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Audit quality and executive officers' affiliations with CPA firms[☆]

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Abstract

Executives are 'affiliated' if they previously worked for their companies' audit firms. I find most affiliations (71.3%) occur when auditors become employees of audit clients ('employment affiliations'), but affiliations also arise when companies hire executives' former CPA firms ('alma mater affiliations'). Affiliated companies are significantly more likely than unaffiliated companies to receive clean audit opinions—this finding holds for both employment and alma mater affiliations. Executive turnover is significantly lower for affiliated executives than for unaffiliated executives following the issuance of clean audit opinions—this suggests companies perceive affiliations are more valuable after they receive clean audit opinions.

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1. Introduction

Recent corporate scandals such as Enron and WorldCom have focused the world's attention on whether audit firms are supplying audits of sufficiently high quality. The Sarbanes–Oxley Act (2002), the [Securities and Exchange Commission \(SEC, 2000\)](#), and the Independence Standards Board ([ISB, 1999](#)) suggest that audit quality can be impaired when executives previously worked for their companies' audit firms (i.e., when executives are 'affiliated'). Notwithstanding the regulators' concerns, no published archival evidence exists on the types of affiliations or whether affiliations impair audit quality. This paper addresses two important and topical questions relating to affiliations. First, when do affiliations arise between executive officers and their companies' audit firms? Second, do affiliations impair audit quality?

To address the first question, I distinguish among three different types of affiliation. The first type (the 'employment affiliation') occurs when an individual leaves the audit firm to work for a client. For example, an individual is initially employed by X CPA and works on the audit of Y Corp, and she subsequently leaves X and becomes employed by Y. The second type (the 'alma mater affiliation') occurs when an executive persuades her company to appoint her former audit firm. For example, an individual leaves X CPA and she becomes an executive officer at Y Corp, which is audited by Z CPA. She then convinces the board of Y Corp to switch from Z CPA to X CPA (her alma mater firm). The third type (the 'chance affiliation') occurs randomly, namely there is no causal factor underlying the affiliation. For example, an individual trains for three years at X CPA and later in her career she is employed by a company that is coincidentally audited by X. I identify the three types of executive–auditor affiliations by investigating when: (i) the company first hires its current audit firm, (ii) the individual leaves the audit firm, and (iii) the individual joins the company. I find the frequency of affiliation is significantly higher than by chance. After eliminating chance affiliations, I find employment affiliations comprise 71.3% of affiliations and the remaining affiliations are due to the alma mater effect.

Regarding the second question, regulators have expressed concerns that employment affiliations impair audit quality but they have not so far expressed concerns about alma mater affiliations. The ISB discusses three ways in which employment affiliations might impair audit quality ([ISB, 1999](#)). The first relates to impairment before the individual leaves the audit firm, and the other two relate to impairment when the former auditor works at the client.

Audit quality can be impaired before the individual leaves the audit firm if she is, or expects to be, negotiating an employment contract with an audit client. The concern is that collusion can occur explicitly or implicitly between the auditor and the client. For example, a client offers a lucrative employment contract to a member of the audit team, and as a result the auditor may be unwilling to confront management with problems uncovered during the audit. The Sarbanes–Oxley Act (2002) requires that CEOs and executives holding accounting or finance positions must not have been employed by their company's audit firm during the one-year-period following their participation on the external audit. This one year cooling-off

period was introduced in order to prevent problems occurring before the individual leaves the audit firm.

There are two ways in which audit quality can be impaired when the affiliated executive works at the company. First, audit team members might be overly friendly with, or respectful of, their former colleague and so they might be unwilling to challenge her assertions. To combat this problem, the ISB recommends that the audit firm consider whether the remaining members of the audit team are independent of their former colleague (ISB, 2000). Second, the former auditor might be sufficiently familiar with the audit firm's testing methodology that she can circumvent its design.¹ The ISB recommends that the audit firm modify its audit approach in order to prevent circumvention by a former colleague (ISB, 2000). Although regulators have focused on the dangers posed by employment affiliations, it should be noted that alma mater affiliations might also impair audit quality when the affiliated executive works at the company, for the two reasons discussed above.

This paper tests whether affiliations impair audit quality when the affiliated executive works at the company, not before she leaves the audit firm. Audit quality is defined as the joint probability that an existing problem is discovered and reported by the auditor (DeAngelo, 1981). Given that a problem exists, the probability of problem discovery depends on the auditor's competence and effort, and on the ability of executives to hide or minimize the problem's appearance. The probability that an auditor reports a discovered problem depends on auditor independence. Executive–auditor affiliations might impair audit quality by reducing the likelihood of problem discovery and/or by reducing auditor independence. As in previous studies (e.g., Craswell et al., 2002), I assume the audit report reflects the joint probability that an existing problem is both discovered and reported. Recent audit reporting studies test whether audit quality is impaired by financial incentives such as the provision of non-audit services and client size (Reynolds and Francis, 2000; Craswell et al., 2002; DeFond et al., 2002). Without exception, these studies find no significant association between financial incentives and audit reporting.² This paper considers an alternative source of audit quality impairment, namely executive–auditor affiliations. If affiliations impair audit quality, it is expected that affiliated companies are more likely to receive clean audit opinions (after controlling for the likelihood that problems exist).

I identify companies that are likely to have problems by estimating an audit opinion model, and I collect affiliation data for companies whose predicted unfavorable opinion probabilities exceed 10%. The sample is then partitioned into three groups: (1) companies that have no executives with prior CPA experience, (2)

¹The accounting fraud in Phar-Mor Inc. was successfully hidden because management had formerly been employed by the external auditors (Coopers and Lybrand) and so they knew what the auditors were looking for (Buckless et al., 2000).

²Other studies examine the association between non-audit services and earnings management, with mixed conclusions. Frankel et al. (2002) find more earnings management when audit firms provide relatively high levels of non-audit services. Ashbaugh et al. (2003) provide further evidence by adjusting discretionary accruals for firm performance, and they find no significant relation between non-audit fees and earnings management.

companies that have unaffiliated executives with prior CPA experience, and (3) companies that have affiliated executives. I find the frequency of clean audit opinions is significantly higher in group (3) than in groups (1) and (2). Compared to unaffiliated companies, the frequency of clean opinions is higher for both employment and alma mater affiliations, and it is highest for alma mater affiliations. The affiliated companies (group 3) are similar to the unaffiliated companies (group 2) in terms of profitability, default, company growth, takeover activity, and bankruptcy. However, the unaffiliated companies have worse liquidity, higher leverage, and are smaller than the affiliated companies. The multivariate analysis controls for these differences between affiliated and unaffiliated companies.

I recognize that there may be a self-selection problem if auditors are more likely to accept offers of employment from relatively healthy companies. If auditors have private information regarding the future financial health of their clients, self-selection could induce a spurious relation between employment affiliations and clean audit opinions. I control for the self-selection issue in two ways. First, I include dummy variables that indicate whether companies go bankrupt or are taken over in the year following the issuance of the audit opinion. These dummy variables help to control for auditors' private information about companies future financial prospects. Second, the self-selection issue is relevant only to employment affiliations, not to alma mater affiliations. If an executive has an alma mater affiliation, she would not previously have audited that company and therefore she would not have had private information about that company's future prospects. Partitioning the sample into employment affiliations and alma mater affiliations therefore provides evidence regarding the self-selection effect. If the association between affiliations and clean opinions is solely attributable to self-selection, the association should be significant for employment affiliations but not for alma mater affiliations.

Consistent with the univariate analysis, the multivariate results indicate that affiliated companies are more likely to receive clean opinions compared to unaffiliated companies. This result is consistent with the view that executive–auditor affiliations significantly impair audit quality. The association is particularly strong for alma mater affiliations, which implies that the result is not solely attributable to self-selection. Nevertheless, I am unable to rule out the possibility that self-selection drives the association between clean opinions and employment affiliations.

Affiliated executives are not always able to prevent the issuance of unfavorable audit opinions. This raises a question as to what happens to affiliated executives following the issuance of audit opinions. If companies maintain affiliations in order to influence audit reporting, I expect companies perceive affiliations are more (less) valuable following the issuance of clean (unfavorable) opinions. I therefore hypothesize that executive turnover is abnormally infrequent (frequent) for affiliated executives following the issuance of clean (unfavorable) opinions. I assess whether the turnover rate for affiliated executives (group 3) is abnormally high or low compared with unaffiliated executives who have prior CPA experience (group 2). Following the issuance of clean audit opinions, the turnover rate is found to be significantly lower for affiliated executives than for unaffiliated executives. Moreover, the association between unfavorable audit opinions and executive turnover is

more positive for affiliated executives than for unaffiliated executives. These findings suggest that affiliated companies perceive affiliations are more valuable after they receive clean audit opinions.

The next section discusses why executive–auditor affiliations occur and develops three hypotheses. Section 3 explains how the sample is chosen, details the data sources, and provides univariate results. Section 4 estimates a model of audit reporting in order to test whether affiliated companies are more likely to receive clean audit opinions. Section 5 estimates a model of executive turnover in order to test whether departure rates differ between affiliated and unaffiliated executives following the issuance of audit opinions. Section 6 summarizes and concludes the paper.

2. Background and hypothesis development

Section 2.1 discusses why employment affiliations and alma mater affiliations occur. Section 2.2 develops the first hypothesis regarding the impact of affiliations on audit reporting. Section 2.3 develops two hypotheses regarding the turnover of affiliated and unaffiliated executives following the issuance of audit opinions.

2.1. *Employment and alma mater affiliations*

An employment affiliation occurs when an individual leaves an audit firm and joins one of the audit firm's clients. Employment affiliations may be common since many graduates become auditors without expecting to spend their entire careers in public accounting (Arlinghaus and Cashell, 2001). Auditing is an attractive career choice partly because it offers experience and contacts with clients, which can improve subsequent career choices. The client can also benefit from hiring an auditor who is familiar with its accounting system (Beasley et al., 2000; SEC, 2000).

