

Managerial Opportunism, Legal Liability Rule, and Audit Pricing

Hyeesoo H. Chung
Assistant Professor of Accounting
Arizona State University - West
P. O. Box 37100, Phoenix, AZ 85069
sally.chung@asu.edu

Jinyoung P. Wynn*
Assistant Professor of Accounting
Louisiana Tech University
P. O. Box 10318, Ruston, LA 71272
jpark@latech.edu

Han Yi
Assistant Professor of Accounting
The University of Oklahoma
Norman, OK 73019
han.yi@ou.edu

We appreciate helpful comments from Kenneth Ferris, Michael Luehlfiing, and Karen Pierce.

* Corresponding author

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Abstract

This study examines whether an association between managerial opportunism and audit fees exists, and whether the association differs according to the types of legal liability rule for auditors. Using excess D&O liability insurance coverage for Canadian firms as a proxy for managerial opportunism, we find a positive association between excess D&O coverage and audit fees for the local firms. But the observed relation between excess D&O coverage and audit fees disappears for firms cross-listed in the U.S. We attribute these findings to the differences in legal liability rule for auditors in the two countries. That is, an increase in litigation risk due to managerial opportunism does not necessarily affect audit pricing due to the proportionate rule in the U.S. Despite the low litigation risk in Canada, however, an increase in expected legal liability due to managerial opportunism increases audit fees under the joint and several liability rule.

Keywords Audit fees; Legal liability; Managerial opportunism

JEL Descriptors G30, K22, M42

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1. Introduction

This study investigates whether an association between managerial opportunism and audit fees exists, and whether such an association differs according to the types of legal liability rule for auditors. Pratt and Stice (1994) report that auditors identify managerial background as the second-most important item affecting their assessment of litigation risk and suggest that future research addressing how risky clients affect auditors' judgment of litigation risk would add to the existing understanding of the dynamics of audit pricing. Prior research on the impact of management background on audit fees, however, has been sparse. Considering public accounting firms' increasing litigation concerns in recent years, studies that examine the effect of management quality, specifically managerial opportunism pertaining to legal liability, on audit fees could make an incremental contribution to audit fee literature.¹ In addition, an examination of this relation under different legal liability rules for auditors would provide some insight regarding how the effects of litigation risk and legal liability rule for auditors jointly determine audit fees.

We employ excess directors' and officers' (D&O) liability insurance coverage as a proxy for managerial opportunism. Most companies purchase D&O

¹ We define managerial opportunism in an accounting context as aggressive accounting policy choices.

insurance to compensate managers for legal liability exposure resulting from their business decisions. D&O insurance also plays a governance role via the insurer's scrutiny and coverage limits, and protects managers' personal wealth from their risk-taking decisions made on behalf of shareholders (Holderness 1990; O'Sullivan 1997). Yet, recent studies report that the purchase decision of D&O insurance or high D&O insurance coverage limits can be a proxy for managerial opportunism (e.g., Core 1997; Boyer and Delvaux-Derome 2002; Chalmers, Dann, and Harford 2002; Kim 2006; Chung, Wynn, and Yi 2008). Since firms would purchase D&O insurance coverage to approximate the expected legal liability, D&O insurance coverage can also capture litigation risk and the potential future losses (due to lawsuits against firms and managers). Thus, we use excess coverage beyond the expected coverage a firm would carry, after controlling for litigation risk.

Although D&O insurance is a common part of the compensation package for U.S. directors and officers, U.S. firms are not required by the SEC to disclose D&O insurance information in their filings. Consequently, we examine Canadian firms listed on the Toronto Stock Exchange between 2002 and 2004 because disclosures of D&O insurance coverage (and audit fees) are publicly available via a proxy circular of a firm. The use of both Canadian firms cross-listed in the U.S. and firms with local listing only provides a natural setting to investigate the effect of different legal liability rules on audit pricing. Auditors of firms cross-listed in

the U.S. are subject to the proportionate rule under which defendants are responsible for damages in proportion to the degree of their faults.² In Canada, firms are subject to the joint and several liability rule. The joint and several liability rule requires that one defendant be responsible for all damages when other defendants are insolvent, regardless of the degree of his/her fault.

