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Dissertation Examining Committee Approval Signatures:

Member's Name and Affiliation	Signature
Jagan Krishnan, Accounting	
Roland Lipka, Accounting	
Heibatolla Sami, Accounting	
Jayanthi Krishnan, Accounting	
Damaraju Raghavarao, Statistics	

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Dean of the Graduate School: _____
Signature

MOTIVATIONS AND CONSEQUENCES OF CORPORATE HIRING OF FORMER AUDITORS

A Dissertation
Submitted to
the Temple University Graduate Board

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in Partial Fulfillment
of the Requirements for the Degree
DOCTOR OF PHILOSOPHY

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by
Yinqi Zhang
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ABSTRACT

Title: Motivations and Consequences of Corporate Hiring of Former Auditors

Candidate's Name: Yinqi Zhang

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Companies frequently hire their former auditors as financial executives or directors, a practice known as affiliated hiring. Policy-makers believe affiliated hiring presents at least "perceived" threats to auditor independence, if not "actual" threats to auditor independence. Consequently, the Sarbanes-Oxley Act of 2002 and the SEC have imposed a mandatory one-year "cooling off" period before a former auditor can join his/her client in some key positions "to reduce the *perceived* loss of independence" (SEC 2003, *Final Rule*).

In this study, I first examine whether investors, financial analysts and rating agencies *perceive* affiliated hiring as impairing audit quality. To measure their perceptions, I use the responsiveness of stock returns, earnings forecasts, and stock and debt rankings, to reported earnings. I find analysts' reliance on reported earnings to forecast future earnings is lower for companies with former auditors than for other companies. However, affiliated hiring does not affect investors' response or stock and debt ratings' response to reported earnings in the full sample. Further, I find that investors and financial analysts distinguish between different kinds of affiliations.

First, the response to reported earnings of both investors and financial analysts is lower for companies whose former auditors joined them within a year of leaving the audit firm. Second, investors and analysts attach less importance to reported earnings for former auditors who are appointed to key financial positions such as CEO, CFO, CAO or controller, but not for former auditors who are non-executive directors.

I also investigate whether affiliated hiring impairs the "actual" auditor independence measured by financial statement restatements. I find that firms with former auditors as directors have higher probability of earnings restatements than other firms.

Taken together, my results suggest the following. For the four key financial positions, the perceived lack of independence suggests a "cooling off" period could be beneficial, even though actual independence is not impaired. For the directors, the fact that perceived independence is not affected suggests that a "cooling off" period may not be needed. However, the finding that actual independence as measured by restatement is affected adversely suggests the need for some caution.

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This dissertation is dedicated to my husband for his unconditional love and support. I am most fortunate to have you in my life.

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CHAPTER 1

INTRODUCTION

Audit firm personnel (partners, managers and staff) who work on audit engagements are frequently hired by their audit clients (henceforth "affiliated hiring").[1] Referring to this practice, Greg Newington, chief of the enforcement division of the California Board of Accountancy, states "people go into the profession with the goal in mind that this is a pathway [to top corporate jobs]" (Grimsley 2002).

When an auditor is hired as a financial executive by his/her former client, an affiliation is created between the client and its audit firm. The affiliation, it is argued, can impair the professional skepticism of the remaining members of the audit team (Independence Standards Board 2000), thereby lowering auditor independence. Worse, the ties between the auditor and the client can lead to accounting irregularities and financial scandals, such as those that occurred recently at Enron, Waste Management, Global Crossing, HealthSouth and AIG. All of these companies are known to have had a tradition of hiring financial executives from their audit firms (Grimsley 2002; Schneider 2002; Stuart 2005; Weber, McNamee, Vickers and Brady 2005).

To restore the capital market's confidence about auditor independence, section 206 of the Sarbanes-Oxley Act proposed a mandatory "cooling off" period of one year before a member of an audit engagement team can begin working for the client in

[1] It is also referred to as the "revolving door" practice in some studies (Geiger, North, and O'Connell 2005; Menon and Williams 2004; Wright and Booker 2005). "Revolving door" is usually used to describe the practice of officials from the private sector going to work for the government for a few years and then returning to their former employers. The auditors leave the CPA firms to work for their client, but seldom return to the CPA firms later, so it is not strictly "revolving".

certain key positions, including CEO, CFO, CAO and controller. In its *Final Rule: Strengthening the Commission's Requirements Regarding Auditor Independence* (SEC 2003), the SEC claimed: "the provisions of the Sarbanes-Oxley Act reflect the view that the passage of time is an additional safeguard to reduce the ***perceived*** loss of independence for the audit firm caused by the acceptance of employment by a member of the engagement team with an audit client" (emphasis added, SEC 2003).

This study differentiates "perceived" auditor independence (or independence in appearance) from "actual" auditor independence (or independence in fact) and tests the effect of affiliated hiring on both investors' and information intermediaries' "perceptions" of auditor independence and the "actual" auditor independence measured by restatements of previous financial data.[2] I measure investor perceptions of auditor independence by the earnings response coefficient (ERC), and information intermediaries' perceptions by the response to reported earnings of (1) analysts' earnings forecasts, (2) Standard & Poor's common stock rankings, and (3) Standard & Poor's senior debt ratings. Additionally, I differentiate hiring former auditors as financial executives from hiring them as members of board of directors, because the two positions have different roles in financial reporting process and the interactions with the audit engagement teams.

Using companies with data available for fiscal year 2001, I find companies with former auditors have lower ERCs when the former auditors take financial

[2] I use "perceived" auditor independence interchangeably with "independence in appearance" and "actual auditor independence" interchangeably with "independence in fact".

executive positions such as CEO, CFO, CAO or controller. However, ERC is not impacted if the former auditors are hired as members of board of directors. Moreover, similar to the results of investors' perceptions, financial analysts also have negative perceptions for the companies with former auditors who are in positions as CEO, CFO, CAO or controller, but not former auditors who serve as directors. S&P rating agencies do not perceive former auditor in any type of position as jeopardizing auditor independence. In addition, both investors and analysts penalize only companies with former auditors who join their clients within one year after they leave the CPA firms.

The findings about investors' and analysts' perceptions of affiliated hiring have implications for the mandatory "cooling off". One implication concerns the appointment of former auditors to non-executive director positions. Although the Sarbanes-Oxley Act did not require this, the SEC expanded the "cooling off" requirements to include directors in addition to the four highest managerial positions. The SEC's rationale was that persons in all of these positions contribute to the oversight of financial reporting, and consequently could be perceived as impairing auditor independence if they are affiliated to the audit firm. My results however suggest that market participants do not view affiliated board members as threats to auditor independence. Another implication is the mandatory "cooling off" period before a former auditor can join his/her client may alleviate investors' or analysts' concerns over auditor independence.

I find different results for the effect of affiliated hiring on "actual" auditor independence. I find that firms with former auditors as members of board of directors

have higher probability of earnings restatements than other firms. However, companies with former auditors as financial executives including some key financial positions such as CEO, CFO, CAO or controller do not have higher probability of earnings restatements than other companies. Taken together, my results suggest the following. For the four key financial positions, the perceived lack of independence suggests that a "cooling off" period could be beneficial, even though actual independence is not impaired. For the directors, the fact that perceived independence is not affected suggests that a "cooling off" period may not be needed. However, the finding that actual independence as measured by restatement is affected adversely suggests the need for some caution. To the extent the restatements reflect lower reporting quality, affiliated hiring to the Board of Directors has negative consequences.

As a supplementary test, I also investigate the economic determinants of affiliated hiring. I examine whether companies with earnings management incentives are more likely to hire former auditors. I find that the probability of employing former auditor increases with earnings management incentives including the demand for meeting earnings benchmark and anticipated stock or debt issuance. I also find companies with CEO also serving as chairman of the board are more likely to hire former auditors. Moreover, the probability of affiliated hiring increases with audit tenure and decreases with the number of geographic segments of the company.

This study extends the literature on auditor independence in several ways. First, despite the great concerns expressed by the business press and regulators and

the recent policy changes, there are only few studies on the corporate practice of hiring former auditors as financial executives. In a discussion on auditor independence, Johnstone, Sutton and Warfield (2001, p. 15) point out that "while the incentive effects of financial dependence are well explored (Simunic 1984 and subsequent studies), other incentives involving personal relationships and potential employment received less attention, although they are likely as important." In a recent literature review on auditing research, DeFond and Francis (2005, p.17) call for more research in this area: "we believe this continues to be an important issue and further research is desirable because of the chilling effect [of the 'cooling off' period] it may have on accounting firms."

Second, although the anecdotal evidence raises concerns that affiliated hiring might be associated with fraud (Beasley, Carcello and Hermanson 2000; Grimsley 2002; Schneider 2002; Weber et al. 2005), most archival studies examine the issue by using discretionary accruals as proxy (Menon and Williams 2004; Dowdell and Krishnan 2005; Geiger, North and O'Connell 2005).[3] Earnings management through discretionary accruals is generally restricted to reporting practices that are within GAAP and most firms might engage in it routinely to varying degrees (Dechow, Sloan and Sweeney 1996; Agrawal and Chadha 2005). However, earnings restatements are more rare and serious and are direct admission by managers of past earnings manipulation (Agrawal and Chadha 2005; Baber, Kang and Liang 2005).

[3] An exception is Lennox (2005) who uses audit opinion as proxy for auditor independence and finds a higher proportion of clean audit opinions for companies with former auditors than companies without former auditors.

Therefore, restatements are more closely related to accounting scandals. The General Accounting Office (GAO, now Government Accountability Office) found a marked increase in the number of financial statement restatements from 1997 to 2002 and indicated "the increase in financial statement restatements involving accounting irregularities has caused questions about the independence and quality of audits being conducted by the independent auditors to resurface" (GAO 2002). To my knowledge, no prior study has examined the relationship between affiliated hiring and earnings restatements. This study shows affiliated hiring to the board of directors is positively related to earnings restatements.

Third, the Supreme Court, the SEC, institutional investors and the business press always emphasize the importance of perceptions of auditor independence. However, no study has examined whether affiliated hiring impairs investors' perceptions of auditor independence. Former SEC chief accountant Lynn Turner underscored the importance of perceived independence as follows: "the appearance of independence not only matters, it is the oxygen that keeps our profession alive... The staff believes that auditor independence is really about only one thing --- investor confidence in the numbers and in the markets."[4] Moreover, the SEC specifically noted that the aim of the mandatory "cooling off" period is to "reduce the *perceived* loss of independence for the audit firm caused by the acceptance of employment by a member of the engagement team with an audit client" (SEC 2003, *Final Rule* section II). This study provides evidence on who the "cooling off" period should apply to and

[4] Turner (2000); Speech by SEC staff: Current SEC Developments: Independence "Matters."

whether it is useful in alleviating investors' concerns about auditor independence.

The next chapter provides an overview of the practice of affiliated hiring, recent regulations and related research findings. Chapters 3, 4 and 5 develop hypotheses and models and present results for the association between affiliated hiring and perceptions of auditor independence, the association between affiliated hiring and earnings restatements and the economic determinants of employment of former auditor respectively. Chapter 6 concludes and discusses the implications of this study.

CHAPTER 2

BACKGROUND AND LITERATURE REVIEW

2.1 The Practice of Affiliated Hiring and Recent Regulations

Companies look for their financial executives both internally and externally. Mian (2001) suggests that firms with rapid sales growth accompanied by weak operating performance are more likely to seek outside talents. One source of talented individuals with the requisite skills is auditing firms. Rholan Larson, senior partner in an accounting firm, said "clients were always looking for good, top people, and a good place to look is their auditing firm" (Grimsley 2002). When the clients have observed the individuals in their audit engagement team for many years and gained first-hand knowledge about their expertise, work ethic and personality, they find it easier to judge whether these individuals will be a "good fit" within their corporate culture compared to other potential hires outside their auditing firm (Beasley et al. 2000).

At the same time, audit firm partners, managers and staff seek jobs with their clients, to get higher compensation and an oversight role. Over 20 years ago, Imhoff (1978) showed that 20% of auditors who left their firms accepted employment with their clients. The increasing level of executive compensation during the 1990s has made corporate jobs more attractive for these seasoned accountants. Menon and Williams (2004) indicate that during 1998-1999, about 6.9% of companies had

financial executives or directors who were former partners at their audit firms.[5] "It's ingrained in the profession," said Greg Newington, chief of the enforcement division of the California Board of Accountancy. "People go into the profession with the goal in mind that this is a pathway [to top corporate jobs]" (Grimsley 2002, A01).

From a client's perspective, there are certainly some benefits to hiring former auditors as financial executives. Susan Coffey, AICPA's vice president of self-regulation, said "in many cases it is helpful to companies if their auditors go to work for them because they bring knowledge and expertise of the company's line of work" (Grimsley 2002, A01). Given the complexity of many of today's corporations, it is difficult to understand a company's business in a short period of time. The former auditors are familiar with the client's business strategy, reporting process, information system, and industry peculiarities (Imhoff 1978; Beasley et al. 2000). Their client-specific knowledge can help them adjust quickly to the new job. Their familiarity with the client's financial reporting process can enhance the ability to ensure proper accounting and reporting (Dowdell and Krishnan 2004).

However, a risk associated with the hiring of former auditors is the impairment of auditor independence. The Independence Standards Board (ISB 2000) indicates several reasons why the former auditor's affiliation with the audit firm may impair audit quality. After the employment with the client, the former auditors may use the knowledge of the audit firm's testing techniques to circumvent the audit

[5] Menon and Williams (2004) start with 15,264 firm years in their sample selection. Among these firm years, 1,049 firm years have financial executives or directors who were partners in their audit firms.

approach and thereby reduce the effectiveness of the audit procedures. Moreover, the remaining members of the audit team may be reluctant to challenge their old colleague during the audit. The 1999 COSO (Committee of Sponsoring Organizations of the Treadway Commission) report shows that 11% of the CFOs in their sample of companies involved in financial fraud had previous experience with the companies' audit firms immediately prior to joining the company (Beasley et al. 2000).

The high-profile financial scandals at Waste Management, Global Crossing, and Enron, intensified the concerns about the practice of hiring former audit personnel, because these companies are known to have a tradition of hiring financial executives from their audit firm, Arthur Andersen. For example, Richard Causey, former chief accounting officer at Enron, joined the company after working as a senior manager at Arthur Andersen in Houston. While at Andersen, Causey worked on Enron's account. Until 1997, every CFO and CAO of Waste Management had worked previously at Arthur Andersen (Schneider 2002). At Global Crossing, Joseph Perrone, the firm's senior vice president of finance, was the engagement partner on the account when he was at Arthur Andersen (Grimsley 2002).

To minimize the potential negative effects of affiliated hiring on perceptions of auditor independence, the Sarbanes-Oxley Act (Section 206) proposed a mandatory "cooling off" period before a former auditor takes certain positions at the client:

> "It shall be unlawful for a registered public accounting firm to perform for an issuer any audit service required by this title, if a chief executive officer, controller, chief financial officer, chief accounting officer, or any person serving in an equivalent position for the issuer, was employed by that registered independent public accounting firm and participated in any

capacity in the audit of that issuer during the 1-year period preceding the date of the initiation of the audit." (U.S. Congress 2002)

The "cooling off" period can be costly for companies which intend to hire their former auditors as financial executives. To comply with Section 206, companies must wait one year before they can employ the former auditor or switch to another audit firm if they want to employ the former auditor immediately. It could limit the ability of companies to hire qualified people and add unnecessary costs to companies (ISB 2000).[6]

Moreover, opponents of the "cooling off" period requirement argue that it restricts the placement opportunities for CPA firm employees and may in the long term reduce the attractiveness of the profession and be detrimental to auditor independence. DeFond and Francis (2005, p. 17) discuss the "chilling" effect of this practice: "one of the most appealing aspects of working in large accounting firms, and which may attract talented individuals, is the high-level outplacement opportunities to clients. With this fringe benefit curtailed, accounting firms may attract less capable individuals, which may in the long term lead to reduced audit quality."

Notwithstanding these criticisms, the SEC not only adopted the one-year "cooling off" period suggested by SOX, but also extended the requirements to anyone who has a financial reporting oversight role in the company, including directors and

[6] To alleviate loss of independence caused by affiliated hiring, the Independence Standards Board (ISB) favors safeguard controls over a mandated "cooling off" period. The Independence Standard No. 3 (ISB 2000) states: "The Board agreed with several corporate officials and others responding to the DM who argued that companies benefit from the ability to hire staff at all levels from their audit team" and "A mandated cooling-off period might force a client to choose between, for example, its audit partner and its audit firm, knowing that if the partner was hired the audit firm would have to be replaced. The Board recognized that replacement of an audit firm carries costs to firms, clients, and investors."

some other lower level positions than those identified by SOX.[7] In November 2003, the New York Stock Exchange (NYSE) and NASDAQ adopted additional set of corporate governance rules, which extended the "cooling off" period for the employment of former auditor as director to three years.[8]

2.2 Related Literature

2.2.1 Auditor Independence in Appearance

There are two dimensions of auditor independence, independence in fact and independence in appearance. As independence in fact refers to the auditor's mental state, it is hard to observe. Independence in appearance is usually referred to as investors' perceptions of auditor independence and has been emphasized a lot by the SEC and other regulators. The SEC (SEC 2000, Section I) states that "an auditor is not independent if a reasonable investor, with knowledge of all relevant facts and circumstances, would conclude that the auditor is not capable of exercising objective and impartial judgment".

In its *Final Rule* (SEC 2003, Section II), the SEC indicates that "the provisions of the Sarbanes-Oxley Act reflect the view that the passage of time is an

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[7] The one-year "cooling off" period applies to all members of the audit engagement team who provide more than ten hours of audit, review or attest service. The "financial reporting oversight role" includes director, chief executive officer, president, chief financial officer, chief operating officer, general counsel, chief accounting officer, controller, director of internal audit, director of financial reporting, treasurer, or any equivalent position (SEC 2003).

[8] The "cooling off" period is referred to as the"look back" period in these rules. The final NYSE listing standards are available at http://www.nyse.com/pdfs/finalcorpgovrules.pdf, and the final NASDAQ listing standards are available at http://www.nasdaq.com/about/CorpGovSummary.pdf. The final SEC rules adopting the NYSE and NASDAQ listing standards can be found at http://www.sec.gov/rules/sro/34-48745.htm.

additional safeguard to reduce the *perceived* loss of independence for the audit firm caused by the acceptance of employment by a member of the engagement team with an audit client" (emphasis added). The provisions in the Sarbanes-Oxley Act and the interpretation by the *Final Rule* imply that the capital market perceives employment of a former auditor as impairing auditor independence and that the perceived loss of independence is the greatest if the former auditor joins the client shortly after s/he leaves the CPA firm.

Experimental research provides the most direct approach to testing capital market perceptions, because it uses capital market participants as subjects, who can be directly asked whether they perceive auditor independence as being impaired under certain scenarios. Several experimental studies investigate whether capital market participants think affiliated hiring arouses skepticism about auditor independence. Imhoff (1978), Firth (1981) and Koh and Mahathevan (1993) show that bankers, financial analysts and managers question auditor independence when auditors accept positions with client firms. Also, these studies indicate that skepticism about auditor independence is higher, (1) the shorter the time-lapse between auditing and working for a client firm, (2) the higher the rank of auditor in the audit firm, or (3) if the auditor takes a position as financial statement preparer instead of non-preparer. A recent study by Wright and Booker (2005) uses members of state boards of accountancy as subjects and finds that a one-year "cooling off" period has a significant positive impact on perceptions of auditor independence.

One commonly used empirical measure of investor perceptions of auditor independence is the earnings response coefficient (ERC), which measures the stock price response to unexpected earnings. The ERC is negatively associated with the perceived noise in the firm's reported earnings (Holthausen and Verrecchia 1988). Because an audit is expected to reduce the noise in earnings, auditing researchers have argued that audit quality would be positively associated with the ERC. ERCs have been shown to be higher for clients of the Big 4 (previously Big 8) auditors (Teoh and Wong 1993) and industry specialist auditors (Balsam, Krishnan and Yang 2003).

Moreover, information intermediaries such as analysts and rating agencies rely on financial statements to provide earnings forecast and ratings, so their reliance on accounting earnings reflects their perceptions of auditor independence. Analogous to the use of ERC, Ghosh and Moon (2005) use the response to earnings of analysts' forecasts, bond ratings and stock rankings to capture information intermediaries' perceptions of auditor independence.