An alma mater affiliation occurs when an executive persuades her company to appoint her former CPA firm as the company's auditor. An affiliated executive may have a preference for her former audit firm for two reasons. First, she may feel a sense of kinship or loyalty towards her former employer. Second, she might have originally chosen to work at a CPA firm that she perceived was better than other CPA firms. If this perception persists over time, she might retain a preference for her former firm when she later becomes a company executive. In either case, an affiliated executive might prefer that her company hires her alma mater CPA firm.

Alma mater affiliations might be relatively uncommon compared to employment affiliations for two reasons. First, there might be a negative loyalty effect if the former auditor leaves the audit firm on a sour note, for example if she fails to win promotion. Second, extant research shows companies change audit firms infrequently (e.g., DeFond and Subramanyam, 1998), which suggests the net costs of switching auditor are usually high. So even if an executive wants the company to hire her alma mater, the preference may not be sufficiently strong to justify the company dismissing its incumbent audit firm. On the other hand, as Francis and Wilson (1988)

note, the auditor dismissal and appointment decisions may be partly independent. So, an alma mater affiliation could affect the company's choice of incoming audit firm even if it does not cause the dismissal of the outgoing firm.

2.2. *The effects of affiliations on audit quality*

The extant literature uses survey or experimental approaches to test the *perceived* effect of affiliations on audit quality (Imhoff, 1978; Firth, 1981; Koh and Mahathevan, 1993; Parlin and Bartlett, 1994). According to these studies, financial statement users perceive that affiliations reduce audit quality, but auditors' perceptions are mixed. To my knowledge, there are no published archival papers that test whether affiliations impair audit quality *in fact*. This study is an attempt to address this gap in the literature.

Anecdotal examples suggest affiliations may impair audit quality. In *Lincoln Savings & Loan v. Wall* (1990), it was revealed that Charles Keating offered an annual salary of \$930,000 to hire an audit partner who had worked on the Lincoln engagement. The court ruled that auditor independence can be impaired when an auditor accepts an offer of employment from a client.³ In 1996, Deloitte & Touche agreed to pay \$65 million following its audit of Bonneville Pacific. Several Bonneville executives had previously worked for Deloitte & Touche, and the plaintiffs claimed this impaired the audit firm's independence (Clikeman, 1996). Financial press reports suggest affiliations prevented auditors discovering fraud in Livent, a Canadian producer of Broadway shows (Beasley et al., 2000). Senior management were former employees or partners of their companies' audit firms in the audit failures of Cendant, First Executive, Phar-Mor, and Waste Management (Clikeman, 1996; Buckless et al., 2000; Business Week, 2002). Most famously, it has been noted that several Enron executives, including the Chief Accounting Officer, previously worked for Arthur Andersen. The recent audit failure of HIH in Australia raises concerns about the close relationship between the company's CFO, who was formerly Andersen's engagement partner on the HIH audit, and the remaining members of the audit team (Report of the HIH Royal Commission, 2003). Whether the above anecdotes are isolated cases or represent a more systematic problem is an open empirical issue that this paper tests.

I hypothesize that executive–auditor affiliations impair audit quality by reducing the likelihood of problem discovery and/or by reducing the likelihood that an auditor reports a discovered problem. Auditors are less likely to discover problems if the affiliated executive's prior experience at the audit firm enables her to circumvent normal audit testing procedures. Auditor independence is reduced if there are misplaced personal friendships or trust between the executive and her former audit

³The court stated, "Atchison, who was in charge of the Arthur Young audit of Lincoln, left Arthur Young to assume a high paying position with Lincoln. This certainly raises questions about Arthur Young's independence. Here a person in charge of the Lincoln audit resigned from the accounting firm and immediately became an employee of Lincoln. This practice of 'changing sides' should certainly be examined by the accounting profession's standard setting authorities as to the impact such a practice has on the accountant's independence" (SEC, 2000).

colleagues. I assume the audit opinion reflects the joint probability that an existing problem is both discovered and reported. The first hypothesis (in alternative form) is therefore:

Hypothesis 1 (H1). *Ceteris paribus, clean audit opinions are issued more often to companies that have affiliated executives.*

I test H1 by estimating the following logit model of audit reporting:

$$M_i = \alpha_0 + \alpha_1 AFF_i + \alpha_2 X_i + u_i \quad (1)$$

M_i equals one if company i receives an unfavorable audit opinion and equals zero if company i receives a clean opinion (I explain later how opinions are classified as unfavorable or clean). AFF_i equals one if company i has at least one affiliated executive, and AFF_i equals zero if company i has no affiliated executives but has at least one unaffiliated executive with prior CPA experience. Under H1, the coefficient on AFF_i is significantly negative ($\alpha_1 < 0$).

X_i is a vector of company characteristics that have been shown in extant research to explain audit opinion reporting. Most unfavorable opinions are issued for going concern problems, so the control variables largely capture the financial health of companies. The control variables are labeled ‘ex ante’ or ‘ex post’. The ex ante variables are profitability, liquidity, leverage, default, company size, and growth. They are ex ante in the sense that they correspond to the financial year-end reported upon by the auditor. The ex post variables indicate whether the company goes bankrupt or is taken over in the year following the issuance of the audit opinion. Ex post variables are included because auditors and executives might have private information about companies’ future prospects. This private information could affect future audit opinions and it could also influence the auditor’s decision to accept an offer of employment from a client. The bankruptcy and takeover dummies help to control for this possible self-selection effect.⁴

2.3. Audit opinions, affiliations, and executive turnover

If executive–auditor affiliations affect audit reporting, companies may maintain affiliations in order to increase the likelihood of receiving clean audit opinions. Alternatively, companies may form and maintain affiliations for efficiency reasons. For example, a company might employ a former auditor rather than an outsider, because the auditor is better acquainted with the company’s accounting systems and financial reporting requirements.

If companies maintain affiliations in order to avoid unfavorable audit opinions, they would view affiliations as more valuable following the issuance of clean opinions. It is therefore expected that affiliated executives are less likely to have their employment positions terminated following the issuance of clean audit opinions. Empirically, it is difficult to know for sure whether executive departures are due to terminations, retirements or promotions. I collect data on executives’ ages in order to

⁴I thank the referee for this suggestion.

identify executive departures that are likely due to voluntary retirements. I avoid the problem of internal promotions, since an executive who changes position but remains a company officer (e.g., from CFO to CEO) is not coded as a departure. I use a comparison group of unaffiliated executives who have prior CPA experience (group 2) in order to test whether the departure rate for affiliated executives (group 3) is abnormally low following the issuance of clean audit opinions. The second hypothesis (in alternative form) concerns the relative frequency of departure for affiliated and unaffiliated executives following the issuance of clean opinions:

Hypothesis 2 (H2). *Ceteris paribus, the departure rate is lower for affiliated executives than for unaffiliated executives following the issuance of clean audit opinions.*

If the issuance of unfavorable audit opinions causes companies to perceive that affiliations are less valuable, there is expected to be a positive relation between unfavorable opinions and the departure of affiliated executives. Unfavorable opinions might be correlated with executive departures independent of whether executives are affiliated. I therefore use a comparison group of unaffiliated executives who have prior CPA experience in order to test whether the association between unfavorable opinions and executive departures is abnormally strong for affiliated executives. The third hypothesis (in alternative form) concerns the relative strength of the relation between unfavorable audit opinions and executive departures for affiliated and unaffiliated executives:

Hypothesis 3 (H3). *Ceteris paribus, the association between unfavorable audit opinions and executive departures is more positive for affiliated executives than for unaffiliated executives.*

I test hypotheses H2 and H3 by estimating the following logit model of executive turnover:

$$DEP_j = \beta_0 + \beta_1 AFF_j + \beta_2 AFF_j \times M_j + \beta_3 M_j + \beta_4 Z_j + v_j \quad (2)$$

DEP_j equals one if executive j leaves the company within a year following the issuance of the audit opinion (zero otherwise). AFF_j equals one if executive j is affiliated (zero otherwise). M_j equals one if j 's company previously received an unfavorable audit opinion (zero if clean). Under H2, the departure rate is lower for affiliated executives than for unaffiliated executives following the issuance of clean audit opinions. Conditional upon receiving a clean audit opinion (i.e., setting $M_j=0$ in Eq. (2)), there is a lower departure rate for affiliated executives if the coefficient on AFF_j is negative ($\beta_1 < 0$).

From Eq. (2), the association between audit opinions and executive departure is given by the term $\beta_2 AFF_j \times M_j + \beta_3 M_j$. Under H3, this association is more positive for affiliated executives than for unaffiliated executives, in which case the coefficient on $AFF_j \times M_j$ is positive ($\beta_2 > 0$). The coefficient β_3 captures the association between unfavorable audit opinions and turnover for unaffiliated executives.

Z_j is a vector of company and executive characteristics that are associated with executive departures. Company characteristics include ex ante variables

(e.g., profitability) and ex post variables (e.g., bankruptcy). Executive characteristics include length of tenure, company position, and age. Eq. (2) is estimated for affiliated executives and for unaffiliated executives who have prior CPA experience, whereas Eq. (1) is estimated at the company level. Some companies have two or more executives with prior CPA experience, so the estimation sample is larger in Eq. (2) than in Eq. (1).

3. The sample and descriptive statistics

3.1. The sample

The sample consists of SEC registrants recorded on COMPUSTAT from 1995 to 1998. The year 1995 reflects the first year in which 10-K and proxy filings are comprehensively available from EDGAR, and 1998 was the latest available year when data collection commenced. COMPUSTAT codes audit opinions into five types: (1) unqualified and unmodified, (2) unqualified but modified, (3) qualified ‘except for’, (4) opinion disclaimers, and (5) adverse opinions. There are no adverse opinions in the sample, so the analysis is for opinion types (1)–(4) only. COMPUSTAT provides limited information on audit opinion types (2)–(4), for example it does not explicitly identify going-concern modifications. I obtain more detailed information by hand collecting audit opinion types (2)–(4) from 10-K filings. The requirement that 10-K filings are available from EDGAR results in an initial sample of 28,292 audit opinions.

