moreover, experimental research is conducted in a deliberately contrived and controlled setting which lacks existential realism (ibid., 185). This indicates that other factors in non-laboratory settings could affect the results, which is often the case in an auditing context. Audit scholars have been always interested in conducting archival research on individual auditors, although one of the main problems with this is the availability of data on individual auditors. There are two

\textsuperscript{3} Effectiveness control is controversial for at least two reasons: First, it is not feasible for audit firms to completely standardise or control audit outcomes, because the quality of the outcome is difficult to measure. For instance, analytical works suggest that free riding cannot be eliminated in accounting firms (Holmstrom 1982). Second, such controls could create tension between firms and individuals due to the fact that individual auditors are skillful and have considerable bargaining powers (Von Nordenflycht 2010).

\textsuperscript{4} Auditing is full of unstructured tasks, where subjective judgement plays a major role (Abdolmohammadi and Wright, 1987, p. 5).
reasons for this. First, in many countries the name of the firm appears on the audit report, rather than the individual who has conducted the audit. Second, even when individual auditors can be identified, information about their characteristics is limited.

Archival research often focuses on the lead auditor\(^5\) who conducts the audit. The prior research for instance examine whether lead auditors’ attributes, such as busyness (e.g., Goodwin and Wu 2016), industry expertise (e.g., Hsieh and Lin 2015), experience (e.g. Ernstberger et al. 2015), network (e.g., Bianchi et al. 2016), academic background (Ernstberger et al. 2016), gender (e.g., Ittonen et al. 2013), time-invariant fixed effect (e.g., Aobdia et al. 2015) and risk attitude (Amir et al. 2014) are predictive of performance. While this research provides some insights into the role of individuals in the auditing context, we still know very little about lead auditors. As a result, recent research has called for more research on lead auditors (e.g., Defond and Zhang 2014, 304).\(^6\) This thesis responds to these calls by providing further evidence of lead auditors’ differences. In particular, the thesis focuses on lead auditors’ scepticism, self-control, and client-portfolios.

This thesis consists of four studies. Study I links lead auditors’ survey responses on professional scepticism to their compensation and reporting. The findings suggest that the level of professional scepticism is positively associated with auditors’ income in Big 4 audit firms, while no such association is found for non-Big 4 auditors. This result indicates that professional scepticism is more likely to be valued in the Big 4 accounting firms. Furthermore, only the non-Big 4 lead auditors’ scepticism is associated with auditor reporting. In other words, unlike that of non-Big 4 lead auditors, the ability of Big 4 lead auditors to affect audit quality does not necessarily reflect their sceptical trait.

Study II takes the first non-laboratory step towards understanding the role of a central personality trait – self-control – in the auditing context. Survey and archival data have been examined to determine whether and how the level of self-control of individual auditors is related to audit quality, generated audit revenue and

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\(^5\) Lead auditors are individual auditors who are responsible for the direction, supervision and performance of an audit team (ISA 220.15).

\(^6\) In their review of archival auditing research, DeFond and Zhang (2014) “encourage future research to consider additional individual auditor characteristics, such as professional skepticism, personality traits, gender, the complex audit team interactions, and the socio-economic characteristics.” (p. 304).
compensation. The empirical evidence suggests that self-control is only predictive of audit quality for Big 4 auditors, implying that lead auditors in these firms perceive audit quality as a desired outcome. In addition, it is observed that the ‘generated audit revenue’ of Big 4 auditors mediates the association between self-control and compensation, meaning that the market (both intra and extra firm) rewards highly self-controlled Big 4 auditors by assigning them more resources (audit revenue).

Study III suggests research designs that could enable future researchers to study the audit offices’ allocation of lead auditors across clients. It is observed that the majority of lead auditors are active in many industries. In addition, the results show that a lead auditor’s client portfolio dispersion is negatively related to earnings quality. Finally, in the nontrivial number of offices, the client portfolios of the lead auditor are grouped according to client size, rather than other clients’ characteristics, and that the extent of the sorting varies considerably across audit firms and offices.

Study IV sheds light on the issue of auditor independence in the private firm setting. Prior research (e.g. Hope and Langli 2010) finds no evidence to suggest that auditors compromise their independence through fee (or non-audit fee) dependence in the private firms market. The study investigates whether auditors slant their decisions when auditor switching takes place (or is perceived to be taking place). The results indicate that private firms successfully engage in audit opinion shopping. Furthermore, the evidence shows that auditor switches are predictive of a reduction in earnings quality. These findings, in contrast to prior research, imply that auditors compromise their independence in the private firm setting.

The thesis offers contribution to the field of auditing in multiple ways. First, it contributes to the literature on individual auditors’ traits by linking professional scepticism and self-control to the archival auditing and accounting data. The combination of survey and archival data in this thesis responds to the recent calls to bridge the gap between behavioural and archival research in accounting and auditing (Kachelmeier 2010). Second, it takes up the suggestion of prior research (DeFond and Zhang 2014) to investigate why audit quality varies between Big 4 and non-Big 4 audit firms by reporting that accounting firms’ strategies of valuing and controlling traits differ among audit firms. Third, it paves the way for future research at the individual auditor level by introducing some models that can be used
to study lead auditors’ client portfolios. Forth, it juxtaposes research on audit offices in that it goes some way towards increasing our knowledge about the allocation of human resources in audit offices. Finally, the findings are relevant to regulators, audit quality oversight bodies and audit firms in their allocation of quality control resources and in their recruitment and client assignment decisions.

The remainder of the chapter is organised as follows. Section 1.2 presents the background, section 1.3 includes the research hypotheses, and section 1.4 describes the data and methodology. Section 1.5 present the results and concludes the paper.
1.1 Background

1.1.1 Lead Auditors

Unlike that of archival research, the study of individual auditors has a long tradition in behavioural auditing research (Nelson and Tan 2005). One line of this research focuses on expertise, experience and knowledge. Research on auditing expertise is important because it sheds light on two factors: auditors’ transition from novice to expert and how and why some auditors perform better than others. Earlier research on auditor expertise has focused on the differences between auditors and students. For instance, Ashton and Kramer (1980) document the dissimilarities between students and auditors in terms of consistency, and Messier (1983) report differences between students and auditors. It would appear that the choice of task and participant affects the findings of this research (Abdolmohammadi and Wright 1997). As the research on auditors’ expertise continues, the next move is to investigate the interaction between knowledge and task. In addition, some behavioural auditing research relies on a psychometric approach and identifies several types of knowledge that are important in auditing. At the beginning of the 1990s, behavioural auditing research focused more on industry expertise than task-specific knowledge and sub-specialty knowledge (Bonner and Lewis 1990). This research provides evidence that industry specific knowledge improves the quality of audits (e.g. Bedard and Biggs 1991). Up to 1997, research on auditor expertise was either experimental or relied on surveys. In the mid-1990s, Tan and Libby (1997) combined psychometric measures with filed data to demonstrate the effect of expertise in the field.

Another area of behavioural research on individual auditors studies the effect of individual or cognitive attributes and performances. This area of research usually uses two kinds of proxies for performance: audit quality-related performance and auditors’ employment-related performance. Research on audit quality-related proxies was popular in the 1970s, declined in the 1980s and became popular again in the 1990s (see Libby 1981; Ho and Waymond 1993). For instance, Bonner and Lewis (1990) find that the ability to solve problems is predictive of performance and Hyatt and Prawitt (2001) find a link between auditors’ locos of control and accounting firms’ audit structures. However, studying the effect of individual
characteristics on auditors’ careers became popular after the 1970s. For instance, Harrel et al. (1986) studies the effect of organisational and professional commitment on job satisfaction, while Choo (1986) examines the effect of personality on job stress (Nelson and Tan 2005). In their review of the literature, Nelson and Tan (2005) point to four principles that should be taken into account when studying individual auditors’ characteristics. These are that: (1) the characteristics should be relevant to auditing, (2) there should be a strong theoretical foundation to the effect of the given characteristics, (3) the instrument should be reliable and valid and (4) individual characteristics should be easily captured (Nelson and Tan 2005, 50).

Behavioural research on individual auditors is not limited to the above-mentioned streams. In fact, an impressive body of behavioural auditing research investigates the different aspects of individual auditors and how these affect performance. For instance, prior research finds that auditors vary in terms of assessing probabilities (Schultz and Reckers 1981), evaluating control risk (Reimers 1992), committing biases (Shelton 1999), giving disclosure recommendations (Schultz and Reckers 1981) and negotiation skills (Brown and Johnstone 2004). Furthermore, studies show that auditors are susceptible to bias (Hackenbrack 1992) and that their objectivity and self-control may decline (Bazerman et al. 1997 and 2006; Hurley 2016).

As already noted, the majority of these studies use experimental research and very few archival studies have been conducted in this area. Archival research often focuses on the lead auditors who conducts the audit. Lead auditors are individual auditors who are responsible for the direction, supervision and performance of an audit team (ISA 220.15). Borrowing from team leadership theory, it is possible to assume that lead auditors affect performance by means of two mechanisms: i) a lead auditor’s own behaviour and ii) a lead auditor’s influence on the audit team. It is fair to assume that both these mechanisms depend to some extent on the characteristics of lead auditors.