DeFond and Francis (2005) emphasize the importance of understanding the role of legal liability and litigation risk in achieving audit quality and suggest a comparative cross-country approach to the investigation of the research question. In the context of their discussion, the way in which litigation risk and legal liability rule for auditors jointly influence audit pricing decisions is an empirical question. Prior studies document an audit fee premium for client firms cross-listed in a strict legal regime (Seetharaman, Gul, and Lynn 2002; Choi, Kim, Liu, and Simunic 2006). However, these studies assume that auditors' expected legal liability increases due to high litigation risk in a strict legal regime, and do not consider the potential influence of the legal liability rule on auditors' assessment of expected future losses and audit fees. Auditors of Canadian firms cross-listed in the U.S. face high litigation risk, but low or insignificant legal liability for managerial opportunism due to the proportionate rule. On the other hand, auditors of Canadian firms with local listing only face lower litigation risk, but high legal

² The Private Securities Litigation Reform Act of 1995 (hereafter the 1995 Act) in the U.S. replaces the joint and several liability rule of the U.S. Securities Exchange Act of 1934 with the proportionate rule. The joint and several liability rule still applies to auditors if they do not have good faith, that is, they knowingly violate the law.

liability for managerial opportunism due to the joint and several liability rule. After controlling for litigation risk for firms cross-listed in the U.S. markets, we examine whether the association between managerial opportunism and audit fees differs according to the legal liability rule.

We find a positive association between D&O insurance coverage limits and audit fees for the local sample firms, indicating that auditors charge higher fees to firms whose managers are likely to behave opportunistically. We also find that the association between managerial opportunism and audit fees disappears for the cross-listed sample. In other words, auditors do not charge a premium for managerial opportunism, once they charge cross-listing premiums for high litigation risk. These results are interesting, since auditors of cross-listed firms are subject to both the several and joint rule in Canada and the proportionate rule in the U.S., and auditors' exposure to liability for cross-listed firms still can be large. These findings suggest that auditors perceive litigation risk associated with the litigious environment in the U.S. as potentially more costly than managerial opportunism for the cross-listed firms, whereas auditors perceive managerial opportunism as potentially more costly than litigation risk for the local firms. That is, although a cross-listing status of an audit client increases auditors' litigation risk and affects audit pricing, an increase in litigation risk due to managerial opportunism does not necessarily affect audit pricing due to the proportionate rule in the U.S. Despite the lower probability of being sued in Canada, an increase in

expected legal liability due to managerial opportunism increases audit fees under the joint and several liability rule.

The remainder of this paper is organized as follows. Section 2 reviews the related literature and develops hypotheses. In Section 3, we discuss the research design. Section 4 presents empirical test results including sample selection process and the data description. Section 5 contains robustness checks, and Section 6 concludes our research.

2. Literature review and hypotheses development

Directors' and officers' liability insurance

Since D&O insurance first became available in the 1930s, it has become an important protection for directors and officers against the personal legal liability resulting from their business decisions, enabling the firm to attract and retain talented corporate leadership. In general, D&O insurance policies provide coverage that includes both corporate and personal coverage, such as (i) reimbursement for a corporation's indemnification payments (ii) coverage for individual directors and officers for their wrongful acts to the extent that indemnification does not apply, and (iii) optional coverage for a corporation's own liability.³ D&O policies typically cover damages, settlements, judgments, and litigation expenses, excluding civil or criminal fines or penalties, punitive

³ Although the definition of a wrongful act could include a number of activities by directors and officers, it usually refers to any error, misstatement, misleading statement, omission, or neglect.

damages, and multiple damages. Although exclusions vary, they by and large apply to the following claims: (i) those due to any criminal or deliberately fraudulent act by the insured, (ii) those associated with the SEC, other regulatory agencies, or state investigation, and (iii) those related to violations of ERISA (Employee Retirement Income Security Act), bodily injury, or damage to tangible property.

According to the 2002, 2003, and 2004 survey of D&O liability insurance purchase trends by Towers Perrin, the percentage of U.S. and Canadian participants that reported purchasing D&O liability insurance remained high, increasing from 92 percent in 1998 to 99 percent in 2004 for U.S. participants and increasing from 84 percent to 89 percent for Canadians. For both U.S. and Canadian participants that did not have D&O insurance, high cost was one of the main reasons for not purchasing coverage. The recent sharp increase in the costs of D&O lawsuits has contributed to increases in D&O insurance costs as well as more stringent underwriting.