Panel A of Table 1 provides descriptive statistics for audit opinion types (1)–(4). Most opinions are unqualified and unmodified (83.45%), some are unqualified but modified (16.38%), and there are few qualified opinions (0.08%), or opinion disclaimers (0.08%). Panel B provides descriptive statistics for audit opinions that are unqualified but modified (type (2)). There are 1,795 unqualified but modified opinions that disclose going concern uncertainties, 98 disclose other fundamental uncertainties (usually litigation), 113 contain other language that would likely be viewed as unfavorable, and 2,536 contain ‘harmless’ explanatory language. Explanatory language is assumed to be harmless if it contains one or more of the following statements: (a) the financial statements comply with SEC regulations, (b) the opinion is shared with another audit firm, (c) there is a change in accounting principles, or (d) certain events (e.g., merger) affect the comparability or consistency of current and prior year financial statements. Explanatory language is assumed to be unfavorable if it discloses problems such as financial distress, lack of compliance with SEC filing requirements, criminal investigations, accounting errors, or related party transactions.

As shown in Panel C, the unmodified opinions and the modified opinions with harmless explanatory language are coded $M_i=0$, and for convenience I label these opinions as ‘clean’. The other opinions (mostly going concern) are coded $M_i=1$, and I label these opinions as ‘unfavorable’.

Table 1
Descriptive statistics for different types of audit opinions

Audit opinion type	Observations	% of sample
<i>Panel A: Audit opinions (N=28,292)</i>		
1. Unqualified and unmodified	23,611	83.45
2. Unqualified but modified	4,635	16.38
3. Qualified 'except for' opinions	24	0.08
4. Opinion disclaimers	22	0.08
<i>Panel B: Unqualified but modified audit opinions (N=4,635)</i>		
1. 'Harmless' explanatory language	2,629	
2. Going concern uncertainty	1,795	
3. Other fundamental uncertainty	98	
4. Other unfavorable emphases of matter	113	
<i>Panel C: 'Clean' and 'unfavorable' audit opinions (N=28,292)</i>		
<i>'Clean' audit opinions ($M_i = 0$):</i>		
1. Unqualified and unmodified	23,611	
2. Modified with 'harmless' explanatory language	2,629	
Total	26,240	92.75
<i>'Unfavorable' audit opinions ($M_i = 1$):</i>		
1. Modified for going concern uncertainty	1,795	
2. Modified for other fundamental uncertainty	98	
3. Modified with other unfavorable emphases of matter	113	
4. Qualified 'except for' opinions	24	
5. Opinion disclaimers	22	
Total	2,052	7.25

Notes: 'Except for' qualifications are issued for reporting disagreements and limitations on audit scope. Other fundamental uncertainties include: litigation, foreign exchange losses, asset values, and contractual uncertainties. Opinions with harmless explanatory language disclose that: the financial statements comply with SEC regulations, the audit opinion is shared with another audit firm, there is a change in accounting principles, or certain events (e.g., mergers) affect the comparability of current and prior year financial statements. Other unfavorable emphases of matter include: financial restructuring, bond covenant defaults, significant related party transactions, illegal acts, and correction of accounting errors relating to previous years.

It would be too costly to collect affiliation data for all 28,292 observations, so I instead focus on companies that are likely to deserve unfavorable opinions. I identify these companies by estimating an audit opinion model for the full sample ($N = 28,292$). The model includes explanatory variables that prior studies have found to be significant, namely profitability (P_i), liquidity (LIQ_i), leverage (LEV_i), company size ($SIZE_i$), and default (DEF_i). In addition, I find clean opinions are issued more often to companies that are increasing in size, so the model also controls for company growth ($GROW_i$). P_i is the ratio of net income to total assets, LIQ_i is the ratio of current assets to current liabilities, LEV_i is the ratio of total liabilities to total assets, $SIZE_i$ is total assets, $GROW_i$ is the annual percentage change in total assets, and DEF_i equals one if company i is in default (zero otherwise). With the exception of DEF_i , the variables are rank-transformed in order to avoid estimation

problems associated with skewness and outliers. Kane and Meade (1998) show rank transformations are more efficient at avoiding skewness and outlier problems compared to alternative procedures such as log transformations and sample trimming. For a variable with N observations in year t , the rank transformation replaces each observation with its corresponding rank (from $i = 1, \dots, N$ in ascending order) and the rank assigned to observation i is divided by $N + 1$.

Consistent with extant research, the model's (unreported) results reveal that clean audit opinions are issued more often to companies that are profitable, have high liquidity, low leverage, are large, growing, and not in default.⁵ The model's coefficient estimates are used to predict unfavorable opinion probabilities ($\hat{\Pr}(M_i = 1)$), and I subsequently drop from the sample 22,747 observations that have predicted probabilities less than 10%. This sampling methodology is similar to other audit opinion studies that reduce data collection costs by focusing on companies that are more likely to deserve unfavorable opinions. There are 5,545 observations with predicted modified opinion probabilities exceeding 10% (i.e., $\hat{\Pr}(M_i = 1) \geq 0.1$). This sample is reasonably large but it does not impose excessive costs for collecting affiliation data. Relatively few unfavorable audit opinions have predicted probabilities below 10%, so a lower threshold would provide little extra power but it would significantly increase data collection costs. In robustness tests (described later), it is shown that the results are not sensitive to choosing 10% as a cut-off threshold.

Item 401 of Regulation S-K requires that companies disclose in 10 K filings and proxy filings five years of biographical information (including past employments) for all executive officers. The term 'executive officer' implies that the executive is in charge of a principal business function or performs similar policymaking functions. Companies typically disclose biographical information for between two and five executive officers (even when companies are large). Companies are required to provide biographical information for the previous five years, but some companies voluntarily disclose information for more than five years. Compared to 10 K and proxy filings, Dun & Bradstreet's Reference Books of Corporate Managements provide more complete employment histories (sometimes these histories go all the way back to the executive's graduation from university). Dun & Bradstreet obtain this information from non-public sources such as contacting companies directly. Unfortunately, Dun & Bradstreet cover only the largest 12,000 US companies so some companies in my sample are not included in the Reference Books. Because my data sources are imperfect, I combine biographical information from each source in order to identify executive officers who previously worked for CPA firms. There are two limitations with my data sources. First, my identification of executive officers with prior CPA experience may be incomplete because some biographies do not provide employment histories all the way back to graduation. Second, my data sources provide employment biographies only for executive officers (e.g., CEO, CFO), they do not provide biographies for executives who are not officers. I identify companies' audit firms and audit firm appointment dates using COMPUSTAT, Who

⁵ Estimation results for this model are available from the author.

Audits America, Auditor-Trak, 10-K and 8-K filings. I identify executive officers who are affiliated by matching the names of companies' audit firms and executives' former audit firms.

An executive is affiliated by chance if her employment at the company and the company's choice of audit firm are not causally related. For example, suppose an individual leaves X CPA in 1987 and she joins Y Corp. in 1996, and suppose that X CPA was first appointed as Y Corp.'s auditor in 1990. Panel A of Fig. 1 illustrates this case, since the individual first leaves the audit firm, then the company selects the audit firm, and the individual subsequently joins the company. This individual does not have an employment affiliation because X CPA was not Y's auditor when she left X in 1987. Moreover, the individual does not have an alma mater affiliation because the company first appointed X CPA in 1990, six years before she joined Y. I find 23 affiliations have the timing shown in Panel A of Fig. 1, and I drop these chance affiliations from the sample.

Next, the sample is partitioned into three groups: (1) companies that have no executives with prior CPA experience, (2) companies that have no affiliated executives but have at least one executive with prior CPA experience, and (3) companies that have at least one affiliated executive. For groups (2) and (3), I impose the restriction that filings are available from EDGAR in the year following the issuance of audit opinions ('ex post filings'). I use the ex post filings to identify executive departures, bankruptcies, and takeovers in the year following the issuance of audit opinions. I economize on data collection costs by not collecting ex post filings for group (1), since group (1) is much larger than groups (2) and (3). Univariate results are reported for all three groups (Table 3), whereas the

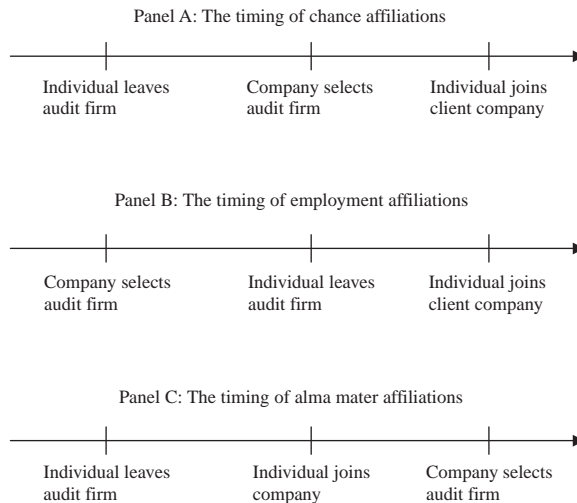


Fig. 1. Executives who previously worked for their companies' audit firms are classified as chance affiliations (Panel A), employment affiliations (Panel B), or alma mater affiliations (Panel C). Executives are classified by considering when: (1) the company selects the audit firm, (2) the individual leaves the audit firm, and (3) the individual joins the company.

multivariate models (which control for ex post variables) are estimated for groups (2) and (3). I also drop from the sample any observations where companies go bankrupt *prior* to the issuance of audit opinions. The final sample consists of 968 executives that have prior CPA experience, of which 339 are affiliated. At the company level: (1) 3,063 companies have no executives with prior CPA experience, (2) 535 companies have no affiliated executives but have at least one executive with prior CPA experience, and (3) 325 companies have at least one affiliated executive.