7 In this thesis, the terms ‘lead auditor’, ‘signing partner’, ‘engagement partner’ and ‘auditor-in-charge’ are used interchangeably to refer to the individual auditor who leads the audit team and signs the audit report.
8 Team leadership theory predicts the extent to which a team leader can affect the team’s performance. According to this theory, “there are two mechanisms through which individual traits affect […] outcomes. The first involves actual behaviors that result as a function of the leader’s traits. […]. The second mechanism through which leader’s traits might impact […] outcomes] is not through actual behavior but rather how followers attribute and identify with the leader’s traits” (DeRue et al. 2011, 20).
Archival research uses a variety of sources to determine the roles played by individual auditors. For example, some research provides evidence of lead auditor’s heterogeneity using fixed effect models (e.g. Cameran et al. 2016; Aobdia et al. 2015; Gul et al. 2013). This line of research claims that there is a huge heterogeneity among lead auditors. Moreover, some research at the individual auditor level targets issues such as lead auditor’s compensation (Knechel et al. 2013), identity (Knechel et al. 2015) and disciplinary sanctions (Sundgren and Svanström 2016). Concerning experimental research, another interesting area for archival research to investigate is the effect of lead auditors’ cognitive characteristics and expertise. However, due to the availability of data, this line of research is severely limited. Two examples of this research are lead auditors’ risk preferences and expertise. For instance, Amir et al. (2014) create a proxy for auditors’ riskiness using criminal records and link it to lead auditors’ client portfolio characteristics. Ernstberger et al. (2015) investigates the importance of technical knowledge and managerial knowledge for the quality of audits. Study I and Study II are examples of this line of research, in that they focus on the traits of scepticism and self-control.

Some archival auditing research approaches the problem of data availability by creating proxies using lead auditors’ client portfolios. For instance, Carey and Simnett (2006) use the auditor’s client specific tenure and link it to audit quality proxies. Other researchers link client portfolio characteristics such as industry specialisation (e.g. Goodwin and Wu 2014) or number of assignments (e.g. Sundgren and Svanstrom 2014; Goodwin and Wu 2016) to the audit quality proxies. Study III and Study IV in this thesis are also examples of this line of research. Study III introduces three proxies (industry similarity, specialisation, and grouping) in connection with lead auditors’ client portfolios in order to increase our knowledge about the allocation process of lead auditors to clients. Study IV uses lead auditor client switches to test for auditor independence.

1.1.2 Accounting Firms

As already indicated, accounting firms are classic professional service firms (PSFs) (Von Nordenflycht 2010, 165). Three distinctive characteristics associated with PFSs are knowledge intensity, low capital intensity and professional workforces: “Knowledge intensity is the most fundamental distinctive characteristic
of PSFs”, implying that the “production of a firm’s output relies on a substantial body of complex knowledge” (p. 159). Knowledge intensity gives rise to two managerial challenges, namely opaque quality and cat herding (retention and direction difficulties) (p. 160). Opaque quality “refers to situations where the quality of an expert’s output is hard for nonexperts [] to evaluate, even after the output is produced and delivered” (p. 161). Cat herding refers to retaining and directing a skilled workforce. For instance, highly skilled professionals have a high level of bargaining power and a strong preference for autonomy. Another aspect of PSFs is low capital intensity, which acknowledges the fact that a firm’s production does not involve significant amounts of non-human assets. Professional workforce is the third characteristic that may create a need to allow more autonomy inside a PSF. In particular, classic PFSs such as accounting firms may display a more extensive usage of autonomy (p.167): “Special manifestation of autonomy may include greater decentralization of decision making to employees” (p.161). In addition, information asymmetry between professionals and their supervisors may create the need for autonomy as an “organizational response to the decentralized nature of information held by professionals” (Zardkoohi et al. 2011, 181).

Accounting firms have received significant attention in the auditing literature (Almer et al. 2005). For example, researchers have investigated the large firm-small firm dichotomy (e.g. Lawrence et al. 2011), audit firms’ industry knowledge (e.g. Francis and Yu 2009; Reichelt and Wang 2010) and the engagement-specific characteristics of accounting firms (e.g. Carey and Simnett 2006; Lim and Tan, 2010). When it comes to engagement-specific characteristics, regulators and researchers suggest that long tenure audits can reduce audit quality (e.g. United States Senate 1976, 21; Shokkley 1981, 789) due to the overfamiliarity effect (e.g. Carey and Simnett 2006), close personal relationships (e.g. Whittington et al. 1995) and/or fee dependence (e.g. Hoyle 1978). Alternatively, longer audit firm tenure can improve audit quality (e.g. Myers et al. 2003) due to the learning effect (e.g. DeAngelo 1981). On the other hand, shorter audit firm tenures can reduce audit quality (e.g. Geiger and Raghunandan 2002) and increase audit failure (e.g. Carcello and Nagy 2004).
In spite of numerous studies conducted at the accounting firm level, knowledge continues to be limited due to the (non-)availability of data (Francis 2011, 138). First, apart from a narrow field study stream that could go further towards an understanding of audit firms (e.g. Anderson-Gough et al. 2005; Dirsmith 1994 Dirsmith and Cavaleski 1985), most research has been unable to probe the black box of the accounting firm’s organisation. Study III in this thesis seeks to increase our knowledge about the black box of accounting firms by providing evidence of the allocation of human resources in these firms. Second, the effect of individual auditors’ characteristics on audit quality is an unexplored area. Studies I, II and III provide more knowledge about this issue by investigating whether the effect of auditors’ scepticism and self-control on performance is conditional on accounting firm type (Big 4 vs. non-Big 4) or not. In addition, Study III describes the differences in how accounting firms allocate lead auditors to clients.

1.1.3 Lead Auditors’ Client Portfolios

As discussed previously, archival auditing research at the individual auditor level often creates research proxies (for both dependent and independent variables) using lead auditors’ client portfolios.

A lead auditor’s client portfolio is the product of the ‘client acceptance and continuation process’ (CACP). The CACP usually starts with ‘practice development’, the objective of which is to cultivate potential clients (Asare et al. 1994). The ‘practice development’ process is followed by the ‘client acceptance analysis’, in which an auditor performs a series of procedures to evaluate whether he or she wants to submit a proposal to a client or stop the process. If an auditor makes such a proposal to a client, and the client agrees to the offer, the auditor can start to perform the audit (Asare et al. 1994; Johnston and Bedard 2010). The final stage in the CACP is the continuation analysis, in which an auditor decides whether to continue with the current client or not (Asare et al. 1994). Decisions about client acceptance or continuation involve a number of criteria (Simunic 1980; Johnstone and Bedard 2003). More importantly, a decision depends on the professional judgement of the involved parties, such as the lead auditor, risk manager and office manager (Asare et al. 1994; Ayers and Kaplan 2003; Johnstone and Bedard 2003; Klersey and Roberts 2010). The engagement partner can be paired with a current
client at any stage of the CACP. A number of parties are involved in the formation of any lead auditor-client pair, each of which have their own unique incentives and limitations. Therefore, a given lead auditor’s client portfolio is often the result of a number of these factors.

Both the audit firm and lead auditor have an incentive to influence the lead auditor-client pairing decision for a variety of reasons. First, the lead auditor-client pairing (PCP) may affect lead auditor-client compatibility. If there is a strong compatibility between the lead auditor and client, the quality and efficiency of audit may be enhanced (Brown and Knechel 2016). Compatibility improves audit quality because of the potential client-specific knowledge (e.g. Beck and Wu 2006; Brown and Knechel 2015). Compatibility may also affect efficiency, for example by a reduction in the lead auditor’s labour costs (Hackenbrack and Knechel 1997; Brown and Knechel 2015). In fact, the auditing standards specify that for each engagement, the expertise and capabilities of the lead auditor should be matched with the client’s needs. In view of this, it is hardly surprising that some previous research models the audit-staffing problem as an optimisation model with the goal of minimising the mismatch between lead auditor and task (e.g. Balachandran and Zoltners 1981; Chan and Dodin 1986; Dodin and Elimam 1997).

In similar vein, PCP is related to audit risk (Simunic and Stein 1990; Hollingsworth 2012). Ideally, any lead auditor-client pairing decision should take the lead auditor’s client portfolio risk into account. For instance, some accounting firms review lead auditors’ client portfolios in order to evaluate an individual auditor’s risk management (Hollingsworth 2012). Second, the lead auditor-client pairing may affect the lead auditor’s workload and can be related to dysfunctional behaviour and lower audit quality (Lopez and Peters 2012). For each engagement, both the lead auditor and the audit firm should ensure that the lead auditor has sufficient time in which to manage the portfolio. In practice, lead auditors’ client portfolios are reviewed at least annually (e.g. KPMG 2014).

