Auditor-In-Charge Characteristics and Going Concern Reporting Behavior: Does number of assignments, age and client fee dependence matter?

Stefan Sundgren

Umeå School of Business and the University of Vaasa

and

Tobias Svanström[*]

BI Norwegian School of Management and Umeå School of Business

Current version: November 30, 2010

[*] Addreses for correspondence: stefan.sundgren@usbe.umu.se and tobias.svanstrom@usbe.umu.se. An earlier version of this paper has benefitted from comments by Mikko Zerni, John Christian Langli and Mohammad Abodolmohammadi as well as from workshop participants at BI Norwegian School of Management, Stockholm School of Economics, Linköping University Norwegian School of Economics and Business Administration and the EIASM workshop on Audit Quality in Bellagio, October2010. We thank Emmi Salaterä and Hanna Kantonen for research assistance. Stefan Sundgren gratefully acknowledges financial support from the Academy of Finland (grant 126630).

Abstract

We examine the impact of auditor-in-charge characteristics on audit quality using the propensity to issue a going concern paragraph as the measure of audit quality. Our sample consists of 1202 Swedish SMEs that filed for bankruptcy during October 2008 and September 2009. All companies in Sweden are required to be audited independent of their size. We report the following main findings. First, our results show a negative association between the number of audit assignments held by the auditor-in-charge and audit quality. This result is consistent with concerns raised by oversight bodies and practitioners and one explanation to the result is that some auditors specialize on large amounts of low quality audits at markets with statutory audits. Second, we study the association between age, experience and the likelihood of a going concern opinion. Consistent with theories about the diminishing role of career concerns as the auditor approaches the retirement age, we find that the age of the auditor is negatively associated with audit quality. We do not find any support for an experience effect. We also find that non-Big 4 auditors are less likely to issue a going concern opinion if the sales of the client are large in comparison to the aggregate sales of all clients of the auditor-in-charge. These results show that undue fee dependence from a single important client has a negative impact on audit quality.

1. Introduction

The primary objective of this paper is to study how auditor-in-charge characteristics are associated with audit quality. While an extensive literature has developed around audit quality differentiation on a firm level, recent studies have moved from a firm-wide focus to an analysis at the office level (c.f., Reynolds and Francis 2000; Francis and Yu 2009; Choi et al. 2010). This shift in focus to less aggregated units of study motivates an analysis of the effects of auditor-in-charge characteristics on audit quality. There are however also explicit reasons for studying audit quality at this level. First, the auditor-in-charge is responsible for audit conduct. In signing the report, the auditor becomes subject to litigation and disciplinary sanctions[1]. The auditor in charge has considerable influence over planning, conduct and reporting (Chin and Chi 2009) particularly when auditing small and medium sized companies. Second, "the auditor shall use professional judgment in planning and performing an audit of financial statements" (ISA 200, p.16). As pointed out by DeFond and Francis (2005, p.10) there is no single correct audit approach to the planning, gathering and interpretation of audit evidence that culminates in the audit report. Regardless of the use of structured approaches at the (global) firm level, auditing is ultimately a matter of professional judgment and quality is therefore likely to vary also within firms and offices. In this study we focus on three categories of auditor-in-charge characteristics.

First, we study the association between number of assignments held by the auditor in charge and audit quality. Swedish laws are currently requiring all companies to be audited. A consequence of this is that auditors' hold many assignments on average and possibly that a category of auditors' trade-off price for quality in order to meet the demand at a market with statutory audits (c.f., Ronnen 1996). Second, as suggested in economics and psychology literatures, experience as well as incentives to put in effort on a task are functions of age (e.g., Bonner and Lewis 1990; Holmström 1999; Morris and Venkatesh 2000) so we study how audit quality evolves with the stage in the

[1] During 2007-2009 a total of 178 disciplinary sanctions were issued by the Supervisory Board of Public Accountants in Sweden. Out of these 178 sanctions, a total of 174 (98 %) sanctions were issued against individual auditors. The remaining four were issued against audit firms.

career of the auditor. Third, standard setters as well as researchers have been concerned about undue dependences on audit fees from a single client (e.g., Li 2009). We study this issue at the auditor-in-charge level, where fee pressure from a single client is most apparent, and in addition we ask whether the significance of the problem is a function of audit firm characteristics. The prior literature on auditor-in-charge (audit-partner) characteristics is scant in general and in particular for SMEs.[2]

To test the associations between auditor[3] characteristics and audit quality, we study auditors' propensity to issue a going-concern opinion (e.g., Knechel and Vanstraelen 2007; Robinson 2008; Li 2009). One could argue that the inclusion of a going concern paragraph is more an indication of conservative reporting behavior. However, based on identifying very low proportion of GC opinions in samples of non-bankrupt firms in Sweden, we stress that a GC paragraph prior to bankruptcy to a high degree represent quality.[4] Our sample consists of 1202 Swedish small and medium-sized limited liability companies that filed for liquidating bankruptcy between October 2008 and September 2009. We study cases in which an audited annual report is issued, and the fiscal year end is within 12 months prior to the bankruptcy filing. This implies that our focus is on the tendencynot to include a going concern paragraph when such a remark is warranted in order to warn the public about impending client failures. The mean and median revenues of the companies in the sample are Euro 1.23 million and Euro 0.38 million respectively.[5]

A study of the private segment audit market is warranted for several reasons. First, the approach taken for audits of privately held companies differ considerably between countries. Laws

[2] Some notable exceptions are: Zerni (2010) study whether industry specialization and specialization at the partner level affects audit pricing He finds that there is a fee premium to auditors that specialize on public companies. Chi et al. (2010) study the association between audit quality and client importance at the partner level for a sample with Taiwanese companies. They fail to find support for the concern that audit partners comprise their independence for economically important clients.

[3] We use the terms auditor and auditor-in-charge as synonyms in the paper.

[4] Svanström (2008) studied a sample of 421 randomly selected SMEs in Sweden. In total less than 7 % of these firms received a non-standardized audit report. Only xx firms had received a GC paragraph. Spjut and Ulfhielm (2008) studied 500 randomly selected SMEs and found that 64 firms (12,8 %) had a non-standardized audit report. Only four firms (0.8 %) had received a going concern paragraph.

[5] Exchange rate of 8th October 2010: 1 EUR=9.30 SEK.

in Sweden, Norway and some other countries require a statutory audit for all limited liability companies independent of their size while audits of private firms are solely made on a voluntarily basis in countries such as Canada, the U.S. and Australia. The revised 8th E.U Directive requires that privately held firms meeting certain size criteria must have a statutory audit and a large number of European countries exempt small firms from the statutory audit.[6] An understanding of how audit markets work under a statutory audit requirement is important for both standard setters and the business community. Second, this size-category of firms is suitable for the study of the impact of auditor characteristics on audit quality since the relative importance of effort, competence, integrity and incentives of the auditor-in-charge is likely to be greater and the relative importance of audit team members is likely to be smaller for SMEs than for publicly traded companies. The SME-segment is characterized by lower litigation risks and reputation costs than the public-firm segment (Hope and Langli 2010). Thus, the behavior of individual auditors is to a smaller extent likely to be restricted by audit firm wide policies and practices. A final reason for why a study of SMEs is motivated is that most of the financial accounting and auditing research is done on publicly traded companies albeit SMEs make up the vast majority of companies in most countries and there are million of SMEs in the world with audited financial statements (Pacter 2004).

The remainder of the study is organized as follows. The next section presents the Swedish institutional setting and Section 3 presents prior literature and our hypothesis. Section 4 presents the data and research design, section 5 includes the main results of the study and section 6 includes some additional analyses. The conclusions of the study are presented in section 7.

2. The Swedish institutional setting

Swedish laws are currently requiring that all limited liability companies have to be audited (Company Act, Chapter 9, para.1). In addition to around 330 000 limited liability companies that

[6]Small firms that are given dispensation from the audit requirement are companies which for two consecutive years have not exceeded two of the following three size criteria: a balance sheet total of 4,4 million euro, a net turnover of 8,8 million euro and an average number of full-time employees of 50 (2006/46/EC).

are audited every year, auditing is also required in some other organizational forms.[7],These audits are conducted by a total of 2321 approved auditors and 1787 authorized auditors in Sweden 2008 (SOU 2008:32; 133-134). From the statutory audit requirement it follows that qualified auditors in Sweden on average will be in charge of a large amount of audit assignments. The majority of these would typically be assignments in very small firms. The audit market in Sweden is dominated by the Big 4 audit firms (SOU 2008:32, p.134). Big 4 in Sweden report revenues of 1.16 billion Euro[8] and employ approx. 56 % of the authorized auditors, and 29 % of the approved auditors. The total market share for the Big 3 audit firms, PricewaterhouseCoopers, Ernst & Young and KPMG, was 34.4 % in 2003, followed by the next three, Deloitte, Lindebergs Grant Thornton[9] and SET Revisionsbyrå, with 10.8 % in market share (Sundberg, 2004). The market share for other audit firms corresponded to 54.8 %. The market share for Big 3 increases gradually with firm size, from 31.3 % in small firms, via 46.9 % in medium sized firms, up to 71.6 % in large firms. The largest audit firm in Sweden, PricewaterhouseCoopers, had in 2006 a total market share of 15 %.

Approved and authorized auditors that have written the auditors' exam are entitled to audit all companies independent of their size. However, the requirements for becoming an authorized auditor are more demanding. In order to become an approved auditor, the candidate has to have Bachelor's degree, at least three years of practice and has to pass an examination of professional competence. In order to become an authorized auditor, a Master's degree is mostly required and five years of experience is required. It is necessary to pass the examination for an approved auditor before the examination as an authorized auditor can be taken. In addition to these types of auditors, there are also some auditors that have received their approval without writing an examination. These auditors can only audit smaller firms.

[7] Further, auditing is required in 21 200 trading partnerships, 15 000 foundations, 1530 foreign branches, 270 insurance companies, 75 banks, 70 economic associations, 15 non-profit organizations, 5 sole proprietorship, and 4 European companies (SOU 2008:32 124).
[8] Revenues as published in annual reports; Öhrlings PricewaterhouseCoopers: 468 million Euro (6/2009), Ernst & Young: 291 million Euro (6/2009), KPMG: 214 million Euro (5/2009) and Deloitte: 189 million Euro (5/2010).
[9] Lindeberg Grant Thornton changed name to Grant Thornton in February 2008.

In most cases an individual auditor is appointed as the auditor at a shareholders' general meeting. However, it is also possible to appoint an audit firm as the auditor which is the case in approximately 9 % of all firms.[10] Independent of whether an individual or an audit firm is formally appointed as the auditor, audit work can be delegated to assistants and responsibility and liability of the auditor in charge is not effected. He or she is personally responsible for signing the audit report and all the decisions taken during the audit process.