3.2. *Employment and alma mater affiliations*

This section investigates whether the 339 affiliated executives are employment affiliations or alma mater affiliations. I do this by considering when: (1) the company selects the audit firm, (2) the individual leaves the audit firm, and (3) the individual joins the company (see Fig. 1). Unfortunately, 95 affiliated executives cannot be classified as alma mater or employment affiliations due to one or more unavailable dates.

An executive has an employment affiliation if her employment with the company is the result of the company being an audit client. For example, suppose X CPA has been Y Corp.'s audit firm since 1987, and an individual leaves X and joins Y in 1992. Panel B of Fig. 1 illustrates this case, since the company first selects the audit firm, then the individual leaves the audit firm and joins the client. An affiliation with this timing is likely to be an employment affiliation, although some measurement error is unavoidable since my data sources do not explicitly reveal whether the affiliated executive was previously a member of the team that audited Y Corp. I find 174 affiliated executives have the timing shown in Panel B of Fig. 1 (employment affiliations). Among these 174 employment affiliations, 145 executives join the audit client within a year of leaving the audit firm. There are only three employment affiliations where the executive joins the client more than five years after leaving the audit firm. Therefore, measurement error is unlikely to be a serious problem for employment affiliations.

An executive has an alma mater affiliation if the company's choice of audit firm is affected by her prior employment with the audit firm. For example, suppose an individual leaves X CPA and joins Y Corp. in 1992, and X CPA was first appointed as Y's audit firm in 1993. Panel C of Fig. 1 illustrates this case, since the individual first leaves the audit firm, then the individual joins the company, and subsequently the company changes auditor and hires the executive's former CPA firm. An affiliation with this timing is likely to be an alma mater affiliation, although some measurement error is unavoidable since my data sources do not explicitly reveal whether the affiliated executive persuaded the company to appoint her alma mater audit firm. I find 70 affiliated executives have the timing shown in Panel C of Fig. 1 (alma mater affiliations). Among these 70 alma mater affiliations, there are 41 cases in which companies switch to the executive's former CPA firm within a year after the executive joins the company. There are another 18 cases in which companies switch to the executive's former CPA firm within four years after the executive joins the

Table 2
Executives' former CPA firms and companies' current CPA firms

	Executives' former CPA firms							Totals
	PW	C&L	KPMG	E&Y	D&T	AA	Non-Big 6 audit firm	
Companies' current CPA firms								
PW	<i>32</i>	10	11	8	2	7	8	78
C&L	5	<i>25</i>	15	9	6	7	11	78
KPMG	10	6	<i>74</i>	12	19	14	13	148
E&Y	11	13	9	<i>52</i>	15	9	7	116
D&T	11	2	2	17	<i>52</i>	13	11	108
AA	4	10	19	16	16	<i>66</i>	23	154
Non-Big 6 audit firm	26	24	38	31	31	31	<i>105</i>	286
Totals	99	90	168	145	141	147	178	968

Notes: The italicized leading diagonal shows there are 339 affiliated executives ($= 32 + 25 + 74 + 52 + 52 + 66 + 38$), and the off-diagonal cells show there are 629 unaffiliated executives ($968 = 339 + 629$). There are 105 executives who worked for Non-Big 6 audit firms and whose companies are audited by Non-Big 6 firms (there are too many Non-Big 6 firms to give each firm a separate row and column). Within this group of 105 executives, 38 are affiliated.

Variable definitions: PW = Price Waterhouse; C&L = Coopers&Lybrand; E&Y = Ernst&Young; D&T = Deloitte&Touche; AA = Arthur Andersen. PW and C&L merged in 1998 becoming PricewaterhouseCoopers (PWC), so affiliations are traced to the period prior to the merger. For example, if the company's current audit firm is PWC and before the merger it was PW, an executive who worked at PW is affiliated and an executive who worked at C&L is unaffiliated. Executives that previously worked for PWC are shown in the PW column and companies audited by PWC are shown in the PW row.

company. These findings suggest measurement error is also not a serious problem for alma mater affiliations.

The above numbers indicate that the ratio of employment affiliations to alma mater affiliations is 174:70. Assuming the 95 unclassified affiliations have the same ratio, it is estimated that 71.3% of affiliations are employment affiliations and 28.7% are alma mater affiliations. Overall, it is clear that most affiliations are caused by the employment effect rather than the alma mater effect.

As noted above, some employment and alma mater affiliations could be measured with error. Moreover, 95 affiliations are unclassified due to missing dates and some of these could be chance affiliations (i.e., they could have the timing shown in Panel A of Fig. 1). It is therefore important to demonstrate that most of the 339 affiliations cannot be explained simply by chance. Table 2 does this by reporting the correlation between executives' prior CPA firms and companies' current CPA firms. The italicized leading diagonal contains the 339 affiliated executives, and the off-diagonal cells contain the 629 unaffiliated executives who have prior CPA experience. A chi-square test reveals significant clustering of observations along the leading diagonal ($p < 0.01$), so one can reject the hypothesis that the 339 affiliations are simply due to chance.

3.3. Executive–auditor affiliations and audit opinions

Table 3 provides descriptive statistics on executive–auditor affiliations, predicted clean opinion probabilities ($\Pr(M_i = 0)$), and the issuance of clean audit opinions ($M_i = 0$). Panel A partitions the sample into three groups: (1) 3,063 unaffiliated companies that have no executives with prior CPA experience, (2) 535 unaffiliated companies that have at least one executive with prior CPA experience, and (3) 325 affiliated companies. The percentage of clean audit opinions is 59.0% in group (1), 62.8% in group (2), and 80.6% in group (3). In contrast, the mean predicted clean opinion frequency is 67.1% in group (1), 68.2% in group (2), and 74.3% in group (3).

The frequency of clean audit opinions in group (3) is higher than in group (2) by 17.8% (= 80.6–62.8) and higher than in group (1) by 21.6% (= 80.6–59.0). These univariate differences are statistically significant at the 1% level and they are consistent with the first hypothesis (H1), namely auditors issue clean opinions more often to companies that have affiliated executives. The difference in clean opinion frequencies between groups (1) and (2) is not statistically significant at the 5% level (two-tailed). It cannot therefore be concluded that audit reporting is affected by prior CPA experience per se (i.e., without affiliation). Later in the paper, the multivariate models focus on groups (2) and (3). The multivariate models also control for the finding that the mean predicted clean opinion frequency is higher in group (3) than in group (2) (74.3% compared to 68.2%).

Panels B, C, D, and E partition the 325 affiliated companies according to different affiliation characteristics. Panel B shows 69 companies have at least one alma mater affiliation, and 172 companies have at least one employment affiliation. Compared to the 535 unaffiliated companies (group 2), the percentage of clean audit opinions is significantly higher for alma mater affiliations (88.4%) and for employment affiliations (79.1%) ($p < 0.01$). This suggests both employment and alma mater affiliations impair audit quality. The frequency of clean audit opinions is higher for alma mater affiliations (88.4%) than for employment affiliations (79.1%), but the p -value for this difference is only 0.09 (two-tailed).

The ISB has suggested that, “the concerns one would have when a partner leaves a firm to join a client would exist, but to a lesser extent, when professionals with lower levels of responsibility leave and go to clients” (para. 22, ISB, 1999). Panel C examines this argument by partitioning the affiliated executives according to their seniority at audit firms (i.e., the positions held before leaving). Of the 325 affiliated companies, 195 disclose the positions that affiliated executives formerly held at CPA firms. There are 40 affiliated companies with former partners, 124 affiliated companies with former managers, and 31 with former auditors below the managerial level. Consistent with the ISB view that seniority matters, the frequency of clean audit opinions is higher for affiliated executives who held more senior CPA positions. The clean opinion frequency rises from 74.2% below the managerial level (sub-sample 8) to 85.0% for former partners (sub-sample 6). However, the difference between these two frequencies is statistically insignificant ($p = 0.26$), perhaps because there are relatively few companies in these sub-samples.

Table 3
Executive–auditor affiliations, predicted clean opinion probabilities, and actual clean audit opinion frequencies across different sub-samples

	Sub-sample	Number of companies	Mean predicted clean opinion probabilities (%)	Clean opinion frequencies (f_i) (%)	Tests of equal frequencies (z-statistics; two-tailed p-values)
<i>Panel A: Affiliated and unaffiliated companies</i>					
Company has no executives with prior CPA experience	1	3,063	67.1	$f_1 = 59.0$	$f_1 = f_2$ ($z = 1.65$; $p = 0.10$)
Company has at least one executive with prior CPA experience but no affiliated executives	2	535	68.2	$f_2 = 62.8$	$f_1 = f_3$ ($z = 7.59$; $p < 0.01$)
Company has at least one affiliated executive	3	325	74.3	$f_3 = 80.6$	$f_2 = f_3$ ($z = 5.49$; $p < 0.01$)
<i>Panel B: Alma mater affiliations and employment affiliations</i>					
Company has at least one alma mater affiliation	4	69	73.7	$f_4 = 88.4$	$f_2 = f_4$ ($z = 4.22$; $p < 0.01$) $f_2 = f_5$ ($z = 3.95$; $p < 0.01$)
Company has at least one employment affiliation	5	172	75.4	$f_5 = 79.1$	$f_4 = f_5$ ($z = 1.69$; $p = 0.09$)
<i>Panel C: Affiliated executives who held senior (non-senior) positions at CPA firms</i>					
Company has at least one affiliated executive who was a partner at the audit firm	6	40	74.2	$f_6 = 85.0$	$f_2 = f_6$ ($z = 2.83$; $p < 0.01$)
Company has at least one affiliated executive who was a manager at the audit firm	7	124	73.5	$f_7 = 78.2$	$f_2 = f_7$ ($z = 3.25$; $p < 0.01$)
Company has at least one affiliated executive who was below the managerial level at the audit firm	8	31	73.7	$f_8 = 74.2$	$f_2 = f_8$ ($z = 1.28$; $p = 0.20$) $f_6 = f_8$ ($z = 1.13$; $p = 0.26$)
Company has at least one affiliated executive who worked six or more years at the audit firm	9	155	74.3	$f_9 = 81.3$	$f_2 = f_9$ ($z = 4.31$; $p < 0.01$)