The role of D&O insurance has been debated as an effective monitoring mechanism versus managerial opportunism. Proponents of D&O insurance argue that it plays a governance role, since an insurer thoroughly scrutinizes the insured, and coverage limits and deductibles exist (Holderness 1990; O'Sullivan 1997). However, opponents of D&O insurance argue that it reduces the effectiveness of litigation as a device to monitor managers. Recent research indicates that

managerial opportunism is one of the determinants of D&O insurance purchase decisions and coverage limits. Specifically, using Canadian data, Core (1997) finds that firms with greater inside voting control tend to purchase more insurance and carry higher coverage limits. Boyer and Delvaux-Derome (2002) find that firms with weaker governance systems, and thus more room for opportunistic behaviors, are likely to buy D&O insurance. Using proprietary insurance data of U.S. firms, Chalmers et al. (2002) find that three-year post-IPO performance is negatively associated with D&O insurance coverage purchased along with the IPO. Their finding indicates that managers tend to purchase D&O insurance when they are aware of overvalued IPO stocks (used as a proxy for the likelihood of being sued for any subsequent decline in stock price). Kim (2006) shows that there is a significant, positive association between excess D&O coverage and the likelihood that firms restate earnings. Chung, Wynn, and Yi (2008) find that firms with high D&O insurance coverage tend to have low quality of accruals. In addition, Chung and Wynn (2008) report that the higher legal liability coverage of firms, the less conservative earnings.

Although the existing evidence does not clearly establish the causal relation between reduced legal liability via D&O insurance and managerial opportunism, these studies suggest that the decision to purchase D&O insurance with high coverage reflects *ex ante* managerial opportunism pertaining to legal

liability and that D&O insurance coverage limits can be a proxy for managerial opportunism in accounting policy choice.

Hypotheses development

Prior research indicates that the expected legal liability of auditors partly explains audit pricing. Simunic (1980) models audit fees as the sum of audit costs and expected future losses resulting from the current periods' audited financial statements. He finds that proxies for the liability exposure of auditors (that affects expected future losses) are significant determinants of audit fees, indicating that auditors charge higher fees to client firms with higher litigation risk. Beatty (1993) shows that auditors charge higher fees to initial public offering (IPO) firms with higher litigation exposure, using de-listing, bankruptcy, and securities litigations as measures of legal liability exposure.

Similarly, the auditors' assessment of managers' opportunistic behavior also influences audit efforts and audit fees. Hirst (1994) reports that (i) auditors are sensitive to managers' incentives for earnings management, and (ii) auditors adjust their assessment of the probability that a material misstatement exists.⁴ Using discretionary accruals to proxy for earnings management risk, Abbott, Parker, and Peters (2006) find that audit fees increase (decrease) with a client's risk of income-increasing (decreasing) earnings management. They attribute their

⁴ Hirst (1994) does not examine whether auditors' adjustment results in an increase in audit efforts and/or audit fees.

findings to auditors' conservative bias that arises from asymmetric litigation risk in which income-increasing discretionary accruals pose greater expected litigation costs than income-decreasing discretionary accruals. Based on these studies, we conjecture that auditors charge higher fees where they perceive managers are likely to behave opportunistically, since managers' opportunistic behaviors increase audit efforts and expected future losses. Using D&O liability insurance coverage limits as a proxy for managerial opportunism, we predict a positive association between D&O insurance coverage and audit fees, and state our prediction as follows:

H₁: Audit fees are positively associated with the client firm's D&O insurance coverage limits.

Prior studies suggest that both litigation risk and legal liability rule affect auditors' expected future losses and audit fees. Seetharaman et al. (2002) find that audit firms charge higher fees to U.K. firms cross-listed in the U.S. market, suggesting that auditors charge higher fees to firms with greater legal exposure. Choi et al. (2006) show analytically that legal regime is a significant determinant of audit pricing, and find empirical evidence that auditors charge fee premiums to firms cross-listed in a strict legal regime.