2.1 Auditing standards, independence, litigation and disciplinary sanctions

The conduct of the audit is regulated in laws as well as by auditing standards issued by the auditors' professional body FAR, the "Institute for the Accounting Profession". The national auditing standards are since 2004 based on the International Standards of Auditing (ISAs) but some additions and changes have been made in some standards in order to make them consistent with Swedish laws. However, starting from 2011 these national auditing standards will be a direct translation of the ISAs. Auditors' independence is regulated as follows: the Company Law and the Accountants Act includes rules prohibiting auditors from conducting the audit in certain situations. For example, auditors are not allowed to have any financial interests in the firm, or to have a close personal relationship with the client (Accountants Act 21§). Further, auditors should follow the revised 8th EU directives specifying auditors' independence and referring to the EU recommendation on auditor independence (2002/590/EC). Audit firms are generally not prohibited by national or European regulation from providing most types of advisory services to clients. For example, audit firms are allowed to provide tax, legal service, management consulting, investment services and finance services. However, advisory services may in certain cases constitute a threat to independence and whether or not the audit firm is allowed to supply advisory services is assessed on a case to case basis. IFAC's ethical rules are also a part of the independence guidance issued by

[10] In 25 790 firms out of a total of 282 857 firms the elected auditor is an audit firm, which corresponds to a proportion of 9.1 % (UC 2009).

the Institute for the Accounting Profession, and consequently, also have an impact on independence related issues.

Two possible consequences of sub-standard audit procedures or that an auditor gives after for pressure from clients are litigation and disciplinary sanctions. Like most other European countries, the litigation risk is low in Sweden but it is not zero: there are court cases as well as out-of-court settlements. The Supervisory Board of Public Accountants (SBPA) issues disciplinary sanctions against auditors. The possible sanctions are (i) a remembrance, (ii) a warning and (iii) withdrawal of license. SBPA acts on tips from clients, public authorities and individuals, but can also start on own initiatives. During the time period of 2007-2009 disciplinary sanctions have been issued on approximately 4.3 % of qualified auditors. [11] The license was withdrawn in 24 cases which are equal to 0.6 % of all qualified auditors. To sum up, sub-standard auditing procedures and reporting may have consequences for auditors but the risks are probably significantly lower than in the U.S and some other economies.

2.2 Auditors' going concern reporting

The going concern assumption is a fundamental principle in preparation of financial statements. Firm management has the responsibility to evaluate the going concern assumption and factors causing material uncertainty about this assumption should be reported (The Annual Accounts Act, Chapter 2, para.4). The Swedish standard about auditors' reporting when there are doubts about an entity's possibility to continue as a going concern is similar to ISA 570 in all relevant aspects. This standard came into force in January 2004. It requires, in line with ISA 570 and SAS 59, that the auditor should consider the appropriateness of managements' use of the going concern assumption and to evaluate whether there are material uncertainties about the entity's ability to continue as a going concern. Some examples of factors that could raise such concerns are (i) significant recurring

[11] The SBPA opened a total of 411 disciplinary investigations during 2007-2009 (SBPA Annual Report, 2009). 178 or 43 % of these cases lead to the issuing of a disciplinary sanction.

operating losses or working capital deficiencies, (ii) inability to pay obligations as they come due, (iii) loss of major customers or that (iv) suppliers require cash payment in order to deliver goods (RS 570, para.8). The main time span to evaluate for the auditor is the same as for management, that being typically 12 month from the fiscal year end (RS 570, para. 18). If there are significant doubts about the ability to continue as a going concern, the appropriate reporting in the audit report depends on the circumstances and ranges from an explanatory paragraph to an adverse opinion. However, regardless of what is stated by management, the auditor should inform investors about the going concern uncertainty in the audit report (RS 570, para.33-34). We analyze all going-concern reports as one category (GCOPINION) in our main analyses.

The going-concern determination is one of the most difficult and complex decisions faced by the auditing profession (Louwers 1998). Evaluating a client's continuity status is a complex task. The going concern decision can be seen as a two stage process (Asare 1992): a judgment stage were the auditor forms an initial belief about the client's financial distress or stability and a decision stage in which the auditor decides on the type of report to issue. The auditor collects and evaluates evidence in the form of ratios, contrary information and mitigating factors as many different factors may influence the firm’s possibility to continue as a going concern. Making the decision to include the going concern opinion requires integrity for several reasons, not at least since it reduces the risk of client survival and increases the risk of auditor switching (Chow and Rice 1982). Based on the complexity of this decision, the process is likely to require a minimum amount of workload in each audit assignment given that an appropriate evaluation is performed.

2.3 Insolvency rules

There are two routes for financially distressed firms in Sweden: liquidating bankruptcy and restructuring. Bankruptcies are much more common in practice than restructurings. For example, in 2009 there were 6928 bankruptcies and 108 restructurings. Swedish liquidating bankruptcy is

similar to Chapter 7 of the U.S Bankruptcy Code, the liquidation procedure in Germany as well as liquidation procedures in the U.K. (see Couwenberg 2001). Its function is to gather the debtor's assets, sell them, and distribute the proceeds to creditors. Upon commencement of the case, one or more trustees take over the administration of the bankrupt entity and sell the assets. The main task of the trustee is to sell the assets and distribute the proceeds received to the creditors. Swedish restructurings have some similarities with Chapter 11 bankruptcies in the U.S. Our sample for this study includes only liquidating bankruptcy cases.

3. Hypothesis development

3.1 Number of assignments

Ronnen (1996) suggests that under a mandatory audit requirement at least some auditors have reduced incentives to invest in quality. Some firms will undergo less effective audits as some auditors are expected to cut in quality and compete only on price. Ronnen conclude that relative to an unregulated market, the mandatory audit requirement widens the disparity between audit qualities as high quality audits are improved and low-quality audits degraded. There is also empirical evidence suggesting that the demand for auditing drives audit quality choices at a market with statutory audits (e.g., Knechel et al. 2008).

A large number of audit assignments reduce the time that can be spent on each assignment, which arguably can have negative effects on the quality of the audit. We are not aware of any prior studies analyzing the effects of the number of assignments on audit quality but issues related to detrimental effects of having too busy boards have been studied in the corporate governance literature. For example, Fich and Shivdasani (2006) argue that corporate governance is weak in companies in which a majority of the board members hold three or more directorships and that this is associated with a lower performance and valuation of the firm. Jiraporn et al. (2009) find that

individuals with multiple board seats (or "busy" directors) exhibit a higher tendency to be absent from board meetings.

Auditors specialized on the small-firm segment have stronger incentives to specialize on low cost and quality audits because of demand factors. Small companies are mostly manager owned suggesting that the demand for auditing, if the market would be unregulated, is small (c.f., Carey et al. 2000). Furthermore, the personal property of the owner may to a larger extent be used as collateral for loans of the very smallest firms, suggesting that lenders' demand for auditing is smaller. Thus, audit quality may in particular be negatively associated with a large number of small audit assignments. However, a goal with statutory audits is to protect the public interest and the issue whether there are detrimental effects of large numbers of assignments have gained attention from supervisory bodies and practicing auditors.

Dagens Nyheter, a major newspaper in Sweden, published an article in which they were bothered about the increasing number of assignments held by auditors.[12] According to a report by UC, the largest business and credit agency in Sweden, the average number of assignments among qualified auditors increased by 30 % from 1999 until 2004. Moreover, the proportion of auditors with more than 200 assignments increased by over 50 % from 2006 to 2009 (UC 2009). The concern addressed in the article is that it must be very difficult to perform a high quality audit, if you have several hundreds of assignments. The main problem with too many assignments is that the auditor lack sufficient time to really understand the business of the client and to conduct a careful and professional audit. According to Martin Johansson, the former CEO of the Swedish association of auditors (*Svenska Revisorsamfundet, SRS*[13]), no auditor would manage to supervise so many (200) engagements. He argues that typically 70-150 assignments would be manageable, depending on the type of firm.

[12] See Flores article in Dagens Nyheter 8th May 2004. The combination of having hundreds of audit assignments, auditing several large public firms and working full time as CEO of a Big 4 audit firm is discussed in relation to what is a reasonable workload, in a couple of articles published in Svenska Dagbladet in November 2010.

[13] SRS joined FAR to form the only current Institute of professional public accountants in Sweden, FARSRS, in 2006. Since March 2010 this Institute is named FAR.

The Financial Supervisory Authority of Norway (Finanstillsynet) has raised concerns about an increase from an average of 113 assignments per audit partner in 2004 to 149 in 2008. The immediate consequence of an increased number of assignments held is reduced time spent by the audit partner on each assignment and more time spent on administration. According to the Supervisory body there is a risk that audit partners become less involved in following up and controlling the work carried out (by auditor assistants). Ultimately too many assignments may impair audit quality (Finanstilsynet 2010; 15).

Regulators on a national, European and International level are in general concerned with audit quality issues. However, to date regulators around the world have not paid (any) attention to the issue of number of audit assignments. India though is an exception. India has an upper limit for the number of audit assignments allowed to be held by a single auditor. Section 224 (1B) in the Company Act puts certain ceilings on the number of audits of public firms that a person or a firm can undertake at any point of time. According to this standard the company board should not appoint any auditor or audit firm if such person or firm at time of the appointment or re-appointment is holding more than a specified number of audit assignments. The maximum number of assignments to be held is currently set at 30 per partner. The exclusion of private firms have however been rendered largely ineffective following the notification by The Central Council of the Institute of Chartered Accountants of India (ICAI), saying that an auditor is guilty of professional misconduct if he or she at any time holds more than 30 audit assignments, regardless if they are private or public (Gupta, 2005: 485). The objective of setting a restriction on the number of audit assignments is to prevent concentrations of audits to a few hands (Basu, 2006: 229). The ICAI argues that auditors should not compromise quality of work and independence by taking more responsibility in terms of the number of assignment. The ceiling should be viewed in the light of ICAI having more than 50 000 practicing members in India. There is no statutory audit requirement for SMEs in India.

The discussion above focuses on the detrimental effects of an individual auditor having too large a number of assignments. However, a small amount of assignments might also be problematic due to lack of practical training. As argued in the Corporate Governance literature, service on multiple boards provides a director with a greater diversity of experience and knowledge. Fama and Jensen (1983) expressed that multiple board appointments signal director quality as being appointed to numerous boards might be the result of superior performance in the past. However, under mandatory auditing, a high number of assignments do not necessarily signal high quality. We summarize this discussion in our first hypothesis:

H_1: There is a negative association between the number of audit assignments and audit quality.

3.2 Age and experience of the auditor-in-charge

It has long been recognized in the literature that incentives of managers and other employees vary with age. Studies suggest that firms with CEOs closer to retirement age spend less on R&D and cut back on capital expenditures (e.g., Dechow and Sloan 1991; Barker and Mueller 2002). Demers and Wong (2010) argue that managers that are late in their career have greater incentives to manage earnings upward than managers that are in an earlier phase of their career. However, the possible associations between the age of the auditor-in-charge and auditor reporting accuracy have not obtained attention in the auditing literature. The association between age and audit quality is multi-faceted in that experience, incentives to put in effort, risk tolerance as well as the incentive to adopt new tools and technologies have been suggested to be associated with the age.