Company has at least one affiliated executive, but none who worked six or more years at the audit firm	10	101	72.1	$f_{10} = 72.3$	$f_2 = f_{10}$ ($z = 1.83$; $p = 0.07$) $f_9 = f_{10}$ ($z = 1.69$; $p = 0.09$)
<i>Panel D: Affiliated executives who left audit firms recently (not recently)</i>					
Company has at least one affiliated executive who left the audit firm within the last five years	11	176	74.4	$f_{11} = 83.5$	$f_2 = f_{11}$ ($z = 5.10$; $p < 0.01$)
Company has at least one affiliated executive, but none who left the audit firm within the last five years	12	134	73.4	$f_{12} = 75.4$	$f_2 = f_{12}$ ($z = 2.74$; $p < 0.01$) $f_{11} = f_{12}$ ($z = 1.77$; $p = 0.08$)
<i>Panel E: Positions held by affiliated executives at audit clients</i>					
Company has at least one affiliated CEO	13	36	75.5	$f_{13} = 80.6$	$f_2 = f_{13}$ ($z = 2.15$; $p = 0.03$)
Company has at least one affiliated executive in a finance or accounting position, but no affiliated CEOs	14	273	74.6	$f_{14} = 80.6$	$f_2 = f_{14}$ ($z = 5.17$; $p < 0.01$)
Company has at least one affiliated executive, but no affiliated executives in CEO, finance or accounting positions	15	16	66.1	$f_{15} = 81.2$	$f_2 = f_{15}$ ($z = 1.51$; $p = 0.13$)

Notes: The clean opinion probabilities are estimated using an audit opinion model for the full sample ($N=28,292$). The model includes the following explanatory variables: profitability (P_i), liquidity (LIQ_i), leverage (LEV_i), company size ($SIZE_i$), company growth ($GROW_i$), and default (DEF_i). P_i = Net income/Total assets. LIQ_i = Current assets/Current liabilities. LEV_i = Total liabilities/Total assets. $SIZE_i$ = Total assets (\$ million). $GROW_i$ = Percentage annual growth in total assets. DEF_i = one if company i is in default at the year-end date (zero otherwise). With the exception of DEF_i , the variables are rank-transformed in order to avoid estimation problems associated with skewness and outliers. I drop from the initial sample 24,369 observations in which clean opinion probabilities exceed 90%. This leaves a final sample of 3,923 observations as shown in Panel A (= 3,063 + 535 + 325). In Panel B, the number of companies with at least one alma mater or employment affiliation is less than 325 because some affiliations are unclassified due to missing dates (see Fig. 1). In Panel C, there are 195 companies that disclose the positions affiliated executives previously held at audit firms; there are 256 companies that disclose the length of time affiliated executives worked at audit firms and the median length of time is found to be six years. In Panel D, there are 310 companies that disclose when affiliated executives left audit firms, and the median length of time since departure is found to be five years. In Panel E, all 325 affiliated companies disclose the corporate positions held by affiliated executives.

I also measure executives' seniority at CPA firms by investigating how long executives formerly worked at CPA firms. There are 256 affiliated companies that disclose the number of years that affiliated executives worked at audit firms, and the median number of years is found to be six. I partition the affiliated companies according to whether affiliated executives worked at CPA firms for at least six years. The frequency of clean opinions is higher for affiliated executives who worked at least six years at audit firms (81.3%), compared with affiliated executives who worked less than six years (72.3%). This suggests affiliations might be more problematic when affiliated executives worked longer at CPA firms. However, the difference between 81.3% and 72.3% is statistically significant at only the 10% level (two-tailed).

The ISB has argued that, "concerns are greater when a partner has *recently* left the firm to join an audit client" (para. 28, ISB, 1999, italics added). Panel D examines this argument by partitioning the affiliated executives according to how recently they left audit firms. There are 310 companies that disclose when affiliated executives left audit firms, and the median length of time since departure is found to be five years. The frequency of clean audit opinions is higher for affiliated executives who left audit firms within the previous five years (83.5%) compared to affiliated executives who left more than five years ago (75.4%). This is consistent with the ISB's argument that recent affiliations are more problematic. However, the difference between 83.5% and 75.4% has a *p*-value of only 0.08 (two-tailed).

The ISB has also argued that concerns about audit quality depend "on the nature and level of new responsibilities assumed by the departing professional at the client" (para. 22, ISB, 1999). The consequences for audit quality may be more serious when affiliated executives hold senior rather than junior positions at audit clients. Unfortunately it is not possible to test this argument, since companies disclose biographical information for executive officers only (e.g., CEOs, CFOs), not for other managers. Nevertheless, Panel E partitions the sample according to the corporate positions held by affiliated executive officers. There are 36 companies that have affiliated CEOs (this group includes CEOs with dual positions). There are 273 companies that have affiliated executives in finance or accounting positions (this group excludes CEOs with dual finance or accounting positions). The remaining 16 companies have affiliated executives who are not CEOs and who do not have finance or accounting positions. The frequencies of clean audit opinions are similar across the different executive positions (80.6%, 80.6% and 81.2%). This suggests the effects of affiliations may not vary across positions held by executive officers. However, this finding is only tentative since there are relatively few affiliated executives in positions outside of finance or accounting.

3.4. Audit opinions, affiliations and executive departures

Table 4 provides descriptive statistics on audit opinions and subsequent executive departures. The sample is partitioned into 339 affiliated executives (Panel A), and 629 unaffiliated executives who have prior CPA experience (Panel B). Following the issuance of clean audit opinions, the departure frequency is 25.8% for unaffiliated

Table 4
Audit opinions and subsequent executive departures

	Sub-sample	Number of executives	Executive departure frequencies (f_i) in the year following the issuance of audit opinions (%)	Tests of equal frequencies (z-statistics; two-tailed p-values)
<i>Panel A: Affiliated executives (N = 339)</i>				
Companies received clean audit opinions	1	272	$f_1 = 15.4$	$f_1 = f_2$ ($z = 3.52$; $p < 0.01$)
Companies received unfavorable audit opinions	2	67	$f_2 = 34.3$	$f_1 = f_3$ ($z = 3.22$; $p < 0.01$)
<i>Panel B: Unaffiliated executives with prior CPA experience (N = 629)</i>				
Companies received clean audit opinions	3	403	$f_3 = 25.8$	$f_3 = f_4$ ($z = 0.81$; $p = 0.42$)
Companies received unfavorable audit opinions	4	226	$f_4 = 28.8$	$f_2 - f_1 = f_4 - f_3$ ($z = 2.44$; $p = 0.01$)

executives but only 15.4% for affiliated executives. Consistent with H2, this difference (25.8% versus 15.4%) is statistically significant at the 1% level (two-tailed). The departure frequency for affiliated executives is more than twice as high following the issuance of unfavorable rather than clean audit opinions (34.3% versus 15.4%). The difference (18.9%) is statistically significant at the 1% level. The departure frequency is also higher for unaffiliated executives following the issuance of unfavorable audit opinions (28.8% compared to 25.8%), but the difference (3.0%) is small and statistically insignificant ($p = 0.42$). The ‘difference in differences’ (18.9% versus 3.0%) indicates whether the association between unfavorable audit opinions and executive turnover is more positive for affiliated executives compared to unaffiliated executives. Consistent with H3, the difference in differences is positive and statistically significant ($p = 0.01$, two-tailed).⁶

3.5. Descriptive statistics for the control variables

Table 5 reports means for the control variables across the 325 affiliated companies (group 3) and the 535 unaffiliated companies that have at least one executive with

⁶One might expect that the relation between audit opinions and executive departures depends upon the type of affiliation (employment or alma mater). In the case of an employment affiliation, the company might fire its affiliated executive if the executive is unable to influence her former firm’s audit opinion. In the case of an alma mater affiliation, an executive has ‘stuck her neck out’ by persuading the company to hire her former audit firm, so it makes sense that this executive loses her position if the audit firm issues an unfavorable opinion. Unfortunately, I am unable to test these arguments separately because only 67 affiliated executives receive unfavorable audit opinions and, of these, only eight executives have alma mater affiliations (36 are employment affiliations, and 23 are unclassified).

Table 5
Ex ante and ex post control variables for affiliated and unaffiliated companies

	Companies have at least one affiliated executive ($N=325$)	Companies have at least one executive with prior CPA experience but no affiliated executives ($N=535$)	t -statistics for differences in means
	Means	Means	
<i>Ex ante variables:</i>			
$R(P_i)$	0.165	0.177	-1.06
$R(LIQ_i)$	0.302	0.239	3.98***
$R(LEV_i)$	0.653	0.706	-2.96***
DEF_i	0.018	0.021	-0.21
$R(SIZE_i)$	0.231	0.195	3.26***
$R(GROW_i)$	0.349	0.317	1.48
<i>Ex post variables:</i>			
$BANK_i$	0.022	0.034	-1.08
$TAKE_i$	0.028	0.049	-1.61

Notes:

*** = Statistically significant (1% level, two-tailed).

** = Statistically significant (5% level, two-tailed).

* = Statistically significant (10% level, two-tailed).

The ex ante variables are measured at the financial year end reported upon by the auditor. The ex post variables are measured in the year following the issuance of the audit opinion.