Two distinct types of liability rules govern auditors' responsibility for their attestation services: (i) the joint and several liability rule and (ii) the

proportionate rule. Under joint and several liability rule, defendants are jointly liable, whereas among defendants themselves, the liabilities are several. Therefore, if a plaintiff pursues a firm and receives payment in full, the firm can then pursue the auditor for a contribution of his/her share of the liability. Also, the rule requires that one defendant be responsible for all damages when other defendants are insolvent, regardless of the degree of his/her own fault. But the proportionate rule requires the defendants be responsible for damages in proportion to the degree of their fault.⁵

Analytical papers suggest inconsistent predictions on the effect of the legal liability rule on audit efforts and audit fees. Narayanan (1994) argues that the proportionate rule of the 1995 Act increases audit quality because the new rule aligns auditor's incentive to minimize litigation cost via increased audit efforts. He predicts that the switch from joint and several liability rule to proportionate liability rule will increase audit costs due to more audit efforts, but reduce litigation costs. However, he makes no prediction on which change in costs would dominate in determining audit fees. On the other hand, Chan and Pae (1998) show that the 1995 Act reduces the equilibrium audit effort, audit fees, and lawsuit probability. They argue that a decrease in total expected legal costs due to the decreased equilibrium lawsuit probability dominates an increase in the total legal

⁵ The 1995 Act also adds caps that limit damages and auditor's responsibilities for detecting and disclosing material errors, management fraud, illegal acts, or related-party transactions, and for evaluating issuers as a going concern (Lee and Mande 2003).

costs due to the decreased equilibrium audit efforts, which lead to decreased audit fees in a competitive audit market.

Empirical evidence supports the later prediction by Chan and Pae (1998) that reduced legal liability threat against auditors following the passage of the 1995 Act lowers audit quality (but not audit fees specifically). Using going-concern opinions for financially-distressed firms, Geiger and Raghunandan (2002) find that auditors issue fewer going-concern opinions to firms under financial distress in the post-1995 Act period. By comparing auditors' risk management strategies before and after the 1995 Act, Francis and Krishnan (2002) document that in the post-1995 Act period, both Big 6 and non-Big 6 auditors tend to have riskier clienteles and less conservative reporting. Lee and Mande (2003) compare income-increasing discretionary accruals (as a proxy for audit quality) of client firms of Big 6 auditors with higher litigation risk and non-Big 6 auditors with lower litigation risk. Consistent with the prediction of Chan and Pae (1998), they find that a significant increase in the accruals (an inverse proxy for audit quality) is only observed for Big 6 auditors' client firms, indicating that the proportionate rule reduced Big 6 auditors' audit efforts and audit quality. Overall, these empirical studies indicate that a change in legal liability rule for auditors within a legal regime influences audit efforts and quality.

Given the legal liability rule for auditors within a legal regime, managerial opportunism increases the likelihood that a client firm and its auditor will be sued,

along with a heightened litigation risk which increases auditors' expected future losses. However, the impact of managerial opportunism on audit pricing due to heightened litigation risk is expected to be heavily influenced by the legal liability rule to which the auditor is subject. While firms cross-listed in the U.S. market have a higher probability of being sued due to its litigious environment, under the proportionate liability rule auditors are only responsible for damages in proportion to the degree of their fault.⁶ Therefore, one could expect a lower or insignificant impact of managerial opportunism on auditors' expected legal liability and audit fees under the proportionate rule. On the other hand, under the joint and several liability rule in Canada, one could expect a greater impact of managerial opportunism on audit pricing, even with the lower litigation risk as compared to a regime with proportionate rule. We predict that once litigation risk arising from the different legal regime is controlled, managerial opportunism will be less important in determining audit fees in a regime with the proportionate rule as compared to a regime with the joint and several liability rule. Our second hypothesis is stated in an alternative form as follows:

⁶ Cheffins and Black (2006) discuss the following three features that makes the U.S. legal system more litigious than other countries: (i) in the U.S., the litigants pay their own legal expenses, compared to the "loser-pays-all" rule in other countries, (ii) the class action suit is a well-established device in the U.S. that encourages small shareholders to collectively launch security-related lawsuits, and (iii) a strong financial incentive exists for lawyers to actively solicit potential clients to represent in class action lawsuits.