Two recent studies use ERCs to examine whether investors perceive auditor independence as being impaired in situations of significant client-auditor bonding. Krishnan, Sami and Zhang (2005) and Francis and Ke (2006) document that the purchase of non-audit services lowers ERCs, suggesting that investors perceive non-audit services as impairing auditor independence. Ghosh and Moon (2005) find a positive association between auditor tenure and ERCs, which implies investors do not view longer tenure as impairing auditor independence. Further, Ghosh and Moon (2005) also find that the associations between earnings forecasts and reported

earnings, and between stock rankings and reported earnings are higher when auditor tenure is longer, implying information intermediaries also view longer tenure positively. To my knowledge, no prior study has used ERCs to examine the relationship between affiliated hiring and perceptions of auditor independence by investors or information intermediaries.

2.2.2 Auditor Independence in Fact

As discussed before, independence in fact requires evidence on the auditor's mental state. Probably because it is hard to acquire evidence on auditor's mental state, prior studies have used the quality of outcomes of audit process as a proxy for auditor independence in fact. Reynolds and Francis (2001) suggest there are two observable outcomes of the audit process: the audit opinion issued by the auditors and the audited financial statements. Correspondingly, auditor independence in fact can be measured by the auditor's propensity to issue going-concern opinion and the magnitude of accounting accruals. Because companies in poor financial conditions may have incentives to conceal their financial problems,[9] and the auditor's job is to identify companies experiencing going-concern problems, more independent audit is generally associated with higher frequency of going-concern opinions. Because companies use accruals to manage earnings toward desired outcomes and auditors should limit this opportunistic behavior by managers, more independent audit is assumed to reduce the magnitude of discretionary accruals.

[9] Companies in poor financial conditions may want to conceal their financial problems because if the bad financial situation is revealed, they may have difficulty in financing, and their managers' compensation may be cut.

While Lennox (2005) uses audit opinion as proxy for "actual" auditor independence and finds a higher proportion of clean audit opinions for companies with former auditors than other firms, most recent research on whether affiliated hiring impairs "actual" auditor independence use discretionary accruals as proxy. Among the studies using discretionary accruals as proxy, Menon and Williams (2004) document higher signed (income-increasing) and absolute discretionary accruals for companies that hire former partners of their present auditors as financial officers. However, Dowdell and Krishnan (2004) find affiliated CFOs are associated with higher signed discretionary accruals in some model specifications, but not associated with higher absolute accruals. Geiger et al. (2005) find that companies hiring financial executives from their auditors did not exhibit significantly higher *changes* in absolute total discretionary accruals than companies hiring individuals from other sources or retaining their incumbent financial executives.

Earnings management through discretionary accruals is generally restricted to reporting practices that are within GAAP and most firms might engage in it routinely to varying degrees (Dechow et al. 1996; Agrawal and Chadha 2005). However, the anecdotal evidence suggests that affiliated hiring may be associated with accounting frauds (Beasley et al. 2000; Grimsley 2002; Schneider 2002; Weber et al. 2005), which cannot be measured by discretionary accruals.

One potential measure of accounting fraud is the occurrence of restatements of financial statements.[10] Companies are required to restate previously disclosed earnings and other financial information when that information contains "[e]rrors [resulting] from mathematical mistakes, mistakes in application of accounting principles, or oversight or misuse of facts that existed at the time the financial statements were prepared" (Accounting Principles Board 1971, paragraph 13). DeFond and Francis (2005, p. 24) indicate that "the biggest advantage of using restatements is that they provide more direct evidence that the auditor failed to either detect or repot an accounting treatment that is inconsistent with GAAP."

Several recent studies have examined the relationship between earnings restatements and corporate governance such as external auditor characteristics, board characteristics and shareholder rights. These studies have found mixed evidence on whether good corporate governance is associated with lower financial statement restatements.[11] Myers, Myers, Palmrose and Scholz (2003) examine the association between auditor tenure and financial statement restatements and find that the association is "context-specific". Kinney, Palmrose and Scholz (2004) investigate whether non-audit services impair auditor independence and result in more restatements, but do not find a positive association between them. Agrawal and

[10] Another potential measure of accounting fraud is the occurrence of SEC enforcement actions. Agrawal and Chadha (2005) and Baber, Kang and Liang (2005) compare earnings restatements and SEC enforcement actions as proxy for fraud and suggest there are advantages and disadvantages of each measure compared with the other one.

[11] Baber, Kang and Liang (2005) suggest that the failure to detect associations between corporate governance indicators and restatements indicate either poor governance indicators or the existence of substitution relationships among the governance mechanisms.

Chadha (2005) document a lower probability of restatement in companies whose boards or audit committees have an independent director with financial expertise, but do not find association between restatements and other board characteristics. Abbott, Parker and Peters (2004) find that financial expertise, independence and activity level of the audit committee are all negatively associated with restatements. Baber et al. (2005) indicate that the vast majority of popular corporate governance indicators such as board and audit committee independence, financial expertise of the audit committee, equity incentives of CEO and ownership structure are not associated with the propensity of financial statement restatements, but companies with more restrictions on shareholder rights have higher probability of restatements. Larcker, Richardson and Tuna (2005) study a set of 39 corporate governance indicators, but find little relation between these corporate governance constructs and earnings restatements. Aier, Comprix, Gunlock and Lee (2005) study whether CFOs' financial expertise is related to restatements and find that companies whose CFOs have "work experience as CFOs, M.B.A.s, and/or CPAs" are significantly less likely to have earnings restatements.

The related empirical studies on auditor independence are summarized in Table 1.

Table 1

Summary of Related Empirical Studies on Auditor Independence

Panel A: Related Empirical Studies on Auditor Independence in Appearance

Study	Measures	Findings
Imhoff (1978)	Experiment	The frequency of a perceived independence problem is greater for users than CPAs in cases where auditors accept employment with client firms.
Firth (1981)	Experiment	Bankers' lending decisions are unfavorably affected by employment of former audit partners as financial directors.
Koh and Mahathevan (1993)	Experiment	Managers' perception of auditor independence loss due to the employment of former auditor is related to the time lapse between auditing the client and joining the client's workforce, the position held by the former auditor at the auditing firm and in the client firm, and the type of audit opinion.
Teoh and Wong (1993)	ERC	ERC is higher for clients of the Big 4 (then Big 8) auditors.
Balsam, Krishnan and Yang (2003)	ERC	ERC is higher for clients of industry specialist auditors.
Krishnan, Sami and Zhang (2005)	ERC	Non-audit services are negatively associated with ERCs.
Ghosh and Moon (2005)	ERC; stock rankings/debt ratings/analysts' forecasts response to earnings	Auditor tenure is positively related to ERC, the influence of earnings on stock rankings or debt ratings or one-year-ahead earnings forecasts.
Wright and Booker (2005)	Experiment	A one-year "cooling off" period has a significant positive impact on perceptions of auditor independence.
Francis and Ke (2006)	ERC	Firms with high levels of non-audit fees have lower ERC than firms with low levels of non-audit fees.

Panel B: Related Empirical Studies on Auditor Independence in Fact

Study	Measures	Findings
Beasley (1996)	SEC enforcement actions	Board independence is negatively related to the probability of fraud, but the presence of audit committee does not significantly affect the likelihood of fraud.
Dechow, Sloan and Sweeney (1996)	SEC enforcement actions	An important motivation for earnings manipulation is the desire to attract external financing at low cost. Additionally, fraud is significantly related to the strength of governance structures including board independence, existence of audit committee, existence of blockholder and CEO characteristics.

Reynolds and Francis (2001)	absolute value of total accruals; absolute value of discretionary accruals; going-concern opinions	Relatively large clients in offices have less discretion with respect to accounting accruals and are more likely to receive a going-concern audit report.
Myers, Myers, Palmrose and Scholz (2003)	financial statement restatements	Auditor tenure is not significantly related to the probability of restatement in the overall sample. However, in the subsamples, misstatements that do not increase non-core earnings are less likely for long auditor tenure, while misstatements in quarterly financial statements that increase core earnings are more likely for long auditor tenure.
Abbott, Parker and Peters (2004)	financial statement restatements	Financial expertise, independence and activity level of the audit committee are all negatively associated with restatements.
Dowdell and Krishnan (2004)	signed discretionary accruals; absolute value of discretionary accruals	Following the appointment of CFO, signed discretionary accruals (but not absolute value of discretionary accruals) are higher for companies hiring former auditors.
Kinney, Palmrose and Scholz (2004)	financial statement restatements	There is no association between fees for either financial information system designs and implementation or internal audit services and restatements. Moreover, the provision of tax services is negatively associated with the occurrence of restatements.
Geiger, North, and O'Connell (2005)	changes in absolute value of discretionary accruals	Companies hiring financial executives directly from their audit firms did not exhibit significantly higher changes in absolute total discretionary accruals.
Menon and Williams (2004)	signed discretionary accruals; absolute value of discretionary accruals	Companies that hire former partners as financial officers have both higher signed and absolute discretionary accruals.
Agrawal and Chadha (2005)	financial statement restatements	The probability of restatement is lower in companies whose boards or audit committees have an independent director with financial expertise; is higher in companies in which the chief executive officer belongs to the founding family. However, the probability of restatement is not related to the independence of boards and audit committees and the provision of non-audit services by outside auditors.
Aier, Comprix, Gunlock and Lee (2005)	financial statement restatements	The frequency of restatements is negatively associated with CFO's financial expertise.
Baber, Kang and Liang (2005)	financial statement restatements	Companies with more restrictions on shareholder rights have higher probability of restatements. However, popular corporate governance indicators such as board and audit committee independence, financial expertise of the audit committee, equity incentives of CEO and ownership structure are not associated with the propensity of financial statement restatements.

Larcker, Richardson and Tuna (2005)	discretionary accruals; financial statement restatements; class action lawsuits	Common corporate governance indicators are somewhat related to discretionary accruals, but have little relation to accounting restatements or class action lawsuits.
Lennox (2005)	going-concern opinions	Companies that hire former auditors are much more likely to receive clean audit opinions than companies that do not.

CHAPTER 3

AFFILIATED HIRING AND PERCEPTIONS OF AUDITOR INDEPENDENCE

3.1 Hypotheses

As discussed in the previous chapters, the rationale for the mandatory "cooling off" period is hiring former auditors may arouse negative ***perceptions*** about auditor independence. It may appear to the investors or information intermediaries that the connection between the audit firm and its former partners or managers has not been severed and therefore the auditor is not independent. The financial statement users may also question the effectiveness of the auditing procedures when a major financial executive is intimately acquainted with the audit testing strategies and techniques employed by the auditor. If investors, analysts, and bond or stock rating agencies view the employment of former auditor as leading to impaired auditor independence, their reliance on reported earnings will be lower. Thus, I expect:

> *H1: Investors' and information intermediaries' response to reported earnings (ERC) is lower for companies with former auditors than for companies without former auditors.*[12]

The mandatory "cooling off" period also implies that the perceived loss of independence is greatest if the former auditor joins the client shortly after s/he leaves the audit engagement team. One concern with affiliated hiring is that the remaining audit team members may be reluctant to challenge their old colleague. With the

[12] For simplicity, I refer to information intermediaries' (including financial analysts, debt rating and stock ranking agencies) response to reported earnings as ERC following Ghosh and Moon (2005).

passage of time, the influence of the former auditor over the rest of the audit team can diminish, especially when changes occur in the composition of the audit engagement team. Therefore, I expect the negative effect on investors' and information intermediaries' reliance on reported earnings in the presence of affiliated hiring to be greater if the former auditor joins the client shortly after the departure from the CPA firm than long after the departure. Hypothesis 2 is stated as the follows:

> *H2: The difference in investors' and information intermediaries' response to reported earnings (ERC) for companies with and without former auditors decreases with the time lapse between the former auditor's departure from the auditing firm and employment by the client.*

SOX only identifies four positions (CEO, CFO, CAO and controller) for which the one-year "cooling off" period would apply, while the SEC's *Final Rule* expands the requirement to anyone who has a financial reporting oversight role in the company. The expanded list now includes members of the board of directors and some lower level positions. The SEC argues that the "financial reporting oversight role" is a better test for the scope of the provision than the four particular officers named in SOX.

However, there is very little criticism of the employment of former auditor as directors or other positions, while the employment of former auditor as CFOs or CAOs has been heavily criticized by the media (Beasley et al. 2000; Grimsley 2002; Schneider 2002; Weber et al. 2005). If the points of views of investors and information intermediaries are affected by the public press, I would expect the negative effect on their reliance on reported earnings in the presence of affiliated

hiring to be greater if the former auditor joins the client in one of the four positions identified in SOX than in the other positions. Thus, hypothesis 3 is stated as the follows:

> *H3: The difference in investors' and information intermediaries' response to reported earnings (ERC) for companies with and without former auditors is greater if the former auditor is in the position of CEO, CFO, CAO or controller compared to other positions.*

3.2 Model Specification

I use the following regression to analyze whether investors, financial analysts, and independent rating agencies perceive audit quality as being impaired due to affiliated hiring:

$$\begin{aligned} \textit{Dependent Variable} = {} & \beta_0 + \beta_1 E + \beta_2 \Delta E + \beta_3 E * AFF + \beta_4 \Delta E * AFF + \beta_5 AFF \\ & + \beta_6 E * CPA + \beta_7 \Delta E * CPA + \beta_8 CPA + \sum_{j=1}^{9} \beta_{9+2(j-1)} E * \textit{Control Variable}_j \\ & + \sum_{j=1}^{9} \beta_{10+2(j-1)} \Delta E * \textit{Control Variable}_j + \sum_{j=1}^{9} \beta_{26+j} \textit{Control Variable}_j + \varepsilon \quad (1) \end{aligned}$$

To test perceptions of investors, the dependent variable is the twelve-month (ending three months after the fiscal year-end) cumulative market-adjusted returns (*CAR*). To test perceptions of financial analysts, the dependent variable is the mean one-year-ahead consensus forecast for earnings per share (*EPS*) issued following earnings announcement for the current year (*FEPS*). To test perceptions of independent rating agencies, the dependent variables are Standard and Poor's common stock rankings (*STOCKRANK*), and Standard and Poor's senior debt ratings (*DEBTRATE*).

E and ΔE are reported earnings and changes in reported earnings from the previous year respectively. The sum of the coefficients of earnings levels and changes, $(\beta_1 + \beta_2)$, is the earnings response coefficient (ERC).[13]

AFF is 1 for companies with financial executives or directors who were audit partners or managers at the CPA firm that audits the company's financial statements of the current year, and 0 otherwise. The sum of the coefficients of *E*AFF* and ΔE*AFF, $(\beta_3 + \beta_4)$, measures the additional effect of affiliated hiring on ERC, and is used to test H1. If investors, analysts and rating agencies perceive audit quality to be impaired by corporate hiring of former auditors, $(\beta_3 + \beta_4)$ is expected to be negative.

To test for the effect of affiliated hiring (H1), an important factor that must be controlled for is the auditing expertise of the financial executives or directors. Affiliated employees bring past working experience as CPAs. If investors, rating agencies and analysts perceive the auditing background as contributing to high-quality financial reporting, then the ERC will be higher for companies which have financial executives with prior CPA firm working experience. To control for the effect of auditing expertise on ERC, I include *E*CPA* , ΔE*CPA* and *CPA* in the model, with CPA equal to 1 for companies which have financial executives who previously worked in a CPA firm as auditing partner or manager, and 0 otherwise.

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[13] Ali and Zarowin (1992) show that when earnings are purely permanent, unexpected earnings are equal to the change in earnings, and when earnings are purely transitory, unexpected earnings are equal to the level of earnings. Brown et al. (1987) argue that as earnings contain both permanent and transitory components, including both earnings changes and earnings levels increases the explanatory power and magnitude of the ERC.

The other control variables are those shown in prior work to be associated with ERC, analysts' forecasts, stock rankings or debt ratings (Collins and Kothari 1989; Warfield, Wild and Wild 1995; Duru and Reeb 2002; Mansi, Maxwell and Miller 2004; Ghosh and Moon 2005).[14] *FIRMAGE*, computed using the beginning and end dates as reported in CRSP, measures the number of years that the firm has been publicly traded as of the fiscal year-end; *BIG5* is 1 if the client's current auditor is one of the Big 5 accounting firms, and 0 otherwise; *GROWTH* is the sum of the market value of equity and the book value of debt scaled by the book value of total assets; *PERSISTENCE* is the first-order autocorrelation of income before extraordinary items per share for the past sixteen quarters; *VOLATILITY* is the standard deviation of income before extraordinary items per share for the past sixteen quarters; *SIZE* is the logarithmic transformation of market value of equity; *BETA* is the systematic risk computed from the market model using stock returns over the past sixty months; *LEVERAGE* is the ratio of total liabilities to total assets; *REGULATION* is 1 if the company's two-digit SIC codes are between 40 and 49 or between 60 and 63 and *ANALYSTS* is the number of analysts of the company providing the one-year-ahead EPS forecast in the I/B/E/S statistical period immediately following earnings announcement for the current year. All control variables except *ANALYSTS* are measured at the fiscal year end.

[14] Following Ghosh and Moon (2005), *Analysts* replaces *Persistence* as one of the control variables in the *FEPS* regression.

To test whether the negative effect on ERC is greater if the former auditor joins the client shortly after the departure from the CPA firm than long after the departure, I partition *AFF* into *AFFSHORT* and *AFFLONG* and modify model (1) as follows:

$$\begin{aligned} \textit{Dependent Variable} = {} & \gamma_0 + \gamma_1 E + \gamma_2 \Delta E + \gamma_3 E * AFFSHORT + \gamma_4 \Delta E * AFFSHORT \\ & + \gamma_5 E * AFFLONG + \gamma_6 \Delta E * AFFLONG + \gamma_7 AFFSHORT \\ & + \gamma_8 AFFLONG + \gamma_9 E * CPA + \gamma_{10} \Delta E * CPA + \gamma_{11} CPA \\ & \sum_{j=1}^{9} \gamma_{12+2(j-1)} E * Control\ Variable_j + \sum_{j=1}^{9} \gamma_{13+2(j-1)} \Delta E * Control\ Variable_j \\ & + \sum_{j=1}^{9} \gamma_{29+j} Control\ Variable_j + \varepsilon \end{aligned} \quad (2)$$

AFFSHORT is 1 if the former auditor joins the client within one year of leaving the audit firm; *AFFLONG* is 1 if the former auditor joins the client after one year of leaving the audit firm. The difference between (γ_3+γ_4) and (γ_5+γ_6) tests H2. If H2 is supported, then I expect (γ_3+γ_4) to be significantly lower than (γ_5+γ_6).

To test whether capital market participants are concerned about the position to which the affiliated hire is appointed, I partition *AFF* into *AFFCHIEF*, *AFFDIR* and *AFFOTHER* and modify model (1) into:

$$\begin{aligned} \textit{Dependent Variable} = {} & \theta_0 + \theta_1 E + \theta_2 \Delta E + \theta_3 E * AFFCHIEF + \theta_4 \Delta E * AFFCHIEF \\ & + \theta_5 E * AFFDIR + \theta_6 \Delta E * AFFDIR + \theta_7 E * AFFOTHER \\ & + \theta_8 \Delta E * AFFOTHER + \theta_9 AFFCHIEF + \theta_{10} AFFDIR + \theta_{11} AFFOTHER \\ & + \theta_{12} E * CPA + \theta_{13} \Delta E * CPA + \theta_{14} CPA + \sum_{j=1}^{9} \theta_{15+2(j-1)} E * Control\ Variable_j \\ & + \sum_{j=1}^{9} \theta_{16+2(j-1)} \Delta E * Control\ Variable_j + \sum_{j=1}^{9} \theta_{32+j} Control\ Variable_j + \varepsilon \end{aligned} \quad (3)$$

AFFCHIEF is 1 if the former auditor is in the position of CEO (or president), CFO, CAO or controller, and 0 otherwise; *AFFDIR* is 1 if the former auditor is a non-executive director, and 0 otherwise; *AFFOTHER* is 1 if the former auditor holds a

position in other financial reporting oversight roles listed in the *Final Rule*. I separate non-executive directors from other financial positions because non-executive directors are not employees of the company but monitors of the financial reporting process. Therefore, their incentives are likely to be different from those in other positions. H3 predicts $(\theta_3+\theta_4)$ to be significantly lower than $(\theta_5+\theta_6)$, and $(\theta_3+\theta_4)$ to be significantly lower than $(\theta_7+\theta_8)$.

3.3 Sample Selection and Descriptive Statistics

The sample consists of companies available on the COMPUSTAT and CRSP databases for 2001. I exclude companies in the utilities (two-digit SIC codes 44-49) and financial industries (two-digit SIC codes 60-64) due to their special earnings properties. Financial data required to compute the variables are collected from COMPUSTAT. The stock return and volume data are obtained from CRSP. Consensus analysts' forecasts for the analysts' forecasts model are obtained from IBES summary files.