In economics there are a number of studies about career-concerns and the incentives to put in effort (e.g., Gibbons and Murphy 1992). Holmström (1982, 1999) studies in his seminal article how a person's career concerns influence the incentives to put in effort on the job. His analyses suggests that, if only career concerns drive effort, young managers have the incentive to work too hard in the

early years of the career when the market still is assessing their type, while the opposite is the case later on in the career. In order to compensate for diminishing incentives, theory predicts that companies should focus more on bonuses and other explicit compensation contracts as workers are close to retirement (Gibbons and Murphy 1992). There is limited empirical research on this issue in general and on auditor reporting behavior in particular. However, an example showing that managers do not always have the right incentives is Gibbs (1995) study of one company. His findings indicate that companies run too simple incentive schemes, and furthermore, he finds that performance declines for employees passed over for promotion after controlling for ability differences.

In audit firms, the correctness of audit reports is likely to be one externally observable signal of the quality of audit work. In line with the predictions by Holmström (1982, 1999) auditors that are early in their career have strong incentives to put in effort to avoid the issuance of an audit report without a going concern paragraph when such a paragraph would have been warranted and vice versa in order to signal ability to their superiors. Unless the incentive problem is appropriately solved, e.g. by explicit contracts linking pay to the quality of reporting, the theory predicts a lower effort by auditors close to retirement. The consequence of a smaller effort may be more inaccurate reporting. Indeed, the incentive effects may in practice be compensated by experience. There is an extensive literature showing that more experienced auditors, among other things, are better able to assign appropriate decision weights to the evidence they acquire (e.g., Bonner and Lewis 1990). Ang et al. (1993) argue that older auditors are in a better position to get more satisfying and rewarding jobs and find that job satisfaction increases as external auditors becomes older.

Another stream of literature links age to adoption of new techniques and participation in training and education. Research show that older workers (on average defined as being older than 53 years) participate in job training to a lesser extent than younger workers (Cleveland and Shore 1992) and that they also perform worse in training activities (Kubeck et al. 1996). An explanation for a

reduced participation in training activities is impending retirement which provides relatively poorer returns on investments from a management perspective. Older workers may also perceive participating in training activities to be less beneficial for them, as compared to younger workers, due to lower utility and payoff. Maurer (2001) suggests that the self-confidence for the ability to learn is decreasing with age and that this is an important contributing factor for lower participation in learning/development activities by older workers. The ISA 570 based going-concern reporting had been in place only four to five years as our study was conducted, suggesting that the incentive to learn new rules may have a significant impact on the reporting.[14]

A final noteworthy thing is that auditors' ethical behavior may have an impact on the reporting. It takes integrity to include the going-concern paragraph as this may have detrimental consequences for the client. There is some evidence indicating, that auditors' moral reasoning decrease with age (Eynon et al. 1997), experience and rank (Ponemon and Gabhart 1993; Shaub 1994). Findings in Ponemon (1992) and Shaub (1994) indicate that experience first have a positive affect on moral reasoning, but then declines at the partner level. However, the evidence is mixed and for example Thorne (1999) has failed to identify an association between measures of moral reasoning and the age, or experience, of auditors.

In summary, the literature suggests that audit quality improves with experience but also that the incentive to put in effort decreases with the age of the auditor. The first effect is likely to dominate in the early phases of the career while the latter effect is likely to dominate during later phases of the career. We summarize the discussion in the following hypotheses:

H_{2a}: Audit quality is increasing with the experience of the auditor.

H_{2b}: Audit quality is decreasing as the auditor approaches the retirement age.

[14] A review of disciplinary investigation against auditors show that prior to 2006 there are no cases on going concern reporting. During 2006-2010 a total of 19 cases concerns to some extent going concern reporting (according to RS 570).

3.3 Fee dependency and audit quality

Larger clients create greater fee dependence (Reynolds and Francis 2001). However, with more than one audit client, the financial dependence on a single client decreases. Thus, a larger client portfolio will mitigate economic dependence. There has been a world-wide interest from regulators on the financial interests of auditors in their clients and the potential threat to auditor independence (Craswell et al. 2002). Regulators have expressed that when total fees generated by an assurance client represents a large proportion of a firm's total fees, the dependency on that client and the concern about the possibility of losing that client may create a self-interest threat (IFAC Code of Ethics 2006; 2002/590/EC).

Most previous research has failed to find an association between non-audit or audit fees and proxies for auditor independence (e.g., DeFond et al. 2002; Ashbaugh et al. 2003; Larcker and Rickardson 2004; Huang et.al. 2007; Hope and Langli 2010). The literature has primarily looked at the issue of fee dependence from the perspective of the audit firm and only more recently from the local audit office (e.g., Li 2009). However, the impact of losing an important client is arguably more important to the engagement partner and the local offices well-being than to the audit firm as a whole (Reynolds and Francis 2001; DeFond and Francis 2005). We argue that fee dependency from a single client is likely to be most evident on partner level as losing a major client may immediately affect the future prospects of the audit partner (promotion). The loss of a single private client is unlikely to be of significant economic importance at any other level.

The potential consequences of high fee dependence from a single client may vary with audit firm size. Big 4 auditors are likely to suffer more reputation loss as a result of larger investments in reputation capital (Li 2009) and technology (Craswell et al. 2002). Institutional pressures coming from the audit firm level to perform high quality audits (on all engagements under mandatory auditing) may provide incentives for audit partners in Big 4 audit firms to maintain quality (see

also arguments in Ronnen 1996). Based on the arguments above we formulate the following hypotheses:

H_{3a}: A high economic dependence on a client is negatively associated with audit quality.

H_{3b}: Economic dependence on a client has a less negative impact on audit quality for Big 4 audit firms than for non-Big 4 audit firms.

4. Data and research design

4.1 Sample

We use a sample with 1202 Swedish companies that filed for liquidating bankruptcy between October 2008 and September 2009. The bankrupt companies were identified from the database Affärsdata that includes information about all bankruptcy filings in Sweden. This resulted in an initial sample of 6092 bankruptcy filings.[15] For inclusion in the sample we required access to an audited annual report with a fiscal year end within 12 months prior to the bankruptcy filing.[16] The auditor should (re)evaluate the GC assumption every year which means that audit quality with regard to GC reporting and bankruptcy filing can only be studied within that time span. The financial statements as well as the audit reports of the companies were retrieved from Affärsdata and were available for 1446 companies. The audit reports were manually examined for remarks related to going-concern uncertainties and were classified into two groups; a group with a GC paragraph and another group without this paragraph. .

We omitted 6 companies whose audit report was signed by two auditors, 20 companies because we could not identify the auditor from files with the names of auditors in Sweden, 43 observations because the audit report was signed after the date of the bankruptcy filing leaving 1377 observations. Finally, we excluded 141 observations with zero in sales, 13 observations for which

[15] Only limited liability companies were included. The total number of bankruptcies in Sweden was 6626 in 2008 and 7933 in 2009 according to statistics prepared by Kronofogden, the Swedish Enforcement Authority (KFM Rapport 2/2010 p. 5).

[16] This requirement is necessarily in order to conclude effects on audit quality, as the inclusion of a GC opinion should indicate"high audit quality" and the lack of a GC opinion should indicate"low quality".

the number of the auditors' audit assignments were missing and 21 observations for which any of the other variables needed for the analyses were missing, leaving 1202 companies. These companies were audited by 839 different auditors. 415 of the 1202 (34.5 %) companies were audited by auditors at Big 4 firms.[17]

4.2 Research design

Audit quality is measured as the likelihood of a going concern opinion. The following logistic model is used to test our hypotheses.

$$GCOPINION = \alpha + \beta_1*ASSIGNMENTS + \beta_2*AGE + \beta_3*SHORT\_EXPERIENCE + \beta_4*SHORTEXPERIENCE*AGE + \beta_5*MORE5SALES + \beta_6*MORE5SALES*BIG4 + \beta_7*BIG4 + \beta_8*LNOFFICESIZE + \beta_9*NASD + \beta_{10}*AUDLAG + \beta_{11}*BANKRLAG + \beta_{12}*ChAUD + \beta_{13}*BUSYSEASON + \beta_{14}*LNCOMPAGE + \beta_{15}*LOSS + \beta_{15}*NITA + \beta_{16}*TLTA + \beta_{17}*CACL + \beta_{18}*LNASSETS + + \beta_{19\text{-}20}*CERT_i + \beta_{21\text{-}26}*INDUSTRY_i + \varepsilon$$

where:

GCOPINION = 1 for companies receiving a going-concern paragraph and 0 otherwise.

ASSIGNMENTS = Number of audit assignments by the auditor-in-charge of the company in question.

AGE= Age of the auditor-in-charge in years.

SHORTEXPERIENCE= An indicator variable taking the value one for the percentile of auditors with the shortest experience (experience < 5.73 years).

[17] 48.7 % of all auditors in Sweden were employed by Big 4 companies. This indicates that failing companies are more likely to be audited by non-Big 4 firms than companies in general in Sweden.

MORE5SALES =	1 if the sales of the client are more than 5 % of the aggregate sales of all clients that the auditor is in charge of. MORE5SALES measures fee dependency[18].
BIG 4 =	1 if the company is audited by PriceWaterhouseCoopers, Ernst & Young, KPMG or Deloitte.
LNOFFICESIZE =	Natural logarithm of the number of CPA auditors at the office.
NASD =	1 if the client has purchased non-audit services from the audit firm and 0 otherwise.
AUDLAG =	Number of days between the balance sheet date and the audit report filing date
BANKRLAG =	Number of days between the audit report filing date and the bankruptcy filing date
CHAUD =	1 if the company has changed auditor after its previous financial statement and 0 otherwise
BUSYSEASON =	1 if the balance sheet date is 31st of December and 0 otherwise
LNCOMPAGE =	The natural logarithm of the age of the company
LOSS =	1 if net income is negative
NITA=	Net income to total assets
TLTA=	Total liabilities to total assets
CACL=	Current assets to current liabilities
LNASSETS =	The natural logarithm of total assets
$CERT_i$ =	Takes the value 1 if the auditor is an approved auditor that has not written the Swedish CPA exam; 2 if the auditor is an approved auditor

The most dominant determinant of audit fees found across all published studies is size (Hay et al. 2006), typically measured as the natural logarithm of total assets. The amount of variation in fees explained by total assets is generally over 70 percent.

that has written the Swedish CPA exam and 3 1 if the auditor is an authorized auditor

$INDUSTRY_i$ = 1 = Manufacturing, 2= Retail, 3 = Services, 4 = Hotel and restaurants, 5= Transport, 6 = Financial/Real estate, 7 = Others

We use the following variables to test our hypotheses. Hypothesis one predicts that a large number of audit assignments has a negative effect on audit quality. We use the number of audit assignments by the auditor in charge of the audit of the company in question as our main measure (ASSIGNMENTS). The mean (median) number of assignments is 123.4 (114). The number is from the files by Upplysningscentralen (a Swedish credit and business agency). The files by Upplysningscentralen underestimate the actual number of assignments somewhat because the figure does not include cases when audit firms instead of an auditor that is working at the audit firm is formally hired as an auditor. Based on data received from Upplysningscentralen we calculated that audit firms are elected as the auditor in about 9 % of all cases in Sweden. Thus, we use the number from the files of Affärsdata as a complementary measure. The data provided by Affärsdata include also cases when the audit firm is formally elected as the auditor. However, the drawback of this data is that also cases when the auditor has been elected as a deputy auditor are included. Normally, the deputy auditor does not do any audit work implying that the figures by Affärsdata overestimate the true number of assignments. As further tests of whether the workload of the auditor-in-charge is associated with audit quality, we replace the number of assignments with the natural logarithm of the aggregate sale of all clients in the auditor's portfolio.