H₂: The association between D&O insurance coverage and audit fees for firms cross-listed in the U.S. is weaker than the association for local firms.

3. Research design

Variable measurement

The natural logarithm of audit fees (LnAF) is used as the dependent variable. Since D&O insurance coverage limits reflect the expected legal liability as well as managerial opportunism, we use excess coverage beyond the expected coverage (EXCOV) after controlling for litigation risk and other determinants. We also include a dummy variable (USLISTED) indicating the audit client's cross-listing status in the U.S. market. Other control variables are as follows: (i) client size (SIZE), (ii) client's operational complexity (NUMSEG), (iii) inherent risk (INHRISK), (iv) financial loss (LOSS), (v) financial distress (DEBT), (vi) membership in financial or utility industries (FINUTIL), (vii) audit problems (APROBLEM), (viii) reporting lags (ALAG), (ix) non-audit fees (LnNAF), (x) auditor quality (BIG4), and (xi) CEO domination (CHAIR).

SIZE = client size, as measured by the natural log of lagged total assets. Audit fees are expected to increase with client size, since large firms tend to be sued more often, and have complex internal control systems that increase audit difficulty (St. Pierre and Anderson 1984).

NUMSEG = the number of business segments. Simunic (1980) argues that the client's operational complexity makes an audit more difficult, and the more difficult the audit, the more time-consuming it is. We expect a positive sign on the coefficient of this variable.

INHRISK = the sum of inventory and receivables, divided by total assets. Simunic (1980) and Stice (1991), among others, indicate that a positive relationship exists between inherent risk and audit fees, since some parts of an audit require careful and specialized audit procedures due to high risk of error.

LOSS = 1 if a client firm reports a loss in the past two years, and 0 otherwise. Since the poor performance of an audit client heightens the litigation risk of auditors, auditors charge higher fees to firms that experience a loss (e.g., Simunic 1980; Choi et al. 2006). The coefficient of this variable is expected to be positive.

DEBT = the ratio of debts to total assets. Financial distress of client firms can expose the auditor to loss and/or potential litigation and is likely to increase audit fees (e.g., Simunic 1980).

FINUTIL = 1 if a firm is in the financial (SIC codes 6000-6099, 6200-6299) or utilities (4900-4999) industries, and 0 otherwise, based on Lyon and Maher (2005). Hay, Knechel, and Wong (2006), among others, report that auditors charge lower audit fees to firms in financial or utilities industries since they are easier to audit than firms with extensive inventory,

receivables, or intangible assets in other industries. The coefficient of this variable is expected to be negative.

APROBLEM = 1 if an audit opinion other than unqualified is issued, and 0 otherwise. Simunic (1980) argues that audit problems may increase the auditor's risk or the quantity of audit work, which, in turn, increases audit costs.

ALAG = the number of calendar days between the fiscal year-end date to the filing date of the audit report. The likelihood of problems and/or difficulties with audit procedures or more complex financial reports increases with the length of the lag (Knechel and Payne 2001).

LnNAF = the natural log of fees paid for non-audit service. Hay et al. (2006) discuss the potential explanations for the relationship between non-audit services and audit fees, and report that, overall, a positive relationship prevails. Their results support the following potential explanations: (i) non-audit services require more audit effort to change an organization, (ii) client firms having problems are likely to purchase consulting services, or (iii) auditors charge fee premiums because of their monopoly power and service efficiency.

BIG4 = 1 if an auditor is one of Big 4 audit firms, and 0 otherwise. The coefficient of this variable is expected to be positive (Hay et al. 2006).

CHAIR = 1 if the CEO is also the chairman of the board of directors, and 0 otherwise. We predict the sign on the coefficient of this variable to be positive, based on Tsui, Jaggi, and Gul (2001) that report a positive association between CEO domination and audit fees.