To identify companies with affiliated hires, I first identify companies which hired partners or managers from big national CPA firms, and appointed them in the financial reporting positions listed in the *Final Rule* (i.e. companies with CPAs).[15] I do this through a keyword search of executives' and directors' employment histories

[15] The CPA firms I searched for include Arthur Andersen, Deloitte & Touche, Ernst & Young, KPMG, PricewaterhouseCoopers, Grant Thornton, BDO Seidman, BKD, Crowe Chizek and McGladrey & Pullen. I also searched predecessor firm names and common misspellings of these firms. I do not include partners and managers who were in the consulting or tax unit of these CPA firms. The financial reporting positions listed in the *Final Rule* include member of the board of directors, chief executive officer, president, chief financial officer, chief operating officer, general counsel, chief accounting officer, controller, treasurer, director of internal audit and director of financial reporting.

included in 10-K and proxy filings on the Lexis-Nexis database. I choose 2001 because it is the year just prior to the passage of SOX in July 2002, which could bring some confounding effects.

For each company with a financial executive or director from a CPA firm, I record the name of the executive, the position s/he held at the client, the CPA firm the executive worked for, and the time-lapse between leaving the CPA firm and joining the client. I classify the company as a company with former auditors if it has at least one financial executive or director who was previously a partner or manager at the CPA firm that currently audits the company's financial statements.[16] The company does not have former auditors if either the company has no executive or director from CPA firms (i.e. unaffiliated non-CPAs) or the company has executive or director from CPA firms which do not audit its current financial statements (i.e. unaffiliated CPAs).

The final sample size varies across the different models. For the model with *CAR* as dependent variable, the sample includes 3,568 companies (i.e. the full sample). Among the 3,568 companies, 1,720 companies have data on *STOCKRANK*, 850 companies have data on *DEBTRATE* and 2,127 companies have data on *FEPS*. To mitigate the effect of outliers, I winsorize *CAR* at 100 percent and -100 percent, and *E*, *ΔE*, *EPS*, *ΔEPS*, *FIRMAGE*, *GROWTH*, *PERSISTENCE*, *VOLATILITY*, *BETA*, *SIZE*, and *LEVERAGE* at the top and bottom 1 percent.

[16] For companies with multiple financial executives who previously worked at CPA firms, the executive who has the biggest financial oversight role is retained for identification of affiliation. I assume the financial oversight role descends in the following sequence: chief executive officer (president), chief financial officer, chief accounting officer, controller, treasurer, director of financial reporting, director of internal audit, member of the board of directors and other positions.

Table 2, Panel A shows the sample composition for companies with former auditors, companies with unaffiliated CPAs and companies with unaffiliated non-CPAs. Among the full sample of 3,568 companies, 266 (7.5%) companies have former auditors as their financial executives or directors. Similarly, Menon and Williams (2004) found that 6.9% of their sample companies hired former partners as executives or directors during 1998-1999. Among the 3,568 companies, 265 companies hired financial executives or directors from CPA firms that are not their current auditors. That is, of the 531 companies with executives or directors from CPA firms, about half of the companies employ their financial executives or directors from their audit firms rather than other CPA firms.

Table 2, Panel B compares the positions held by former auditors with the positions held by unaffiliated CPAs. Former auditors are more likely than unaffiliated CPAs (65.0% vs. 55.8%) to hold financial executive positions, including CEO, CFO, CAO or controller. Former auditors are also less frequently appointed as non-executive directors than unaffiliated CPAs (26.0% vs. 38.9%).

Table 2

Perceptions of Auditor Independence: Sample and Descriptive Statistics

Panel A: Sample composition

Companies with executives or directors from its current audit firm (i.e. former auditors)	266
Companies with executives or directors from CPA firms who are not former auditors (i.e. unaffiliated CPAs)	265
Companies with executives or directors from sources other than CPA firms (i.e. unaffiliated non-CPAs)	3,037
Total	3,568

Panel B: Positions held by former auditors and unaffiliated CPAs

	Chief (%)	Director (%)	Other (%)	Total (%)
Former Auditors	173 (65.0%)	69 (26.0%)	24 (9.0%)	266 (100.0%)
Unaffiliated CPAs	148 (55.8%)	103 (38.9%)	14 (5.3%)	265 (100.0%)

Panel C: Number of years between the departure from the CPA firm and the employment by the company

	Less than or equal to 1 year (%)	More than 1 year (%)	Total[a] (%)
Former Auditors	169 (65.0%)	91 (35.0%)	260 (100.0%)
Unaffiliated CPAs	85 (34.8%)	159 (65.2%)	244 (100.0%)

Panel D: Descriptive statistics

	Mean	Std. Dev.	Q1	Median	Q3	N
CAR	0.156	0.476	-0.191	0.128	0.466	3,568
E	-0.066	0.297	-0.087	0.016	0.067	3,568
ΔE	0.005	0.361	-0.071	-0.010	0.022	3,568
AFF	0.075	0.260	0	0	0	3,568
CPA	0.149	0.355	0	0	0	3,568
FIRMAGE	13.660	14.381	4.333	8.333	17.833	3,568
BIG5	0.883	0.322	1	1	1	3,568
GROWTH	1.767	1.648	0.790	1.172	2.061	3,568
PERSISTENCE	0.258	0.375	-0.008	0.217	0.514	3,568
VOLATILITY	0.403	0.619	0.118	0.218	0.419	3,568
BETA	1.235	1.099	0.432	0.922	1.784	3,568
SIZE	5.378	2.153	3.780	5.335	6.832	3,568
LEVERAGE	0.212	0.216	0.009	0.160	0.349	3,568

REGULATION	0.011	0.104	0	0	0	3,568
FEPS	0.619	1.154	0.010	0.570	1.230	2,127
EPS	0.389	1.354	-0.260	0.450	1.110	2,127
ΔEPS	0.603	0.849	0.127	0.310	0.710	2,127
ANALYSTS	6.555	6.107	2	5	9	2,127
STOCKRANK	-5.153	1.491	-6	-5	-4	1,720
DEBTRATE	-10.245	3.401	-13	-10	-8	850

Variable Definitions:

CAR = the twelve-month (ending three months after the fiscal year-end) cumulative market-adjusted returns.

E = income before extraordinary items deflated by market value of equity at the beginning of the year.

ΔE = the difference between income before extraordinary items for the current year and that of the previous year deflated by market value of equity at the beginning of the year.

AFF = 1 for companies which have hired former auditors as executives or directors, and 0 otherwise.

CPA = 1 for companies which have financial executives who previously worked in a CPA firm as auditing partner or manager, and 0 otherwise.

FIRMAGE = the number of years that the firm is publicly traded as of the year-end.

BIG5 = 1 if the client's auditor is one of the Big 5 accounting firms, and 0 otherwise.

GROWTH = the sum of the market value of equity and the book value of debt scaled by the book value of total assets.

PERSISTENCE = the first-order autocorrelation of income before extraordinary items per share for the past sixteen quarters prior to the current year.

VOLATILITY = the standard deviation of income before extraordinary items per share for the past sixteen quarters prior to the current year.

BETA = the systematic risk computed from the market model using the past sixty monthly stock returns.

SIZE = log of market value of equity (in millions) at the beginning of the year.

LEVERAGE = total liabilities divided by total assets at the end of the year.

REGULATION = 1 if the firm is in a regulated industry with two-digit SIC codes between 40 and 49 or between 60 and 63, and 0 otherwise.

FEPS = mean annual one-year-ahead EPS forecast for year t+1 issued immediately following the earnings announcement for year t.

EPS = EPS for year t.

ΔEPS = absolute change in EPS for year t defined as the difference in annual EPS in year t and that in year t-1 ($|EPS_t - EPS_{t-1}|$)

ANALYSTS = the number of analysts providing annual earnings forecasts.

STOCKRANK = S&P common stock rankings converted into numerical values; it takes the values -1 to -7 representing S&P common stock rankings of A+, A, A-, B+, B, B-, and C, respectively.

DEBTRATE = S&P senior debt ratings converted into numerical values; it takes the value of -1 if a firm's S&P senior debt is rated as AAA and the numerical value decreases by 1 as the S&P debt ratings decline.

a The sample size for former auditors and unaffiliated CPAs in panel C is smaller than that in Panels A and B because 6 companies with former auditors and 21 companies with unaffiliated CPAs do not have information available to calculate the number of years between the executive's departure from the CPA firm and employment by the client.

Table 2, Panel C compares the number of years between the departure from the CPA firm and the employment by the company for former auditors and unaffiliated CPAs. The frequency of joining the company within one year of the departure from the CPA firm is 65.0% for former auditors, which is higher than that for unaffiliated CPAs (34.8%). Thus, prior to SOX regulation, a large percentage of former auditors joined their clients shortly after they left the CPA firms. This suggests the new "cooling off" period rules will likely force many auditors to wait involuntarily for one year before taking jobs at their clients.

Table 2, Panel D reports the descriptive statistics for the variables. The mean (median) *CAR* is 0.156 (0.128). It shows that the companies in my sample outperformed the market during 2001. The mean (median) E is -0.066 (0.016) and the mean (median) ΔE is 0.005 (-0.010). The mean *AFF* is 0.075, indicating as discussed before, that 7.5% of the companies in the sample have former auditors as their financial executives or directors. The mean for *CPA* is 0.149, implying 14.9% of the companies have financial executives or directors who previously worked in a CPA firm. The mean *FIRMAGE* is 13.66 years. The mean for *BIG5* is 0.883, which indicates 88.3% of the companies in the sample are audited by one of the Big 5 CPA firms. The median *GROWTH* is 1.172, showing for a typical company in the sample, its market value of total assets is about 17% higher than its book value. The mean (median) *PERSISTENCE* is 0.258 (0.217) and the mean (median) *VOLATILITY* is 0.403 (0.218). The median *BETA* is 0.922, showing a typical company in the sample has lower systematic risk than the market. The median *SIZE* is 5.335, which is

translated into $207 million in market value of equity for a typical company in the sample. The mean (median) *LEVERAGE* is 0.212 (0.160). The mean *REGULATION* is 0.011, suggesting 1.1% of the companies are in regulated industries. The sample size for the regulated industries is small because I do not include financial and utilities institutions. The mean (median) one-year-ahead consensus forecast for earnings per share *FEPS* is 0.619 (0.570). The mean (median) *EPS* is 0.389 (0.450) and the mean (median) *ΔEPS* is 0.603 (0.310). The median for *ANALYSTS* is 5, suggesting a typical company in the sample has 5 analysts forecasting its annual earnings per share. A typical company in the sample has a "B" S&P common stock ranking (a numerical score of -5 for *STOCKRANK*) and a "BB" S&P senior debt rating (a numerical score of -10 for *DEBTRATE*).

3.4 Empirical Results

3.4.1 Perceptions of Investors

In table 3, I present the results for investors' perceptions of affiliated hiring. The dependent variable is the twelve-month (ending three months after the fiscal year-end) cumulative market-adjusted returns.[17] The variables of interest are *E*AFF* and *ΔE*AFF*. Columns (1) and (2) report the coefficients and t-statistics of a baseline model which only includes *CPA* and its interactions with *E* and *ΔE* as the control

[17] As previous literature also uses raw returns and fifteen-month (ending three months after the fiscal year-end) cumulative market-adjusted returns in studying earnings-returns associations (Collins and Kothari 1989; Lundholm and Myers 2002; among others), I also estimate the regressions using the twelve-month compounded raw returns and the fifteen-month cumulative market-adjusted returns as the dependent variables. Both the aggregate results reported in 3.4.1 and the partitioning results reported in 3.4.4 are qualitatively the same as those using the twelve-month cumulative market-adjusted returns.

variables, while columns (3) and (4) report the coefficients and t-statistics of the full model which includes all other control variables and their interactions with E and ΔE.[18]

In column (1), the coefficients of E and ΔE are both positive and significant, suggesting, consistent with Brown, Hagerman, Griffin and Zmijewski (1987) and Ali and Zarowin (1992), that earnings contain both transitory and permanent components. The ERC, which is calculated as the sum of the coefficients of E and ΔE, is 0.560 and it is significant at $p < 0.01$. However, $(\beta_3 + \beta_4)$, the sum of the coefficients of E^*AFF and ΔE^*AFF, is insignificant ($p > 0.10$), indicating that ERC is not different between companies with former auditors and companies with unaffiliated CPAs. Thus, in aggregate, investors do not seem to view affiliated hiring as impairing audit quality. The coefficient of CPA is positive and significant, but $(\beta_6 + \beta_7)$, the sum of the coefficients of E^*CPA and ΔE^*CPA is insignificant ($p > 0.10$).

[18] I report the baseline model to show the magnitude of ERC for the three groups of companies --- companies without CPAs, companies with unaffiliated CPAs and companies with former auditors. For companies without CPAs, ERC is equal to $(\beta_1 + \beta_2)$; for companies with unaffiliated CPAs, ERC is equal to $(\beta_1 + \beta_2)+(\beta_5 + \beta_6)$; for companies with former auditors, ERC is equal to $(\beta_1 + \beta_2)+(\beta_3 + \beta_4) +(\beta_5 + \beta_6)$.

Table 3

Earnings Response Coefficients and Perceptions of Investors

Variables		Coefficients (1)	*t-statistics* (2)	Coefficients (3)	*t-statistics* (4)
Intercept	α	0.166***	*19.56*	0.319***	*10.96*
E	β_1	0.321***	*11.01*	0.388***	*3.97*
ΔE	β_2	0.239***	*10.03*	0.277***	*3.21*
	$\beta_1 + \beta_2$	0.560***	*16.28*	0.665***	*6.17*
E*AFF	β_3	0.081	*0.62*	0.048	*0.37*
ΔE*AFF	β_4	-0.127	*-1.01*	-0.161	*-1.28*
	$\beta_3 + \beta_4$	**-0.046**	***-0.32***	**-0.113**	***-0.79***
AFF	β_5	-0.027	*-0.64*	-0.033	*-0.84*
E*CPA	β_6	-0.049	*-0.56*	-0.026	*-0.31*
ΔE*CPA	β_7	-0.078	*-1.19*	-0.014	*-0.21*
	$\beta_6 + \beta_7$	-0.127	*-1.42*	-0.040	*-0.46*
CPA	β_8	0.073**	*2.36*	0.083***	*2.79*
E*FIRMAGE (β_9), ΔE*FIRMAGE (β_{10})					
	$\beta_9 + \beta_{10}$			0.001	*0.32*
E*BIG5 (β_{11}), ΔE*BIG5 (β_{12})					
	$\beta_{11} + \beta_{12}$			-0.223**	*-2.40*
E*GROWTH (β_{13}), ΔE*GROWTH (β_{14})					
	$\beta_{13} + \beta_{14}$			0.019	*0.69*
E*PERSISTENCE (β_{15}), ΔE*PERSISTENCE (β_{16})					
	$\beta_{15} + \beta_{16}$			0.069	*0.96*
E*VOLATILITY (β_{17}), ΔE*VOLATILITY (β_{18})					
	$\beta_{17} + \beta_{18}$			-0.187***	*-5.93*
E*BETA (β_{19}), ΔE*BETA (β_{20})					
	$\beta_{19} + \beta_{20}$			-0.162***	*-6.05*
E*SIZE (β_{21}), ΔE*SIZE (β_{22})					
	$\beta_{21} + \beta_{22}$			0.102***	*4.82*
E*LEVERAGE (β_{23}), ΔE*LEVERAGE (β_{24})					
	$\beta_{23} + \beta_{24}$			0.033	*0.30*
E*REGULATION (β_{25}), ΔE*REGULATION (β_{26})					
	$\beta_{25} + \beta_{26}$			-0.167	*-0.60*
FIRMAGE	β_{27}			0.002***	*2.89*
BIG5	β_{28}			0.069***	*2.75*
GROWTH	β_{29}			0.030***	*6.00*
PERSISTENCE	β_{30}			-0.029	*-1.37*
VOLATILITY	β_{31}			-0.051***	*-3.42*
BETA	β_{32}			-0.087***	*-10.06*
SIZE	β_{33}			-0.036***	*-8.48*
LEVERAGE	β_{34}			0.105***	*2.74*
REGULATION	β_{35}			0.075	*1.01*
Observations		3,568		3,568	
Adjusted R^2		0.079		0.175	

The variables are defined in Table 2. *** (**) [*] denote coefficients significantly different from zero at or below the 0.01 (0.05) [0.1] level for a two-tailed test.

In column (3), when I add all the control variables, the coefficients of E and ΔE continue to be positive and significant. ERC is 0.665 and statistically significant at $p < 0.01$. More importantly, ($\beta 3 + \beta 4$) remains insignificant ($p > 0.10$), suggesting the findings in column (1) are not due to missing variables. Following Ghosh and Moon (2005), I only report the sum of the coefficients of the interactions between the control variables and E or ΔE. Contrary to the findings in Teoh and Wong (1993) but consistent with Ghosh and Moon (2005), the sum of the coefficients of E*BIG5 and ΔE*BIG5 is negative and significant at $p < 0.05$, which suggests clients of Big 5 CPA firms have lower ERCs than clients of non-Big 5 during fiscal year 2001. Consistent with prior ERC studies (Collins and Kothari 1989; Ghosh and Moon 2005; Krishnan et al. 2005), I find larger companies (SIZE) have higher ERCs, while companies with higher systematic risk (BETA) or more volatile earnings (VOLATILITY) have lower ERCs. Further, the coefficients of FIRMAGE, BIG5, GROWTH and LEVERAGE are positive and significant at $p < 0.01$, and the coefficients of VOLATILITY, BETA and SIZE are negative and significant at $p < 0.01$.

In sum, the results from columns (1)-(4) in table 3 suggest that there is no significant difference in investors' response to reported earnings between companies with and without former auditors, and therefore, in aggregate, investors do not perceive audit quality as being impaired by affiliated hiring.

3.4.2 Perceptions of Financial Analysts

In table 4, I examine how affiliated hiring affects the responsiveness of one-year ahead consensus EPS forecasts to reported EPS just before the forecasts. For

simplicity, I use the term ERC for the sum of the coefficients of *EPS* and *ΔEPS* in the analyst forecast regression. The sum of the coefficients of *EPS*AFF* and *ΔEPS*AFF* tests whether analysts attach less importance to reported earnings for companies with former auditors. Columns (1) and (2) report the coefficients and t-statistics of the baseline model and columns (3) and (4) report the coefficients and t-statistics of the full model.

In column (1), the ERC for analysts' forecasts is 0.973 and significant at $p < 0.01$, which shows current year's earnings are positively associated with analysts' forecasts of the following year's earnings. More importantly, $(\beta_3 + \beta_4)$, the sum of the coefficients of *EPS*AFF* and *ΔEPS*AFF*, is negative and significant at $p < 0.05$. This implies that, unlike the results in table 3, analysts rely less on reported earnings to generate their forecasts of future earnings for companies with former auditors, than for companies with unaffiliated CPAs. The coefficient estimates indicate that the ERC for companies which hired former auditors as financial executives or directors is 25.3 percent (-0.327/(0.973+0.319)) lower than the ERC for companies with executives or directors from CPA firms who are not former auditors.

Moreover, $(\beta_6 + \beta_7)$, the sum of the coefficients of *EPS*CPA* and *ΔEPS*CPA*, is positive and statistically significant at $p < 0.01$, suggesting that analysts view financial executives or directors' background in CPA firms positively and thus attach more importance to the reported earnings of companies which have financial executives or directors with such background.