Hypothesis two predicts that experience as well as the proximity to the retirement age has an effect on audit quality. We measure the proximity to the retirement age with the age of the auditor-in-charge (AGE). The mean (median) age of the auditors in the sample is 50.1 years (52 years) and one-quarter of the auditors are older than 58 years. Experience arguably increase audit quality particularly during the early years in the career. We study this by including the indicator variable

SHORTEXPERIENCE in the regressions as well as by including an interaction between AGE and SHORTEXPERIENCE. SHORTEXPERIENCE is an indicator variable taking the value one for the percentile of auditors with the shortest experience. Experience is measured as the time between certification and the conduct of the study. 10 % of the auditors in the sample have a shorter experience than 5.73 years. Hypothesis 2a predicts a negative coefficient on SHORTEXPERIENCE and a positive coefficient on the interaction between SHORTEXPERIENCE and AGE. Hypothesis 2b predicts a negative coefficient on AGE. In complimentary analyses, we use indicator variables based on quartiles of the auditors' age as measures.

Hypothesis 3a predicts a negative association between audit quality and fee dependence. Fee dependence is measured with MORE5SALES that is an indicator variable taking the value one if the sales of the client are more than 5 % of the aggregate sales of all clients audited by the auditor in charge. MORE5SALES takes the value one for slightly more than 10 % of the companies in the sample. Hypothesis 3b predicts that dependence on a client has a smaller impact on audit quality for Big 4 auditors. Interactions between MORE5SALES and BIG 4 are used to test this hypothesis. Positive coefficients on the interactions are expected. A number of alternative measures are also used to test whether the results are sensitive to the measurement of dependency.

The following control variables are included in the model. Prior studies suggest that the quality of audits increase with office size (e.g., Francis and Yu 2009; Choi et al. 2010). The mean (median) number of auditors with a CPA at the offices at the firms in the data is 15.7 (4.0) CPAs. We measure the size of the office with the natural logarithm of the number of auditors with a CPA at the office (LNOFFICESIZE).

Based on DeAngelo's (1981) proposition that larger audit firms have more reputation capital to protect, and thus, have a greater incentive to provide high quality audits, a large number of studies have examined the association between auditor size and audit quality (e.g., Becker et al. 1998; VanderBauwhede and Willekens 2004; Sundgren and Johansson 2004; Maijoor and

Vanstraelen 2006; Van Tandeloo and Vanstraelen 2007). Some studies also suggest that Big 4 auditors are more conservative as they have more reputation capital to protect (e.g., Robinson 2008). We use the indicator variable BIG 4 as the measure. 34.5 % of the companies in the sample are audited by a Big 4 audit firm.

Prior studies suggest an association between the provision of non-audit services and audit quality albeit results with respect to the direction of the association are mixed. Examples of studies suggesting that non-audit services are negatively associated with the issuance of a going-concern opinion are Wines (1994), Firth (2002) and Basioudis et al. (2008). On the other hand, Robinson (2008) found a positive association between the provision of tax services and the likelihood of correctly issuing a going concern opinion prior to bankruptcy. She concluded that this result is consistent with the existence of knowledge spillovers from advisory work to auditing work. We use NASD as the measure. The variable takes the value one if the audit firm has provided non-audit services to the client and zero otherwise. 47.7 % of the firms in the sample purchased non-audit services from the audit firm.

Following prior studies we also include AUDLAG as a control variable (e.g., Li 2009). AUDLAG is the time in days between the balance sheet date and the date when the audit report was signed as a control variable and it has been found that the length of the time is positively associated with modified audit opinions (DeFond et al. 2002; Geiger et al. 2005). We also include the time between audit report date and the date of the bankruptcy petition as a control variable (BANKRLAG). The financial condition of a company is on average likely to be better if it can survive for a longer period of time before it files for bankruptcy. Thus, the accuracy of auditors' going concern opinions is likely to decrease with BANKRLAG.

Prior studies suggest that companies can change auditor in order to avoid unclean audit opinions (Lennox 2000; Carcello and Neal 2003). We include CHAUD to control for this. Experimental studies have shown that excessive stress and auditor burnout may lead to lower

quality audits (e.g., Coram et al. 2004). Most companies have 31st December as their balance sheet date, suggesting that auditors have a busy period as these companies are audited during the first half of the year. We include BUSYSEASON to control for this possibility.

The likelihood of a going concern opinion is expected to be associated with the financial conditions of the company. Following Li (2009) we include LOSS, NITA, TLTA and CACL as measures.[19] The ratios include a number of observations with very extreme values and we winsorized NITA, TLTA and CACL 1 % in each tail. In our additional analyses, we replace the variables with the probability of bankruptcy, measured with Shumway's (2001) estimate of Zmijewski's (1984) model (PROBZ).

We include the logarithm of total assets as a control for size (LNASSETS). Prior research finds a negative relation between a company's size and its likelihood of receiving a going-concern opinion after controlling for the relation between size and bankruptcy (e.g., Mutchler et al. 1997; Li 2009). The suggested reason for this is that auditors may think that large companies have more resources to avoid bankruptcy or more negotiation power with the auditors in the GC opinion decision process (Li 2009). However, a reason for a positive association among small and mid-sized companies (SMEs) is that lager SMEs are more visible and that the reputation cost with incorrectly issuing a clean opinion is higher.

Furthermore, $CERT_i$ is included to control for the possible effect of the auditors' certification on the results. $CERT_i$ takes the value one if an auditor has the lower "approved" qualification and it takes the value two if an auditor has the higher "authorized" qualification. Auditors with the approved qualification that have not written the Swedish CPA exam are in the reference category in the regressions. These auditors are on average older than the other auditors in the sample. 34.4 % of the companies in the sample are audited by approved auditors that have not written the exam, 7.1 % are audited by approved auditors that have written the audit exam and 58.5 % are audited by

[19] Li (2009) included in addition to the variables that we use an indicator taking the value one if cash flow from operations were negative as well as the change in long-term-debt as controls for the financial conditions of the firms. The use of these variables would result in a loss of a significant number of observations in our data.

"authorized" auditors. Finally, we control industry by including industry indicator variables for manufacturing, retail, services, hotel and restaurants, transport, and financial/real estate.

4.3 Descriptive evidence

Descriptive statistics are presented in Table 1. All tests in this table, as well as in the text and in other tables in the study are two-tailed tests.

The mean (median) revenues of the companies are Euro 1.23 million (Euro 0.38 million).[20] As one could surmise as the sample consists of failing companies, the solvency and profitability is low. The median value of the solvency, calculated as shareholder's equity to total assets, is 6.7 %. The median return-on-assets is -7.3 %. The average values are much lower as they are influenced by a number of extreme observations. The 1202 companies in the sample are audited by 839 auditors. Many of the auditors in the sample work in small offices. It can be seen from the Table that the mean and median number of CPA auditors at the offices are 15.7 and 4 respectively. 26.9 % work in offices with just one CPA.

[Table 1 about here]

Auditors with a large number of assignments work at smaller offices. Auditors with more than 200 assignments work at offices with an average 10.9 CPAs and auditors with less than 200 assignments work at offices with an average of 16.6 CPAs (p-value = 0.06). The median numbers of CPAs are 2 and 4 CPAs respectively (p-value < 0.01). Auditors at Big 4 audit firms have on average 97.6 assignments and auditors at non-Big 4 firms have on average 137.0 assignments (p-value < 0.01).

Auditors at small offices are also older: the Spearman rank correlation coefficient between the age of the auditor and the size of the office is – 0.183 (p-value < 0.01). The average age of the auditors at offices with only one CPA is 53.1 years. The average age of the auditors working at

[20] 1EURO = 9.30 SEK (Exchange rate 8th of October 2010).

offices with more than one CPA is 50.1 years (p-value < 0.01). The average age of the auditors at Big 4 audit firms is 49.2 years and the average age of auditors at non-Big 4 audit firms is 51.8 years (p-value < 0.01).

There is no significant association between the size of the office and our dependency measure MORE5SALES. However, MORE5SALES takes the value one for 15.1 % of the cases for auditors at Big 4 audit firms and 9.1 % for auditors at non-Big 4 firms (p-value < 0.01), indicating that auditors at Big 4 firms more frequently are economically dependent on their clients than auditors at non-Big 4 firms. The industry distribution of the companies is in Panel B of Table 1 and it can be seen that slightly more than 50 % of the companies are from the manufacturing or retail sector.

Auditors issued a standard audit report with an unmodified opinion for 503 of the 1202 (41.9%) companies in the sample. Thus, the auditors added an emphasis of matter paragraph or modified the opinion for 58.1% of the companies in the sample. The audit report included either an additional paragraph or was modified with respect to the company's ability to continue as a going concern in 17.55 % (211 / 1202).[21]

17.55 % with going concern opinions is a much lower percentage than what has been found for publicly traded companies. For example, Robinson (2008), who studied a sample with 209 bankrupt companies from the U.S., found that auditors issued a going concern opinion for 73 % of the companies. Geiger et al. (2005) reported an increase in going concern opinions prior to bankruptcy from 40 % in 2000-2001 to 70 % in 2002-2003. However, Barnes and Hooi (1987) that studies a sample with privately held firms in the U.K found that only 5 % of the companies received a going concern modification prior to bankruptcy (cited by Lennox, 1999). Carcello et al. (2009) studied samples of private firms in Belgium during 1995-1996 and 2001-2002 and report that 42 % and 72

[21] Auditors should issue an unqualified audit report with an emphasis of matter paragraph if the going concern issue has been appropriately dealt with in the financial statements and qualify the audit report when the disclosure is inadequate. For 102 of the 211 cases auditors pointed out that the information in the financial statements was adequate and in 12 of the cases auditors qualified the audit report. The auditors did not explicitly state whether they thought the information about the going concern issue was adequate in the remaining 97 cases. The rules about reporting are similar in the Swedish RS standards as in ISA 570. The main regulations about auditor's reporting when the information is adequate and inadequate are in RS 570 para. 33 and 34.

% respectively had received a GC opinion prior to filing for bankruptcy. The reported proportions in these studies indicate a great variation in the accuracy of GC reporting among auditors in different countries and over time.

Linear correlations between the variables are presented in Table 2. It can be seen from the table that the correlations are generally low.