Estimation models

Variations in audit fees could be driven by differences between non-purchasers and purchasers of D&O insurance. For instance, if firms decide to purchase D&O insurance or choose coverage limit to the extent that it would impact auditors' pricing decisions, a firm's choice of D&O insurance purchase or coverage limit is endogenous. On the other hand, since auditing is one of the governance mechanisms, an enhanced governance quality through better audits (and thus higher audit fees) could affect D&O insurance coverage limits. To address this endogeneity issue, we use the Heckman (1979) two-stage approach. First, we estimate a probit model that includes a purchase choice as a dependent variable, determinants of a firms' decision to purchase D&O insurance as independent variables, and industry- and year-fixed effects. Based on Core (1997) and Boyer (2005), we identify the following determinants of the purchase decision: (i) firm size (*SIZE*), (ii) cross-listing status (*USLISTED*), (iii) growth opportunities (*MBRATIO*), (iv) membership in high-tech industry (*HIGHTECH*), (v) financial distress (*DEBT*), (vi) engagement in acquisitions (*ACQ*), (vii)

engagement in divestures (*DIVESTOR*), (viii) managerial ownership (*OWN*), and (ix) ownership held by an outside blockholder (*OUTBLOCK*). These variables are measured as follows:

SIZE = the natural log of lagged total assets.

USLISTED = 1 if a firm is cross-listed in the U.S., and 0 otherwise.

MBRATIO = the ratio of market value to book value.

HIGHTECH = 1 if a firm is a member of Pharmaceuticals (SIC codes 2833-2836), R&D Services (8731-8734), Programming (7371-7379), Computers (3570-3577), or Electronics (3600-3674) industries, and 0 otherwise.

DEBT = the ratio of debts to total assets.

ACQ = 1 if the book value of total assets at the end of the fiscal year increases by more than 25 percent from the beginning of the fiscal year, and 0 otherwise.

DIVESTOR = 1 if the book value of total assets at the end of the fiscal year decreases by more than 25 percent from the beginning of the fiscal year, and 0 otherwise.

OWN = the percentage of shares held by chief executive officer.

OUTBLOCK = the percentage of ownership held by outside shareholders who individually own over 10 percent of the firm's stock.⁷

The following probit model (1) is estimated at the first stage:

⁷ Canadian firms are required to disclose block shareholders who own over 10 percent of a firm's stock.

$$\begin{aligned}
P(\text{PURCHASE} = 1) = & \alpha_0 + \alpha_1 \text{SIZE} + \alpha_2 \text{USLISTED} + \alpha_3 \text{MBRATIO} + \\
& \alpha_4 \text{HIGHTECH} + \alpha_5 \text{DEBT} + \alpha_6 \text{ACQ} + \alpha_7 \text{DIVESTOR} + \\
& \alpha_8 \text{OWN} + \alpha_9 \text{OUTBLOCK} + \varepsilon
\end{aligned} \tag{1}$$

We also estimate model (2) including industry- and year-fixed effects, to obtain the residuals from estimation that are excess coverage.

$$\begin{aligned}
\text{Log}(\text{COVERAGE}) = & \beta_0 + \beta_1 \text{SIZE} + \beta_2 \text{USLISTED} + \beta_3 \text{MBRATIO} + \\
& \beta_4 \text{HIGHTECH} + \beta_5 \text{DEBT} + \beta_6 \text{ACQ} + \beta_7 \text{DIVESTOR} + \\
& \beta_8 \text{OWN} + \beta_9 \text{OUTBLOCK} + \varepsilon
\end{aligned} \tag{2}$$

In the second stage, we run the following regression model (3) including the inverse Mills' ratio obtained from the first-stage estimation of the model (1), and industry- and year-fixed effects. As for the dependent variable (AuditFees), we use two different measures: (i) the natural log of audit fees (LnAF), and (ii) the natural log of the sum of audit fees and audit-related fees (LnTAF). According to H1, the coefficients of D&O insurance coverage (EXCOV) for the cross-listed and the local firms are expected to be significantly positive ($\gamma_2 > 0$, and $\gamma_2 + \gamma_3 > 0$). As for H2, we expect the coefficient of the interaction term (USLISTED*EXCOV) to be significantly negative ($\gamma_3 < 0$).