Table 4

Analysts' Earnings Forecasts and Perceptions of Analysts

Variables		Coefficients (1)	*t-statistics* (2)	Coefficients (3)	*t-statistics* (4)
Intercept	α	0.186***	*9.65*	0.275***	*2.83*
EPS	β_1	0.765***	*68.52*	0.527***	*6.67*
ΔEPS	β_2	0.208***	*11.89*	0.347***	*3.08*
	$\beta_1+\beta_2$	0.973***	*41.06*	0.874***	*5.06*
E*AFF	β_3	0.024	*0.43*	0.014	*0.28*
ΔE*AFF	β_4	-0.351***	*-3.57*	-0.304***	*-3.31*
	$\beta_3+\beta_4$	**-0.327****	***-2.45***	**-0.290****	***-2.38***
AFF	β_5	0.053	*0.59*	0.050	*0.62*
E*CPA	β_6	0.020	*0.50*	0.014	*0.37*
ΔE*CPA	β_7	0.296***	*4.11*	0.185***	*2.77*
	$\beta_6+\beta_7$	0.316***	*3.11*	0.199**	*2.14*
CPA	β_8	-0.044	*-0.66*	0.007	*0.11*
EPS*FIRMAGE (β_9), ΔEPS*FIRMAGE (β_{10})					
	$\beta_9+\beta_{10}$			-0.006***	*-4.63*
EPS*BIG5 (β_{11}), ΔEPS*BIG5 (β_{12})					
	$\beta_{11}+\beta_{12}$			-0.277*	*-1.78*
EPS*GROWTH (β_{13}), ΔEPS*GROWTH (β_{14})					
	$\beta_{13}+\beta_{14}$			0.081***	*4.50*
EPS*VOLATILITY (β_{15}), ΔEPS* VOLATILITY (β_{16})					
	$\beta_{15}+\beta_{16}$			-0.049**	*-2.54*
EPS*BETA (β_{17}), ΔEPS* BETA (β_{18})					
	$\beta_{17}+\beta_{18}$			-0.143***	*-6.56*
EPS*SIZE (β_{19}), ΔEPS*SIZE (β_{20})					
	$\beta_{19}+\beta_{20}$			0.108***	*6.33*
EPS*LEVERAGE (β_{21}), ΔEPS* LEVERAGE (β_{22})					
	$\beta_{21}+\beta_{22}$			-0.023	*-0.22*
EPS *REGULATION (β_{23}), ΔEPS*REGULATION (β_{24})					
	$\beta_{23}+\beta_{24}$			0.108	*1.06*
EPS *ANALYSTS (β_{25}), ΔEPS*ANALYSTS (β_{26})					
	$\beta_{25}+\beta_{26}$			-0.033***	*-6.89*
FIRMAGE	β_{27}			0.005***	*3.88*
BIG5	β_{28}			0.071	*0.90*
GROWTH	β_{29}			-0.020**	*-2.07*
VOLATILITY	β_{30}			-0.076***	*-3.02*
BETA	β_{31}			-0.077***	*-4.92*
SIZE	β_{32}			-0.034**	*-2.36*
LEVERAGE	β_{33}			0.267***	*3.15*
REGULATION	β_{34}			-0.022	*-0.14*
ANALYSTS	β_{35}			0.010**	*2.41*
Observations		2,127		2,127	
Adjusted R^2		0.728		0.785	

The variables are defined in Table 2. *** (**) [*] denote coefficients significantly different from zero at or below the 0.01 (0.05) [0.1] level for a two-tailed test.

In column (3), when the full model is estimated, the ERC for analysts' forecasts is 0.874 and continues to be significant at $p < 0.01$. ($\beta 3 + \beta 4$) remains negative and statistically significant at $p < 0.05$, indicating analysts have negative perceptions about affiliated hiring. Also, ($\beta 6 + \beta 7$) is positive and significant at $p < 0.05$, suggesting positive perceptions of CPA hires. The coefficient estimates of the interactions between earnings or earnings changes with the control variables suggest analysts attach more importance to reported earnings for large companies (SIZE) and companies with greater growth potential (GROWTH), and rely less on reported earnings for older companies (FIRMAGE), companies audited by the Big 5 CPA firms (BIG5), companies with higher systematic risk (BETA) and companies with more analyst following (ANALYSTS). Also, the coefficients of FIRMAGE, LEVERAGE and ANALYSTS are positive and significant at $p < 0.05$ and the coefficients of GROWTH, VOLATILITY, BETA and SIZE are negative and significant at $p < 0.05$.

In sum, the results from table 4 imply that analysts perceive affiliated hiring as impairing audit quality and thus attach less importance to reported earnings in their forecasts of future earnings.

3.4.3 S&P Stock Rankings and Debt Ratings

Tables 5 and 6 report the effects of affiliated hiring on the response of S&P common stock rankings to reported earnings, and on the response of S&P senior debt ratings to reported earnings, respectively. As before, I use the term ERC for the sum of the coefficients of E and ΔE in the *STOCKRANK* and *DEBTRATE* regressions. As

in the *CAR* regression, a higher ERC represents more reliance on reported earnings by these rating agencies.[19] As in previous tables, columns (1)-(2) report the baseline model and columns (3)-(4) report the full model.

The first column of table 5 shows the ERC for stock rankings is 1.168 and is significant at $p < 0.01$. However, $(\beta_3 + \beta_4)$, which tests whether affiliated hiring reduces stock rankings' reliance on earnings, is insignificant ($p > 0.10$). In the third column (the full model), the ERC is insignificant ($p > 0.10$). In the full model, $(\beta_3 + \beta_4)$ continues to be insignificant ($p > 0.10$), indicating that S&P stock rankings are not affected by affiliated hiring. For the interactions between earnings or earnings changes with control variables, the sum of the coefficients of *E*VOLATILITY* and *ΔE* VOLATILITY* is negative and significant at $p < 0.10$, indicating earnings volatility reduces the association between S&P common stock rankings and reported earnings. The sum of the coefficients of *E*SIZE* and *ΔE*SIZE* is positive and significant at $p < 0.05$, which shows stock rankings' association with reported earnings is higher for big companies than for small companies. Moreover, the coefficients of *FIRMAGE, PERSISTENCE* and *SIZE* are positive and significant at $p < 0.05$ and the coefficients of *GROWTH, VOLATILITY, BETA* and *LEVERAGE* are negative and significant at $p < 0.10$, which are expected, because more stable companies are more likely to receive

[19] *Stock Rankings* and *Debt Ratings* are obtained from COMPUSTAT. They are coded in a way that higher values correspond to better stock rankings or debt ratings so that they are positively associated with earnings and earnings changes. As *Stock Rankings* and *Debt Ratings* are both discrete variables, I also estimate the regressions using an ordered probit model. The results reported in this section are not affected.

better stock rankings and riskier companies are more likely to receive lower stock rankings.

The first column of table 6 indicates the ERC for debt ratings is 3.556 and it is significant at $p < 0.01$. $(\beta_3 + \beta_4)$, which tests whether affiliated hiring's effect on the reliance of debt ratings on earnings, is insignificant ($p > 0.10$). In the second column when the full model is estimated, the ERC is insignificant ($p > 0.10$). Again when all the control variables are included, $(\beta_3 + \beta_4)$ remains insignificant ($p > 0.10$). As with common stock rankings in table 5, S&P senior debt ratings are not affected by affiliated hiring. For the interactions between earnings or earnings changes with control variables, the sum of the coefficients of *E*FIRMAGE* and *ΔE*FIRMAGE* and the sum of the coefficients of *E*GROWTH* and *ΔE*GROWTH* are positive and significant at $p < 0.05$, indicating debt ratings' association with reported earnings is higher for older companies and companies with good growth potential. The sum of the coefficients of *E*BETA* and *ΔE*BETA* and the sum of the coefficients of *E*REGULATION* and *ΔE* REGULATION* are negative and significant at $p < 0.10$, which implies firm's systematic risk reduces debt ratings' association with earnings and firms in regulated industries have lower association between debt ratings and reported earnings. Moreover, the coefficients of *FIRMAGE* and *SIZE* are positive and significant at $p < 0.01$ and the coefficients of *VOLATILITY*, *BETA* and *LEVERAGE* are negative and significant at $p < 0.01$, which are similar to the findings in the stock rankings regression.

Table 5

Stock Rankings and Perceptions of Rating Agencies

Variables		Coefficients (1)	*t-statistics* (2)	Coefficients (3)	*t-statistics* (4)
Intercept	α	-5.110***	*-138.09*	-6.377***	*-60.94*
E	β_1	1.987***	*11.77*	-0.318	*-0.71*
ΔE	β_2	-0.819***	*-6.70*	0.223	*0.61*
	$\beta_1+\beta_2$	1.168***	*6.02*	-0.095	*0.20*
E*AFF	β_3	-0.059	*-0.08*	0.379	*0.65*
ΔE*AFF	β_4	1.099	*1.37*	-0.186	*-0.29*
	$\beta_3+\beta_4$	**1.040**	***1.34***	**0.193**	***0.32***
AFF	β_5	0.290	*1.60*	0.076	*0.54*
E*CPA	β_6	0.183	*0.36*	-0.097	*-0.23*
ΔE*CPA	β_7	-0.522	*-1.22*	0.452	*1.15*
	$\beta_6+\beta_7$	-0.339	*-0.75*	0.355	*0.95*
CPA	β_8	-0.169	*-1.22*	-0.107	*-0.99*
E*FIRMAGE (β_9), ΔE*FIRMAGE (β_{10})					
	$\beta_9+\beta_{10}$			-0.008	*-0.61*
E*BIG5 (β_{11}), ΔE*BIG5 (β_{12})					
	$\beta_{11}+\beta_{12}$			0.170	*0.42*
E*GROWTH (β_{13}), ΔE*GROWTH (β_{14})					
	$\beta_{13}+\beta_{14}$			0.265	*1.29*
E*PERSISTENCE (β_{15}), ΔE*PERSISTENCE (β_{16})					
	$\beta_{15}+\beta_{16}$			-0.471	*-1.37*
E*VOLATILITY (β_{17}), ΔE*VOLATILITY (β_{18})					
	$\beta_{17}+\beta_{18}$			-0.324*	*-1.87*
E*BETA (β_{19}), ΔE*BETA (β_{20})					
	$\beta_{19}+\beta_{20}$			-0.200	*-1.20*
E*SIZE (β_{21}), ΔE*SIZE (β_{22})					
	$\beta_{21}+\beta_{22}$			0.202**	*2.02*
E*LEVERAGE (β_{23}), ΔE*LEVERAGE (β_{24})					
	$\beta_{23}+\beta_{24}$			-0.429	*-0.75*
E*REGULATION (β_{25}), ΔE*REGULATION (β_{26})					
	$\beta_{25}+\beta_{26}$			1.239	*0.75*
FIRMAGE	β_{27}			0.009***	*4.85*
BIG5	β_{28}			-0.121	*-1.31*
GROWTH	β_{29}			-0.082***	*-3.91*
PERSISTENCE	β_{30}			0.163**	*2.04*
VOLATILITY	β_{31}			-0.507***	*-7.76*
BETA	β_{32}			-0.466***	*-12.17*
SIZE	β_{33}			0.328***	*21.61*
LEVERAGE	β_{34}			-0.251*	*-1.68*
REGULATION	β_{35}			0.246	*0.91*
Observations		1,720		1,720	
Adjusted R^2		0.104		0.465	

The variables are defined in Table 2. *** (**) [*] denote coefficients significantly different from zero at or below the 0.01 (0.05) [0.1] level for a two-tailed test.

Table 6

Debt Ratings and Perceptions of Rating Agencies

Variables		Coefficients (1)	*t-statistics* (2)	Coefficients (3)	*t-statistics* (4)
Intercept	α	-10.109***	*-86.31*	-16.329***	*-24.06*
E	β_1	6.068***	*10.47*	-2.184	*-0.42*
ΔE	β_2	-2.512***	*-5.50*	-0.400	*-0.22*
	$\beta_1+\beta_2$	3.556***	*5.87*	-2.584	*-0.44*
E*AFF	β_3	-0.268	*-0.11*	0.478	*0.32*
ΔE*AFF	β_4	0.353	*0.12*	-0.820	*-0.43*
	$\beta_3+\beta_4$	**0.085**	***0.01***	**-0.342**	***-0.24***
AFF	β_5	0.641	*1.14*	-0.004	*0.01*
E*CPA	β_6	-0.337	*-0.23*	-0.681	*-0.64*
ΔE*CPA	β_7	0.164	*0.14*	1.315	*1.17*
	$\beta_6+\beta_7$	-0.173	*-0.14*	0.634	*0.61*
CPA	β_8	-1.157**	*-2.62*	-0.533**	*-1.96*
E*FIRMAGE (β_9), ΔE*FIRMAGE (β_{10})					
	$\beta_9+\beta_{10}$			0.064***	*2.69*
E*BIG5 (β_{11}), ΔE*BIG5 (β_{12})					
	$\beta_{11}+\beta_{12}$			1.847	*0.32*
E*GROWTH (β_{13}), ΔE*GROWTH (β_{14})					
	$\beta_{13}+\beta_{14}$			2.108**	*2.36*
E*PERSISTENCE (β_{15}), ΔE*PERSISTENCE (β_{16})					
	$\beta_{15}+\beta_{16}$			-0.445	*-0.45*
E*VOLATILITY (β_{17}), ΔE*VOLATILITY (β_{18})					
	$\beta_{17}+\beta_{18}$			-0.453	*-1.49*
E*BETA (β_{19}), ΔE*BETA (β_{20})					
	$\beta_{19}+\beta_{20}$			-1.146***	*-3.18*
E*SIZE (β_{21}), ΔE*SIZE (β_{22})					
	$\beta_{21}+\beta_{22}$			0.370	*1.24*
E*LEVERAGE (β_{23}), ΔE*LEVERAGE (β_{24})					
	$\beta_{23}+\beta_{24}$			-2.228	*-1.20*
E*REGULATION (β_{25}), ΔE*REGULATION (β_{26})					
	$\beta_{25}+\beta_{26}$			-7.063*	*-1.91*
FIRMAGE	β_{27}			0.025***	*6.64*
BIG5	β_{28}			-0.629	*-1.10*
GROWTH	β_{29}			0.004	*0.05*
PERSISTENCE	β_{30}			-0.230	*-1.12*
VOLATILITY	β_{31}			-0.668***	*-5.39*
BETA	β_{32}			-1.115***	*-11.39*
SIZE	β_{33}			1.100***	*21.79*
LEVERAGE	β_{34}			-2.297***	*-5.52*
REGULATION	β_{35}			-0.834	*-1.18*
Observations		850		850	
Adjusted R^2		0.154		0.694	

The variables are defined in Table 2. *** (**) [*] denote coefficients significantly different from zero at or below the 0.01 (0.05) [0.1] level for a two-tailed test.

Overall, the findings from table 5 and table 6 suggest that S&P stock rankings and debt ratings agencies do not perceive affiliated hiring as impairing audit quality.

3.4.4 Perceptions of Different Types of Affiliation

As discussed in section 3.1, some types of affiliation could present more threats to auditor independence than others. In table 7, panel A, I partition former auditors into two groups, those who joined their clients within one year of leaving the CPA firm (*AFFSHORT*) and those who joined after one year of leaving the CPA firm (*AFFLONG*) and estimate model (2). In panel B, I partition former auditors into three categories, according to the positions they took, including (1) executive positions like CEO, CFO, CAO or controller (*AFFCHIEF*), (2) non-executive director (*AFFDIR*) and (3) other positions (*AFFOTHER*) and estimate model (3). In both panels, column (1) reports the coefficient estimates for the *CAR* regression, column (2) for the analysts' forecasts regression, column (3) for the *STOCKRANK* regression and column (4) for the *DEBTRATE* regression. The full model with all control variables are estimated for each regression. For brevity, I do not present the coefficients of earnings, the interactions between earnings and control variables and the individual control variables.

Table 7
Investors' and Information Intermediaries' Perceptions of Different Types of Affiliations

Panel A: Perceptions of the lag between leaving the CPA firm and joining the client [a c]

Variables		CAR (1)	FEPS (2)	Stock Rankings (3)	Debt Ratings (4)
E(PS)*AFFSHORT	γ_3	-0.193	0.001	0.587	5.379*
t-statistics		*-1.17*	*0.01*	*0.90*	*1.74*
ΔE(PS)*AFFSHORT	γ_4	-0.217	-0.409***	0.014	-8.290*
t-statistics		*-1.03*	*-3.80*	*0.02*	*-1.76*
	$\gamma_3+\gamma_4$	**-0.410****	**-0.408*****	**0.601**	**-2.911**
t-statistics		*-2.21*	*-2.91*	*0.80*	*-1.36*
E(PS)*AFFLONG	γ_5	0.464***	0.026	-0.015	-1.871
t-statistics		*2.57*	*0.37*	*-0.02*	*-0.79*
ΔE(PS)*AFFLONG	γ_6	-0.027	-0.189	-0.518	-0.138
t-statistics		*-0.18*	*-1.58*	*-0.44*	*-0.07*
	$\gamma_5+\gamma_6$	**0.437****	**-0.163**	**-0.533**	**-2.009**
t-statistics		*2.09*	*-1.01*	*-0.57*	*-0.82*
Observations		3,562	2,122	1,716	849
Adjusted R^2		0.176	0.786	0.464	0.693

Panel B: Perceptions of the positions taken by the former auditors [b c]

Variables		CAR (1)	FEPS (2)	Stock Rankings (3)	Debt Ratings (4)
E(PS)*AFFCHIEF	θ_3	-0.087	0.040	0.255	1.092
t-statistics		*-0.56*	*0.71*	*0.33*	*0.58*
ΔE(PS)*AFFCHIEF	θ_4	-0.254	-0.406***	-0.196	-2.857
t-statistics		*-1.50*	*-4.02*	*-0.27*	*-1.13*
	$\theta_3+\theta_4$	**-0.341***	**-0.346*****	**0.059**	**-1.765**
t-statistics		*-1.79*	*-2.80*	*0.10*	*-1.09*
E(PS)*AFFDIR	θ_5	0.402	0.008	0.649	-0.909
t-statistics		*2.12*	*0.09*	*0.89*	*-0.26*
ΔE(PS)*AFFDIR	θ_6	-0.088	-0.081	-0.091	1.765
t-statistics		*-0.52*	*-0.55*	*-0.08*	*0.70*
	$\theta_5+\theta_6$	**0.317**	**-0.073**	**0.558**	**0.856**
		1.55	*-0.35*	*0.59*	*0.24*
E(PS)*AFFOTHER	θ_7	-0.681	0.012	-0.369	7.857
t-statistics		*-1.30*	*0.08*	*-0.04*	*0.84*
ΔE(PS)*AFFOTHER	θ_8	0.274	-0.112	-4.004	-11.075
t-statistics		*0.36*	*-0.29*	*-0.37*	*-0.70*
	$\theta_7+\theta_8$	**-0.407**	**-0.100**	**-4.373**	**-3.218**
t-statistics		*-0.91*	*-0.24*	*-0.84*	*-0.47*
Observations		3,568	2,127	1,720	850
Adjusted R^2		0.177	0.785	0.465	0.694

Variable Definitions:

E, ΔE, EPS, ΔEPS, CAR, FEPS, Stock Rankings, and *Debt Ratings* are defined in Table 2. Other variables are defined as follows:

AFFSHORT	= 1 if the company has a former auditor and the time lag between the former auditor's departure from the CPA firm and joining the client is less than 1 year, and 0 otherwise.
AFFLONG	= 1 if the company has a former auditor and the time lag between the former auditor's departure from the CPA firm and joining the client is more than 1 year, and 0 otherwise.
AFFCHIEF	= 1 if the company has a former auditor and the former auditor is in the position of CEO (president), CFO, CAO or controller, and 0 otherwise.
AFFDIR	= 1 if the company has a former auditor and the former auditor holds a position as non-executive director, and 0 otherwise.
AFFOTHER	= 1 if the company has a former auditor and the former auditor holds a position in other financial reporting oversight roles like chief operating officer, general counsel, director of internal audit, director of financial reporting, and treasurer, and 0 otherwise.

*** (**) [*] denote coefficients significantly different from zero at or below the 0.01 (0.05) [0.1] level for a two-tailed test.

a For models with *CAR, Stock Rankings* or *Debt Ratings* as dependent variables, *E*AFF* is partitioned into *E*AFFSHORT* and *E*AFFLONG* and *ΔE*AFF* is partitioned into *ΔE*AFFSHORT* and *ΔE*AFFLONG. EPS* is used in place of *E* and *ΔEPS* is used in place of *ΔE* when *FEPS* is the dependent variable. The sample size is smaller in this panel because for six former auditors I do not have information available to calculate the number of years between the executive's departure from the CPA firm and employment by the client.

b For models with *CAR, Stock Rankings* or *Debt Ratings* as dependent variables, *E*AFF* is partitioned into *E*AFFCHIEF, E*AFFDIR* and *E*AFFOTHER* and *ΔE *AFF* is partitioned into *ΔE*AFFCHIEF, ΔE*AFFDIR* and *ΔE*AFFOTHER. EPS* is used in place of *E* and *ΔEPS* is used in place of *ΔE* when *FEPS* is the dependent variable.

c The coefficients of *E, ΔE (EPS, ΔEPS* when *FEPS* is the dependent variable) and other control variables are qualitatively similar to those reported in Tables 3-6 and are not reported here.