PCP can affect lead auditors’ independence in two opposite directions. First, client importance could be detrimental to audit quality. To clarify, let us assume that an audit firm assigns an important and profitable client to a lead auditor whose client portfolio consists of small and unprofitable companies. This may increase the
probability of the lead auditor compromising his/her independence for the economically important client (Chi et al. 2012). Second, assigning a large client portfolio to a given lead auditor may improve his/her independence due to the greater potential loss if the lead auditor is caught cheating (Goodwin and Wu 2016; DeAngelo 1981, 191-92).

The PCP can also play a key role in developing a lead auditor’s expertise and specialisation. As partners learn from their clients (Westermann et al. 2015), a lead auditor should be matched with a client that allows him/her to develop knowledge in the area in which an office or a lead auditor seeks to position him/herself (Lowendahl et al. 2001). All lead auditors in accounting firms do not have the same level of expertise. Assigning appropriate clients to junior lead auditors helps them to improve their expertise and confidence. In fact, the role of the client portfolio as a tool for knowledge development is articulated in the literature (e.g. Fosstenlokken et al. 2003; Bednarek et al. 2016). Furthermore, a diverse client portfolio that poses greater coordination and managerial challenges (Bednark et al. 2016) offers a greater opportunity for a lead auditor to improve his/her managerial skills (Abdolmohammadi et al. 2004).

The PCP can also be used as a signalling tool, both for the lead auditor and the firm. For instance, pairing a large company in a lead auditor’s client portfolio may signal his/her expertise to the market. Besides, matching might benefit the lead auditor if s/he wants to self-select to particular clients. Prior research (e.g. Knehcel et al. 2013; Sundgren and Svanström 2015) shows that a lead auditor’s portfolio characteristics (e.g. total client-portfolio size) determine the lead auditor’s compensation. Thus, it is fair to assume that lead auditors are willing to audit larger clients, and to do so their expertise is an important factor (e.g. Craswell et al. 1995).

Given the above, it can be expected that audit firms and lead auditors engage in a purposeful auditor in lead auditor pairing. In addition, as lead auditors’ client portfolios are the consequence of prior lead auditor-client pairings, it is predicted that lead auditors’ client portfolios will differ from each other if there has been a systematic allocation of lead auditors to the clients. In other words, we would expect to observe heterogeneity in the clients’ portfolios. However, it is fair to
suggest that lead auditors’ client portfolios may differ across audit firms and audit practice offices.

The process of the PCP may differ across accounting firms for a variety of reasons. First, accounting firms’ decision-making approaches may differ. Accounting firms use two different approaches for decision-making: the mechanistic and the organic (Dirsmith and McAllister 1982). In the mechanistic approach, the emphasis is on the standardisation and following of procedures, whereas in the organic approach, the focus is on flexibility and adaptation. Prior research shows that in the client acceptance and continuation process, accounting firms usually follow the organic approach (Gendron 2001) but that their emphases on the organic approach differ (e.g. Huss and Jacobs 1991; Asare et al. 1994; Gendron 2001). Second, accounting firms differ in the degree of emphasis they give to the profitability of an engagement (Gendron 2001; Knechel et al. 2013). The extent of focus on profitability may lead to different types of client portfolio.

The process of PCP can differ between the offices of a given accounting firm due to the semi-autonomous nature of audit offices (Bell et al. 2002; Johnstone and Bedard 2003; Bedard and Johnstone 2004) and the limitations of resources and capacity in offices (e.g. Summers 1972). Traditionally, auditing research has mainly focused on audit firms and assumed that there are no major differences between audit offices and individuals. Audit firms implement rules and regulations and develop compensation systems to guarantee that individuals meet the firm’s objectives. However, audit firms policies usually flow downward to audit offices and engagement level that possess more intimate and negotiated levels at which they are interpreted and implemented by the lead auditors. Thus, it is difficult for audit firms to fully control the work that is carried out in the audit offices due to the lead auditor’s autonomy and subjective judgement. In fact, it could be said that audit firms “have decentralized organizations and operate through a network of local practice offices which have considerable autonomy with respect to contracting with clients and administering audit engagements on the behalf of the firm” (Francis et al. 2013, 1628)9. Other important issues that contribute to the differences in audit

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9 The semi-autonomous nature of audit offices can be likened to what is referred to as “inhabited institutions” in organisational literature (e.g. Hallett and Ventresca 2006b; Hallett 2010). The theory of inhabited institutions posits that actors who inhabit or operate within institutions modify the logic or rules that have been imposed by the institution.
offices’ PCP are the availability of resources (the available lead auditor, expertise etc.) and the type of client. First, prior research shows that compared to larger offices, smaller offices have a lower level of in-house expertise (Francis et al. 2013). The limited level of in-house expertise enhances problems in the lead auditor-client pairing. Audit office constraints in to the extent that the mathematical formulation of the lead auditor-client pairing may require several hundred constraints (Vairaktarakis 2003, 719). Second, the type of client may differ across offices (Summers 1972; Schipper and Vincent 2003). For instance, offices with clients requiring higher audit quality may choose to assign lead auditors differently than offices that do not. Therefore, the heterogeneity of resource and clients across offices may result in different preferences and limitations in the lead auditor-client pairing.

To summarise, the discussion in this section assumes that there are empirical differences in the lead auditor-client pairing across accounting firms due to the differences in their decision-making approaches, and the emphasis given to the engagement’s profitability. Furthermore, in a given accounting firm, the lead auditor-client pairing may be different across audit practice offices due to the semi-autonomous nature of audit offices and differences in the availability of resources.

1.1.4 Audit Quality

Before discussing the notion of audit quality, it is worth outlining the concept of quality. In their literature review, Reeves and Bednar (1994) identify several definitions for quality. These include: (1) quality as excellence, which has its roots in the writings of the Greek philosophers, and maintains that quality is the highest form of all (Reeves and Bednar 1994, 420), (2) quality as value, which originated in the mid-1700s when businesses started to target a broad range of markets for their goods. This view defines quality in terms of the value it brings to the consumer (Reeves and Bednar 1994, 420-421). (3) quality as conforming to specifications, which originated when businesses start to mass produce goods. This view defines quality in terms of meeting predetermined standards (Reeves and Bednar 1994, 422-

Arguably, the auditing that is carried out by each audit firm is a ‘loosely coupled system’. Loose coupling is “defined as individual components interrelated, in some way, but at the same time retaining independence from one another” (Hallett, 2010). Loose coupling could therefore be used to describe the semi-autonomous nature of audit offices.
423), and (4) quality as “the extent to which a product or service meets and/or exceeds a customer’s expectations. This definition of quality is used most (ibid., 423).

For audit quality, there is “no single agreed definition” (Financial Reporting Council 2006, 16). Audit quality can be defined in terms of the audit service’s excellence - the highest good that the service can reach. For example, Titman and Trueman (1986) define audit quality in terms of “the accuracy of the information [an auditor] supplies to investors” (ibid., 160). Wallace (1980; 2004) views audit quality as a measure of an auditor’s ability to reduce noise and bias and improve the finesse of accounting data. Chaney (2003) defines audit quality as “the likelihood of issuing the correct opinion on the financial statements of a given client” (ibid., 488). Unlike the excellence version of audit quality, the value-based definition regards quality as something that must be judged by the market, relative to its price. In line with this point of view, Buuren (2009) defines audit quality as the high value relevance of audited financial reports (p. 2). Audit quality is also defined as a quality of conformance, which is how well the audit conforms to established accounting and auditing standards. For example, Watkins et al. (2004) considers audit quality as the “degree to which the audit conforms to applicable auditing standards” (ibid., 153). Similarly, Francis (2011) asserts that “audit quality is achieved by the issuance of the ‘appropriate’ audit report on the client’s compliance with generally accepted accounting principles” (p. 127). The audit literature also defines audit quality as the extent to which audit services meet and/or exceed stakeholders’ expectations. For example, DeAngelo (1981) defines audit quality as “the market-assessed joint probability” that a given auditor will both discover (refers to competence) and report (refers to independence) an error in the client’s financial reports (p. 186). While this definition seems comprehensive, it is problematic in the sense that the aspect of probability in the definition is unobserved and difficult to measure (Krishnan and Schauer 2000, 11).

There is also a binary view of audit quality. In this perspective, audit quality is seen as a “dichotomy of either ‘audit failure’ or ‘no audit failure’” (Francis 2011, 127). An audit failure occurs when an auditor does not enforce generally accepted accounting principles (GAAP failure), or when an auditor incorrectly issues a clean
audit report (audit report failure). In both cases, the client’s financial statements are distorted and potentially misleading to users (Francis 2004, 346). In this binary definition, audit quality “is inversely related to audit failure, the higher the audit failure rate, the lower the quality of auditing” (ibid., 346). Although audit research shows that “there are relatively few demonstrable audit failures” (ibid., 127) and that only finding a few audit failures does not necessarily mean that the actual number of audit failures is few (ibid., 127). Audit failure cases are difficult to determine and can only be inferred from sources such as auditor litigation, business failures and earnings restatements, all of which take time to track. Due to the limitation of resources and capital, it is possible that many cases of audit failure remain unidentified. In short, the binary view of audit quality has two main limitations, which are that all audit failure cases cannot be identified and, as the identifiable audit failure rate is low, generalisations are not possible.