[Table 2 about here]

5. Results

Our main results are presented in Table 3 and Table 4. Table 3 includes univariate results and Table 4 includes logistic regression results. Four regressions are reported in the table. Regressions 1 and 2 include all control variables but only regression 2 includes the interaction between AGE and SHORTEXPERIENCE. In regressions 3 and 4 insignificant control variables have been excluded from the models. Likelihood ratio tests show that all models are highly significant (p-values < 0.0001).The pseudo R-squares are ranging from 0.1390 to 0.1505. The data includes multiple observations on some auditors, and therefore, White robust standard errors clustered on auditors are reported (Rogers 1993).

5.1 Test variables

Our first hypothesis focuses on the association between the number of audit assignments and audit quality. We use ASSIGNMENTS as our main measure and it can be seen from Table 3 that the average number of assignments for the auditors that issued a going concern opinion is 111,5 and that the average is 125.9 for the auditors that did not issue a going concern opinion (p-value < 0.01 with a t-test). ASSIGNMENTS have also negative coefficients in the logistic regressions in Table 4. The coefficients are significant at the 0.05 level in three of the four regressions and significant at the 0.10 level in the final one.

[Table 3 about here]

As described in section 3.1, it has been argued that it has to be very hard to supervise as many as 200 audit assignments. Based on this we constructed an indicator variable taking the value one if the number of assignments exceed 200 audits. Auditors with more than 200 assignments issued a going concern opinion for 10.9 % of the companies in the sample (not reported in tables). The corresponding percentage for auditors with less than 200 assignments is 18.8 % (p-value < 0.01 in chi-square test). We also tried to replace ASSIGNMENTS in Table 4 with the indicator variable and the results show that the likelihood of a going concern opinion is negatively associated with having more than 200 audit assignments (p-values < 0.05).

[Table 4 about here]

Our measure of the number of audit assignments is retrieved from the databases of Upplysningscentralen (UC) and a drawback of the measure is that it includes only assignments when the auditor as a person has been elected as the auditor. Cases when an audit firm formally has been hired are not included. To test the robustness of the results, we use the number of assignments by Affärsdata as an alternative measure. Their measure includes cases where the audit firm is appointed as the auditor. However, the drawback of this measure is that deputy auditors also are included in the measure. Deputy auditors typically do not conduct any audit work. This measure is also negatively and significantly associated with the likelihood of a going concern opinion (p-values < 0.10).

In the motivation of hypothesis 1 we argue that a large number of assignments have a negative impact on audit quality. However, auditors with few assignments might be less experienced and consequently more frequently conclude that a failing company does not have going-concern problems. To test this assertion we constructed ten indicator variables based on the percentiles of the number of assignments. The results do not support this assertion. Ten percent of the companies have fewer than 29 assignments according to the information received fromUC.

These auditors issued a going concern paragraph for 17.97 % of the companies which is close to the overall average (not reported in tables). For comparison, the percentile with the largest number of assignments issued a going concern opinion only for 9.17 % of the companies.

The audit of a large company requires considerably more work than a smaller one. On the other hand, it is probably easier to delegate a part of the work to other auditors and assistants and yet have enough time to supervise the audit for larger firms. In order to study whether there is also a negative association between the aggregate size of the clients and audit quality, we replaced the number of assignments in Table 4 with the natural logarithm of the aggregate sales of all clients of the auditors (not reported). The variable has negative but insignificant coefficients in the regressions (p-values around 0.2). The results are qualitatively similar as we replace the logarithm of sales with the logarithm of assets. Thus, the results show that a large number of audit assignments are negatively associated with audit quality but a large client portfolio is not necessarily a problem.

Hypothesis 2a predicts that audit quality increases with tenure during the first years in office and hypothesis 2b predicts that audit quality thereafter declines as a consequence of incentive effects. We use the indicator variable SHORTEXPERIENCE and the interaction between SHORTEXPERIENCE and AGE to test hypothesis 2a. If the quality of the going concern reporting increases with experience, a negative sign is expected on SHORTEXPERIENCE and a positive sign is expected on the interaction between AGE and SHORTEXPERIENCE. Controlling for experience effects early in the career, AGE tests the incentive effects suggested in hypothesis 2b.

It can be seen from Table 3 that auditors for which SHORTEXPERIENCE takes the value one issued a going concern opinion in 16.7 %. The corresponding percentage is 17.7 % for more experienced auditors (p-value = 0.79). Furthermore, it can be seen from Table 4 that SHORTEXPERIENCE as well as the interaction between SHORTEXPERIENCE and AGE is insignificant in all regressions. Thus, the results in the tables do not support hypothesis 2a.

On the other hand, it can be seen from the tables that older auditors issue a going concern opinion less frequently. Table 3 shows that the average ages of the auditors that issued and did not issue a going concern opinion are 48.9 years and 51.3 years respectively (p-value < 0.01). The coefficients of AGE are also negative and significant at the 0.01 level in the logistic regressions in Table 4.[22] As a further test we constructed an ordinal scale variable of age based on quartiles and replaced the age and experience variables with this variable in Table 4 (not reported in tables).[23] The quartile with the oldest auditors was significantly less likely to issue a going concern opinion than the quartile with the youngest auditors (p-value < 0.05 in all regressions). There were no significant differences between the first, second and third quartiles. These results further support our finding that old auditors are less likely to issue going concern opinions.

Hypothesis 3a predicts a negative association between the dependency on a client and the likelihood of a going-concern opinion. We use MORE5SALES as the measure in our main analyses. The univariate results in Table 3 provides some support for this hypothesis as it can be seen that auditors issued a going concern opinion in 11.9 % of the cases when the sales of the client was higher than 5 % of the aggregate sales of all clients. The corresponding percentage when the sales of the client are less than 5 % of the aggregate sales of all clients is 18.3 %. (p-value = 0.065).

Big 4 firms have a larger clientele than non-Big 4 firms and they are arguably also more concerned about their reputation. Thus, in hypothesis 3b we predict a less negative association

[22] The working environment in Big 4 firms differ in many ways from the working environment in non Big 4 firms: Big 4 firms are part of an international network and audit most of the publicly traded companies implying that reputation concerns are more important. Furthermore, the sizes of the companies make it easier to arrange education. In large offices issues can more easily be discussed with colleagues. In order to test whether these factors have an impact on the association between age and the likelihood of a going-concern opinion, we included interactions between AGE and BIG 4 in the regressions. The coefficients of the interactions were insignificant. Furthermore, we tried to include interactions between BIG 4 and SHORTEXPERIENCE in the regressions. These interactions had positive but insignificant coefficients. Finally, we tested whether the association between age and the likelihood of a going concern opinion depends on the size of the audit firm office by including an interaction between AGE and the indicator variable SMALLOFFICE. SMALLOFFICE takes the value one if the office has less than 4 CPAs (4 is the median value of office size). Also these interactions were insignificant.

[23] This variable takes the value one if the age is less than 44 years, one if the age is less than 53 years, three if the age is less than 58 years and four if the age of the auditor-in-charge is more or equal to 58 years.

between the auditor's dependency on a client and the likelihood of a going-concern opinion. The interaction BIG4 * MORE5SALES is used to test hypothesis 3b.

In regressions 1 and 3 we test hypothesis 3a without distinguishing between Big 4 and non-Big 4 audited firms. It can be seen from the Table that MORE5SALES has negative and significant coefficients which supports hypothesis 3a (p-values < 0.01). Regressions 2 and 4 include interactions between BIG 4 and MORE5SALES and the interactions have positive coefficients that are significantly different from zero at the 0.05 level. The association for Big 4 audited firms can be calculated by summing the coefficients of MORE5SALES and BIG4 * MORE5SALES.[24] The sums of the coefficients are negative but insignificant.[25]

As a test of the robustness of the results we first replaced MORE5SALES with MORE10SALES, which takes the value one if the client's sale is more than 10 % of the aggregate sale of all clients of the auditor-in-charge. MORE10SALES takes the value one for 6.7 % of the observations in the sample. The coefficients in these regressions have the expected signs but the magnitudes of the coefficients are higher than in Table 4 (p-values < 0.05). The interactions between BIG4 and MORE10SALES have positive and significant coefficients as in Table 4 (not reported in tables). As a further test we run the regressions with the ratio of the client's sales to the aggregate sales of all clients of the auditor instead of MORE5SALES. The ratio has negative coefficients in all four regressions but the coefficients were significant at the 0.10 only in the regression without interactions between Big4 and the dependency measures. The interactions between Big 4 and the dependency measure have positive but insignificant coefficients.

[24] The results were qualitatively similar when we used an indicator variable taking the value one if the client's assets were higher than 5 % of the aggregate assets of all clients as the dependency measure.

[25] Big 4 audit firms have on average larger offices. In order to test whether there is also an office effect we added the interaction LNOFFICESIZE*MORE5SALES to the regressions in Table 4. These interactions were insignificant. The interactions between Big 4 and the dependency variables were still significant in these regressions. These results show that it is differences between Big 4 and non-Big 4 companies, but not the sizes of the offices, which affect the strength of the association between the dependency variables and the likelihood of a going concern opinion.

In conclusion, the results support hypotheses 3a and 3b. However, they indicate that independence is impaired only if the sales of the client in relation to the aggregate sales of the clients in the auditor's portfolio is fairly high.[26]

5.2 Control variables

A notable result is that the size of the office, measured with LNOFFICESIZE, has positive and significant coefficients in all regressions (p-values < 0.01). The result that there is a positive association between the size of the office and audit quality corresponds with findings in some new studies of publicly traded companies (e.g., Francis and Yu 2009; Choi et al. 2010). We are not aware of related prior studies of privately held companies.

We use NASD as the main measure of non-audit services provided to the audit client and it can be seen from the table that the coefficients are positive and significant at the 0.05 level the regressions. Thus, our results indicate that the provision of non-audit services do not harm auditors' independence. On the contrary, the results with NASD support the view that spillovers from advisory services to auditing improve audit quality. This result is in concordance with Robinson (2008).[27]

Furthermore, consistent with prior studies, companies with going concern opinions experience longer audit report lags, shorter bankruptcy lags and have higher probabilities of bankruptcy (e.g., DeFond et al. 2002; Geiger et al. 2005; Li 2009; Hope and Langli 2010). However, contrary to most prior studies we find a weak positive association between the size of the company and the likelihood of a going concern opinion.. A possible reason is that we focus on SMEs and the litigation risk as well as reputation loss of incorrectly issuing a clean audit opinion for very small

[26] A further results that strengthens our conclusion that only a fairly high dependence on a client impairs independence is that an indicator variable taking the value one if the sales of the client was more than 2 % of the aggregate sales of all clients was insignificant.