In table 7, panel A, the *CAR* regression indicates that ($\gamma_3+\gamma_4$), the sum of the coefficients of *E*AFFSHORT* and *ΔE*AFFSHORT*, is negative and significant at $p < 0.05$, while ($\gamma_5+\gamma_6$), the sum of the coefficients of *E*AFFLONG* and *ΔE*AFFLONG*, is positive and significant at $p < 0.05$. The F-test for ($\gamma_3+\gamma_4$) = ($\gamma_5+\gamma_6$) rejects the null hypothesis that the coefficients are equal at $p < 0.01$. The results suggest that investors have different perception about former auditors who joined shortly after their departure from the CPA firms and those who joined long after their departure from the CPA firms. That is, investors decreased (increased) their response to earnings for companies which hired their former auditors shortly (long) after their departure from the CPA firms.

Further tests indicate that the positive effect of *AFFLONG* on ERC is driven by the former auditors who were non-executive directors and joined after one year of leaving the CPA firms. One reason may be that the passage of time alleviates investors' concern about auditor independence and investors view directors with client-specific expertise will provide stronger monitoring and ensure better audit quality.[20]

In the analysts' forecasts regression, ($\gamma_3+\gamma_4$) is negative and significant at $p < 0.01$, but ($\gamma_5+\gamma_6$) is insignificant ($p > 0.10$). The F-test for ($\gamma_3+\gamma_4$) = ($\gamma_5+\gamma_6$) rejects the null hypothesis that the coefficients are equal with a one-tailed p-value of 0.077. Thus, analysts' perceptions about affiliated hiring also depends on the lag between the

[20] My results are consistent with DeFond, Hann, and Hu (2005) who find a positive market reaction to the appointment of accounting experts to audit committees.

former auditor's departure from the CPA firm and the date of joining the client; they rely less on reported earnings for companies with a lag of one year or less. Both $(\gamma_3+\gamma_4)$ and $(\gamma_5+\gamma_6)$ are insignificant in the stock rankings or debt ratings regressions.

In table 7, panel B, I examine whether perceptions differ according to the position to which the affiliated hire is appointed. In the *CAR* regression, $(\theta_3+\theta_4)$, the sum of the coefficients of *E*AFFCHIEF* and *ΔE*AFFCHIEF*, is negative and significant at $p < 0.01$. However, both $(\theta_5+\theta_6)$, the sum of the coefficients of *E*AFFDIR* and *ΔE*AFFDIR*, and $(\theta_7+\theta_8)$, the sum of the coefficients of *E*AFFOTHER* and *ΔE*AFFOTHER*, are insignificant ($p > 0.10$). The F-test for $(\theta_3+\theta_4) = (\theta_5+\theta_6)$ rejects the null hypothesis that the coefficients are equal at $p < 0.01$. The F-test for $(\theta_3+\theta_4) = (\theta_7+\theta_8)$ does not reject the null hypothesis that they are equal. These results indicate that investors perceive the employment of former auditor as impairing audit quality when the former auditor is employed as CEO, CFO, CAO or controller, but not when the former auditor takes a position as non-executive director or other positions.

In column 2, which shows the analysts' forecasts regression, $(\theta_3+\theta_4)$, the sum of the coefficients of *E*AFFCHIEF* and *ΔE*AFFCHIEF*, is negative and significant at $p < 0.01$. Thus, compared to unaffiliated CPAs, former auditors that are appointed to positions such as CEO, CFO, CAO or controller are viewed negatively by analysts as reflected in the association of their forecasts with reported earnings. However, $(\theta_5+\theta_6)$ and $(\theta_7+\theta_8)$ are insignificant ($p > 0.10$), indicating that former auditors appointed as non-executive directors or to other positions are not treated differently

than unaffiliated CPAs. The F-test for $(\theta_3+\theta_4) = (\theta_5+\theta_6)$ rejects the null hypothesis that the coefficients are equal with one-tailed p-value of 0.083, but the F-test for $(\theta_3+\theta_4) = (\theta_7+\theta_8)$ does not reject the null hypothesis that they are equal. Finally, $(\theta_3+\theta_4)$, $(\theta_5+\theta_6)$ and $(\theta_7+\theta_8)$ are all insignificant ($p > 0.10$) in the stock rankings or debt ratings regressions.

The results in table 7 show that both investors and analysts view audit quality as being impaired for companies with former auditors who joined their clients within one year after they left the CPA firms and those with former auditors in the position as CEO, CFO, CAO or controller. However, investors apparently perceive audit quality as improved for companies with former auditors who joined after one year of leaving the CPA firms, while analysts have a neutral view of such former auditors. Because analysts influence investors through stock recommendations and valuations, one would expect for companies with analysts' following, investors would have similar perceptions as analysts. To examine whether this is true, I partition the sample for the *CAR* regressions into companies with analysts' following and companies without analysts' following. Panel A of table 8 reports the coefficient estimates for both groups for model (1), panel B for model (2) and panel C for model (3). The full model with all control variables are estimated for each regression. For brevity, I only report the coefficients estimate for the variables of interest.

Table 8
Perceptions of Investors and Analysts' Following

Panel A: Perceptions of affiliated hiring for companies with analysts' following and companies without analysts' following [c]

Variables		Companies with analysts		Companies without analysts	
		Coefficients (1)	*t-statistics* (2)	Coefficients (3)	*t-statistics* (4)
E*AFF	β_3	-0.006	*-0.02*	0.078	*0.45*
ΔE*AFF	β_4	-0.954***	*-3.96*	0.050	*0.28*
	$\beta_3+\beta_4$	**-0.960*** **	***-3.86***	**0.128**	***0.61***
Observations		2,127		1,441	
Adjusted R^2		0.226		0.185	

Panel B: Perceptions of the lag between leaving the CPA firm and joining the client for companies with analysts' following and companies without analysts' following [a c]

Variables		Companies with analysts		Companies without analysts	
		Coefficients (1)	*t-statistics* (2)	Coefficients (3)	*t-statistics* (4)
E*AFFSHORT	γ_3	-0.212	*-0.69*	-0.117	*-0.54*
ΔE*AFFSHORT	γ_4	-1.405***	*-3.23*	0.068	*0.27*
	$\gamma_3+\gamma_4$	**-1.617*** **	***-5.06***	**-0.049**	***-0.20***
E*AFFLONG	γ_5	1.059***	*2.59*	0.330	*1.46*
ΔE*AFFLONG	γ_6	-0.893***	*-3.54*	0.275	*1.03*
	$\gamma_5+\gamma_6$	**0.166**	***0.47***	**0.605***	***1.73***
Observations		2,122		1,440	
Adjusted R^2		0.233		0.187	

Panel C: Perceptions of the positions taken by the former auditors for companies with analysts' following and companies without analysts' following [b c]

Variables		Companies with analysts		Companies without analysts	
		Coefficients (1)	*t-statistics* (2)	Coefficients (3)	*t-statistics* (4)
E*AFFCHIEF	θ_3	0.011	*0.04*	0.055	*0.25*
ΔE*AFFCHIEF	θ_4	-1.364***	*-3.63*	0.041	*0.19*
	$\theta_3+\theta_4$	**-1.353*** **	***-4.62***	**0.096**	***0.33***
E*AFFDIR	θ_5	0.554	*1.48*	0.250	*0.99*
ΔE*AFFDIR	θ_6	-0.840***	*-3.27*	0.343	*0.81*
	$\theta_5+\theta_6$	**-0.286**	***-0.74***	**0.593**	***1.54***
E*AFFOTHER	θ_7	2.253	*1.04*	-0.294	*-0.34*
ΔE*AFFOTHER	θ_8	-2.973	*-1.02*	-0.339	*-0.29*
	$\theta_7+\theta_8$	**-0.720**	***-0.46***	**-0.633**	***-1.22***
Observations		2,127		1,441	
Adjusted R^2		0.227		0.188	

The variables are defined in Table 2 and Table 7. *** (**) [*] denote coefficients significantly different from zero at or below the 0.01 (0.05) [0.1] level for a two-tailed test.

a *E*AFF* is partitioned into *E*AFFSHORT* and *E*AFFLONG* and *ΔE*AFF* is partitioned into *ΔE*AFFSHORT* and *ΔE*AFFLONG*. The sample size is smaller in this panel because for six former auditors I do not have information available to calculate the number of years between the executive's departure from the CPA firm and employment by the client and thereby missing data on *Short* and *Long*.

b *E*AFF* is partitioned into *E*AFFCHIEF*, *E*AFFDIR* and *E*AFFOTHER* and *ΔE*AFF* is partitioned into *ΔE*AFFCHIEF*, *ΔE*AFFDIR* and *ΔE*AFFOTHER*.

c The coefficients of *E*, *ΔE* and other control variables are qualitatively similar to those reported in Table 3 and are not reported here.

Interestingly, for the group of companies with analysts' following, $(\beta_3 + \beta_4)$, the sum of the coefficients of *E*AFF* and *ΔE*AFF*, is negative and significant at $p < 0.01$. Moreover, $(\gamma_3+\gamma_4)$, the sum of the coefficients of *E*AFFSHORT* and *ΔE*AFFSHORT*, and $(\theta_3+\theta_4)$, the sum of the coefficients of *E*AFFCHIEF* and *ΔE*AFFCHIEF* are both negative and statistically significant at $p < 0.01$, while the sum of the coefficients of all other partitions are insignificant. However, for the group of companies without analysts' following, all coefficients are insignificant, except for $(\gamma_5+\gamma_6)$, the sum of the coefficients of *E*AFFLONG* and *ΔE*AFFLONG*, which is positive and marginally significant at $p < 0.10$.

The findings in table 8 suggest that for companies with analysts' following, investors have qualitatively the same perceptions as analysts. They both perceive the employment of former auditor as impairing audit quality and lower their response to reported earnings if the former auditor joined the client within one year of leaving the CPA firm or took the position as CEO, CFO, CAO or controller. However, for companies without analysts' following, investors do not perceive any type of the employment of former auditor as impairing audit quality. The difference in findings for companies with and without analysts' following supports the notion that analysts' perceptions have impact on investors' perceptions.

3.5 Summary of Results

The results for the full sample indicate no difference in the ERC for companies with and without former auditors, and no difference in the associations between the two rating agencies' rankings and reported earnings. However, the

positive association between analysts' earnings forecasts and reported earnings is significantly lower for companies with former auditors than for other companies. Thus, analysts seem to penalize companies with former auditors. Further examination shows that for the group of companies with analysts' following, the ERC is significantly lower for companies with former auditors than for other companies. This suggests that for companies with analysts' following, analysts' negative perceptions about former auditors carry over to investors.

Next, I investigate whether the perceptions about affiliated hiring differ according to the time lag between leaving the audit firm and joining the client firm. I find that the ERC is lower for firms whose former auditors joined them within one year or less of leaving the audit firm. The association between analysts' forecasts and reported earnings is also negatively impacted when the time lag between leaving the audit firm and joining the client is one year or less. Thus, both investors and financial analysts seem to penalize firms when they hire persons affiliated with their audit firm within a year of their leaving the latter. This supports the rationale for the "cooling off" period provided by the SEC.

I also examine whether the position to which the affiliated hire is appointed matters to investors, analysts and information intermediaries. I find significantly lower ERCs and lower association of forecast earnings with reported earnings, for companies who appointed former audit personnel to key positions such as CEO, CFO, CAO or controller, suggesting such former auditors are penalized by investors and analysts. However, companies which have former auditors as non-executive directors

or in other positions (such as chief operating officers), are not treated differently from non-former auditors.

CHAPTER 4

AFFILIATED HIRING AND EARNINGS RESTATEMENT

In the last chapter, I examined the effect of affiliated hiring on the perceptions of auditor independence. In this chapter, I examine whether affiliated hiring impairs the "actual" auditor independence measured by the occurrence of earnings restatements.

4.1 Hypotheses

Although the SEC and other regulators have emphasized perceptions of auditor independence, "actual" auditor independence can be compromised due to the appointment of former auditor as financial executive or director. The members of the audit team may be reluctant to challenge their old colleague during the audit and allow more "flexibility" in financial reporting towards the company which hired their colleagues. If so, companies with former auditors will have a higher incidence of earnings manipulations and restatements of previously issued financial statements later. Thus, I expect:

> *H4: Companies with former auditors have a higher probability of earnings restatements.*

However, other factors may mitigate the positive association between affiliated hiring and restatements. First, as financial statement restatements are serious and rare, litigation risk and reputation costs may compel audit firms to implement safeguard procedures and conduct independent audits. Second, the impact of the former auditors can be contextual, depending on the type of appointment or strength

of the safeguards at the auditing firm, which may work against finding positive results in the aggregate sample.

While the safeguards at the audit firm are not observable and therefore cannot be tested, the position that the former auditor is appointed to can be observed, so one can test whether the loss of independence, if any, is associated with the appointment of former auditor to a certain category of positions. As mentioned before, most accounting firms suggested that the "cooling off" requirement should not be extended to the board of directors and to some lower level position at the audit firm. The rationale was that personnel in these positions do not have the regularity of interaction with the audit engagement team and financial reporting decision making powers that are possessed by the four key management positions. Therefore, persons in these positions do not present a threat equivalent to that posed by those in the four key positions (Comments to the SEC by Deloitte and Touche, Ernst Young and PricewaterhouseCoopers). However, when a former auditor is hired as a director, the individual is likely to be appointed to sit on the audit committee due to his/her financial expertise.[21] Because the audit committee is responsible for overseeing the financial reporting process, monitoring the internal control, and hiring and paying the external auditor, it has considerable interactions with the audit team. Therefore, employment of a former auditor as a director can also present threats to auditor independence. To test whether auditor independence is compromised when the former

[21] Among the 18 former auditors who were appointed as directors in my sample, 13 of them served on the audit committee. Excluding the 5 former auditors not serving on the audit committee did not change the results.

auditor is appointed to the board of directors as well as when s/he is appointed to one of the four key financial positions, I separate former auditors according to the position and modify H4 into H4a and H4b as follows.

H4a: Companies with former auditors in the position of CEO, CFO, CAO or controller have a higher probability of earnings restatements.

H4b: Companies with former auditors as members of board of directors have a higher probability of earnings restatements.

4.2 Model Specification

I test the effect of affiliated hiring on earnings restatements, while controlling for other factors that influence the frequency of restatements. I test H4 using model (4) and test H4a and H4b using model (5). I estimate models (4) and (5) using logistic regressions.

$$\begin{aligned} P(RESTATE=1) = F(&\lambda_0 + \lambda_1 AFF + \lambda_2 FREECASH + \lambda_3 GROWTH + \lambda_4 STKCOMP + \lambda_5 LNTA \\ &+ \lambda_6 OUTDIR + \lambda_7 DUALITY + \lambda_8 FOUNDER + \lambda_9 AUDINDEP \\ &+ \lambda_{10} AUDMEET + \lambda_{11} EXPERT + \lambda_{12} GINDEX + \lambda_{13} CPAEXE) \end{aligned} \quad (4)$$

$$\begin{aligned} P(RESTATE=1) = F(&\rho_0 + \rho_1 AFFCHIEF + \rho_2 AFFDIR + \rho_3 AFFOTHER \\ &+ \rho_4 FREECASH + \rho_5 GROWTH + \rho_6 STKCOMP + \rho_7 LNTA \\ &+ \rho_8 OUTDIR + \rho_9 DUALITY + \rho_{10} FOUNDER + \rho_{11} AUDINDEP \\ &+ \rho_{12} AUDMEET + \rho_{13} EXPERT + \rho_{14} GINDEX + \rho_{15} CPAEXE) \end{aligned} \quad (5)$$

where F(·) is the cumulative distribution function of the logistic distribution.

The dependent variable *RESTATE* is equal to 1 for companies with earnings restatements, and 0 otherwise. *AFF* is 1 for companies employed former auditors, and 0 otherwise. If H4 is true, then β_1 is expected to be positive. To test H4a and H4b, I partition *AFF* into *AFFCHIEF, AFFDIR* and *AFFOTHER*. *AFFCHIEF* is 1 if the former auditor is in the position of CEO (president), CFO, CAO or controller, and 0

otherwise; *AFFDIR* is 1 if the former auditor is a non-executive director, and 0 otherwise; *AFFOTHER* is 1 if the former auditor holds a position in other financial reporting oversight roles listed in the *Final Rule*. H4a predicts ρ_1 to be positive and H4b predicts ρ_2 to be positive.

I draw on previous research on restatements and on SEC's Accounting and Auditing Enforcement Releases (AAERs) to identify the control variables. Both restatements and AAERs are reflection of previous violations of GAAP and there is substantial overlap in the control variables used in these two lines of studies. Specifically, I control for capital market pressures which serve as incentives for companies to manipulate earnings and governance mechanisms including board, audit committee and shareholder rights which may restrict earnings manipulation.

Capital Market Pressures

Dechow et al. (1996) show that the need to attract external financing at low cost is an important motivation for earnings manipulation. To control for firms' financing needs, I include *FREECASH*, which is the free cash flow deflated by total assets at the beginning of the year. Following Dechow et al. (1996), free cash flow is calculated as cash flows from operations less the average capital expenditure over the last three years. Firms with less free cash flows have a greater motivation to manipulate earnings in order to obtain external finance. Richardson, Tuna and Wu (2003), examining earnings restatements during 1988-2000, note that other capital market pressures such as the need to show consecutive earnings growth for growth firms and equity compensation of top executives act as a motivating factor for

companies to manipulate earnings. I include *GROWTH*, which is the growth rate of total assets over the last year at the beginning of the year and *STKCOMP*, which is the fraction of total compensation of the top 5 executives that is equity based during the year and expect them both to be positively associated with earnings misstatements. Lastly, as company size may surrogate for many omitted variables, I include *LNTA*, measured as the logarithm of firm's total assets at the beginning of the year. I do not predict a sign for *LNTA*.

Board

Fama and Jensen (1983) propose that outside directors on the board have incentives to develop reputations as good monitors and to not collude with managers to expropriate shareholders' residual values. Both Beasley (1996) and Farber (2005) find that the likelihood of accounting fraud, measured by SEC enforcement actions, decreases with the proportion of outside directors on the board. To control for board independence, I include *OUTDIR*, measured as the proportion of outside directors on the board, and expect it to have a negative association with restatements. Jensen (1993) argues that it is important to separate the CEO and chairman positions. As one function of the chairman is to oversee the hiring, firing, evaluating, and compensating the CEO, the CEO cannot perform this function apart from his or her personal interest. Farber (2005) finds that fraud firms have a higher percentage of CEOs who are also chairman of the board of directors relative to firms in the control sample in the year prior to fraud detection. I also include *CEOCHAIR*, which is coded 1 when CEO simultaneously serves as the chairman of the board. Firms with these two positions

served by the same person are expected to have a higher probability of restatements. Dechow et al. (1996) and Agrawal and Chadha (2005) find that the likelihood of accounting failures increases when the CEO belongs to the founding family, so I include *FOUNDER* which is equal to 1 for companies with CEO who is the founder of the company and predict it to be positively associated with restatements.

Audit Committee

In October 1999, the Blue Ribbon Committee (BRC) on improving the effectiveness of corporate Audit Committees issued a report, which included recommendations addressing audit committee size, independence, financial expertise and meeting frequency (BRC, 1999). Specifically, the BRC recommended that public companies with market capitalization greater than $200 million should have audit committees (1) consisting of at least three directors, each of whom is financially literate and at least one of whom has accounting or related financial management expertise, (2) consisting all independent directors, and (3) meeting at least quarterly. Consistent with the recommendations of the BRC, Abbott, Parker and Peters (2004) find that independence, financial expertise and meeting frequency of the audit committee are all negatively associated with the occurrence of financial statement restatements. Agrawal and Chadha (2005) find that the probability of restatement is lower in companies whose audit committees have at least one member with financial expertise. Farber (2005) shows that fraud firms have fewer financial experts and fewer audit committee meetings. I include *AUDINDEP*, which is coded 1 if the audit committee consists entirely of independent directors, and 0 otherwise; and

AUDMEET which is the number of audit committee meetings during the year. Both variables are predicted to have negative signs. To control for the financial expertise of the audit committee, I include *EXPERT*, which is equal to 1 if the audit committee includes at least one director who is (or has been) a CPA, chief financial officer, controller or chief accounting officer, and 0 otherwise.[22] *EXPERT* is predicted to have a negative sign.

Shareholder Rights

Gompers, Ishii and Metrick (2003) indicate that shareholder rights to replace unqualified managers and directors vary across firms and construct a "Governance Index" (G-index) to proxy for the level of shareholder rights. Baber et al. (2005) find that the incidence of restatements is higher for companies with weaker shareholder rights as captured by G-index. I include *GINDEX* to control for the effect of shareholder rights on restatements and predict it to be positively associated with restatements.