The legal view of audit quality is based on either/or thinking that is incapable of comprehending the intricacies of audit quality. Thus, “audit quality is more likely a continuum that can range from very low quality […] to very high quality” (ibid., 129). Regarding audit quality as a continuum helps to increase our understating about audit quality in the 99+ per cent of audits that are discerned as non-audit failures (ibid., 129). Two main products of the audit process are the audit report and clients’ financial statements. Although the audit report can be useful in some cases, the financial statement helps us to create more powerful research designs, in that all companies have financial statements with variation in earnings quality, while the majority of audit reports are standard clean reports that are unable to explain the wide variation in audit quality (ibid., 129).

Finally, audit quality can be specifically defined for each research purpose. For example, Elitzur and Falk (1996) define audit quality as “the amount of standardized units of audit evidence gathered by the independent auditor” (p. 250). Moreover, Reichelt and Wang (2010) define audit quality as “clients’ earnings quality and the propensity to issue a going-concern opinion” (p. 651). Alternatively, Beck and Wu (2006) define audit quality “to be the precision of the auditor’s posterior beliefs about the client’s earnings” (p. 7).
To summarise so far, prior research provides many definitions of audit quality, such as “the accuracy of the information [auditor] supplies to investors” (Titman and Trueman 1986); the auditor’s ability to reduce noise and bias and improve the finesse of accounting data (Wallace 1980); “the likelihood of issuing the correct opinion on the financial statements of a given client” (Chaney 2003, 488); a high value relevance of audited financial reports (Buuren 2009, 2); “degree to which the audit conforms to applicable auditing standards” (Watkins et al. 2004, 153); “the issuance of the ‘appropriate’ audit report on the client’s compliance with generally accepted accounting principles” (Francis 2011, 127); “the market-assessed joint probability” that a given auditor will both discover (refers to competence) and report (refers to independence) an error in the client’s financial reports (DeAngelo 1981, 186).

As already noted, there is no consensus among researchers on the definition of audit quality. In addition, due to the knowledge intensive nature of accounting firms, the quality of audits is unobservable. The difficulty in defining quality combined with the difficulty of measuring audit quality creates challenges for auditing researchers aiming to investigate the quality of audits using archival data. The majority of prior research uses the auditor’s client characteristics to create a proxy for audit quality. For instance, researchers use the following proxies: earnings quality (see Dechow et al. 2010 for a review), modified audit opinion (e.g. Chang et al. 2005; Chen et al. 2010), going concern accuracy\(^\text{10}\) (e.g. Francis and Krishnan 1999; Lennox 1999; Weber and Willenborg 2003) and fraud frequencies (e.g. Farber 2005; Dechow et al. 1996). There are also some attempts to measure the quality of audits more directly, e.g. using the actual performance evaluation (Tan and Libby 1997), disciplinary sanctions (Sundgren and Svanström 2016), PCAOB Inspections (DeFond and Lennox 2015), or peer reviews (for a review, see Löhlein 2016).

It could be argued that audit quality proxies suffer from measurement error. For instance, in the case of earnings quality, prior research usually uses earnings quality proxies for financial reporting quality. Financial reports are shaped by “a joint

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\(^{10}\) Auditors can issue a going concern opinion if he or she thinks that the entity will go bankrupt in the near future (usually within a year). Auditors can commit two types of error when it comes to the going concern opinion: Type I and Type II. The Type I error occurs when a going concern opinion is issued for companies that do not enter into bankruptcy in the subsequent year. Type II errors occur when an auditor does not issue a going concern opinion and the company goes bankrupt in the subsequent year.
product of client management and auditor actions” (Carver et al. 2011, 37), which suggests that audit quality and quality of financial reporting are positively related. Auditing research usually uses earnings quality as a proxy for audit quality. The quality of reported earnings is a function of both the firm’s financial performance and errors induced by the accounting systems (Dechow et al. 2010, 5). Also, the firm’s financial performance depends on a variety of factors, such as the operating cycle and business condition. Therefore, the proxy is noisy, because it does not exclusively capture the error induced in the accounting system (Dechow et al. 2010, 5-6). A similar line of argument is used for other commonly used proxies. For instance, the modified audit opinion is a function of a firm’s performance, and administration and accounting systems.\(^\text{11}\)

It has been argued that going concern is “a very direct measure of audit quality because the audit opinion is the auditor’s responsibility and directly under his or her influence of control” (DeFond and Zhang 2014, 287). Although such an argument might be valid for Type II errors (not issuing prior going concern opinions for bankrupt companies), the line of argument for a Type I error (issuing a going concern opinion for companies that do not enter into bankruptcy in the subsequent year) is somewhat sketchy. In other words, arguing that a higher quality auditor has a lower level of Type I error might not hold for some auditors. Take the case of professional scepticism. While we expect auditors with a higher level of scepticism to be less prone to Type II errors, predictions about Type I errors can go both sided.

In spite of the arguments against audit quality proxies\(^\text{12}\), researchers continue to use them. For instance, researchers use earning quality metrics as a proxy for audit quality because the evidence suggests that audit quality is linked to earnings quality proxies (e.g., Nelson et al. 2002; Caramanis and Lennox 2008). For example, Nelson et al. (2002) show that managers attempt earning management and that

\(^{11}\) Auditors can issue modified audit opinions for several reasons. First, a modified audit opinion can be issued for a performance-related issue. For example, if there is any uncertainty about the continuation of an entity, an auditor can issue a modified audit opinion. Second, the modified audit opinion can be issued due to errors in the administration system. For instance, in some countries auditors can issue modified audit opinions if taxes have not been paid in time.

\(^{12}\) Among earnings quality measures, discretionary accruals models are the most widely used proxies for measuring audit quality. Discretionary accruals reflect managers’ judgement and are more subjective than other components of financial statements (Francis and Krishnan 1999, 135). These accruals often contain three elements: managers’ aggressive and opportunistic reporting attempts, managers’ signaling attempts (Healy and Palepu, 1993) and random noises (Guay et al. 1996). Some of the widely used discretionary accrual models are Jones’ model (Jones 1991), modified Jones’ model (Dechow et al. 1995), Dechow and Dichev approach (2002) and performance adjusted method (Kothari et al. 2005).
auditors require them to adjust for it. In addition, Caramanis and Lennox (2008) find that managers are more able to manage earning when auditors consume less audit effort. Moreover, there is some evidence to suggest that earnings quality proxies show that GAAP has not been followed (Beneish 1997; Dechow et al. 2011). Finally, using a comprehensive sample of firms, Dechow et al. (2011) find that the earnings quality is low at the time of misstatements.

1.2 Research Hypotheses and Research Questions

This thesis focuses on lead auditors, and links their characteristics to their performances. In addition, the audit firm (or audit offices) differences in the proposed associations are investigated. The discussion is divided into two sections: (1) lead auditor-performance and (2) the situation as a moderator. The overall framework is depicted in Figure 1, below. This framework is somewhat analogous to the person-situation debate, which maintains that performance (behaviour) is a personal function and that situation acts as a moderator in the proposed association (e.g. Judge and Zapata 2015).
For the lead auditor, two sets of variables are studied: cognitive characteristics (scepticism in Study I and self-control in Study II) and client portfolio attributes (portfolio dispersion and industry similarity in Study III) and switching (in Study IV).

For performance, two dimensions are considered: quality related and employment related. For the quality related dimension, the sceptical outcome in Study I, and audit quality proxies in Study II, Study III and Study IV are being studied. For the employment related dimension the lead auditors’ compensation is chosen in Study I, Study II and Study III, and the lead auditors’ generated audit revenue is being studied in Study II. For the situation (job context), the differences between Big 4 and non-Big 4 accounting firms in the proposed associations are examined in Study I and Study II. In addition, in Study III, Big 7 accounting firms and the differences in audit offices’ client portfolios are described.

1.2.1 Lead Auditor - Performance

This section briefly presents the arguments in each paper specifically dealing with the person-performance link.

In the first study (Study I), the relationship between professional scepticism and performance is investigated. Professional scepticism is essential for audit quality (FRC 2012) and may benefit a lead auditor’s career success. In order to link professional scepticism to the sceptical outcome, a Nelson (2009)’s framework that links professional scepticism to audit quality is used. According to this framework, each lead auditor approaches audits according to his or her own level of scepticism. And, auditors with a high level of professional scepticism exhibit higher quality sceptical judgements (Nelson 2009). Accordingly, the following hypothesis is formulated:

H2a [Study I]: Ceteris paribus, there is a positive association between scepticism and sceptical judgement.