[27] The results in Table 4 focus on the choice between purchasing and not purchasing non-audit services from the audit firms. In order to study whether the amount of non-audit fees is associated with the reporting we replaced NASD with the fee ratio (non-audit fees to the sum of non-audit fees and audit fees). The coefficients of the fee ratio were positive in all four regressions. The coefficients were significant at the 0.10 level in regressions 1 and 2 and at the 0.05 level in regressions 3 and 4.

companies is likely to be close to zero. However, somewhat larger companies draw more attention from creditors and the public, implying that the costs of erroneous audit opinions are higher.[28]

Some prior studies suggest that companies switch auditor in order to avoid unclean opinions (e.g., Lennox 2000). This suggests that companies would be less likely to receive a going concern opinion after an auditor replacement. We use ChAUD as the measure but we find that it is not significantly associated with the likelihood of a going concern opinion. We included BUSYSEASON in the regressions in order to study whether audit quality is lower if the balance sheet date is 31st December. Experimental studies have shown that excessive stress and auditor burnout may lead to lower quality audits (e.g., Coram et al. 2004). However, BUSYSEASON is insignificant in the regressions.

The companies in the sample are audited by auditors with a lower and a higher certification. Furthermore, some auditors with the lower certification have received their certification before the CPA exam became obligatory. It can be seen from the univariate results in Table 3 that auditors with the lower certification that received their certification before the exam become obligatory issued a going concern opinion for 14.01 % of the companies. The corresponding percentages for the other types of auditors are 20.00 % and 19.29 % (p-value for chi-square test is 0.067). However, the auditor type variables are not significant in the logistic regressions.

6. Additional analyses

To provide additional insights related to the hypotheses in our study we performed a number of supplementary analyses.

[28] Hope and Langli (2010), that also studied privately held companies, found a negative association between the firm's size and the likelihood of a going concern opinion. However, the probable reason for the difference in results between our study and their study is that they excluded companies with less than 1 million NOK in assets and in revenues. LNASSETS has a positive but insignificant coefficient in our regressions when companies with less than 1.21 Million SEK are excluded (1NOK=1.21 SEK 29/3/2010).

6.1 Control for probability of bankruptcy

We include measures of liquidity, leverage and profitability as controls for the financial conditions of the companies in Table 4. These ratios have been found to be the important bankruptcy prediction variables in many studies (e.g., Ohlson 1980; Zmijewski 1984).

However, as a test of whether the results related to our test variables are affected by our controls for the acuteness of the financial difficulties of the companies we replaced LOSS, NITA, TLTA and CACL with Shumway's (2001) estimates of Zmijewski's bankruptcy prediction score (PROBZ).[29] PROBZ is as one would surmise positively and significantly associated with the likelihood of a going concern opinion. The coefficients of ASSIGNMENTS are negative but significant only at the 0.10 level (significant at the 0.05 level in three of four regressions in Table 4). The other results are qualitatively similar to the ones reported in Table 4.

6.2 Audit firm effects

In our main analyses we controlled for audit firm size effects by including a Big 4 indicator variable in the logistic regressions. However, the size of GrantThornton, the fifth largest company, is not much smaller than Deloitte and probably larger among small companies since Grant Thornton primarily targets owner-managed SMEs.[30] BDO is the sixth largest audit firm. As being the trend in recent auditing research we investigate audit firm effects beyond the Big 4/non Big 4 dichotomy.

GrantThornton (GT) and BDO issued a going concern report for 25.2 % (30 /119) of the companies in the sample. This is marginally more frequently than Big 4 audit firms (22.9 %) and considerably more frequently than non-Big 6 audit firms. Non-Big 6 audit firms issued a going concern opinion only for 12.9 % (86 / 668) of the firms in the sample. As we replaced BIG 4 with

[29] The model includes the following ratios: net income to total assets (NITA), total liabilities to total assets (TLTA) and current assets to current liabilities (CACL). The coefficients of the logit model are: NITA -4.701, TLTA 3.106, CACL -0.119 and the intercept -4.210. Shumway estimated the model using data from 1962 to 1992. The model is presented in Table 4 at p. 119 in Shumway's (2001) study.

[30] Based on the number of authorized auditors (123 compared to 109), number of approved auditors (87 compared to 31) and number of partners (106 compared to 54) Grant Thornton is actually bigger than Deloitte in Sweden (Affärsvärlden 2007). However the opposite it the case if size is measured by turnover (1130 MSEK compared to 1772 MSEK) and total number of employees (635 compared to 837).

an indicator variable taking on different values for BIG 4, GT/BDO and non-Big 6 audit firms, we found that the coefficients of GT/BDO had positive signs and were significant at the 0.10 or 0.05 levels in regressions without the MORE5SALES and BIG 4 interactions (i.e., regressions comparable with regressions 1 and 3 in Table 4). The coefficients of GT/BDO were even marginally higher than the coefficients of BIG 4.

We also estimated regressions with BIG4*MORE5SALES and BDO/GT*MORE5SALES (regressions comparable with regressions 2 and 4 in Table 4). The BDO/GT*MORE5SALES interactions had positive but very low and insignificant coefficients in these regressions. This indicates that dependency on a client is negatively associated with the likelihood of a going concern opinion for GT/BDO audited firms. However, these results have to be interpreted with some care because the number of GrantThornton and BDO audited firms in the sample is quite small.

6.3 Auditor tenure

We do not control for auditor tenure in the regressions in Table 4 and the age of the auditor might be correlated with auditor tenure. There is a number of studies that explore the association between auditor tenure and audit quality (e.g., Ghosh and Mooon 2005; Knechel and Vanstraelen 2007; Chen et al. 2008). Even if the evidence is mixed most studies indicate that a long tenure does not have an adverse effect on audit quality. Knechel and Vanstraelen (2007), who study a sample with Belgian private companies, do not find any significant associations between auditor tenure and the likelihood of a going concern opinion in their sub-sample with bankrupt firms. Chen et al. (2008) study the effects of both partner and audit firm tenure and their findings are not consistent with the arguments that earnings quality decreases with extended audit partner tenure.

We retrieved data about auditor tenure from the files provided by UC. Unfortunately, the data was only available for 629 of the 1202 companies in our sample. Following Knechel and Vanstraelen (2007) we use an indicator variable taking the value one if tenure is more than three

years as a measure (TEN3). The tenure exceeded 3 years for 280 of the 629 companies and these auditors issued a going concern for 18.9 % of the companies. The corresponding percentage for auditors with tenure of 3 years or less is 19.5 % (p-value for chi-square test = 0.86). In order to test whether the results in Table 4 related to hypotheses 2a and 2b are affected by a failure to control for tenure, we run regressions with going concern as the dependent variable and AGE, SHORTEXPERIENCE, AGE*SHORTEXPERIENCE and TEN3 as the explanatory variables. TEN3 has a small, negative and insignificant coefficient (p-value=0.88). As in Table 4, AGE has a negative and significant coefficient (p-value = 0.03). The coefficients of SHORTEXPERIENCE and SHORTEXPERIENCE*AGE are insignificant as in Table 4. The results are qualitatively similar as tenure is measured with the logarithm of the length of tenure in years. In conclusions, the results that older auditors are less likely to issue a going concern opinion are not driven by the length of the tenure.

6.4 Exclusion of companies that are part of a corporate group

254 of the 1202 companies in the sample are the parent company or a subsidiary in a corporate group. The assessment of the ability to continue as a going-concern is likely to be more difficult for such companies because the ability depends at least partly on the performance of other companies in the group. The auditors issued going-concern paragraph for 14.6 % of the companies that belonged to a group and for 18.4 % of the companies that did not belong to a group (p-value = 0.16). We tried to add a group indicator variable to the regressions in Table 4 and the variable had negative coefficients that were significantly different from zero at the 0.05 level in the regressions. The significance levels of the test variables were the same as the ones in Table 4 as the group indicator variable was added to the regressions.

We also run the regressions on the sub-sample with the 948 companies that were not part of a corporate group. The results for the test variables were qualitatively similar to the ones in Table 4

with the following minor differences: the coefficients of ASSIGNMENTS were significant at the 0.01 level in one regression and significant at the 0.05 level in the remaining three regressions (significant at the 0.05 level in Table 4). The coefficients of AGE were significant at the 0.05 level (significant at the 0.01 level in Table 4). Finally, the coefficient of BIG4*MORE5SALES had a positive coefficient in regression 4 as in Table 4 but the coefficient was significant only at the 0.10 level (0.05 level in Table 4).

7. Conclusions and implications

In this study we use the propensity to issue a going concern opinion prior to bankruptcy as the measure of audit quality and we study if audit quality varies with auditor-in-charge variables. Our sample consists of 1204 small and medium-sized Swedish companies. We find that auditors issued a going concern opinion for 211 of the 1202 (17.55 %) companies.

The study contributes to the literature on the association between audit partner characteristics and audit quality in three specific ways. We find that auditors with a large number of audit assignments are significantly less likely to issue a going concern opinion. These results are consistent with concerns raised by practitioners and supervisory bodies. It has been claimed that due to time constraints it must be very difficult to perform high quality audits if an auditor is in charge of several hundreds of assignments. An interpretation of these results is that under a statutory audit requirement some auditors trade-off the number of audit assignments and audit quality as they make their client acceptance decision in order to meet the demand for relatively low quality audits. Findings imply that regulators should pay attention to these quality concerns and evaluate if an upper limit on the number of assignments to be held is an appropriate and effective way to improve the accuracy of audit reporting. Under current regulation the public do not seem to be properly informed about impending client failures.

Our second set of hypotheses focuses on the association between audit quality and the age of the auditor in charge. A question that has received considerable attention in the economics and psychology literatures is how the behavior of people changes with age. In the economics literature, it has been suggested that career concerns motivate particularly in the early phases of a person's career (Holmström, 1982, 1999). We applied this reasoning on an auditing context and suggest that the accuracy of the reporting is one factor that could be explicitly or implicitly taken into account as promotions are considered. Young auditors that are in an early phase of their careers should correspondingly have greater incentives to put in effort to avoid inaccurate reporting. Other streams of literature show that older workers may perceive participating in training activities to be less beneficial for them, as compared to younger workers, due to lower utility and payoff, which also might have consequences for reporting behavior. On the other hand, experience grows with tenure. We find no support for an experience effect but we find that older auditors are less likely to issue a going concern opinion.

Our third set of hypotheses suggests that an undue dependence on a client by an auditor has a negative impact on audit quality. We find that if the size of the client in relation to the aggregate size of all clients audited by the auditor-in-charge exceeds a certain threshold, it has a significant negative impact on the probability of a going-concern opinion. Results suggest that fee dependency at the partner level has a negative effect on audit quality. Furthermore, consistent with our predictions the association is significant only if the auditor is employed by a non-Big 4 auditor.

Overall, our findings strongly support that auditor-in-charge characteristics is associated with reporting behavior and audit quality. Although firm and office level characteristics is important in determining audit quality, reported findings advocate a shift of focus to less aggregated unit of analysis (partner level and audit team level) and encourage researchers to further investigate the link between auditor-in-charge characteristics and audit quality in different jurisdictions. Also, future

research may want to investigate how these partner characteristics relate to (the quality of) decisions taken in different stages of the audit process.

References

Affärsvärlden. 2007. Konsultguiden.