Accounting Expertise of Financial Executives

Aier et al. (2005) argue that the accounting background of chief financial officers (CFOs) play an important role in determining the quality of financial

[22] Prior studies have used several kinds of definition of financial expert. I use the narrowest way to define financial expert for two reasons. First, DeFond, Hann and Hu (2005) find stock market reacts positively to the appointment of accounting financial experts to the audit committee, but not to the appointment of non-accounting financial experts. Second, in my sample, 98% of the companies have at least one financial expert, if I use a broader definition of financial expert, which also includes CEO or president of a for-profit company, banker, investment banker, financial consultant, investment manager and venture capitalist. The results reported in the tables are qualitatively the same when the broader definition of financial expert is used.

reporting and find fewer earnings restatements for companies whose CFOs have more work experience as CFOs, CPAs and MBAs. Chief accounting officer (CAOs) and controllers are the other two positions which oversee the preparation of financial statements. I include an indicator variable *CPAEXE*, which is equal to 1 for companies with CFOs, CAOs or controllers who have previously worked as manager or partner in CPA firms, and 0 otherwise. I predict *CPAEXE* to have a negative impact on restatements.

All variables are measured at the end of year 2001 if not indicated otherwise.

4.3 Sample Selection and Descriptive Statistics

The initial sample consists of firms included in "Governance Index Data by Firm" (G-Index) database available at Professor Metrick's website (http://finance.wharton.upenn.edu/~metrick/data.htm). The companies included in G-Index are drawn from the Standard & Poor's (S&P) 500, MidCap 400 and SmallCap 600, as well as the annual lists of the largest corporations in the publications of Fortune, Forbes, and Business Week. As G-Index is not available for 2001 and it is relatively stable within each firm and varies considerably across firms (Gompers et al. 2003), I use the G-Index for 2000 and where the 2000 G-Index is not available, I use the 2002 G-Index data.[23] I then collected information on the board characteristics, including *BOARDSIZE, AUDITSIZE, BOARDINDEP, AUDITINDEP* and *CEOCHAIR*. This resulted in 1,475 observations. I then merged these observations with COMPUSTAT. 174 firms are not available in COMPUSTAT. 175 financial

[23] 556 firms do not have G-Index for 2000 but have it for 2002.

firms are dropped and 84 firms have missing data for *LNTA, FREECASH* or *GROWTH*. I exclude companies in the financial industries (two-digit SIC codes 60-69) due to their special earnings properties. Finally, I merge the sample with the Executive Compensation database. 111 firms are further dropped due to missing data required for the computation of *STKCOMP*. The final sample consists of 911 firms. *LNTA, FREECASH* and *GROWTH* are winsorized at the second and the ninety-eighth percentiles. The sample selection procedures are summarized in Panel A of Table 9.

To identify companies which hired former auditors, I first searched for companies which hired partners or managers from big national CPA firms, and appointed them in the financial reporting positions listed in the *Final Rule* (SEC 2003).[24] I did this through a keyword search of executives' and directors' employment histories included in 10-K and proxy filings on the Lexis-Nexis database for fiscal year 2001. For each company with a financial executive or director from a CPA firm, I recorded the person's name, the year s/he joined the company, the position s/he held and the CPA firm s/he worked for. Next, I compared the CPA firm the executive had worked for with the company's current audit firm; if it was the same firm, I classified the company as one with affiliated CPA during fiscal year 2001.

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[24] The CPA firms I searched for include Arthur Andersen, Deloitte & Touche, Ernst & Young, KPMG, PricewaterhouseCoopers, Grant Thornton, BDO Seidman, and McGladrey & Pullen. I also searched predecessor firm names and common misspellings of these firms. I do not include partners and managers who were in the consulting or tax unit of these CPA firms. The financial reporting positions listed in the *Final Rule* include member of the board of directors, chief executive officer, president, chief financial officer, chief operating officer, general counsel, chief accounting officer, controller, treasurer, director of internal audit and director of financial reporting.

Table 9
"Actual" Auditor Independence: Sample

Panel A: Sample selection

Firms for which G-Index and corporate governance variables are available	1,475
Less: Firms not available in Compustat	(174)
Less: Financial firms	(175)
Less: Firms with missing financial data	(84)
Less: Firms with missing data for executive compensation	(131)
Final Sample	911

Panel B: Industry composition

Industry	Restatement Firms	Non-restatement Firms	Total
Agriculture, Mining and Construction (SIC 01-19)	8	34	42
Manufacturing (SIC 20-39)	33	442	475
Transportation and Utilities (SIC 40-49)	18	99	117
Wholesale & Retail (SIC 50-59)	30	96	126
Services (SIC 70-99)	22	129	151
Total	111	800	911

Companies which restated their financial data for year 2001 are identified from Audit Analytics. When I collected the data, the restatement data set of Audit Analytics covered all SEC registrants who had disclosed a restatement in electronic filings between January 2001 and March 2006. What is worth mentioning is that the restatement sometimes can be "announced" years after the restatement period when the errors were made. I treat a firm as a restatement firm, if during 2001 or subsequent years the company announced that the financial data of year 2001 or any quarter of 2001 should be restated. For each restatement firm, I read the document (8-K, 10-K or 10-Q) which disclosed the restatement and read the reasons for the restatement. Following prior restatement literature, I only include restatements other than those made for technical reasons. Technical reasons include restatements resulting from

mergers and acquisitions, discontinued operations, stock splits, issuance of stock dividends, currency-related issues, changes in business segment definitions, changes due to transfers of management, changes made for presentation purposes, general accounting changes under generally accepted accounting principles (GAAP), litigation settlements, and arithmetic and general bookkeeping errors (GAO 2002).

Table 9, Panel B shows the industry composition of the restatement and non-restatement firms. Among the five industries, wholesale and retail industry has the highest proportion (23.8%) of restatements, while manufacturing industry has the lowest proportion of restatements (7.4%). The difference in the frequency of restatements across the different industries suggests the need to control for industries in analyzing the determinants of restatements.

As in Richardson et al. (2003), Larcker et al. (2005) and Baber et al. (2005), I prefer the full sample analysis to a matched sample design, because the full sample gives higher statistical power and better represents the sample. However, because I had to hand-collect some variables (e.g., *FOUNDER*, *AUDMEET* and *EXPERT*), I also used a matched-pair sample. For each restatement firm, I selected a control firm that (1) has the same primary two-digit Standard Industrial Classification (SIC) industry code, (2) is closest in size (measured by total assets) at the end of year 2000 and (3) did not restate financial statements of year 2001. This procedure yielded 100 pairs.

Table 10, Panel A presents descriptive statistics for the full sample. The mean for *RESTATE* is 0.122, suggesting 12.2% of the firms in the sample restated financial

statements for the year 2001. 9.7% of the firms hired former auditor as financial executives or directors during 2001 (*AFF*=1). 6.7% of the firms hired former auditors as CEOs, CFOs, CAOs or controllers (*AFFCHIEF*=1), 2.0% of the firms hired former auditors as directors (*AFFDIR*=1), and 1.0% of the firms hired former auditors in other financial positions (*AFFOTHER*=1). The mean (median) proportion of free cash flow of total assets *FREECASH* is 7.7% (9.4%). The mean and median growth rate of total assets (*GROWTH*) are 6.5% and 3.3% respectively. The mean (median) *STKCOMP* is 49.2% (51.7%), indicating about half of the total compensation of the top 5 executives in an average company is equity based. The mean (median) *LNTA* is 7.356 (7.233), which translates into $1.566 (1.384) billion of total assets.

Mean (median) percentage of outside directors on the board (*OUTDIR*) is 65.9% (66.7%). In 83.1% of the companies, the same person serving as both CEO (president) and the chairman of the board (*CEOCHAIR*=1). The audit committees of 70.9% of the firms are completely independent (*AUDINDEP*=1). The mean and Median *GINDEX* are 9.203 and 9 respectively. The value of *GINDEX* is in line with those reported in Gompers et al. (2003) and Baber et al. (2005). Mean *CPAEXE* is 0.092, which indicates 9.2% of the firms with CFO, CAO or controller with working experience in accounting firms.

Finally, 10.0% of the firms have CEOs who are also the founders of the company (*FOUNDER*=1). Mean (median) of *AUDMEET* is 4.845 (4); the median coincide with the recommended frequency of audit committee meetings by the Blue

Ribbon Committee (BRC 1999). Mean *EXPERT* is 0.350, which suggests 35.0% of the audit committees have at least one accounting expert.

Table 10

"Actual" Auditor Independence: Descriptive Statistics

Panel A: Full sample (911 observations)

Variable	Mean	Std.Dev.	Q1	Median	Q3
RESTATE	0.122	0.327	0	0	0
AFF	0.097	0.296	0	0	0
AFFCHIEF	0.067	0.250	0	0	0
AFFDIR	0.020	0.139	0	0	0
AFFOTHER	0.010	0.099	0	0	0
FREECASH	0.077	0.305	-0.029	0.094	0.235
GROWTH	0.065	0.242	-0.060	0.033	0.142
STKCOMP	0.492	0.270	0.293	0.517	0.706
LNTA	7.356	1.454	6.238	7.233	8.293
OUTDIR	0.659	0.173	0.556	0.667	0.800
CEOCHAIR	0.831	0.375	1	1	1
AUDINDEP	0.709	0.454	0	1	1
GINDEX	9.203	2.565	7	9	11
CPAEXE	0.092	0.289	0	0	0
FOUNDER [a]	0.100	0.301	0	0	0
AUDMEET [a]	4.845	2.106	3	4	6
EXPERT [a]	0.350	0.478	0	0	1

Panel B: Comparison of means and medians of the independent variables between firms which restated their 2001 financial statements (111 observations) and firms which did not (800 observations)

Variable	Mean *(t-statistics)*		Median *(Wilcoxon Z)*	
	Restatement (1) [b]	No-restatement (2) [c]	Restatement (3) [d]	No-restatement (4) [e]
AFF	0.126 *(1.01)*	0.093	0 *(1.12)*	0
AFFCHIEF	0.063 *(-0.18)*	0.068	0 *(-0.18)*	0
AFFDIR	0.045* *(1.42)*	0.016	0** *(2.04)*	0
AFFOTHER	0.018 *(0.71)*	0.009	0 *(0.93)*	0
FREECASH	0.028* *(-1.58)*	0.084	0.037** *(-2.08)*	0.099
GROWTH	0.090 *(1.05)*	0.062	0.042 *(1.15)*	0.031
STKCOMP	0.488 *(-0.15)*	0.493	0.540 *(-0.08)*	0.511

LNTA	7.402 *(0.35)*	7.349	7.153 (0.26)	7.233
OUTDIR	0.650 *(-0.56)*	0.660	0.667 (-0.69)	0.692
CEOCHAIR	0.883** *(1.77)*	0.824	1* *(1.58)*	1
AUDINDEP	0.649* *(-1.43)*	0.718	1* *(-1.50)*	1
GINDEX	9.216 *(0.06)*	9.201	9 *(0.11)*	9
CPAEXE	0.099 *(0.26)*	0.091	0 *(0.27)*	0
FOUNDER [a]	0.100 *(0.00)*	0.100	0 *(0.00)*	0
AUDMEET [a]	5.140** *(2.00)*	4.550	5*** *(2.65)*	4
EXPERT [a]	0.380 *(0.89)*	0.320	0 *(0.89)*	0

Variable Definitions:

RESTATE	= 1 if the company restated its 2001 financial statements, and 0 otherwise.
AFF	= 1 if the company hired a former auditor as chief executive officer (president), chief financial officer, chief accounting officer, controller, treasurer, director of financial reporting, director of internal audit or member of the board of directors in 2001, and 0 otherwise.
AFFCHIEF	= 1 if the company hired a former auditor as chief executive officer (president), chief financial officer, chief accounting officer or controller in 2001, and 0 otherwise.
AFFDIR	= 1 if the company hired a former auditor as a member of the board of directors in 2001, and 0 otherwise.
AFFOTHER	= 1 if the company hired a former auditor as treasurer, director of financial reporting or director of internal audit in 2001, and 0 otherwise.
FREECASH	= (cash flows from operations – the average capital expenditure over the last three years)/total assets, measured at the beginning of the year.
GROWTH	= the growth rate of total assets over the last year, measured at the beginning of the year.
STKCOMP	= the fraction of total compensation of the top 5 executives that is equity based during the year.
LNTA	= logarithm of firm's total assets at the beginning of the year.
OUTDIR	= the proportion of outside directors on the board.
CEOCHAIR	= 1 if CEO (president) simultaneously serves as the chairman of the board, and 0 otherwise.
AUDINDEP	= 1 if the audit committee consists entirely of independent directors, and 0 otherwise.
GINDEX	= the governance index constructed by Gompers, Ishii and Metrick (2003).
CPAEXE	= 1 if the company has CFO, CAO or controllers who previously worked as manager or partner in CPA firms, and 0 otherwise.
FOUNDER	= 1 if the CEO is the founder of the company, and 0 otherwise.
AUDMEET	= the number of audit committee meetings during the year.
EXPERT	= 1 if the audit committee includes at least one director who is (or has been) a CPA, chief financial officer, controller or chief accounting officer, and 0 otherwise.

*** (**) [*] denote coefficients significantly different from zero at or below the 0.01 (0.05) [0.1] level (one-tailed where signs are predicted, two-tailed otherwise).

a These variables are for the matched sample only (100 restatement firms and 100 non-restatement firms).

b The means of the independent variables of the companies with restatements of financial statements of 2001 and t-statistics for difference in means between companies with and without restatements.

c The means of the independent variables of the companies without restatements.

d The medians of the independent variables of the companies which hired former auditor and Z-statistics for the Wilcoxon ranksum test between companies with and without restatements.

e The medians of the independent variables of the companies without restatements.

Panel B reports descriptive statistics for the restatement and non-restatement firms, and t-test and Wilcoxon ranksum test statistics for differences between the two groups.[25] The restatement and non-restatement firms differ along several dimensions. Restatement firms have a higher proportion of former auditors serving as members of the board of directors (*AFFDIR*=1) than non-restatement firms. This supports H1b. The restatement firms also have a lower level of free cash flow (*FREECASH*) than non-restatement firms, consistent with the conjecture that firms with greater demand for external financing are more likely to misstate earnings. Additionally, the restatement firms have higher percentage of the same person serving as both CEO and chairman of the board (*CEOCHAIR*=1) and have lower incidence of audit committee which entirely consists of independent directors (*AUDINDEP*=1), suggesting that the occurrence of restatement is negatively related to the board or audit committee independence. Unexpectedly, the restatement firms held more audit committee meetings (*AUDMEET*) than non-restatement firms did during 2001, which is contrary to the results found in Abbott et al. (2004) and Farber (2005). One possible explanation is that the BRC recommendations together with the heightened litigation risk in recent years could have made directors more cautious and motivated audit committees to meet more frequently in companies with higher risk of fraud or earnings manipulation during my sample period.[26]

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[25] Wilcoxon ranksum (or the Mann-Whitney two-sample test) tests the hypothesis that two independent samples (i.e., unmatched data) are from populations with the same distribution.

[26] Both Abbott, Parker and Peters (2004) and Farber (2005) investigate the sample period before the issuance of the BRC's report. It seems likely that the number of audit committee meetings increased

4.4 Empirical Results

4.4.1 Full Sample Results

Table 11 presents estimated results for equations (4) and (5) for the full sample with controls for industry dummies based on one-digit SIC code. Coefficient estimates for equations (4) and (5) are shown in columns (1) and (3) respectively and marginal effects for the two equations are shown in columns (2) and (4) respectively. The marginal effect of each independent variable is calculated as its estimated coefficient times the logistic density function evaluated at the sample means of the independent variables times its interquartile range.[27] The Pseudo-R^2 is modest, but comparable to the evidence in Larcker et al. (2005) and Baber et al. (2005), who also report Pseudo-R^2 around 0.05.

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significantly after the issuance of the BRC's report. In my sample, the average number of audit committee meetings is 5.14 for the restatement firms and 4.55 for the non-restatement firms, while it is only 1.61 and 1.97 for restatement firms and for non-restatement firms in Farber (2005).

[27] The logistic function gives the probability of the restatement: $P(Y) = \frac{e^{\beta x}}{1+e^{\beta x}}$; the marginal effect of change in an independent variable x is given by $\frac{\partial P(Y)}{\partial x} \times \Delta x$, where $\frac{\partial P(Y)}{\partial x} = \frac{\beta e^{\beta x}}{(1+e^{\beta x})^2}$. For dummy variables, Δx is set to 1 to reflect the change from 0 to 1. For other variables, Δx equals to the interquartile change.

Table 11

The Determinants of Earnings Restatements (Full Sample)

Variable	Expected Sign	Coefficient *(Z-statistics)*	Marginal Effect[a]	Coefficient *(Z-statistics)*	Marginal Effect[a]
		(1)	(2)	(3)	(4)
Intercept		-2.161*** *(-3.04)*		-2.252*** *(-3.15)*	
AFF	+	0.503 *(1.16)*	0.047		
AFFCHIEF	+			-0.412 *(-0.59)*	-0.038
AFFDIR	+			1.144** *(2.03)*	0.107
AFFOTHER	+			0.485 *(0.58)*	0.045
FREECASH	-	-0.853*** *(-2.62)*	-0.011	-0.870*** *(-2.68)*	-0.011
GROWTH	+	0.688* *(1.61)*	0.007	0.734** *(1.71)*	0.007
STKCOMP	+	-0.081 *(-0.19)*	-0.001	-0.092 *(-0.22)*	-0.002
LNTA	?	-0.021 *(-0.25)*	-0.002	-0.013 *(-0.15)*	-0.001
OUTDIR	-	0.605 *(0.85)*	0.008	0.624 *(0.86)*	0.008
CEOCHAIR	+	0.509* *(1.57)*	0.048	0.490* *(1.50)*	0.046
AUDINDEP	-	-0.452** *(-1.76)*	-0.042	-0.480** *(-1.87)*	-0.045
GINDEX	+	0.009 *(0.20)*	0.002	0.012 *(0.26)*	0.002
CPAEXE	-	-0.400 *(-0.85)*	-0.037	0.273 *(0.47)*	0.025
Observations		911		911	
Pseudo-R^2		0.066		0.070	

Variables are defined in Table 10. *** (**) [*] denote coefficients significantly different from zero at or below the 0.01 (0.05) [0.1] level (one-tailed where signs are predicted, two-tailed otherwise).

[a] The marginal effect is the change in the probability of hiring former auditor given a change in the independent variable over the interquartile range for variables other than dummy variables and from 0 to 1 for dummy variables.

AFF is positive but insignificant, which does not support H4 that companies with affiliated hires are more likely to restate earnings. However, When *AFF* is partitioned according to the position held by the former auditor, *AFFDIR* is positive and significant with $p<0.05$ while neither *AFFCHIEF* nor *AFFOTHER* is significant. These findings support H4b, but do not support H4a. Companies with former auditors as member of board of directors have higher frequency of financial statement restatements than companies without former auditors, while companies with former auditors as financial executives do not have higher frequency of restatements than other companies. The findings imply that the employment of former auditor as member of board of directors can impair audit quality and regulation on such hiring practice may promote better audit quality.

Among the control variables, *RESTATE* is significantly negatively associated with *FREECASH* ($p<0.01$) and significantly positively associated with *GROWTH* ($p<0.1$ in column 1 and $p<0.05$ in column 3). This suggests that companies with higher demands for external financing and higher growth rates are more likely to have restatements. Moreover, *RESTATE* is significantly positively associated with *CEOCHAIR* ($p<0.1$) and significantly negatively associated with *AUDINDEP* ($p<0.05$). That is, restatements are more likely to occur at firms with the same person serving as the CEO and chairman of the board and less likely to occur at firms with audit committees composed entirely of independent directors. None of the other control variables is significant.

Columns (2) and (4) of Table 11 show the economic significance of the explanatory variables. When *AFFDIR* changes from 0 to 1, the probability of restatements increases by 10.7%. A change in *FREECASH* and *GROWTH* across the interquartile range decreases the probability of restatements by 1.1% and increases the probability of restatements by 0.7% respectively. When *CEOCHAIR* changes from 0 to 1, the probability of restatement increases by 4.8% in column 2 (4.6% in column 4) and when *AUDINDEP* changes from 0 to 1, the probability of restatement decreases by 4.2% in column 2 (4.5% in column 4).

4.4.2 Matched Sample Results

Table 12 reports the estimates of equations (1) and (2) for the matched sample. Columns (1) and (2) report the regression results of equations (4) and (5) without including the three variables, *FOUNDER*, *AUDMEET*, and *EXPERT* to compare with the results reported in Table 11. Columns (3) and (4) report the regression results of equations (4) and (5) including these three variables.