Furthermore, for the link between professional scepticism and compensation, and based on prior research, two opposing predictions are suggested. The first is that
accounting firms positively compensate for scepticism, in that high levels of scepticism reduce the risk of audit failure and any resulting negative reputation effects that follow from disciplinary sanctions. The second is that accounting firms may punish scepticism because high levels of scepticism have adverse consequences on the ‘generated audit revenue’. Scepticism may have adverse consequences on the ‘generated audit revenue’, because sceptical attitudes can lead to the auditor-client conflicts, and also prevent lead auditors’ meeting time budgets. These opposing predictions are explored with the following null hypothesis:

H1a [Study I]: Ceteris paribus, there is no association between scepticism and compensation.

In Study II, the relationship between self-control, audit quality and ‘generated audit revenue’ is investigated. An impressive body of literature has documented the importance of self-control for a number of behavioural outcomes, such as academic success (e.g. Tangney et al. 2004), interpersonal relationships (e.g. Vohs et al. 2011), finding a job (e.g. Baay et al. 2014) and career promotions (Alberts and Martijn 2007).

The dual processing model is used to conceptualize self-control. The dual-process models suggest that the behaviour is determined by the interaction between two different processes: i) implicit (automatic) and ii) reflective (controlled). Implicit processes require limited effort and little use of cognitive resources. In contrast, reflective processes are higher level and require extensive use of the cognitive resource (Galla and Wood 2015). Implicit (automatic) and reflective (controlled) processes compete with each other to determine behaviour. If a conflict between these two systems arises, self-control is needed to resolve the conflict (Gall and Wood 2015; Hofmann et al., 2009). It is proposed that a higher level of self-control enables lead auditors to provide higher quality judgements and decisions,13 because the majority of judgement and decision-making (JDM) tasks require a more reflective process. For instance, prior research finds that self-control is required for controlling attention (e.g. Schmeichel and Baumeister 2010), handling the cognitive load (Griffin and Ricchiute 2012), persistence in the evaluation of audit evidence

13 The importance of lead auditors’ judgement and decision making is encapsulated in Knechel et al. (2013), who report that “virtually every so-called ‘audit failure’ can be traced to an error in judgment … made by the audit team during the course of an engagement” (p. 407).
(Hurley 2015), dealing with stress (e.g. Galla and Wood 2015) and resisting persuasion (Burkley 2008). Accordingly, the following hypothesis is formulated:

H1 [Study II]: *Ceteris paribus, there is a positive association between self-control and audit quality.*

Further, it is suggested that self-control plays an important role in determining the generated audit revenue. This effect arises because lead auditors with a high (vs. low) level of self-control are more easily able to manage increased workloads, are more successful in finding new clients and have better quality interpersonal relationships. In addition, building on economics theory, by assuming the optimal assignment of cooperating resources to higher quality workers, it is inferred that the market (extra and intra firm markets) assigns more resources to lead auditors with greater (vs. lesser) self-control. The above discussion leads to the following hypothesis:

H2 [Study II]: *Ceteris paribus, there is a positive association between self-control and the ‘generated audit revenue’.*

Accounting firms use compensation schemes to motivate performance (Shaw et al. 2002), and to signal the kind of activities that are expected from employees (Kerr 1975; Hinings et al. 1991). These compensation schemes usually reward auditors according to the revenue they generate (Zeff 2003 a,b). Rewarding a lead auditor based on the ‘generated audit revenue’ may enhance performance and (or) mitigate the under-supply effort problem (e.g. making less effort to seek new clients and (or) collect fees) (Huddart and Liang 2005, 154). Therefore, the following hypothesis is formulated:

H3 [Study II]: *Ceteris paribus, there is a positive association between ‘generated audit revenue’ and compensation.*

Assuming that both H2 and H3 hold, self-control should then have an indirect effect on compensation through the ‘generated audit revenue’. This leads to the following hypothesis:

H4a [Study II]: *Holding all other things except ‘generated audit revenue’ equal, there is a positive association between self-control and compensation.*
For a link between self-control and compensation (by holding all other things equal), the degree to which ‘generated audit revenue’ mediates\textsuperscript{14} the association between self-control and compensation cannot be ex ante predicted. Therefore, the mediator effect of ‘generated audit revenue’ is tested with the following null hypothesis:

H4b [Study II]: \textit{Ceteris paribus, there is no association between self-control and compensation.}

In Study III, the allocation of lead auditors to clients is investigated. Here, it is argued that both audit firms and lead auditors have incentives to influence the lead auditor-client pairing decision for a variety of reasons. First, the lead auditor-client pairing may affect lead auditor-client compatibility and could play a key role in developing a lead auditor’s expertise. Second, the lead auditor-client pairing could also be used as a signalling tool for both the lead auditor and the firm. In the study three new concepts are introduced and methods for studying them suggested. First, industry portfolio similarity (IPS) is defined as the similarity of the distributions of all the lead auditors in an audit office across industries.\textsuperscript{15} Here the randomisation technique from ecology research is applied, i.e. the null model analysis that provides a statistical test to investigate whether an observed pattern is likely to happen in the absence of a particular mechanism (Gotelli and Graves 1996). In other words, as a lead auditor’s client portfolio is the consequence of prior lead auditor-client pairings, it is predicted that lead auditors’ industry portfolios may differ from each other. Second, borrowing from research on CEO specialisation, specialist vs. generalist lead auditors are identified. Here, specialist vs. generalist is defined as the extent of the distribution of a lead auditor’s portfolio characteristics. Using principle component analysis, an index is created that shows the disparity of the lead auditor’s client portfolio. Third, borrowing from research on the economics of education, grouping (sorting, tracking\textsuperscript{16}) is defined as the assignment of clients to the lead auditor’s client portfolio based on the clients’ characteristics. Client grouping is

\textsuperscript{14} For a detailed discussion of the mediator, see Baron and Kenny (1986).
\textsuperscript{15} The main focus of this paper is on the lead auditor’s client portfolio at the audit practice office level. As a result, the definitions in this paper are matched with this unit of analysis. The units for the definitions can be changed depending on the researcher’s intention. For instance, a researcher who want to study the similarity of industry portfolios for the audit offices in a specific geographic area can define the IPS as follows: The extent of similarity of the distribution of all the audit offices in a geographical area with regard to its industries.
\textsuperscript{16} Grouping (sorting, tracking) is defined as assigning clients to client portfolios based on clients’ characteristics. For the purpose of this paper the terms ‘grouping’, ‘sorting’ and ‘tracking’ are used interchangeably.
investigated by employing multinomial logit tests, which are performed separately for each office. Finally, it is examined whether industry portfolio similarity, specialist vs. generalist index and client grouping are related to earnings quality.

Study IV looks at the effect of lead auditor switches on audit opinions. The available empirical evidence suggests many reasons for auditor switching, such as overcoming the divergence of beliefs (Dye 1991; Antle and Nalebuff 1991) and (or) punishing the incumbent auditor (e.g. Carcello and Neal 2003; Ettredge et al. 2007). Alternately, auditors can initiate auditor switches to free up resources or to reduce exposure to litigation and reputation risks (Taub 2004; Hogan and Martin 2009).

Although auditor changes are motivated for a number of reasons, academics (e.g. DeFond and Subramanyam 1998) and regulators (SEC 1988) have raised concerns that auditor changes are motivated by client opportunism. In other words, clients might initiate auditor switching to reach the desired outcome (e.g. Lennox 2000).

Given this, over the past few years, auditor switching activities have been of research interest (Carver et al. 2011). However, despite this interest, very little archival research has been conducted on the effects of individual auditor switching on audit quality. More importantly, very little (if any) research has studied audit opinion shopping in private firms.

Prior research shows that as unclean audit opinions adversely affect clients (e.g. Chang et al. 2005, clients may switch to avoid unfavourable audit opinions (opportunistic switching). It is argued that clients in the private firm are more able to engage in opportunistic switching and that auditors have incentives to accept this behaviour. First, private firms have lower costs associated with switching, because switching decisions in private firms are not restricted by corporate governance mechanisms. Second, auditors face low levels of litigation and reputation loss risk in private firms’ audits, because the audit outcomes of private firms are less likely to be detected and scrutinised (Van Tendeloo and Vanstraelen 2008). Therefore, it is suggested that auditor switching could be motivated by a client’s opportunism in the private firm setting, which in turn could adversely affect audit quality. This

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17 Firm-auditor switching refers to a change of accounting firm. Individual auditor switching refers to the change of engagement partner.
prediction is tested using a methodology developed by Lennox (2000) to test audit opinion shopping.\textsuperscript{18}

\subsection*{1.2.2 \textit{Situation}}

As already noted, the situation can act as a moderator in the link between person and behaviour. In fact, one of the main concerns in research at the individual level is the extent to which firm-level factors moderate the behaviour and decisions of individuals (Felin et al. 2015). Put simply, a lead auditor’s ability to affect performance may reflect not only his or her distinctive characteristics, but also the accounting firm’s internal structures and social milieu (Kosmala amd Herrbach 2006).