Ang, K.B, C.T Goh, and C.H Koh. 1993. The impact of Age on Job Satisfaction of Accountants. *Personell Review* 22 (1): 31-39.

Asare, S.K. 1992. The Auditor's Going-Concern Decision: Interaction of Task Variables and the Sequential Processing of Evidence. *Accounting Review* 67 (2): 379-393.

Ashbaugh, H, R. LaFond, R, and B.W Mayhew. 2003. Do non audit services compromise auditor independence? Further evidence. *The Accounting Review* 78 (3): 611-639.

Barker, V. & G. Mueller 2002. CEO Characteristics and Firm R&D Spending. *Management Science* 48: 782-801

Barnes, P. and D. Hooi. 1987. The Strange Case of the Qualified Success'. *Accountancy*: 32-33.

Basioudis, I, E. Papakonstatinou, and M. Geiger, M. 2008. Audit Fees, Non-Audit Fees and Auditor Going-Concern Reporting Decisions in the United Kingdom. *ABACUS 44:* 284 – 309.

Basu, S.K. 2006. *Auditing Principles and Techniques*. Pearson Education: Delhi, India.

Becker, C.L., M.L. DeFond, J. Jiambalvo, and K.R. Subramanyam. 1998. The effect of audit quality on earnings management. *Contemporary Accounting Research* 15 (1): 1-24.

Bonner, S.E. & B.L. Lewis. 1990. Determinants of Auditor Expertise? *Journal of Accounting Research* 28 (Supplement) : 1-20.

Callaghan, J, M. Parkash,and R. Singhal. 2009. Going-Concern Audit Opinions and the Provision of Nonaudit Services: implications for Auditor Independence of Bankrupt Firms, *Auditing: A Journal of Practice and Theory* 28: 153–169

Carcello, J.V, and T.L. Neal. 2003. Audit Committee Characteristics and Auditor Dismissals following "New "Going-Concern Reports. *Journal of Accounting Research* 78 (1): 95-117.

Carcello, J.V., Vanstraelen, A. and Willenborg, M. 2009. Rules rather than discretion in audit standards: Going concern opinions in Belgium. Working paper, University of Tennessee. Available at SSRN.com

Carey**,** P, R.Simnett, and G Tanewski 2000. Voluntary Demand for Internal and External Auditing by Family Businesses. *Auditing***:** *a Journal of Practice & Theory* 19 (1): 37-52.

Chen, C.-Y., C.-J. Lin., Y.-C. Lin. 2008. Audit Partner Tenure, Audit Firm Tenure, and Discretionary Accruals: Does Long Auditor Tenure Impair Earnings Quality*? Contemporary Accounting Research* 25 (2): 415-445.

Chi, W., E. Douthett, L. Lei. 2010. Client Importance and Auditor Independence: A Partner-level Analysis. Working paper, National Chengchi University, George Mason University.

Chin, C.-L., and Chi, H.-Y. 2009. Reducing Restatments with Increased Industry Expertise. Contemporary Accounting Research, 26 (3): 729-766.

Choi, J.-H, C. Kim, J.-B. Kim, Y. Zhang. 2010. Audit Office Size, Audit Quality, and Audit Pricing. *Auditing: A Journal of Practice and Theory,* 29 (1): 73-98.

Choo, F. 1995. Auditors judgment performance under stress: A test of the predicted relationship by three theoretical models. *Journal of Accounting, Auditing and Finance* Summer: 611-641.

Chow, C. W., and S. J. Rice. 1982. Qualified audit opinions and auditor switching. The *Accounting Review* 57 (April): 326-35.

Cleveland, J.N. and N.M. Shore. 1992. Sels- and supervisory perspectives on age and work attitudes and performance. *Applied Psychology* Vol.77, No.4: 469-484.

Coram, P., J. Ng, and J.R. Woodiff. 2004. The Effect of Risk of Misstatements on the Propensity of Reduced Audit Quality Acts under Time Pressure. *Auditing: A Journal of Theory and Practice* 23 (2): 159-168.

Couwenberg, O. 2001. Survival Rates in Bankruptcy Systems: Overlooking the Evidence. *European Journal of Law and Economics* 12: 253–273

Creswell, A., D.J. Stokes, and J. Laughton. 2002. Auditor independence and fee dependence. *Journal of Accounting and Economics* Vol.33: 253-275.

Dechow, P. and R. Sloan, R. 1991. Executive incentives and the horizon problem: An empirical investigation. *Journal of Accounting and Economics* 14: 51-89.

DeFond, M.L., K. Raghunadan, and K. Subramanyam. 2002. Do non-audit services fees impair auditor independence? Evidence from some going concern audit opinions. *Journal of Accounting Research* 40 (4): 1247-1275.

DeFond, M.L., and J.R. Francis. 2005. Audit Research after Sarbanes-Oxley. *Auditing* 24 (Supplement): 5-41.

Demers E., and C. Wong. 2010. *The Impact of CEO Career Concerns on Accruals Based and Real Earnings Management.* Unpublished manuscript. Available at ssrn.com

Eynon, G., Thorell-Hills, N. and Stevens, K.T. 1997. Factors that Influence the Moral Reasoning Abilities of Accountants: Evidence from Universities and the Profession. *Journal of Business Ethics* 16 (12-13): 1297-1309.

Fama, E., and M. Jensen. 1983. Separation of ownership and control. *Journal of Law and Economics* 26: 301–325.

Fich, E., and A. Shivdasani, A. 2006. Are Busy Boards Effective Monitors? *The Journal of Finance,* 61 (2): 689-724.

Finanstilsynet. (2010). *Rapport etter dokumentbasert tilsyn for revisorer og revisjonsselskaper.*

Firth, M. 2002. Auditor-Provided Consultancy Services and their Associations with Audit Fees and Audit Opinions. *Journal of Business & Accounting* 29 (5-6): 661-693.

Francis, J.R., and M.D. Yu. 2009. Big 4 office size and audit quality. *The Accounting Review* 84 (5): 1521-1552,

Geiger, M.A., K. Raghunandan, and D.V. Rama. 2005. Recent Changes in the Association between Bankruptcies and Prior Audit Opinions. *Auditing: A journal of Practice & Theory* 24 (1): 21-35.

Ghosh, A., and D. Moon. 2005. Auditor tenure and perception of audit quality. *The Accounting Review* 80 (2): 585-612.

Gibbons, R. and K. Murphy. 1992. Optimal Incentive Contracts in the Presence of Career Concerns: Theory and Evidence. *The Journal of Political Economy* 100: 468-505.

Gibbs, M. 1995. Incentive compensation in a corporate hierarchy. *Journal of Accounting and Economics* 19: 247 – 277.

Gupta, K. 2005. *Contemporary auditing*. Tata McGraw Hill: Delhi, India.

Holmström, B. 1982. Managerial incentive schemes: a dynamic perspective," in *Essays in Economics and Management in Honour of Lars Wahlbeck*, Swenska Handelshogkolan, Helsinki.

Holmström, B. 1999. Managerial incentive problems: a dynamic perspective. *Review of Economic Studies* 66: 169-182.

Hope, O.K., and J.C. Langli. 2010. Auditor independence in a private firm and low litigation setting. *Accounting Review* 85 (2): 573-605.

Huang, H.-W., Mishra, S. and Raghunadan, K. 2007. Types of Nonaudit Fees and Financial Reporting Quality. Auditing; A Journal of Practice and Theory, 26 (1): 133-145.

Jiraporn, P., W. Davidson III, P. DaDalt, and Y. Ning. 2009. Too busy to show up? An analysis of directors abscences. *The Quarterly Review of Economics and Finance*, 49: 1159-1171.

Knechel R., L. Niemi and S. Sundgren. 2008. Attributes affecting auditor choice. *International Journal of Auditing* 12 (1): 65 – 88.

Knechel, R. and A. Vanstraelen. 2007. The Relationship between Auditor Tenure and Audit Quality Implied by Going Concern Opinions. *Auditing: A Journal of Practice and Theory* 26: 113-131,

Kubeck, J. E., N.D. Delp, T.K. Haslett, and M.A. McDaniel. 1996. Does Job-Related Training Performance Decline With Age? *Psychology and Aging*, 11 (1): 92-107.

Larcker, D.F., and S.A. Richardson. 2004. Fees paid to audit firms, accrual choices and corporate governance. *Journal of Accounting Research* 42 (3): 625-658.

Lennox, C.S. 1999. The accuracy and incremental information content of audit reports predicting bankruptcy. *Journal of Business Finance & Accounting* 26 (5-6): 757-778.

Lennox, C.S. 2000. Do Companies successfully engage in opinion-shopping. Evidence from the UK. *Journal of Accounting and Economics* 29 (3): 321-337.

Li, C. 2009. Does Client Importance Affect Auditor Independence at the Office Level? Empirical Evidence from Going-Concern Opinions. *Contemporary Accounting Research* 26: 201-230.

Louwers, T.J. 1998. The relation between going-concern opinions and the auditor's loss function. *Journal of Accounting Research*, 36 (1): 143-156.

Maijoor, S.V., and A. Vanstraelen. 2006. Earnings management within Europe: The effect of Member States audit environment, audit firm quality and international capital markets. *Accounting and Business Research* 36 (1): 33-52.

Maurer, T. J., and N.E. Rafuse. 2001. Learning Not Litigating: Managing Employee Development and Avoiding Claims of Age Discrimination. *Academy of Management* 15 (4): 110-121.

Maurer, T. J. 2001. Career-relevant learning and development, worker age, and beliefs about self-efficacy for development. *Journal of Management* 27 (2): 123-140.

Morris, M. and Venkatech, V. (2000) Age differences in technology adoption decisions: implications for a changing workforce. *Personnel Review* 53: 375 – 403.

Mutchler, J.E., W. Hopwood, and J.C. McKeown. 1997. The Influence of Contrary Information and Mitigating Factors on Audit Opinion Decisions on Bankrupt Companies. *Journal of Accounting Research* 35 (2): 295-310.

Ohlson, J.A. 1980. Financial Ratios and the Probabilistic Prediction of Bankruptcy. *Journal of Accounting Research* 18 (1): 109-131.

Pacter, P. 2004. Will the GAAP widen for SMEs? Accountancy, 133 (1325): 118-122.

Ponemon, L.A. 1992. Ethical Reasoning and selection-socialization in Accounting. Accounting, Organizations and Society 17 (3-4): 239-258.

Ponemon, L.A., Gabhart, D.R.L. 1993. Ethical Reasoning in Accounting and Auditing (CGA-Canada Research Foundation).

Reynolds, J.K., and J.R. Francis. 2001. Does size matter? The influence of large clients on office-level auditor reporting decisions. *Journal of Accounting and Economics* 30 (3): 375-400.

Robinson, D. 2008. Auditor Independence and Auditor-Provided Tax Service: Evidence from Going-Concern Audit Opinions Prior to Bankruptcy Filings. *Auditing: A Journal of Practice and Theory* 27: 31 – 54.