AFFDIR continues to be positive and significant in the matched sample ($p<0.05$), whether *FOUNDER, AUDMEET* and *EXPERT* are included or not. Neither *AFF* nor *AFFCHIEF* is significant in the matched sample. That is, the frequency of restatements is higher for firms with former auditors as members of board of directors than for firms without former auditors, but firms with former auditors in other positions do not have higher probability of restatements than other firms. The results from the matched sample confirm that the results found in the full sample are not due to missing variables *FOUNDER, AUDMEET* and *EXPERT*.

Table 12

The Determinants of Earnings Restatements (Matched Sample)

Variable	Expected Sign	Coefficient *(Z-statistics)*	Coefficient *(Z-statistics)*	Coefficient *(Z-statistics)*	Coefficient *(Z-statistics)*
		(1)	(2)	(3)	(4)
Intercept		-0.769 *(-0.78)*		-1.442 *(-1.35)*	-1.489 *(-1.38)*
AFF	+	0.553 *(0.96)*		0.525 *(0.88)*	
AFFCHIEF	+		-0.632 *(-0.62)*		-0.482 *(-0.47)*
AFFDIR	+		2.150** *(1.88)*		2.086** *(1.78)*
AFFOTHER	+		-0.091 *(-0.09)*		-0.118 *(-0.11)*
FREECASH	-	-0.616* *(-1.50)*	-0.743** *(-1.76)*	-0.536 *(-1.27)*	-0.678* *(-1.55)*
GROWTH	+	0.003 *(0.54)*	0.005 *(0.86)*	0.006 *(0.87)*	0.007 *(1.17)*
STKCOMP	+	-0.488 *(-0.78)*	-0.678 *(-1.06)*	-0.651 *(-1.03)*	-0.835 *(-1.29)*
LNTA	?	0.023 *(0.20)*	0.052 *(0.43)*	-0.023 *(-0.19)*	0.003 *(0.03)*
OUTDIR	-	0.402 *(0.38)*	0.358 *(0.34)*	0.354 *(0.33)*	0.313 *(0.29)*
CEOCHAIR	+	0.934** *(2.12)*	0.954** *(2.13)*	1.121*** *(2.46)*	1.115*** *(2.42)*
AUDINDEP	-	-0.593* *(-1.58)*	-0.654** *(-1.74)*	-0.587* *(-1.55)*	-0.654** *(-1.72)*
GINDEX	+	0.034 *(0.52)*	0.036 *(0.54)*	0.026 *(0.38)*	0.031 *(0.45)*
CPAEXE	-	-0.884* *(-1.40)*	0.040 *(0.04)*	-0.880* *(-1.38)*	-0.081 *(-0.09)*
FOUNDER	+			0.023 *(0.04)*	0.031 *(0.06)*
AUDMEET	-			0.181** *(2.22)*	0.180** *(2.21)*
EXPERT	-			0.252 *(0.75)*	0.121 *(0.35)*
Observations		200	200	200	200
Pseudo-R^2		0.040	0.055	0.066	0.076

Variables are defined in Table 10. *** (**) [*] denote coefficients significantly different from zero at or below the 0.01 (0.05) [0.1] level (one-tailed where signs are predicted, two-tailed otherwise).

For the control variables reported in Table 12, *FREECASH, CEOCHAIR* and *AUDINDEP* continue to be significant and have the expected signs, but *GROWTH* is no longer significant in the matched sample. Neither *FOUNDER* nor *EXPERT* is significant. Unexpectedly, *AUDMEET* is significantly positively associated with *RESTATE*. That is, audit committees at the restatement firms met more frequently than audit committees at non-restatement firms did, which is contrary to the findings in Abbott et al. (2004) and Farber (2005). As discussed before, my sample covers the period after the BRC's recommendations that audit committee should meet at least quarterly. The BRC recommendations together with the heightened litigation risk in recent years could have made the directors more cautious and motivated the audit committees to meet more frequently at companies with higher risk of accounting irregularity. In other words, if audit committee members already sensed some problems at the restatement firms before they were publicly disclosed, they may have met more frequently considering the high litigation risk in recent years.

4.4.3 Robustness Checks

I also consider the following governance variables which arguably can be considered to affect restatements ---the audit committee size, the percentage of institutional ownership, the percentage of block ownership, dummies for Big 5 auditor and Arthur Andersen.[28] When they are added as the control variables of equations (4) and (5), none of them is statistically significant and the results are qualitatively similar to those reported in Table 11 and Table 12.

[28] The sample size reduces substantially when block ownership is included.

4.5 Summary of Results

The findings in this chapter suggest firms with former auditors as financial executives including some key financial positions such as CEO, CFO, CAO or controller do not have higher probability of earnings restatements than firms without former auditors. However, firms with former auditors as members of board of directors have higher probability of earnings restatements than other firms. Although most anecdotal evidence on the effects of affiliated hires has focused on situations where the former auditors were hired as financial executives (Beasley et al. 2000; Grimsley 2002; Schneider 2002; Stuart 2005; Weber et al. 2005), the above findings suggest auditor independence in fact (as measured by earnings restatements) may be impaired when the affiliated hire is appointed as a director.

CHAPTER 5
MOTIVATIONS OF AFFILIATED HIRING

In this chapter, I examine the economic determinants of companies' decisions to hire former auditors. Although previous studies have investigated the consequences of affiliated hiring, no empirical study has examined why some companies choose to hire former auditors. In other words, it is yet unknown whether the decision to hire a former auditor or not is a pure random process, or it is based on certain benefit-cost analyses.

5.1 Hypotheses

Menon and Williams (2004) and Lennox (2005) show that audit firms treat companies with former auditors more favorably by allowing greater discretion in accounting accruals and issuing more clean audit opinions respectively. Anticipating these favorable treatments, managers will be more likely to hire former auditors when they have bigger incentives to manipulate earnings. On the other hand, to prevent such opportunistic behavior, an effective board of directors and shareholders should restrict the hiring of former auditor. Therefore, I expect the demands for affiliated hiring to emanate from management's incentives to manipulate earnings, but these demands are restricted by board of directors and shareholders.

The Demands for the Employment of Former Auditor

Earnings Benchmark

A large literature has shown that management has the incentive to meet earnings benchmarks.[29] For example, Matsunaga and Park (2001) document a significant negative effect on CEO annual cash bonus if the firm's quarterly earnings miss the consensus analysts' forecast or there is a decrease in earnings for the same quarter of the prior year. Kasznik (1999) finds that firms in risk of falling short of management earnings forecast manage earnings upward using discretionary accruals. Prior research also shows that some companies have bigger incentives to meet earnings benchmarks than others. DeAngelo, DeAngelo and Skinner (1996) find negative abnormal stock returns around 14 percent in the year that an earnings growth pattern is broken. Consistent with DeAngelo et al. (1996), Barth, Elliott and Finn (1999) find evidence that firms with patterns of increasing earnings are priced at a premium compared to other firms, and these firms' stock prices drop significantly when such patterns are broken. Brown (1998) and Skinner and Sloan (2002) also support that growth companies are more sensitive to negative earnings surprises.

Menon and Williams (2004) show that companies with former auditors are allowed greater discretion in accounting accruals and more frequently meet analysts' forecasts with a small margin. If the former auditor's relationship with the audit engagement team allows management more discretion in reporting earnings, I would

[29] Earnings benchmarks include (1) avoiding losses; (2) reporting increases in seasonally adjusted quarterly earnings; (3) meeting analysts' forecasts; (4) meeting management's own forecasts.

expect companies with patterns of increasing earnings to be more likely to hire former auditors.

Stated in the alternative form:

H5: Companies with patterns of increasing earnings are more likely to hire former auditors.

Finance Demand

Managers also have incentives to boost earnings prior to stock or debt issuance. Favorable financial statements can reduce the costs of equity or debt capital (Ziebart and Reiter 1992; Gebhardt, Lee and Swaminathan 2001; Ghosh and Moon 2005). Teoh, Welch and Wong (1998a; 1998b) find evidence that firms use income-increasing accruals to manage earnings upward prior to seasoned equity offerings and initial public offerings respectively.

As discussed above, if managers expect audit firms to be more lenient towards clients with affiliated hires, companies with plans for external financing have bigger incentives to hire former auditors.

In the alternative form:

H6: Companies anticipating external financing are more likely to hire former auditors.

Financial Leverage

Creditors use debt contracts that contain accounting-based covenants to monitor borrowers' ability to pay (Smith and Warner 1979; Watts and Zimmerman 1986). As violations of debt covenants are associated with significant stock price drop and higher costs of borrowing (Beneish and Press 1995), managers have incentives to

manipulate earnings to avoid violations of debt covenants. If so, managers are more likely to hire former auditors at firms with higher financial leverage.

In the alternative form:

H7: Companies with higher financial leverage are more likely to hire former auditors.

The Restraints on the Employment of Former auditor

Board Independence

Fama and Jensen (1983) propose that outside directors on the board have incentives to develop reputations as good monitors and not to collude with managers to expropriate shareholders' residual values. Klein (2002) finds that the magnitude of abnormal accruals decreases with the proportion of outsider directors on the board. Both Dechow et al. (1996) and Beasley (1996) document a negative association between board independence and the incidence of fraud. A number of recent financial scandals, for example at Enron, Waste Management, Global Crossing and AIG and some recent academic research (Menon and Williams 2004; Lennox 2005) suggest that affiliated hiring could impair auditor independence. Therefore, I expect companies with more independent boards to be less likely to hire former auditors.

In the alternative form:

H8: Companies with a greater percent of outside directors on the board are less likely to hire former auditors.

Jensen (1993) argues that it is important to separate the CEO and chairman positions. As one function of the chairman is to oversee the process of hiring, firing, evaluating, and compensating the CEO, the CEO cannot perform this function apart from his or her personal interest. Farber (2005) finds that fraud firms have higher

percentage of CEOs who are also chairman of the board of directors relative to firms in the control sample in the year prior to fraud detection. If we assume the CEO chairman duality suggests a weakness in corporate governance, then I expect companies with CEO as chairman of the board are more likely to hire former auditors.

In the alternative form:

H9: Companies with CEO as chairman of the board of directors are more likely to hire former auditors.

Shareholders

Block shareholders have great incentives to implement better monitoring and therefore their presence serves as an additional control mechanism (Shleifer and Vishny 1986; Holderness and Sheehan 1988). If blockholders believe affiliated hiring impairs auditor quality, they will either vote against such nomination or sell the company's stock. Thus, I expect that companies with higher blockholder ownership are less likely to hire former auditors.

In the alternative form:

H10: Companies with greater blockholder ownership are less likely to hire former auditors.

Other Factors

Auditor Tenure

One reason for companies to hire their former auditors instead of other outsiders with similar experience can just be because they know these people better. Beasley et al. (2000) suggests that when clients have observed the individuals in their audit engagement team and gained first-hand knowledge about their expertise, work ethic and personality, they find it easier to judge whether these individuals will be a

"good fit" within their company. Moreover, companies which have auditors with longer tenure have developed long-term relationships with their audit firms, and are therefore more likely to exchange personnel with their audit firms. Thus, I expect the frequency of hiring former auditor to increase with the length of auditor tenure.

In the alternative form:

H11: Companies with the longer auditor tenure are more likely to hire former auditors.

Financial Condition

Lennox (2005) suggests that former auditors may have inside information about their clients' financial condition and companies in better financial condition can pay higher compensation, so these companies are more able to attract former auditors. Lennox (2005) finds in univariate comparison that companies that hire former auditors are significantly larger, and have higher liquidity and lower leverage ratio than companies with unaffiliated CPAs. However, good financial condition also increases the probability of attracting an unaffiliated financial expert. Thus, I do not predict the direction of the association between affiliated hiring and the firm's financial condition.

In the null form:

H12: Companies' financial condition is not related to the likelihood of hiring former auditor.

Business Complexity

Susan Coffey, AICPA's vice president of self-regulation, said "in many cases it is helpful to companies if their auditors go to work for them because they bring knowledge and expertise of the company's line of work" (Grimsley 2002, A01).

Given the complexity of many of today's corporations, it is difficult to understand a company's business in a short period of time. The former auditors are familiar with the client's business strategy, reporting process, information system, and industry peculiarities and can adjust to the new jobs quickly (Imhoff 1978, Beasley et al. 2000). If so, companies with more complex businesses are more likely to hire former auditors. However, companies with more complex businesses have greater information asymmetry problems, thus requiring better monitoring or more independent audits, while affiliated hiring is assumed to impair auditor independence. Thus, the direction of the association between business complexity and affiliated hiring is indeterminate.

In the null form:

H13: The complexity of business is not related to the likelihood of hiring former auditor.

5.2 Model Specification

I test hypotheses 5 to 13 by estimating the following logit model.

$$P(AFFHIRE = 1) = F(\varphi_0 + \varphi_1 MEETBENCH + \varphi_2 NEWFIN + \varphi_3 LEVERAGE + \varphi_4 OUTDIR + \varphi_5 CEOCHAIR + \varphi_6 BLOCK + \varphi_7 TENURE + \varphi_8 LNTA + \varphi_9 ROA + \varphi_{10} LIQUIDITY + \varphi_{11} BUSSEG + \varphi_{12} GEOSEG) \quad (6)$$

where F(·) is the cumulative distribution function of the logistic distribution.

The dependent variable AFFHIRE equals 1 if the company hires an executive or director from its audit firm in a specific year. AFFHIRE equals 0 if the company hires an executive or director from a CPA firm which is not its auditor in that year.

Following Barth et al. (1999), MEETBENCH is coded 1 if the firm reports at least five consecutive prior years of increasing earnings, and 0 otherwise. According

to H5, φ_1 is predicted to be positive. NEWFIN is coded 1 if the firm issued equity or debt in the year of hiring, and 0 otherwise. NEWFIN is an ex post measure of anticipated external financing. If management cannot fully anticipate future stock or debt issuance, this measure is potentially biased against finding an association between anticipated external financing and affiliated hiring. If H6 is supported, then φ_2 should be positive. LEVERAGE is total debt scaled by total assets. If H7 is supported, φ_3 is predicted to be positive.

OUTDIR is measured as the proportion of outside directors on the board. Following H8, φ_4 is predicted to be negative. CEOCHAIR is coded 1 if the firm's CEO is also the chairman of the board. Following H9, φ_5 is predicted to be positive. To measure the influence of block shareholders over the decision to hire a former auditor, I use BLOCK, which is the percentage of shares held by shareholders who own 5% or more of the firm's shares. Following H10, φ_6 are predicted to be negative.

TENURE is the number of consecutive years that the company has retained the auditing firm. According to H11, φ_7 is predicted to be positive. Following Lennox (2005), I measure firms' financial condition using three variables. LNTA is log of total assets. ROA is net income divided by average of the total assets at the beginning and the end of the year. LIQUIDITY is current assets divided by current liabilities. I measure business complexity using BUSSEG and GEOSEG. BUSSEG is the number of reported business segments and GEOSEG is the number of reported geographic segments. I do not predict signs for LNTA, ROA, LIQUIDITY, BUSSEG and GEOSEG.

All independent variables except for NEWFIN are measured in the year before the year the company hires the officer from a CPA firm.

5.3 Sample Selection and Descriptive Statistics

To identify companies which hired former auditors and companies which hired unaffiliated CPAs, I searched for companies which hired partners or managers from big national CPA firms, and appointed them in the financial reporting positions listed in the *Final Rule* (SEC 2003).[30] I did this through a keyword search of executives' and directors' employment histories included in 10-K and proxy filings on the Lexis-Nexis database for fiscal year 2001. I exclude companies in the financial industries (two-digit SIC codes 60-69) due to their special earnings properties. For each company with a financial executive or director from a CPA firm, I record the person's name, the year s/he joined the company, the position held and the CPA firm s/he worked for. I restrict my sample to companies which hired executives or directors from CPA firms to obtain a more homogeneous sample with regard to the financial expertise requirement of these companies.

[30] The CPA firms I searched for include Arthur Andersen, Deloitte & Touche, Ernst & Young, KPMG, PricewaterhouseCoopers, Grant Thornton, BDO Seidman, and McGladrey & Pullen. I also searched predecessor firm names and common misspellings of these firms. I do not include partners and managers who were in the consulting or tax unit of these CPA firms. The financial reporting positions listed in the *Final Rule* include member of the board of directors, chief executive officer, president, chief financial officer, chief operating officer, general counsel, chief accounting officer, controller, treasurer, director of internal audit and director of financial reporting.

I identified 963 companies which hired executives or directors from CPA firms between 1994 and 2001.[31] Of these 963 companies, 385 companies have complete data for the financial variables calculated from Compustat. Further I dropped 74 companies which did not have block ownership data on the Compact Disclosure database or board composition data from SEC's EDGAR. The final sample includes 311 companies.[32]

I classify the company as one with affiliated hires if its financial executive or director was previously a partner or manager at the CPA firm that audited the company's financial statements in the year of appointment.[33] If the executive or director joined from a different CPA firm than the company's audit firm, then I classify the company as a company that hired an unaffiliated CPA.

Table 13, Panels A through D present the sample composition of companies which employed their former auditors and companies which employed unaffiliated CPAs. Panel A shows the sample composition by year during the period 1994-2001. Since I only searched 10-K and proxy filings for 2001, the number of observations for

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[31] The SEC's Regulation S-K requires companies to disclose "the business experience during the past five years" of directors and executive officers. Many companies provide the information for periods exceeding five years. From the keyword search of 10-K and proxy filings on the Lexis-Nexis database for fiscal year 2001, I found altogether 1,122 companies which hired executives or directors from CPA firms spanning from 1980 to 2001. I retained companies which hired CPAs between 1994 and 2001, because corporate governance variables for early years cannot be obtained from electronic filings.

[32] 4 companies in the sample hired two CPAs in different years. These companies are included in both years of hiring. The results are similar to those reported in the tables if these 4 companies are excluded.

[33] For companies with multiple financial executives who previously worked at CPA firms, the executive who has the biggest financial oversight role is retained for identification of affiliation. I assume the financial oversight role descends in the following sequence: chief executive officer (president), chief financial officer, chief accounting officer, controller, treasurer, director of financial reporting, director of internal audit, member of the board of directors and other positions.

earlier years can be very small.[34] Among the 311 companies which hired from CPA firms, 46.9% (146/311) companies hired their former auditors, while 53.1% (165/311) companies hired executives or directors from CPA firms other than their audit firms. In 2001, fewer companies hired former auditors compared to earlier years. During 1994-2000, 51.6% of the companies hired former auditors. However, only 35.2% companies hired former auditors during 2001. Because of this big decrease in occurrences of affiliated hiring in year 2001 compared with earlier years, I include a dummy variable Y2001, which equals 1 for observations from year 2001, to control for the year differences.[35]

Panel B compares the positions held by former auditors with the positions held by unaffiliated CPAs. The percentage of the employment of former auditor as financial executives (52.2%) is higher than as director (36.8%). One possible explanation can be that the demand for independence is more intense for the board of directors than for the management of the company. Because the determinants for the employment of former auditors as directors may differ from those for the employment of former auditors as financial executives, in a sensitivity test I partition the sample according to the positions and run the regressions separately for financial executives and directors.

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[34] For company which hired from a CPA firm, if this person left the company before 2001, this company is not included in the sample. For company which does not disclose the business experience of executives or directors for periods exceeding 5 years, even if a person joined the company from a CPA firm in 1994 or 1995, that company is not included in the sample either.

[35] As a sensitivity test, I also included dummies for all the years; the results are similar to those reported in table 15 and table 16.

Table 13

Decision to Hire Former Auditor over Unaffiliated CPA: Sample

Panel A: Distribution of year of appointment of the former auditor vs. unaffiliated CPA[a]

Year of appointment	Former auditor	Unaffiliated CPA	Total
1994	7	1	8
1995	2	5	7
1996	9	6	15
1997	15	15	30
1998	13	16	29
1999	31	18	49
2000	38	47	85
2001	31	57	88
Total	146	165	311

Panel B: Distribution of position held by the former auditor vs. unaffiliated CPA

Year of appointment	Former auditor	Unaffiliated CPA	Total
CEO (president)	1	6	7
CFO or CAO	53	51	104
Controller	27	21	48
Other executives[b]	26	20	46
Director	39	67	106
Total	146	165	311

Panel C: Industry composition

Industry	Former auditor	Unaffiliated CPA	Total
Agriculture, Mining and Construction (SIC 01-19)	9	6	15
Manufacturing (SIC 20-39)	68	63	131
Transportation and Utilities (SIC 40-49)	11	8	19
Wholesale & Retail (SIC 50-59)	25	34	59
Services (SIC 70-99)	33	54	87
Total	146	165	311

Panel D: Distribution of the officer's prior CPA firm

CPA firm	Former auditor	Unaffiliated CPA	Total
Arthur Andersen	25	32	57
Deloitte and Touche	27	23	50
Ernst and Young	37	40	77
KPMG	20	30	50
PricewaterhouseCoopers	28	32	60
BDO Seidman	8	4	12
Grant Thornton	1	4	5

Total	146	165	311

a Years 1994-2000 are under-represented in the sample, because if a CPA firm partner or manager joined the company during these years but left prior to 2001, the 10-K and proxy filings for fiscal year 2001 do not have information about these individuals.

b Other executives includes chief operating officer, treasurer, director of financial reporting, director of internal audit and general counsel.