There are significant differences between audit firms with regard to resources, culture (Jenkins et al. 2008), international networks (Lenz and James 2007) and the type of audit clients they attract (Knechel et al. 2008). Due to these differences, accounting firms have received significant attention in the auditing literature (Almer et al. 2005, 1). For example, researchers have investigated the large firm-small firm dichotomy (e.g. Lawrence et al. 2011), audit firms’ industry knowledge (e.g. Francis and Yu 2009) and the engagement-specific characteristics of accounting firms (e.g. Carey and Simnett 2006). Despite numerous studies at the accounting firm level, our knowledge about the determinants of performance is still very limited due to the availability of data (Francis 2011, 138). To date, apart from a narrow field study stream that could go further in understanding audit firms (e.g. Dirsmith and Cavaleski 1985; Dirsmith 1994; Anderson-Gough et al. 2005), many researchers have been unable to probe the black box of accounting firms.

In Study I, professional scepticism is linked to compensation and the sceptical outcome. It is further argued that the accounting firm type (Big 4 vs. non-Big 4) could act as a moderator in the proposed associations. There is evidence to suggest that Big 4 auditors produce higher quality audits than non-Big 4 auditors (e.g. Kim et al. 2003; DeFond et al. 2015). In general, auditors at Big 4 audit firms are expected to be concerned about reputation and audit quality. Big 4 auditors that do

\textsuperscript{18} According to the Securities and Exchange Commission (1988), audit opinion shopping refers to “the search for an auditor willing to support a proposed accounting treatment designed to help a company achieve its reporting objectives, even though that treatment might frustrate reliable reporting”.

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not meet the quality standards put the reputation of the whole international network at risk. Therefore, Big 4 firms have strong incentives to meet or exceed the minimum level of audit quality. However, the incentives for (some) non-Big 4 audit firms are lower than those for Big 4 audit firms for several reasons. First, they do not have the same level of reputation to protect and they are not as sensitive to audit failure (DeAngelo 1981). Second, they charge lower audit fees (Sundgren and Svanström 2013) and may want to avoid undertaking extensive audit procedures (that threaten short-term profitability). Therefore, it is suggested that Big 4 have more incentives (due to client pressure, litigation risk and brand name reputation loss) than their non-Big 4 counterparts to compensate for professional scepticism. This leads to the following hypothesis:

H1b [Study II]: The association between scepticism and compensation is weaker for non-Big 4 auditors.

Further, it is suggested that the pervasive internal review and quality control processes in a Big 4 firm are likely to have a homogenising effect on auditors’ reporting. Accordingly, the following hypothesis is formulated:

H2b [Study I]: The association between scepticism and sceptical outcome is greater for non-Big 4 auditors than Big 4 auditors.

In Study II, a link is suggested between self-control, generated quality and generated revenue. For the link between self-control and audit quality, it is suggested that accounting firm type (Big 4 vs. non-Big 4) could act as a moderator. Two competing predictions are therefore proposed for the role of accounting firm type on the suggested association. The first line of argument suggests that the degree of association is higher for Big 4, because Big 4 lead auditors are more likely to perceive audit quality as a reference point than non-Big 4 lead auditors. The second argument is that Big 4 may design tighter control mechanisms, which in turn weaken the effect of self-control in these firms, compared to that in non-Big 4. These opposing predictions are explored in the following research question:

RQ1 [Study II]: Does the association between self-control and audit quality differ across accounting firm types (Big 4 vs. non-Big 4)?

Furthermore, in Study II for the second hypothesis (H2), it is proposed that accounting firms generally assign more audit work to highly self-controlled lead
auditors. It is also proposed that the assignment of more audit work to highly (vs. low) self-controlled auditors is more likely to be observed in Big 4 accounting firms, because they are more concerned about quality. This is explored in the following research question:

RQ2 [Study III]: Does the association between self-control and ‘generated audit revenue’ differ across accounting firm types (Big 4 vs. non-Big 4)?

Study III investigates the allocation of lead auditors to clients. It is also argued that there are accounting firm heterogeneities in the allocation of lead auditors due to the differences in decision-making approaches and the emphasis given to the profitability of an engagement. Accounting firms’ decision-making approaches are often different and consist of mechanistic and organic approaches (Dirsmith and McAllister 1982). In the mechanistic view, the emphasis is on the standardisation of procedures and strictly following them, whereas in the organic view the focus is on flexibility and adaptation. Prior research shows that in the client acceptance and continuation process, accounting firms usually follow the organic approach (Gendron 2001). Accounting firms can also differ in the degree of emphasis given to an engagement’s profitability (Gendron 2001; Knechel et al. 2013). Here, the focus on profitability may lead to different types of client portfolio (Hay et al. 2007). The above discussion suggests that there are audit firms heterogeneities in the lead auditor-client pairing. This leads to the following proposition: There are accounting firms heterogeneities in the lead auditor-client pairing.

Furthermore, in a given accounting firm, the allocation of lead auditors to clients may differ across audit offices due to their semi-autonomous nature and differences in the availability of resources. Traditionally, auditing research has mainly focused on audit firms and assumed that there are no major differences between audit offices and individuals. Audit firms implement rules and regulations and develop compensation systems to guarantee that individuals meet the firm’s objectives. However, audit firms’ policies usually flow downwards to audit offices and have engagement levels that are more intimate and negotiated. Thus, it can be difficult for audit firms to fully control the work that is carried out in the audit offices and in each engagement due to the lead auditor’s autonomy and subjective judgement. Another important issue that contributes to differences in the partner-client pairing is
the availability of resources (the available lead auditor, expertise etc.) and the type of client. First, prior research shows that compared to larger offices, smaller offices have a lower level of in-house expertise (Francis et al. 2013). The limited level of in-house expertise can lead to problems in the lead auditor-client pairing. Second, the type of client could differ across offices (Summers 1972; Schipper and Vincent 2003). Therefore, audit office differences in terms of resources and clients could result in different patterns in the lead auditor-client pairing. This leads to the following proposition: *In a given accounting firm, there are audit office heterogeneities in the lead auditor-client pairing.*

### 1.3 Research Design

#### 1.3.1 Data

For the purpose of the thesis, data from Sweden and (or) Finland\(^{19}\) is used because this has several comparative advantages. First, due to the public disclosure of the name of the auditor signing a report, lead auditors can be tracked. Second, the results from the chosen setting can be generalised to the environments in which individual auditors face litigation, because in Sweden and Finland lead auditors are regularly investigated and could receive disciplinary sanctions from the Supervisory Board of Public Accountants (SBPA). For instance, during the period 2006-2011, 320 disciplinary sanctions were issued, thus implying that 8 % of all the certified lead auditors received a sanction. Third, the chosen setting facilitates the observation of compensation and other demographic information pertaining to lead auditors and the characteristics of their corresponding audit offices. Fourth, private companies are subject to the public statutory audit requirement which dominates the Swedish and Finnish audit markets. This facilitates the observation of a large sample of listed and private firms. Including both listed and private firms improves the robustness of the tests, because the inclusion of private firms permits a higher quality proxy for the variable ‘generated audit revenue’.\(^{20}\)

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\(^{19}\) For a more detailed discussion about the institutional characteristics of Finland and Sweden, see the corresponding section in Study I and II.

\(^{20}\) The inclusion of private firms enables a better proxy for generated audit revenue for the following reasons. First, it allows us to observe most of the audit clients for each lead auditor. The majority of prior research at the lead auditor
In this thesis, archival data from a number of sources is used. For Sweden these include UC, a Swedish business and credit information agency owned by the major Swedish banks, the Supervisory Board of Public Accountants, Ratsit, an agency that collects data from the Swedish tax authorities and Retriever Business, the leading database for Swedish business information. The data sources from Finland include the VOITTO database maintained by Suomen Asiakastieto Oy, the MADEUS database maintained by Bureau van Dijk, the Finnish Auditor Register maintained by the Auditing Board of the Central Chamber of Commerce in Finland, VIRRE Information Service and Finnish Tax Administration.

1.3.2 Operationalisation

In this thesis, at the theoretical level for the dependent variable (behaviour), two distinctive (but not necessarily diagonal) concepts are used: quality generation and revenue generation. At the operational level, for quality generation, the proxies that are extensively used in the auditing literature are applied, namely, the propensity to issue unclean audit opinions [Study I, II and IV] and earnings quality proxies [all four studies]. In addition, for the revenue generation measure [Study II], total client size is used due to its high correlation with the audit fee that auditors earn. Finally, for the purpose of the paper on audit opinion shopping [Study IV], the effect of the lead auditor on switching is captured.