Ronnen, U. 1996. The effect of Mandated versus Voluntary Auditing Policy on the Quality of Auditing. *Journal of Accounting, Auditing and Finance* 11 (3): 393-419.

Shaub, M.K. 1994. An analysis of the association of traditional demographic variables with the moral reasoning of auditing students and auditors, *Journal of Accounting Education* 12 (1): 1-26.

Shumway, T. 2001. Forecasting bankruptcy more accurately: a simple hazard modell. *Journal of Business* 74 (1): 101–124.

Spjut, E. and Ulfhielm, M. 2008. *Revisionsberättelser: Vilka faktorer har ett samband med orena revisionsberättelser.* Master Thesis, Umeå School of Business.

Statens Offentliga Utredning (SOU 2008:32). *Avskaffande av revisionsplikten för små företag*. Delbetänkande av utredningen om revisorer och revision. Stockholm: Fritzes.

Sundberg, L. 2004. Redovisningsbranschen i siffror. De stora byråerna blir större och de mindre färre. *Balans 2004 (5):* 32-35.

Sundgren, S. and C. Johansson. 2004. The effects of the auditor's professional qualification and the firm's financial health on depreciation in Finland. *Accounting and Business Research* 34: 125-144.

Svanström, T. 2008. Revision och rådgivning: Efterfrågan, kvalitet och oberoende. In English: Auditing and Advisory Services: Demand, quality and independence. Dissertation, Umeå School of Business.

Thorne, L. 1999 An analysis of the association of demographic variables with the cognitive moral development of Canadian accounting students: an examination of the applicability of American-based findings to the Canadian context. *Journal of Accounting Education 17 (2-3): 157-174.*

Van Tendeloo, B. and Vanstraelen, A. 2008. Earnings Management and Audit Quality in Europe: Evidence from the Private Client Segment Market. European Accounting Review 17 (3): 447-469.

Zerni, M. 2010. *Audit Partner Specialization, Audit Fees, and Auditor-Client Alignments*. The University of Vaasa (unpublished manuscript).

Zmijewski, M. 1984. Methodological issues related to the estimation of financial distress prediction. *Journal of Accounting Research* 22: 59-82.

Vander Bauwhede, H., and M. Willekens. 2004. Evidence on (the lack of) audit-quality differentiation in the private client segment of the Belgian audit market. *European Accounting Review* 13 (3): 501-522.

Wallerstedt, E. 2001. The emergence of the Big Five in Sweden. *European Accounting Review* 10 (4): 843-867.

White, H. 1980. A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity. *Econometrica* 48 (4): 817-838.

Wines, G. 1994. Auditor independence, audit qualifications and the provision of non-audit services: a note'. *Accounting and Finance* 34 (1): 75–86.

Table 1: Descriptive statistics

Panel A: Financial characteristics			
	Mean	**Median**	**Std.dev**
Going-concern opinions	17.55 %	0	38.06 %
Non-standard audit report	58.14 %	1	49.35 %
Revenues (Million SEK)	11.40	3.55	36.15
Total assets (Million SEK)	5.85	1.31	26.59
Return-on-assets	-9.31 %	-7.26 %	879.85 %
Solvency	-204.57 %	6.71 %	2983.05 %
Audit office size	15.73	4.00	37.85
Panel B: Industry distribution			
		Number	**Percentage**
Manufacturing		307	25.54 %
Retail		384	31.95 %
Services		173	14.39 %
Hotel and restaurant		68	5.66 %
Transport		65	5.41 %
Financial/real estate		45	3.74 %
Others		160	13.31 %

Notes: Solvency is calculated as shareholders' equity to total assets; return on assets is calculated as net income plus interest and taxes to total assets.

Table 2 Pearson's correlation coefficients

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(1) GCOPINION	1.000																	
(2)ASSIGNMENTS	-0.069	1.000																
(3)SHORTEXPERIENCE	-0.008	-0.173	1.000															
(4)AGE	-0.106	0.093	-0.492	1.000														
(5)MORE5SALES	-0.053	-0.300	0.110	-0.052	1.000													
(6)BIG 4	0.102	-0.234	0.079	-0.142	0.091	1.000												
(7)LNOFFICESIZE	0.143	-0.187	0.094	-0.177	0.032	0.350	1.000											
(8)NASD	0.089	-0.167	0.043	-0.090	0.088	0.193	0.097	1.000										
(9)AUDLAG	0.140	0.059	-0.007	-0.030	0.011	-0.045	-0.004	-0.078	1.000									
(10)BANKRLAG	-0.159	-0.004	0.017	-0.013	0.010	0.038	0.011	0.025	-0.518	1.000								
(11)ChAUD	-0.012	-0.023	0.020	-0.047	0.017	-0.067	0.055	-0.070	-0.038	0.036	1.000							
(12)BUSYSEASON	-0.013	-0.041	0.000	0.001	0.065	0.048	0.029	-0.023	-0.010	0.009	-0.028	1.000						
(13)LNCOMPAGE	-0.038	0.044	-0.099	0.143	0.011	0.015	-0.003	0.022	-0.044	0.031	0.068	0.116	1.000					
(14)LOSS	0.178	0.027	-0.048	-0.020	0.015	0.025	-0.018	0.019	0.075	-0.168	0.027	0.049	-0.008	1.000				
(15)NITA	-0.154	0.032	0.004	0.052	0.076	-0.067	0.003	-0.037	-0.107	0.137	-0.005	0.028	0.060	-0.422	1.000			
(16)TLTA	0.111	0.013	0.014	-0.011	-0.067	-0.043	-0.028	-0.021	0.070	-0.130	0.002	0.045	-0.034	0.205	-0.166	1.000		
(17)CACL	-0.124	0.033	0.010	-0.020	-0.051	0.009	-0.015	-0.041	-0.111	0.101	-0.011	0.028	0.053	-0.122	0.113	-0.305	1.000	
(18)LNASSETS	0.000	-0.041	-0.032	0.008	0.341	0.114	0.101	0.110	-0.027	0.093	0.073	0.078	0.109	-0.162	0.162	-0.438	-0.032	1.000

Notes:Variables are explained in section 4.2.

Table 3 Descriptive Statistics of Going-Concern (GC) and Non-Going-Concern (Non-GC) Samples

Panel A: Continuous variables

	GC sample	**Non GC sample**		**GC sample**	**Non GC sample**	
	Mean	Mean	P-value*	Median	Median	P-value**
ASSIGNMENTS	111.53	125.93	<0.01	100.00	117.00	<0.02
AGE	48.89	51.32	<0.01	48.00	53.00	<0.01
LNOFFICESIZE	1.95	1.43	<0.01	1.79	1.10	<0.01
AUDLAG	174.77	153.67	<0.01	182.00	169.00	<0.01
BANKRLAG	87.72	116.37	<0.01	80.00	111.00	<0.01
LNCOMPAGE	1.84	1.94	0.19	1.79	1.95	0.12
NITA	-0.41	-0.21	<0.01	-0.24	-0.08	<0.01
TLTA	1.43	1.15	<0.01	1.06	0.92	<0.01
CACL	0.96	1.28	<0.01	0.79	1.06	<0.01
LNASSETS	7.24	7.24	1.00	7.26	7.17	0.64

Panel B: Dichotomous variables

	Value	**GC- sample (%)**	**Non GC-sample (%)**	**P-value*** **
SHORTEXPERIENCE	0.00	17.65	82.38	
	1.00	16.67	83.33	0.79
MORE5SALES	0.00	18.28	81.76	
	1.00	11.85	88.15	0.07
BIG 4	0.00	14.74	85.28	
	1.00	22.89	77.16	<0.01
NASD	0.00	14.31	85.69	
	1.00	21.12	78.96	<0.01
ChAUD	0.00	17.70	82.34	
	1.00	16.00	84.00	0.67
BUSYSEASON	0.00	18.07	81.93	
	1.00	17.07	82.99	0.65
LOSS	0.00	7.20	92.80	
	1.00	22.00	78.00	<0.01
$CERT_i$	0.00	14.01	85.99	
	1.00	20.00	80.00	
	2.00	19.29	80.71	0.07

Notes: *P-value is for t-test; ** P-value for Mann-Whitney test; *** P-value for Pearson chi-square test. All tests are two-tailed. Variables are explained in section 4.2.

Table 4 Logistic regression results

	Reg. 1		**Reg. 2**		**Reg. 3**		**Reg. 4**	
	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
ASSIGNMENTS	-0.003	0.044	-0.003	0.043	-0.003	0.051	-0.003	0.049
SHORTEXPERIENCE	0.699	0.679	0.753	0.667	0.200	0.899	0.204	0.899
AGE	-0.039	0.005	-0.038	0.006	-0.038	0.004	-0.038	0.004
SHORTEXPERIENCE*AGE	-0.033	0.443	-0.036	0.429	-0.022	0.580	-0.023	0.570
MORE5SALES	-1.134	0.001	-2.184	0.001	-1.120	0.001	-2.137	0.001
BIG 4 * MORE5SALES	-	-	1.631	0.021	-	-	1.569	0.027
BIG 4	0.200	0.311	0.064	0.761	0.238	0.212	0.110	0.587
LNOFFICESIZE	0.207	0.006	0.217	0.004	0.192	0.006	0.200	0.005
NASD	0.368	0.027	0.370	0.028	0.389	0.017	0.391	0.017
AUDLAG	0.005	0.020	0.005	0.018	0.005	0.010	0.005	0.009
BANKRLAG	-0.005	0.004	-0.005	0.003	-0.005	0.004	-0.005	0.003
ChAUD	-0.235	0.470	-0.222	0.495	-	-	-	-
BUSYSEASON	-0.096	0.580	-0.097	0.579	-	-	-	-
LNCOMPAGE	-0.044	0.616	-0.051	0.559	-	-	-	-
LOSS	1.111	0.000	1.109	0.000	1.173	0.000	1.168	0.000
NITA	-0.141	0.359	-0.144	0.350	-	-	-	-
TLTA	0.226	0.020	0.230	0.018	0.210	0.023	0.214	0.020
CACL	-0.246	0.034	-0.243	0.036	-0.253	0.021	-0.251	0.023
LNASSETS	0.174	0.019	0.176	0.019	0.164	0.014	0.167	0.013
$CERT_1$	-0.224	0.604	-0.238	0.588	-	-	-	-
$CERT_2$	0.020	0.930	0.037	0.869	-	-	-	-
Industry variables	YES		YES		NO		NO	
CONSTANT	YES		YES		YES		YES	
Pseudo R-square	0.145		0.151		0.139		0.144	
Model Chi-square	116.990 (p<0.01)		115.960 (p<0.01)		108.700 (p<0.01)		107.660 (p<0.01)	
Classification accuracy:								
GC paragraph	71.1 %		70.6 %		70.1 %		71.6 %	
No GC paragraph	67.3 %		66.8 %		66.2 %		65.6 %	

Notes: Sample consists of 1202 companies. P-values are for two-tailed tests. The cut-off point 0.1755 is used for the calculation of the classification. Variables are explained in section 4.2