Variable definitions: P_i = Net income/Total assets. LIQ_i = Current assets/Current liabilities. LEV_i = Total liabilities/Total assets. DEF_i = one if company i is in default at the year-end date (zero otherwise). $SIZE_i$ = Total assets (\$ million). $GROW_i$ = Percentage annual growth in total assets. $BANK_i$ = one if company i enters bankruptcy within a year following the issuance of the audit opinion (zero otherwise). $TAKE_i$ = one if company i is taken over within a year following the issuance of the audit opinion (zero otherwise). $R(X)$ = Rank-transformation of variable X . For a variable with N observations in year t , the rank transformation replaces each observation with its corresponding rank (from $i = 1, \dots, N$ in ascending order) and the rank assigned to observation i is divided by $N+1$.

prior CPA experience (group 2). The ex ante control variables are profitability, liquidity, leverage, default, company size, and growth. The ex post control variables are bankruptcy and takeover. It can be verified that the final sample (860 observations) is considerably more distressed than the initial sample (28,292 observations). The rank-transformed variables have means and medians of 0.50 in the initial sample (the rank transformation causes variables to be uniformly distributed between zero and one in the initial sample). In the final sample, the mean values of profitability, liquidity, size, and growth are considerably less than 0.50, for example mean profitability is 0.165 for affiliated companies and 0.177 for unaffiliated companies. The mean values of leverage are considerably larger than 0.50 in the final sample (0.653 for affiliated companies and 0.706 for unaffiliated companies). These differences between the initial sample and the final sample occur because the final sample consists of (distressed) companies whose predicted unfavorable opinion probabilities exceed 10%.

There are no significant differences in profitability, default, or company growth between the affiliated and unaffiliated companies. Moreover, there are no significant differences between affiliated and unaffiliated companies in the frequency of bankruptcy or takeover. Although the final sample consists of distressed companies, the frequency of bankruptcy is low for two reasons. First, the sample period is 1995–1998 when relatively few bankruptcies were taking place. Second, the sample omits audit opinions that are issued after companies file for bankruptcy. In untabulated results, the frequency of unfavorable audit opinions is found to be 64.0% for companies that subsequently go bankrupt within a year and 29.5% for companies that do not go bankrupt. These frequencies are consistent with extant research on the association between audit reporting and bankruptcy (e.g., Raghunandan and Rama, 1995).

Table 5 shows affiliated companies are significantly larger, have higher liquidity, and lower leverage compared to unaffiliated companies. There are two explanations for these differences between affiliated and unaffiliated companies. The first explanation is that affiliated companies are healthier than unaffiliated companies. For example, audit staff may have more incentive to accept offers of employment from clients they know are healthy. This is a self-selection argument, namely audit staff self-select into healthier clients. The second (less favorable) explanation is that auditors permit affiliated companies to report healthier accounting numbers. Whatever the reason, Eq. (1) includes these variables as controls and so these differences between affiliated and unaffiliated companies do not drive the multivariate association between affiliations and audit reporting. It is beyond the scope of this paper to investigate whether the second explanation is true but, if it is, the inclusion of these control variables in Eq. (1) understates any negative impact of affiliations on audit quality.

4. The audit reporting model

4.1. Executive–auditor affiliations and audit reporting

This section reports the results for Eq. (1), which tests whether affiliated companies are more likely to receive clean audit opinions (H1). The main variable of interest is AFF_i , which equals one for the 325 affiliated companies and zero for the 535 unaffiliated companies that have at least one executive with prior CPA experience. The coefficient on AFF_i is expected to be negative if affiliated companies are more likely to receive clean audit opinions. Eq. (1) includes both ex ante and ex post variables as controls. The ex post control variables are bankruptcy ($BANK_i$) and takeover ($TAKE_i$). In Columns 1 and 3, the ex ante control variables are profitability ($R(P_i)$), liquidity ($R(LIQ_i)$), leverage ($R(LEV_i)$), default (DEF_i), size ($R(SIZE_i)$), and growth ($R(GROW_i)$). In Columns 2 and 4, the ex ante control variable is the audit opinion probability ($\hat{Pr}(M_i = 1)$) that was estimated when deriving the final sample. This probability is a composite function of the ex ante variables in Column 1 (i.e., profitability, liquidity, leverage, default, size, and

growth). When estimating the coefficients' standard errors, I use a clustering procedure that accounts for dependence between yearly observations relating to the same company. The clustering procedure assumes observations are independent between companies, but it does not require independence for multiple yearly observations of a given company.

Consistent with H1, Table 6 shows that audit firms are significantly more likely to issue clean audit opinions to affiliated companies ($\hat{\alpha}_1 = -0.67, -0.65; p < 0.01$). This finding is consistent with the view that executive–auditor affiliations impair audit quality. I assess the economic significance of this result by predicting clean audit opinion probabilities with and without an affiliation for each observation in the sample ($N = 860$). Using the estimate $\hat{\alpha} = -0.67$, I find the mean predicted clean opinion probability is 76.9% with affiliation and 65.5% without affiliation, a difference of more than 10%. The effect of affiliations upon audit reporting is therefore economically as well as statistically significant.

The coefficients on the control variables are consistent with prior expectations and with the (unreported) model used to obtain the final sample. In particular, companies receive clean opinions less often if they are less profitable, have low liquidity, high leverage, are in default, are small, and are decreasing in size. Naturally, there is also a highly significant positive relation between the ex ante risk of an unfavorable opinion ($\Pr(M_i = 1)$) and the issuance of an unfavorable opinion. The coefficients on the ex post control variables are also consistent with prior expectations—companies that receive unfavorable audit opinions are more likely to go bankrupt and are more likely to be taken over.⁷

4.2. Employment and alma mater affiliations

I further investigate the effects of affiliations by partitioning the sample into companies that have: (i) at least one alma mater affiliation (AFF_A_i), (ii) at least one employment affiliation (AFF_E_i), and (iii) at least one unclassified affiliation (AFF_U_i). This partitioning is interesting for two reasons. First, regulators have focused on potential problems associated with employment affiliations, but they have not discussed the potential problems of alma mater affiliations. It is useful to compare the separate impact of employment and alma mater affiliations in order to judge whether regulators are justified in focusing only on employment affiliations. Second, notwithstanding the fact that Eq. (1) controls for both ex ante and ex post variables, one might be concerned that the results reflect some (unobserved) selection bias. In particular, audit staff might self-select employment with audit clients that are less likely to deserve unfavorable audit opinions.

It is important to note that the self-selection argument would apply only to employment affiliations, not to alma mater affiliations. With an alma mater affiliation, the company switches to the executive's former audit firm after the executive joins the

⁷There are two explanations for the association between audit opinions and ex post survival. First, auditors may issue clean opinions to companies that auditors believe are more likely to survive. Second, clean opinions may increase the likelihood of survival.

Table 6
Executive–auditor affiliations and audit opinions

	(1)	(2)	(3)	(4)
<i>Affiliation variables</i>				
AFF_i	−0.67 (−3.28)***	−0.65 (−3.58)***		
AFF_E_i			−0.53 (−2.03)**	−0.47 (−2.08)**
AFF_A_i			−1.35 (−3.07)***	−1.30 (−3.15)***
AFF_U_i			−0.60 (−1.69)*	−0.56 (−1.95)*
<i>Control variables</i>				
$R(P_i)$	−2.92 (−3.39)***		−2.93 (−3.36)***	
$R(LIQ_i)$	−1.95 (−3.22)***		−1.88 (−3.11)***	
$R(LEV_i)$	1.28 (2.57)***		1.37 (2.74)***	
DEF_i	1.16 (1.33)			
$R(SIZE_i)$	−3.19 (−4.31)***		−2.91 (−4.02)***	
$R(GROW_i)$	−0.72 (−2.48)**		−0.69 (−2.40)**	
$\hat{\Pr}(M_i = 1)$		5.22 (10.36)***		5.25 (10.38)***
$BANK_i$	1.40 (2.60)***	1.45 (2.61)***	1.55 (3.00)***	1.41 (2.56)**
$TAKE_i$	0.73 (1.83)*	0.74 (1.94)*	0.72 (1.79)*	0.75 (1.92)*
$CONSTANT$	0.21 (0.46)	−2.33 (−11.71)***	0.10 (0.21)	−2.34 (−11.71)***

Notes:

$$M_i = \alpha_0 + \alpha_1 AFF_i + \alpha_2 X_i + u_i \quad (1)$$

Eq. (1) models the relation between executive–auditor affiliations and audit reporting. The sample consists of 325 affiliated companies and 535 unaffiliated companies. When estimating the coefficients' standard errors, I use a clustering procedure that accounts for dependence between yearly observations relating to the same company (z -statistics are reported in parentheses). The clustering procedure assumes observations are independent between companies but it does not require independence for multiple observations of a given company.

*** = Statistically significant (1% level, two-tailed).

** = Statistically significant (5% level, two-tailed).

* = Statistically significant (10% level, two-tailed).

Variable definitions: M_i = one if company i receives an unfavorable audit opinion (zero if clean opinion, see Table 1). AFF_i = one if company i has at least one affiliated executive (zero otherwise). AFF_E_i = one if company i has at least one executive with an employment affiliation (zero otherwise). AFF_A_i = one if company i has at least one executive with an alma mater affiliation (zero otherwise). AFF_U_i = one if company i has at least one executive with an unclassified affiliation (zero otherwise). $\hat{\Pr}(M_i = 1)$ = audit opinion probability estimated using an audit opinion model for the full sample ($N = 28,292$). The model

Table 6 (footnote continued.)

includes the following explanatory variables: profitability (P_i), liquidity (LIQ_i), leverage (LEV_i), company size ($SIZE_i$), company growth ($GROW_i$), and default (DEF_i). P_i = Net income/Total assets. LIQ_i = Current assets/Current liabilities. LEV_i = Total liabilities/Total assets. DEF_i = one if company i is in default at the year-end date (zero otherwise). $SIZE_i$ = Total assets (\$ million). $GROW_i$ = Percentage annual growth in total assets. $BANK_i$ = one if company i enters bankruptcy within a year following the issuance of the audit opinion (zero otherwise). $TAKE_i$ = one if company i is taken over within a year following the issuance of the audit opinion (zero otherwise). $R(X)$ = Rank-transformation of variable X . For a variable with N observations in year t , the rank transformation replaces each observation with its corresponding rank (from $i = 1, \dots, N$ in ascending order) and the rank assigned to observation i is divided by $N + 1$. The continuous variables are rank-transformed in order to avoid estimation problems associated with skewness and outliers.

company. An executive who has an alma mater affiliation could not have formerly audited her company. Therefore, prior to joining the company, she could not have been better informed about the company's future prospects compared to other unaffiliated job candidates. This implies that self-selection bias (if it exists) should affect only employment affiliations, not alma mater affiliations. If the association between affiliations and audit opinions is driven by self-selection alone, there should be no association between alma mater affiliations and audit opinions.