In order to operationalise the main explanatory variables in Study I and Study II, proxies are used that match each paper’s objectives. For the professional scepticism paper [Study I], Hurtt’s scale (Hurrt 2010) is used. Accounting researchers have attempted to measure professional scepticism using different ranges of scales (Nelson 2009, 10). While many of these researchers, such as Shaub and Lawrence (1996), have used scales that were previously designed to measure other states and traits, such as trust, independence and suspicion, some scholars have attempted to design an appropriate scale for their experimental setting (Hurtt 2010, 150). More recently, Hurtt (2010) has developed a scale to measure individual’s professional scepticism by using six characteristics of sceptics: questioning mind, suspension of

level only includes public clients’ information. However, a lead auditor’s compensation and audit quality depend on both public and private clients. Second, following prior research (e.g. Knechel et al. 2013), total clientele size is used as a proxy for the generated audit fee. As private firms are less likely to pay the audit fee premium (e.g. Chaney et al. 2004), the quality of the proxies will increase.
judgement, search for knowledge, interpersonal understanding, autonomy and self-esteem. For the purpose of Study I, professional scepticism is proxied by the Hurtt scale for the following reasons. First, prior studies provide evidence that the Hurtt scale may predict sceptical behaviour (Fullerton and Durtschi 2004; Nelson 2009, 11; Popova 2013). Second, the Hurtt scale is relatively stable over time (Nelson 2009, 11), which enables the construction of a panel dataset for the analyses. Third, it is recognised, cited and used by researchers (e.g. Fullerton and Durtschi 2004; Hurtt et al. 2012; Quadackers et al. 2014). Fourth, it captures six different aspects of auditor professional scepticism, which enables us to study the effects that each dimension has on lead auditors’ reporting and compensation. Fifth, the scale is relatively short, which results in higher response rate. Finally, to my knowledge, the Hurtt scale is the only available for professional scepticism in the auditing context.

The Hurtt (2010) scale has been used extensively in prior research. In the tests for internal consistency in a Swedish setting, Cronbach’s Alpha coefficient for the 30 item scale is 88.7 %, which is above the acceptable level. A factor analysis is then performed to test the loading of factors. The first factor, which accounts for the most variance, has an eigen-value of 7.46, which clearly satisfies Kaiser’s (1960) rule (eigenvalue>1). A dimensionality test was also carried out to check whether the scale is multidimensional and how each item is weighted for each factor. The results are similar to those obtained by Hurtt (2010).

For the measure of self-control [Study II], the brief version of the self-control scale (BSCS) developed by Tangney et al. (2004) is applied. In the past, researchers have attempted to measure self-control using various scales (de Riddler et al. 2012). BSCS is used for the following reasons. First, this scale is one of the most recognised scales for self-control and is validated and extensively used in the literature (de Riddler et al. 2012). For instance, de Riddler et al. (2012) report that BSCS has been used in more than 50 studies published in high-ranking journals in a variety of disciplines, such as social psychology, marketing and management. Second, a meta-analysis of 102 studies (479 associations, 32,648 participants) shows that compared to the other two recognised scales, BSCS is more able to explain outcomes (de Riddler et al. 2012, 89). Finally, the scale is relatively short, which could increase the response rate.
The internal consistency of BSCS in Study II is checked by the Cronbach alpha test. The Cronbach’s alpha statistic equals 0.808 when calculated for the 13 item BSCS using 493 response observations. Given that above 0.8 Cronbach’s alpha indicates good test reliability, it can be concluded that the survey data is not biased by internal inconsistency. The survey yielded a total of 493 responses, representing a response rate of 37.6%. The response rate compares favourably with other online surveys on accounting and finance research (e.g. 10% in Graham et al. 2005; 11% in Graham et al. 2013). A number of additional analyses have been also performed and are covered in the study.

1.3.3 Statistical Models

A number of statistical models are used in the thesis. In Study I, scepticism is linked to sceptical outcome and compensation. In order to test the association between a lead auditor’s self-control and compensation (H1a), the conventional approach used in labour economics (Krueger and Lindahl 2000) and prior accounting research is followed (Knechel et al. 2013, Sundgren and Svanström 2014), by using log-linear Mincer’s (1974) wage equation. This is described in the following model: \( \text{Compensation} = f (\text{Scepticism} + \text{Controls}) \). In this model, professional scepticism is the main independent variable and compensation is the dependent variable. Both OLS and the random effect regression are estimated to test the model. In H2a, a positive association is predicted between level of professional scepticism and sceptical reporting. This prediction is tested using a basic research design which links audit outcomes to the auditor characteristics described in the following model: \( \text{Sceptical Outcome} = f (\text{Scepticism} + \text{Controls}) \). Unclean audit opinions are used as the main dependent variables, and to estimate the model a logistic regression is used. Finally, in H1b and H2b, Big 4 is introduced as a moderator in the proposed associations. To analyse the moderation effect of Big 4, the interaction term of Big 4 and scepticism is included in the models.

Study II investigates whether self-control is related to audit quality and generated audit revenue. To test the association between a lead auditor’s self-control and audit quality (H1), the basic research design is used which links audit quality proxies to the auditor characteristics described in the following model: \( \text{Audit Quality} = f (\text{Self-Control} + \text{Controls}) \). OLS is used for the model in which earnings quality is used as
a proxy for audit quality. Logistic regression is also used for the model in which the modified audit opinion is the dependent variable. As for H2, a positive association is predicted between a lead auditor’s self-control and ‘generated audit revenue’ by holding all other things equal. To test H2, the following model is estimated using OLS: \( \text{Generated Audit Revenue} = f (\text{Self-Control} + \text{Controls}) \). H3 predicts a positive association between a lead auditor’s ‘generated audit revenue’ and compensation, whereas H4b predicts no association between a lead auditor’s self-control and compensation by holding all other things equal. The following model tests H3 and H4b: \( \text{Compensation} = f (\text{Self-Control} + \text{Controls}) \). Finally, as H4a predicts a positive association between a lead auditor’s self-control and compensation, all the control variables except ‘generated audit revenue’ are included in the model.

Study III investigates the distribution of lead auditors across industries and clients. To study the distribution of lead auditors across industries, the null model analysis is used. This is a statistical tool that describes and tests the randomness of the observed patterns (Gotelli and Graves 1996). The null model analysis has been applied in economic-based research (e.g. Bottazzi and Pirino 2010), but has mostly been used in ecology (e.g. Gotelli 2000; Rodriguez-Girones and Santamaria 2006).

In economics, prior research uses null model analysis to investigate issues such as the diversification of firms or their industry relatedness (Bottazzi and Pirino 2010). Next, it is investigated whether client grouping takes place inside audit offices. This follows Dieterle et al. (2015) by estimating a series of multinomial logit models of client assignment to portfolio separately for each office-year combination. The probability of a client being assigned to a particular engagement partner is estimated using the following model: \( \text{Lead Auditor Indicator} = f (\text{Client Characteristics}) \).

Finally, the industry similarity, client grouping and specialisation are linked to earnings quality using pooled regression of earnings quality proxies.

In Study IV, the auditor’s independence in the private firm setting is examined. This is done using two models to investigate whether auditor switching is related to the audit quality proxies. The first chosen method seeks to determine whether private firms successfully engage in audit opinion shopping. This is done by first of all examining the effect of auditor switching on the auditor’s reporting for the

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21 In ecology, the main application of the null model analysis is to study the distribution of species and their interactions in a geographical area.
companies that received unclean audit opinions in previous years using the following model: \( \text{Unclean Audit Opinion} = f(\text{Auditor Switches} + \text{Controls}) \). Logistic regression is used to test this model. Five switching variables are used to capture the different definitions of switching. These are: switching lead auditor, switching the audit firm, switching only the lead auditor and keeping the audit firm, and switching only the audit firm and keeping the lead auditor. Another type of switch is identified, namely downgrade activity, here defined as auditor switching from a Big 4 to a non-Big 4 audit firm. Second, following Lennox (2000), audit opinion shopping for switching and non-switching companies is investigated by predicting the unobserved audit opinions that clients would have made if they had they made the opposite switch decision. In addition to the audit opinion shopping test, I also investigate whether switching is related to the reduced earnings quality by using the following model: \( \text{Earnings Quality Proxies} = f(\text{Auditor Switches} + \text{Controls}) \).

1.4 Results and Conclusions

This section presents the results in brief, acknowledges the limitations of the findings and makes some suggestions for future research.

[Study I]: First, professional scepticism is positively associated with compensation for lead auditors, but only for the sample of Big 4 audit firms. In the study, two opposing predictions are provided regarding the effect of scepticism on compensation. On the one hand, it is predicted that if audit firms are concerned with audit quality and minimising (costly) audit failure, professional scepticism will be rewarded, because auditors with a high level of professional scepticism may provide greater audit quality (e.g. Hurtt et al. 2013 and 2012; Quadackers et al. 2014; Rose 2007; Popova 2013). On the other hand, if audit firms minimise client conflicts and audit costs, professional scepticism is not compensated for, because auditors with a high level of scepticism might overrun the time budget and their scepticism style could adversely affect the auditor-client relationship. The positive association between scepticism and compensation in Study I is in line with the first prediction for Big 4 firms, and favours the second prediction for non-Big 4 firms. In other words, the results imply a higher degree of sceptical value congruence between the lead auditor and the organisation in Big 4 accounting firms.
Second, a positive association is predicted between professional scepticism and the propensity to issue an audit opinion for the sample of non-Big 4 audit firms. In the study, for the association between scepticism and audit outcome, it is predicted that scepticism is related to audit quality. The effect arises because auditors with a greater degree of professional scepticism are more alert to potential audit problems, i.e. auditors who exhibit greater sceptical judgement are more likely to detect fraud or accounting errors. In addition, we predict that the effect of scepticism on audit outcome is less pronounced for Big 4 accounting firms, since these firms often have pervasive internal reviews and quality control processes, which in turn homogenise the effect of individuals’ traits. As seen in the results, the effect of scepticism on audit outcome in Big 4 firm is not observed. This finding could be due to the fact that large audit firms have more sophisticated quality controls and disciplining systems than non-Big 4 firms.