Panel C shows the industry composition. Manufacturing, wholesale and retail, and services comprise the majority of the sample. Among these three industries, manufacturing industry has the greatest incidence of affiliated hiring. The difference across industries in the occurrence of affiliated hiring suggests the need for controlling for industries in analyzing the determinants of hiring former auditors.

Panel D reports the distribution of former auditors versus unaffiliated CPAs among the CPA firms. Although most anecdotal evidence suggests that affiliated hiring is restricted to former employees of Arthur Andersen, my sample shows that the practice of hiring former auditor is not unique to clients of Arthur Andersen, but common with clients of other CPA firms.

Table 14, Panel A presents descriptive statistics for the full sample. LEVERAGE, LNTA, ROA and LIQUIDITY are winsorized at the first and ninety ninth percentiles. BLOCKOWN is truncated at 100%.[36] Mean AFFHIRE is 0.469, suggesting that 46.9% of the companies hired former auditors instead of unaffiliated CPAs in my sample. Mean MEETBENCH is 0.132, suggesting that 13.2% of the companies report at least five consecutive years of increasing earnings before the year of hiring. The mean for NEWFIN shows that 59.8% of the companies in the sample issued equity or debt during the year of hiring. Mean (median) LEVERAGE is 0.491

[36] Dlugosz et al. (2005) shows that Compact Disclosure sometimes double count block ownerships and incorrectly include preferred stocks in block ownership, which leads to overstate block ownership for many companies. This bias is extremely serious for companies which report block ownership of greater than 50%. To clean the data, they suggest "truncation at 100% is certainly the least costly fix to implement" and it can reduce about half of the bias. As a sensitivity test, I also winsorized BLOCKOWN at 50% and used the number of block owners; the results are qualitatively similar to those reported in the tables.

(0.480). A typical company (median) in the sample has 75% of board members who are outsiders and 70.1% of the companies have CEO as chairman of board of directors. BLOCKOWN has mean (median) of 42.0% (39.8%). A typical company (median) in the sample has auditor tenure of 7 years. Mean (median) LNTA is 5.450 (5.312), which is translated into $232.8 (202.8) million of total assets. Mean ROA is -0.034, while median ROA is 0.030. Mean LIQUIDITY is 2.766. The average number of business segments is 1.756 and the average number of geographic segments is 2.019.

Panel B reports descriptive statistics for the former auditor group and the unaffiliated CPA group and also t-test and Wilcoxon ranksum test statistics for differences between the groups.[37] The former auditor and unaffiliated CPA groups differ on many variables, consistent with the conjecture that the decision to hire former auditor is not a random process but based on some underlying economic analyses. Companies which hired former auditors have higher incidence possessing patterns of increasing earnings during the past five years and issuing debt or equity during the year of hiring than the companies which hired unaffiliated CPAs. Companies which employed former auditors are also more likely to have CEO serving as chairman of the board. Moreover, firms in the former auditor group have longer auditor tenure, are larger and have higher profitability than the unaffiliated CPA group. These differences are significant at the 10 percent level or less for both the t-tests and Wilcoxon ranksum tests.

[37] Wilcoxon ranksum (or the Mann-Whitney two-sample test) tests the hypothesis that two independent samples (i.e., unmatched data) are from populations with the same distribution.

Table 14

Decision to Hire Former Auditor over Unaffiliated CPA: Descriptive Statistics

Panel A: Full sample (311 observations)

Variable	Mean	Std.Dev.	Q1	Median	Q3
AFFHIRE	0.469	0.500	0	0	1
MEETBENCH	0.132	0.339	0	0	0
NEWFIN	0.598	0.491	0	1	1
LEVERAGE	0.491	0.240	0.302	0.480	0.644
OUTDIR	0.719	0.154	0.625	0.750	0.833
CEOCHAIR	0.701	0.459	0	1	1
BLOCK	42.012	27.678	18.840	39.770	58.060
TENURE	9.576	7.566	4	7	13
LNTA	5.450	1.834	4.166	5.312	6.650
ROA	-0.034	0.232	-0.051	0.030	0.078
LIQUIDITY	2.766	2.436	1.411	2.010	3.126
BUSSEG	1.756	1.201	1	1	2
GEOSEG	2.019	1.255	1	2	2

Panel B: Comparison of means and medians of the independent variables between firms which hired former auditors (146 observations) and firms which hired unaffiliated CPAs (165 observations)

Variable	Mean *(t-statistics)*		Median *(Wilcoxon Z)*	
	Former Auditor (1) [a]	Unaffiliated CPA (2) [b]	Former Auditor (3) [c]	Unaffiliated CPA (4) [d]
MEETBENCH	0.185** *(2.57)*	0.085	0*** *(2.60)*	0
NEWFIN	0.685*** *(2.98)*	0.521	1*** *(2.93)*	1
LEVERAGE	0.504 *(0.94)*	0.479	0.520 *(1.10)*	0.460
OUTDIR	0.725 *(0.64)*	0.714	0.778 *(0.85)*	0.714
CEOCHAIR	0.740* *(1.41)*	0.667	1* *(1.40)*	1
BLOCK	40.861 *(-0.69)*	43.030	36.950 *(-0.60)*	41.130
TENURE	11.185*** *(3.55)*	8.152	8.5*** *(3.33)*	6
LNTA	5.674** *(2.03)*	5.252	5.566* *(1.91)*	5.031
ROA	-0.001** *(2.47)*	-0.064	0.047*** *(2.71)*	0.015

LIQUIDITY	2.579 *(-1.29)*	2.931	1.885 *(-1.16)*	2.035
BUSSEG	1.901** *(2.11)*	1.618	1 *(1.24)*	1
GEOSEG	1.863** *(-2.11)*	2.158	2 *(-1.47)*	2

Variable Definitions:

AFFHIRE	= 1 if the company hired a former auditor in a specific year; 0 if the company hired an executive from a CPA firm who is not its auditor.
MEETBENCH	= 1 if the firm reported at least five consecutive prior years of increasing earnings, and 0 otherwise.
NEWFIN	= 1 if the firm issued equity or debt in the year of hiring, and 0 otherwise.
LEVERAGE	= total liabilities divided by total assets at the year-end prior to the hiring year.
OUTDIR	= the proportion of outsider directors on the board.
CEOCHAIR	= 1 if the CEO also serves as chairman of the board.
BLOCK	= percentage of shares held by shareholders who own 5% or more of the firm's shares at the year-end prior to the hiring year.
TENURE	= the number of consecutive years that the company has retained the auditing firm, capped at nine.
LNTA	= log of total assets at the year end prior to the hiring year.
ROA	= return on total assets over the year prior to the hiring year.
LIQUIDITY	= proportion of current assets over current liability at the year-end prior to the hiring year.
BUSSEG	= the number of reportable business segments.
GEOSEG	= the number of reportable geographic segments.

*** (**) [*] denote coefficients significantly different from zero at or below the 0.01 (0.05) [0.1] level (one-tailed where signs are predicted, two-tailed otherwise).

a The means of the independent variables of the companies which hired former auditor and t-statistics for difference in means between the companies which hired former auditor and the companies which hired unaffiliated CPAs.

b The means of the independent variables of the companies which hired unaffiliated CPAs.

c The medians of the independent variables of the companies which hired former auditor and Z-statistics for the Wilcoxon ranksum test between the companies which hired former auditor and the companies which hired unaffiliated CPAs.

d The medians of the independent variables of the companies which hired unaffiliated CPAs.

5.4 Empirical Results

5.4.1 Full Sample Results

Table 15 presents results of estimating equation (6) with control for industry dummies and the year dummy Y2001. Coefficient estimates are shown in column 1 and marginal effects in columns 2. The marginal effect of each independent variable is calculated as its estimated coefficient times the logistic density function evaluated at the sample means of the independent variables times its interquartile range.[38]

The multivariate model shows that MEETBENCH is significantly positively associated with AFFHIRE ($p<0.05$), supporting H5 that the pressure to meet earnings benchmarks increases the propensity of hiring former auditor. NEWFIN is also significantly positively associated with AFFHIRE ($p<0.05$), consistent with H6 that anticipated future stock or debt issuance increases the probability of hiring former auditor. For the restraints on affiliated hiring, the coefficient for CEOCHAIR is positive and significant ($p<0.05$), supporting H9 that companies with CEO who is also chairman of the board are more likely employ former auditor. However, none of the coefficients for LEVERAGE (H7), OUTDIR (H8), or BLOCK (H10) is significant. I also find that AFFHIRE is significantly positively associated with

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[38] The logistic function gives the probability that a former auditor is hired: $P(Y) = \frac{e^{\beta x}}{1+e^{\beta x}}$; the marginal effect of change in an independent variable x is given by $\frac{\partial P(Y)}{\partial x} \times \Delta x$, where $\frac{\partial P(Y)}{\partial x} = \frac{\beta e^{\beta x}}{(1+e^{\beta x})^2}$. For dummy variables, Δx is set to 1 to reflect the change from 0 to 1. For other variables, Δx equals to the interquartile change.

TENURE ($p<0.01$), supporting H11. The positive coefficient of TENURE suggests that a longer relationship with its audit firm is more likely to lead to affiliated hiring.

The coefficient for GEOSEG is negative and significant ($p<0.01$), suggesting that the frequency of appointment of former auditor decreases with the number of geographic segments. One explanation could be that geographically diversified companies have greater information asymmetry problems, thus requiring more auditor independence. Y2001 is significantly negatively associated with AFFHIRE ($p<0.05$). It shows that companies are less likely to hire former auditors in 2001. One reason could be Independence Standard No. 3 (ISB 2000), which was issued in July 2000, raises concerns over affiliated hiring and the political or litigation cost for companies which want to hire former auditors. All the other variables are insignificantly different from zero.

Column 2 of Table 15 shows the economic significance of the explanatory variables. When MEETBENCH (NEWFIN) increases from 0 to 1, the probability of hiring former auditor increases 21.6% (16.4%) respectively. A change in CEOCHAIR from 0 to 1 raises the possibility of affiliated hiring by 14.5%. When TENURE changes from the 25th to 75th percentile, the possibility of appointment of former auditor increases by 12.6%. A change in GEOSEG across the interquartile range decreases the possibility of affiliated hiring by 9.1%. A change in Y2001 from 0 to 1 reduces the possibility of affiliated hiring by 16.7%.

Table 15

The Determinants of Hiring Former Auditor over Unaffiliated CPA

Variable	Expected Sign	Coefficient (Z-statistics) (1)	Marginal Effect[a] (2)
INTERCEPT		0.225 *(0.23)*	
MEETBENCH	+	0.866** *(2.21)*	0.216
NEWFIN	+	0.657** *(2.32)*	0.164
LEVERAGE	+	-0.536 *(-0.79)*	-0.046
OUTDIR	-	0.320 *(0.36)*	0.017
CEOCHAIR	+	0.581** *(2.00)*	0.145
BLOCK	-	0.001 *(0.15)*	0.010
TENURE	+	0.056*** *(2.74)*	0.126
LNTA	?	-0.030 *(-0.34)*	-0.019
ROA	?	0.547 *(0.86)*	0.018
LIQUIDITY	?	-0.061 *(-0.97)*	-0.026
BUSSEG	?	0.083 *(0.70)*	0.021
GEOSEG	?	-0.365*** *(-3.21)*	-0.091
Y2001	?	-0.670** *(-2.28)*	-0.167
Industry Controls		Not Reported[b]	
Observations		311	
Pseudo-R^2		0.116	

Y2001 is equal to 1 for observations in year 2001, and 0 otherwise. All other variables are defined in Table 14. *** (**) [*] denote coefficients significantly different from zero at or below the 0.01 (0.05) [0.1] level (one-tailed where signs are predicted, two-tailed otherwise).

[a] The marginal effect is the change in the probability of hiring former auditor given a change in the independent variable over the interquartile range for continuous variables and from 0 to 1 for dummy variables.

[b] None of the industry dummy variables is significant.

In summary, the probability of appointment of former auditor increases with the demand for meeting earnings benchmark, anticipation of stock or debt issuance, auditor tenure, and CEO and chairman duality, while decreases with the number of geographic segments. Moreover, the frequency of affiliated hiring is lower in year 2001 compared to earlier years.

5.4.2 Robustness Checks

Financial executives and directors have different roles in the preparation of financial statements and interaction with the audit engagement team and therefore the benefits and costs for employing former auditor as financial executive or as director could be different. To examine whether the decision of the employment of former auditor as executive or director is determined differently, I partition the full sample into two groups. The executive subsample consists of companies which hired CPAs as financial executives; the director subsample consists of companies which hired CPAs as directors. I then estimate model (6) for each subsample. The coefficient estimates for the two subsamples are reported in columns (1) and (2) of Table 16. AFFHIRE is significantly positively associated with MEETBENCH and TENURE and significantly negatively associated with GEOSEG for each subsample with p-value less than 0.10. However, the coefficients for NEWFIN is positive and significant only for executives ($p<0.05$), while the coefficient for CEOCHAIR is positive and significant only for directors ($p<0.05$). Moreover, companies are less likely to hire former auditor as financial executives in year 2001 ($p<0.05$). All other variables are insignificant in both subsamples. The findings suggest that the determinants for the

employment of former auditor as financial executive are not exactly the same as the determinants for the employment of former auditor as director, but the pressure to meet earnings benchmark, long relationship with audit firm and the number of geographic segments are determinants of both.

To test whether the results in table 15 are driven by the clients of any particular CPA firm, I also dropped one firm at a time and estimated model (6) on the sample without that CPA firm. The findings in table 15 are qualitatively the same regardless of which CPA firm is dropped from the sample. Therefore, the results do not appear to be driven by clients of any one CPA firm.

5.5 Summary of Results

I find the decision of hiring former auditor as financial executives or directors is not a random event. The frequency of appointment of former auditor increases with earnings management incentives including pressure to meet earnings benchmark and anticipation of stock or debt issuance. I find limited evidence that affiliated hiring is related to corporate governance strength. Companies with one person serving as both CEO and chairman of the board are more likely to hire former auditors, but the possibility of hiring former auditor is not related to board independence or blockholder ownership. I also find that the probability of hiring former auditor increases with audit tenure and decreases with the number of geographic segments of the company.

Table 16

The Determinants of Hiring Former Auditor over Unaffiliated CPA

(Executives vs. Directors)

Variable	Expected Sign	Executives (1)	Directors (2)
INTERCEPT		-1.124 *(-0.76)*	1.765 *(0.95)*
MEETBENCH	+	0.919** *(1.71)*	1.003* *(1.42)*
NEWFIN	+	0.716** *(1.97)*	0.162 *(0.28)*
LEVERAGE	+	-0.237 *(-0.29)*	-2.142 *(-1.29)*
OUTDIR	-	0.970 *(0.85)*	-1.963 *(-1.09)*
CEOCHAIR	+	0.366 *(1.03)*	1.660** *(2.26)*
BLOCK	-	0.001 *(0.06)*	0.011 *(1.00)*
TENURE	+	0.038* *(1.48)*	0.127*** *(2.68)*
LNTA	?	-0.025 *(-0.22)*	-0.042 *(-0.23)*
ROA	?	0.352 *(0.46)*	1.707 *(1.08)*
LIQUIDITY	?	-0.056 *(-0.74)*	-0.148 *(-0.99)*
BUSSEG	?	0.139 *(0.91)*	0.108 *(0.40)*
GEOSEG	?	-0.247* *(-1.74)*	-0.544** *(-2.33)*
Y2001	?	-0.881** *(-2.42)*	0.317 *(0.49)*
Industry Controls		Not Reported[a]	Not Reported[b]
Observations		205	106
Pseudo-R^2		0.110	0.296

All variables are defined in Table 14 and Table 15. *** (**) [*] denote coefficients significantly different from zero at or below the 0.01 (0.05) [0.1] level (one-tailed where signs are predicted, two-tailed otherwise).

[a] None of the industry dummy variables is significant.

[b] The industry dummies for wholesale and retail and for services are both negative and significant.

CHAPTER 6

CONCLUSIONS

Companies frequently employ their former auditors as financial executives or directors, a practice known as affiliated hiring. Policy-makers believe affiliated hiring presents at least "perceived" threats to auditor independence, if not "actual" threats to auditor independence. Consequently, "to reduce the *perceived* loss of independence" (SEC 2003, *Final Rule* section II), the Sarbanes-Oxley Act and the SEC have imposed a mandatory one-year "cooling off" period before a former auditor can join his/her client in some key positions. In this study, I examine the association between affiliated hiring and "perceived" and "actual" auditor independence. I also examine factors that may be associated with the occurrence of affiliated hiring.

For perceptions of auditor independence, I examine whether investors, financial analysts and rating agencies perceive affiliated hiring as impairing audit quality. To measure their perceptions, I use the responsiveness of stock returns, analysts' forecasts, and stock and debt rankings, to reported earnings. I find that there is no association between earnings response coefficients and affiliated hiring for the full sample. However, for a subsample of companies which have analysts' following, earnings response coefficients are lower for companies with former auditors than for companies without former auditors. Furthermore, analysts' reliance on reported earnings to forecast future earnings is lower for companies with former auditors than for other companies. However, affiliated hiring does not affect stock and debt ratings' response to reported earnings.

Further, I find that investors and financial analysts distinguish between different kinds of affiliations. First, the response to reported earnings of both investors and financial analysts is lower for companies whose former auditors joined them within a year of leaving the audit firm, suggesting that affiliated hiring is perceived negatively only when such hiring may indicate significant continuing ties with the auditor. Second, investors and analysts attach less importance to reported earnings for former auditors who are appointed to positions such as CEO, CFO, CAO or controller, but not for former auditors who are non-executive directors. In general, the results suggest that the mandatory "cooling off" period may alleviate investors' and financial analysts' concerns over auditor independence. However, the finding that market participants do not penalize affiliated directors is not consistent with the extension of the "cooling off" period requirements to non-executive directors.

I also investigate whether affiliated hiring impairs the "actual" auditor independence measured by financial statement restatements. I find that firms with former auditors as members of board of directors have higher probability of earnings restatements than other firms. However, for firms with former auditors as financial executives including some key financial positions such as CEO, CFO, CAO or controller, there is no association between affiliated hiring and the probability of restatements. Taken together, my results suggest the following. For the four key financial positions, the perceived lack of independence suggests a "cooling off" period could be beneficial, even though actual independence is not impaired. For the directors, the fact that perceived independence is not affected suggests that a "cooling

off" period may not be needed. However, the finding that actual independence as measured by restatement is affected adversely suggests the need for some caution. To the extent the restatements reflect lower reporting quality, affiliated hiring to the board of directors has negative consequences.

I also examine the determinants of hiring of former auditor as financial executives or directors. I find that the probability of hiring former auditor increases with earnings management incentives such as the demand for meeting earnings benchmark and expected stock or debt issuance. In addition, companies which have retained their auditors for longer time and companies with CEO serving as chairman of the board of directors are more likely to hire former auditors. The findings that firms with earnings management incentives are more inclined to hire their former auditors, together with the evidence of impaired audit quality found in Menon and Williams (2004), Dowdell and Krishnan (2004), and Lennox (2005), and in this study, suggest the necessity to regulate the hiring of former auditors.

One limitation of my analysis is that firms usually do not disclose whether the person who joined was on the audit engagement team or not and I include former auditors whether or not they were on the audit team, but SOX only refers to the former auditors who were on the audit engagement team. If audit quality is only impaired by former auditors who were on the audit engagement team, it biases against finding significant results. Another limitation is that for the consequences of affiliated hiring, I use only one year of data (year 2001). I use year 2001 because the years following are confounded with the effects of the accounting turmoil and the Sarbanes-Oxley Act.

Restricting the analysis to one year raises concerns about the power of the statistical tests and the ability to generalize the results to other years.

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