Table 6 shows the coefficients on both AFF_A_i and AFF_E_i are negative and statistically significant. It is therefore concluded that *both* alma mater affiliations and employment affiliations are significantly associated with clean audit opinions. The significant results for alma mater affiliations indicate that self-selection is not driving the association between affiliations and audit opinions. Indeed, the coefficient on AFF_A_i is more negative than the coefficient on AFF_E_i (although the difference is not statistically significant), which is opposite to the prediction of the self-selection argument. These results suggest regulators should be concerned about alma mater affiliations as well as employment affiliations.

4.3. Robustness checks

In unreported results, I examine whether the findings in Table 6 are robust. First, I redefine the affiliation variables to equal the *number* of affiliated executives in each company, rather than the existence of at least one affiliated executive. The unreported results are very similar to Table 6, which is unsurprising since few companies have more than one affiliated executive (339 affiliations are shared amongst 325 companies).

Second, I test whether the likelihood of a clean audit opinion increases with the total number of executives that have CPA experience. I add a control variable that equals the total number of executives with prior CPA experience (both affiliated and unaffiliated executives). The coefficient on this control variable is statistically insignificant, and the coefficients on the other variables are substantially unchanged.

Third, I examine whether the results are sensitive to choosing 10% as a cut-off threshold for the final sample. The negative relation between affiliations and audit

opinions is found to be significant for all samples obtained using thresholds in the region 10–40% (thresholds above 40% result in small samples and therefore low testing power). The results are therefore insensitive to the choice of cut-off threshold.

Fourth, as shown in Table 3, some affiliations are not recent and some affiliated executives held positions below the managerial level at CPA firms. When non-recent affiliations and non-senior affiliations are dropped from the estimation sample, the association between affiliations and audit reporting is found to be even more significant than reported in Table 6. This finding is consistent with the univariate tests of audit opinion frequencies reported in Table 3. I conclude that the evidence for audit quality impairment is particularly strong for recent affiliations and for affiliated executives who held senior positions at audit firms.

Finally, some employment affiliations and some alma mater affiliations could be measured with error. I therefore drop employment affiliations where the executive does not move directly from the company to the audit firm, and I drop alma mater affiliations where the audit firm is not hired within four years after the executive joins the company. The association between affiliations and audit reporting remains significant after these observations are dropped from the sample.

5. The executive departure model

5.1. Executive–auditor affiliations, audit opinions, and subsequent executive departures

In this section I test whether the departure rate is abnormally low for affiliated executives compared to unaffiliated executives following the issuance of clean audit opinions (H2). I also test whether the association between unfavorable audit opinions and executive departures is more positive for affiliated executives compared to unaffiliated executives (H3). As shown in Eq. (2), the experimental variables are AFF_j (which equals one if executive j is affiliated) and M_j (which equals one if j 's company received an unfavorable audit opinion). Under H2 the coefficient on AFF_j is negative, and under H3 the coefficient on $AFF_j \times M_j$ is positive. Eq. (2) is estimated for 968 executives (339 are affiliated and 629 are unaffiliated but have prior CPA experience).

I now discuss the control variables in Eq. (2). Since the estimation sample consists of affiliated executives and unaffiliated executives who have prior CPA experience, it is unsurprising that most executives hold finance or accounting positions. I find finance or accounting positions are held by 85.8% of affiliated executives but by only 81.4% of unaffiliated executives. Eq. (2) controls for this difference between affiliated and unaffiliated executives by including a dummy variable (FIN_j) which equals one if executive j has a finance or accounting position (zero otherwise). There is little prior research on turnover of finance and accounting executives to guide my choice of control variables. One exception is Mian (2001), who finds a significant univariate relation between CFO turnover and performance. I control for performance using the profitability of executive j 's company ($R(P_j)$). Extant research shows CEO turnover is negatively related to CEO tenure (Goyal and Park, 2002).

Table 7
Executive–auditor affiliations, audit opinions, and executive turnover

CONSTANT	Affiliation and audit opinion variables			Control variables (Z_j)				
	AFF_j	$AFF_j \times M_j$	M_j	FIN_j	TEN_j	$R(P_j)$	$BANK_j$	$TAKE_j$
–1.04 (–4.15)***	–0.60 (–2.95)***	0.84 (2.47)**	0.05 (0.25)	0.36 (1.63)	–0.09 (–3.33)***	–0.33 (–0.65)	0.93 (2.54)**	0.66 (1.77)*

Notes:

$$DEP_j = \beta_0 + \beta_1 AFF_j + \beta_2 AFF_j \times M_j + \beta_3 M_j + \beta_4 Z_j + v_j \quad (2)$$

Eq. (2) models the departure of executives in the year following the issuance of audit opinions. The sample consists of 339 affiliated executives and 629 unaffiliated executives that have prior CPA experience (sample size = 968). When estimating the coefficients' standard errors, I use a clustering procedure that accounts for dependence between yearly observations relating to the same company (z -statistics are reported in parentheses). The clustering procedure assumes observations are independent between companies but it does not require independence for multiple observations of a given company.

*** = Statistically significant (1% level, two-tailed).

** = Statistically significant (5% level, two-tailed).

* = Statistically significant (10% level, two-tailed).

Variable definitions: DEP_j = one if executive j leaves the company within a year following the issuance of the audit opinion (zero if the executive stays with the company). M_j = one if executive j 's company received an unfavorable audit opinion (zero if clean, see Table 1). AFF_j = one if executive j is affiliated (zero otherwise). FIN_j = one if executive j has a finance or accounting position (zero otherwise). TEN_j = the number of years worked by executive j at the company. P_j = Net income/Total assets for executive j 's company. $R(P_j)$ = Rank-transformation of P_j . $BANK_j$ = one if executive j 's company enters bankruptcy within a year following the issuance of the audit opinion (zero otherwise). $TAKE_j$ = one if executive j 's company is taken over within a year following the issuance of the audit opinion (zero otherwise).

One explanation for this is that long tenure provides executives with more time to establish a power base and to entrench themselves. An alternative explanation is that tenure captures unobserved heterogeneity associated with infrequent turnover. I measure tenure (TEN_j) using the number of years worked by executive j at the company. Extant research indicates that executive turnover is higher in companies that go bankrupt or are taken over (e.g., Gilson, 1989; Franks and Mayer, 1996). Eq. (2) therefore includes dummy variables that indicate whether executive j 's company goes bankrupt ($BANK_j$) or is taken over ($TAKE_j$) in the year following the issuance of the audit opinion. In (unreported) results, Eq. (2) controls for other executive characteristics (e.g., age) and other company characteristics (e.g., market performance), but these variables are found to be insignificant. Before discussing why these variables are insignificant, I present the main results in Table 7.

The coefficient on AFF_j is negative and statistically significant at the 1% level ($\hat{\beta}_1 = -0.60$). Therefore, turnover is abnormally low for affiliated executives following the issuance of clean audit opinions (H2). The coefficient on $AFF_j \times M_j$ is positive and statistically significant at the 5% level ($\hat{\beta}_2 = 0.84$). Therefore, the relation between unfavorable audit opinions and executive departures is more positive for affiliated executives compared to unaffiliated executives (H3). These

findings indicate that affiliated companies perceive affiliations are more (less) valuable after they receive clean (unfavorable) audit opinions.

The coefficients on the control variables are mostly consistent with prior expectations. The coefficient on TEN_j is negative, implying that executives with long tenure are less likely to depart. The coefficients on $BANK_j$ and $TAKE_j$ are positive, which shows executive turnover is higher in companies that go bankrupt or are taken over. The coefficient on FIN_j is positive, showing that executives in finance or accounting positions have higher turnover rates. The coefficient on profitability ($R(P_j)$) is negative as expected, but it is not statistically significant.⁸

Previous studies find executive departures are more common among executives who are at retirement age (Murphy and Zimmerman, 1993; Goyal and Park, 2002). When Eq. (2) includes age dummies for retirement, they are found to be insignificant. It turns out that retirements are not an important consideration in this sample because only 29 of the 968 executives are aged 60 or over, and only two of these 29 executives leave in the year following the issuance of audit opinions. This is consistent with Mian (2001), who shows that retirements are much less common for CFOs than for CEOs (CFOs are often much younger). Other variables found to be insignificant are company size and the executive's gender. In all unreported results, the conclusions about H2 and H3 are the same as in Table 7.

5.2. Executive–auditor affiliations, audit opinions, and subsequent audit firm changes

This section discusses audit firm changes in the year following the issuance of audit opinions. Section 5.1 argued that affiliated companies perceive affiliations are more valuable following the issuance of clean audit opinions. It might therefore be expected that audit firm dismissals occur less (more) often for affiliated companies compared to unaffiliated companies following the issuance of clean (unfavorable) audit opinions.