[Study II] First, self-control is predictive of Big 4 lead auditors’ audit quality as proxied by the abnormal accruals and propensities to issue a modified audit report. For the effect of self-control on audit quality, and based on studies of the relationship between self-control and performance, it is predicted that individual differences in the trait of self-control should predict the ability to override impulses and shift to the reflective process in many audit tasks. Two competing predictions are suggested regarding the role of accounting firm type on the proposed association. The first line of argument suggests that the degree of association is higher for Big 4 firms, because Big 4 lead auditors are more likely to perceive audit quality as a reference point than non-Big 4 lead auditors. The second argument is that Big 4 firms may have tighter control mechanisms, which in turn weaken the effect of self-control in these firms to a greater extent than in non-Big 4 firms. The results suggest that the various mechanisms established by Big 4 audit firms to homogenise the behaviour of lead auditors cannot supersede lead auditors’ idiosyncratic characteristics, such as self-control.

The findings also show that Big 4 lead auditors with a higher level of self-control earn more audit revenue as proxied by the total clientele size. In addition, I observe that for Big 4 lead auditors, generated audit revenue mediates the association between self-control and compensation, meaning that the market (both intra and
extra firm) rewards high self-controlled Big 4 auditors by assigning them more cooperating resources (audit revenue) in order to earn more compensation. Moreover, for non-Big 4 lead auditors, self-control is related to compensation, although the mediation effect of the generated audit revenue is not observed in this association. This implies that the market does not compensate self-control in non-Big 4 firms. One possible reason for this is that non-Big 4 firms are less known in the market and have limited resources and a restricted range of clients. In other words, a non-Big 4 lead auditor with high level of self-control has fewer opportunities to signal his/her ability to the market, whereas, a Big 4 lead auditor with high level of self-control can signal his/her quality to the market by virtue of the firm’s reputation, its broad range of clients and its resources.

[Study III]: First, the majority of lead auditors perform audits in different activities. In addition, it appears that the industry portfolios of lead auditors inside audit offices are very similar. These findings cast doubt on the assumption in the auditing literature that auditors are grouped based on industry specialisation (Nelson and Tan 2005, 49). In other words, the results are inconsistent with the notion that accounting firms organise their business in terms of industry. Second, among the client company’s observable characteristics, size is the most common criterion for client grouping. After size, profitability is the most common factors, whilst the risk, probability of bankruptcy and earnings quality are the least common criteria. In addition, groupings based on clients’ characteristics are different across accounting firms and audit offices. The restult implies that a lead auditor’s assignment to the level of accruals is more or less close to random in many audit offices and that the assignment to earnings quality is office or audit firm level phenomena. An empirical implication of these results is that a regression of earnings quality that does not control for the fixed effects of accounting firms and audit offices suffers from an omitted variable bias. Third, larger offices are more likely to group client portfolio based on size. This indicates that as larger offices have more human capital and a larger number of clients, these factors determine how clients are grouped.

Fourth, an index for the dispersion of lead auditors’ client portfolios is created. It is observed that the index is negatively related to the earnings quality proxy. This indicates that as the client portfolios of lead auditors disperse, the quality of audited
earnings decreases. This result is clearly in line with the literature on expertise, which maintains that the accumulated experience and skills improve the quality of audits. The results also have an empirical implication for the research design on auditor-client compatibility research. This line of research argues that as the degree of alignment between auditor and clients increases, the quality of audits also increases. To test the degree of alignment, some client characteristics are chosen and the distance between these variables and auditor’s client portfolio variables calculated. Given this, the distance variable could partly capture the dispersion of the lead auditor’s client portfolio. In other words, for lead auditors with a high value of dispersion index, the calculated distance will be higher on average. As a result, it is not certain whether compatibility has a negative effect on earnings quality or dispersion. If this is the case, research on compatibility should also control for the dispersion of lead auditors’ client portfolios, otherwise their compatibility proxy will suffer from endogeneity.

[Study IV]: First, following pre-switch unclean audit opinions, switching private firms are more likely to receive clean audit opinions. In addition, following pre-switch clean audit opinions, switching private firms are more likely to receive unclean audit opinions. Moreover, the probability of receiving unclean audit opinions decreases as the predicted probability of dismissal threat increases. Finally, switching is predictive of decreased earnings quality. This findings indicate that auditors are willing to compromise their decisions in the private firm setting. Given this, the results contradict prior findings (e.g. Hope and Langli 2010) that auditors (because of the effect of professionalism) do not compromise their independence in a low litigation environment. This contradictory finding could have arisen due to the use of a different research design, namely a switching test rather than a fee dependence test.

Overall, the results indicate that there is a heterogeneity among lead auditors’ performances. These findings indicate that at least three dimensions of performance (i.e. audit quality, compensation and audit revenue generation) are not homogenous across lead auditors in the same (tier) audit firm(s), and that lead auditors’ traits and accounting firm type determine these differences. These results show that there is an association between individuals (person) and performance. In addition, the results
imply that situation can increase or decrease the effect of individuals’ characteristics on performance. Obviously, these results are not new, given that an impressive body of knowledge already highlights the role of person on performance and the moderating role of situation. What is new in this thesis is the role that scepticism, self-control, client portfolio dispersion and similarity of performance play in the auditing.

This study has a number of limitations. First, the thesis only documents associations, not causation. All the models may have econometric problems, such as omitted variable bias, measurement error and self-selection. I acknowledge that the main variables of interest – scepticism, self-control, dispersion and switching – may have measurement errors. The omitted variable and self-selection of lead auditors is also a problem. An attempt has been made to minimise this risk by including relevant control variables, although it is not certain that this potential problem has been fully solved. It was difficult to find an instrument for the main variable of interest, and to my knowledge no research has used an instrument for the survey-gathered behavioural variable. I speculate that in the hypothetical scenario that a researcher uses an instrument, such an instrument will be more likely endogenous as well. Second, the data used in this thesis mainly relates to private firms. Consequently, the results cannot be generalised to the public firm setting. In particular, the results in Study III should be interpreted with caution since the data might suffer from noise. In view of this, Study III should be seen as seeking to introduce a method, rather than a study that provides empirical results. Third, as the traits of scepticism and self-control are only measured at a particular point in time, it may not necessarily reflect the traits of scepticism or self-control that were evident at the time the audits were performed. Fourth, the paper mainly reports the observed patterns and does not investigate the process. Richer data is needed that was not available at the time of the study. Also, the investigative process may benefit from the use of different qualitative methodologies. Fifth, the main dependent variable also suffers from measurement errors. Although errors in the dependent variable are usually of less concern, in some instances in this thesis the measurement error of the dependent variable could be problematic. However, due to the availability of data, no other dependent variable could be used. For instance, in the compensation tests,
auditors’ total compensation is used instead of the compensation schemes used by audit firms due to the confidential nature of those schemes. Thus, the measure of compensation is not fully representative of the schemes used by audit firms. In addition, I did not have any access to information relating to audit fees and non-audit fees. This may have reduced the quality of the analysis, particularly where generated audit revenue is used as a variable of interest. Furthermore, following prior research, earnings quality and propensity are used to issue modified audit opinion as proxies for audit quality – proxies that are subject to the measurement error.

To the best of my knowledge, this thesis is the first archival auditing study to investigate professional scepticism, self-control, industry similarity and client portfolio dispersion. Given the scarcity of research in these topics in archival auditing, I am only able to provide limited empirical results. As the findings of this thesis may offer some challenges when it comes to interpretation, future researchers are encouraged to delve deeper into the links between person, situation and performance in the auditing context. For the ‘person’ variable, future researchers may want to try other instruments to proxy for professional scepticism, self-control or portfolio dispersion. Moreover, future researchers may want to test the interaction between individual level variables, such as self-control and professional scepticism, specialisation and compatibility. Further, I suggest the inclusion of other personality traits, such as conscientiousness in the models. For the situation variable, the moderating role of auditing regulations on the person-performance link is relatively unexplored. For instance, in some countries like Sweden, compulsory auditing for small companies has recently been abolished. It would be interesting to study how this change in the regulations affects the link between person and performance in the auditing context. For the performance variable, auditing research is heavily dominated by research in which quality of audit is considered as a performance. Future research may therefore want to investigate the effect of person on the efficiency dimension of performance.
References


Ernstberger, Jürgen and Koch, Christopher W. and Tan, Hun-Tong. 2015. What Dimensions of Lead Auditor Expertise Matter for Audit Quality and Audit