I find there are 130 audit firm changes, of which 32 are described as being auditor resignations. I drop auditor resignations from the sample because I am interested in companies' decisions to dismiss their audit firms. This leaves a sample of 828 companies (319 affiliated and 509 unaffiliated). Following the issuance of clean audit opinions, the frequency of audit firm dismissal is 8.1% for affiliated companies and 12.8% for unaffiliated companies. The difference (4.7% = 12.8–8.1%) is not

⁸In unreported results, Eq. (2) includes the change in profitability and stock price performance (raw and market-adjusted returns), but these performance variables are also found to be insignificant. The insignificant performance coefficients may seem surprising, but it is likely due to three factors. First, this study samples only companies that have poor performance, whereas most turnover studies (e.g., Mian, 2001) sample both good and poor performers. The lack of significant performance effects may therefore be due to the different sampling methodology adopted in this study. Second, there are only 234 executive departures in this study which is a relatively small sample. Mian (2001) reports a statistically significant association between performance and CFO turnover using a much larger sample (2,227 CFO changes). Third, Eq. (2) controls for bankruptcy and takeover and these variables help to capture variation in performance within the sample. In contrast, Mian (2001) reports the univariate association between profitability and CFO turnover not the multivariate association.

statistically significant. Following the issuance of unfavorable audit opinions, the frequency of audit firm dismissal is 13.6% for affiliated companies and 14.9% for unaffiliated companies. The ‘difference in differences’ is positive ($3.4\% = 13.6 - 8.1\% - (14.9 - 12.8\%)$). This is consistent with a stronger positive association between unfavorable opinions and audit firm dismissals for affiliated companies. However, the difference in differences is not statistically significant. These insignificant findings suggest that audit firm dismissals are less important than executive turnover in explaining how companies break up affiliations.

As a final robustness check, I re-define the dependent variable in Eq. (2) such that it captures affiliation break-up rather than executive departure. The re-defined dependent variable equals one if *either* the executive leaves the company *or* the company changes its audit firm in the year following the issuance of the audit opinion (zero otherwise). The (unreported) results using this re-defined dependent variable are similar to those reported in Table 7. In particular, the frequency of affiliation break-up is abnormally low following the issuance of clean audit opinions, and unfavorable opinions are associated with more frequent break-ups for affiliated executives. As discussed above, these affiliation break-ups are driven primarily by executive turnover rather than by audit firm changes.

6. Conclusions and further research

This paper provides descriptive evidence regarding affiliations between executive officers and audit firms and it tests whether affiliations impair audit quality. I find most affiliations (71.3%) occur when individuals leave audit firms and subsequently work for audit clients. Most of these employment affiliations involve the individual joining the company immediately after leaving the audit firm. The remaining affiliations occur when companies switch to executives’ former audit firms, and most of these alma mater affiliations involve the company hiring the executive’s former audit firm shortly after the executive joins the company.

I find companies receive clean audit opinions significantly more often when executives are affiliated with their companies’ audit firms. Consistent with regulators’ concerns (e.g., ISB, 2000), this finding suggests executive–auditor affiliations can impair audit quality. I believe self-selection is unlikely to explain this result for two reasons. First, I control for whether the company goes bankrupt or is taken over in the year following the issuance of the audit opinion. The bankruptcy and takeover variables help to control for any private information that auditors use when deciding whether to accept offers of employment from clients. Second, the self-selection argument applies only to employment affiliations, not to alma mater affiliations. An executive who has an alma mater affiliation would not have private information about the company’s future prospects since she would not have audited the company (recall that an alma mater affiliation is formed after the auditor leaves the CPA firm and joins the company). Therefore, the self-selection argument cannot explain why there is an association between alma mater affiliations and clean opinions. Nevertheless, I cannot rule out the possibility that self-selection explains the

association between employment affiliations and clean opinions. From a regulatory perspective, employment affiliations may be a cause for concern since they are relatively common and they may impair audit quality. However, regulators should also be concerned with alma mater affiliations which, despite being less common, have a highly significant negative impact on audit quality. The Sarbanes–Oxley Act (2002) attempts to prevent problems arising from employment affiliations, but alma mater affiliations have not yet received any regulatory interest.

I also find executive departures are abnormally infrequent for affiliated executives following the issuance of clean audit opinions. Moreover, the association between unfavorable opinions and executive turnover is significantly more positive for affiliated executives compared to unaffiliated executives. These findings suggest that companies view affiliations with auditors as more valuable after they receive clean audit opinions.

The findings reported in this paper raise issues that might be explored in further research. First, audit firms may have incentives to reduce the impact of affiliations upon audit quality. If affiliations reduce the likelihood of problem discovery, it might be expected that audit firms change their testing methodologies in order to prevent circumvention by former colleagues. If affiliations reduce auditor independence, it might be expected that audit firms change audit team members in order to prevent their opinions being affected by personal friendships or trust. However, in contrast to these two arguments, recent experimental evidence suggests affiliations affect auditors' *unconscious* judgments, such that auditors are unable to correct or de-bias themselves (Moore et al., 2002). It is therefore an open question whether audit firms take actions that mitigate the impact of affiliations upon audit quality.

Second, this paper provides evidence of audit quality impairment when the affiliated executive works at the client, but it does not test for audit quality impairment before she leaves the audit firm. To the extent that audit quality can be impaired before the individual leaves the audit firm, employment affiliations may be more problematic than documented in this study. There is therefore a need for research that tests whether employment affiliations impair audit quality before the individual leaves the audit firm.

Third, this paper focuses on companies that are less likely to receive clean audit opinions compared to the average SEC registrant. There exists scope for further research on executive–auditor affiliations and audit quality using a more representative sample of healthy companies. Audit opinion reporting is just one dimension of audit quality, so future research might investigate alternative measures such as earnings management.

Finally, this paper does not consider the factors that influence the formation of employment affiliations and alma mater affiliations. For example, it would be interesting to investigate whether more effective audit committees are less likely to permit the formation of alma mater affiliations. Effective audit committees might deter the formation of alma mater affiliations by acting as a barrier between management and the appointment of new audit firms.

References

- Arlinghaus, B.P., Cashell, D.D., 2001. Changing perceptions about public accounting careers. *Ohio CPA Journal* 60, 22–27.
- Ashbaugh, H., LaFond, R.Z., Mayhew, B., 2003. Do nonaudit services compromise auditor independence? Further evidence. *The Accounting Review* 78, 611–639.
- Beasley, M.S., Carcello, J.V., Hermanson, D.R., 2000. Should you offer a job to your external auditor? *Journal of Corporate Accounting and Finance* 3, 35–42.
- Buckless, F.A., Beasley, M.S., Glover, S.M., Prawitt, D.F., 2000. *Auditing Cases*. Prentice-Hall, Inc., Upper Saddle River, NJ.
- Business Week, 2002. Can Anderson survive? Keeping the firm alive through the probes and lawsuits will be a monumental job. *Business Week* January 28, p. 39.
- Clikeman, P.M., 1996. Close revolving door between auditors and clients. *Accounting Today* 10, 20.
- Craswell, A.T., Stokes, D.J., Laughton, J., 2002. Auditor independence and fee dependence. *Journal of Accounting and Economics* 33, 253–275.
- DeAngelo, L., 1981. Auditor size and audit quality. *Journal of Accounting and Economics* 3, 183–199.
- DeFond, M.L., Subramanyam, K.R., 1998. Auditor changes and discretionary accruals. *Journal of Accounting and Economics* 25, 35–67.
- DeFond, M.L., Raghunandan, K., Subramanyam, K.R., 2002. Do non-audit service fees impair auditor independence? Evidence from going concern audit opinions. *Journal of Accounting Research* 40, 1247–1274.
- Firth, M., 1981. Auditor-client relationships and their impact on bankers' perceived lending decisions. *Accounting and Business Research* 11, 179–188.
- Francis, J.R., Wilson, E., 1988. Auditor changes: a test of theories relating to agency costs and auditor differentiation. *The Accounting Review* 63, 663–682.
- Frankel, R.M., Johnson, M.F., Nelson, K.K., 2002. The relation between auditors' fees for nonaudit services and earnings management. *The Accounting Review* 77, 71–105.
- Franks, J., Mayer, C., 1996. Hostile takeovers and the correction of managerial failure. *Journal of Financial Economics* 40, 163–182.
- Gilson, S.C., 1989. Management turnover and financial distress. *Journal of Financial Economics* 25, 241–262.
- Goyal, V.K., Park, C.W., 2002. Board leadership structure and CEO turnover. *Journal of Corporate Finance* 8, 49–66.
- Imhoff Jr., E.A., 1978. Employment effects on auditor independence. *The Accounting Review* 53, 869–881.
- Independence Standards Board, Exposure Draft (ED 99-2), ISB 1999. Employment with audit clients.
- Independence Standards Board, Independence Standard No. 3, ISB 2000. Employment with audit clients.
- Kane, G.D., Meade, N.L., 1998. Ratio analysis using rank transformation. *Review of Quantitative Finance and Accounting* 10, 59–74.
- Koh, H.C., Mahathevan, P., 1993. The effects of client employment on auditor independence. *British Accounting Review* 25, 227–242.
- Mian, S., 2001. On the choice and replacement of chief financial officers. *Journal of Financial Economics* 60, 143–175.
- Moore, D.A., Loewenstein, G., Bazerman, M.H., 2002. Auditor independence, conflict of interest, and the unconscious intrusion of bias. *Harvard NOM Research Paper No. 02-40*.
- Murphy, K., Zimmerman, J., 1993. Financial performance surrounding CEO turnover. *Journal of Accounting and Economics* 16, 273–316.
- Parlin, J.C., Bartlett, R.W., 1994. Prior employment effects and independence in fact. *Business and Professional Ethics Journal* 13, 185–202.
- Raghunandan, K., Rama, D., 1995. Audit reports for companies in financial distress: Before and after SAS No. 59. *Auditing: A Journal of Practice and Theory* 14, 50–63.

- Report of the HIH Royal Commission, 2003. The failure of HIH: reasons, circumstances and responsibilities. Volume II, www.hihroyalcom.gov.au/finalreport/index.htm.
- Reynolds, J.K., Francis, J.R., 2000. Does size matter? The influence of large clients on office-level auditor reporting decisions. *Journal of Accounting and Economics* 30, 375–400.
- Securities and Exchange Commission SEC, 2000. Final rule: revision of the Commission's auditor independence requirements, 17 CFR Parts 210 and 240.