$$\begin{aligned}
\text{AuditFees} = & \gamma_0 + \gamma_1 \text{USLISTED} + \gamma_2 \text{EXCOV} + \gamma_3 \text{USLISTED} * \text{EXCOV} + \\
& \gamma_4 \text{SIZE} + \gamma_5 \text{NUMSEG} + \gamma_6 \text{INHRISK} + \gamma_7 \text{LOSS} + \gamma_8 \text{DEBT} + \\
& \gamma_9 \text{FINUTIL} + \gamma_{10} \text{APROBLEM} + \gamma_{11} \text{ALAG} + \gamma_{12} \text{LnLNAF} + \\
& \gamma_{13} \text{CHAIR} + \varepsilon
\end{aligned} \tag{3}$$

4. Empirical Results

Sample selection

The sample consists of Canadian firms listed on the Toronto Stock Exchange (TSX; formerly TSE) from 2002 to 2004.⁸ Their D&O insurance data are publicly available in proxy circulars because, since 1993, the Exchange has required firms to disclose firms' risk and their risk management tools in order to strengthen corporate governance (Core 1997). Specifically, the sample includes (i) Canadian firms that were cross-listed on the TSE 300 index (currently the S&P TSX index) and U.S. markets and (ii) local firms that were at least part of the TSE 300 index; these are identified through the monthly publication, TSE Review (currently TSX eReview).⁹

Table 1 presents the sample selection process. The initial sample consists of 1,262 firm-years of 432 TSE 300 firms identified from the Compustat Canadian industrial quarterly file.¹⁰ Based on the monthly TSE Review, we delete 234 firm-years of 69 firms that were not cross-listed in the U.S. markets during a whole year (for the cross-listed sample) or that were cross-listed at least one month during a year (for the local sample). Next, we exclude 38 firm-years of 20

⁸ The Multilateral Instrument 52-110 that contains rules for disclosures of external auditor service fees became effective on March 31, 2004. The 2002 fees are available in proxy circulars that provide comparative information revealing a firm's fees billed during the last two fiscal years.

⁹ The Toronto Stock Exchange in 2005 changed the title of the monthly publication from TSE Review to TSX eReview.

¹⁰ The Compustat Canadian industrial quarterly file contains data as to whether firms are listed on the TSE 300 index during a quarter, while the annual file does not contain this data.

firms that were merged, acquired, or bankrupt, and 245 firm-years of 77 firms whose financials are not available in Compustat Canadian industrial annual file. Further, we remove firms-years whose D&O coverage limits, governance data, and audit fees are unavailable at www.sedar.com.¹¹ After these deletions, the final sample includes 360 firm-years of 166 firms.

Data description

Panel B of Table 1 presents descriptive statistics of sample firm-years. The mean values of all variables are greater than their corresponding medians, indicating that the distributions of these variables are right-skewed. On average, audit fees of sample firm-years are \$1.57 million, and non-audit fees are \$0.78 million.¹² The sample firms also have an average coverage limit of \$67.68 million. Inventory and receivables as a proxy for inherent risk (INHRISK) are about 24 percent of total assets, and the debt ratio as a proxy for financial distress (DEBT) is also about 24 percent of total assets, on average. The average reporting lag of sample firm-years is about 52 days. The sample firms include 170 cross-listed firm-years and 190 local firm-years. In addition, our sample includes 121 firm-

¹¹ Some firms state in their proxy circulars that they carry D&O insurance, but do not reveal the amount. When a proxy circular lacks information, we assume that the firm does not carry D&O insurance.

¹² The currency in this paper is Canadian dollars, unless otherwise stated. For firms reporting D&O insurance coverage in U.S. dollars, the average exchange rate over the fiscal year is used to convert U.S. dollars into Canadian dollars. The average exchange rate during the sample period of 2002-2004 was 0.68 US cents for one Canadian dollar.

years with losses, 29 firm-years in the financial or utilities industries, 46 firm-years with audit problems, 341 firm-years with Big 4 auditors, and 81 firm-years in which the CEO is the chairman of the board of directors.

Table 2 reports descriptive statistics of the cross-listed and the local sample. The cross-listed sample pay higher audit fees, total audit fees including audit-related fees, and non-audit fees, compared to the local sample. The cross-listed sample carries D&O insurance coverage limits of about \$86 million, on average, while the local sample carries D&O coverage of about \$52 million. The cross-listed sample firm-years are larger than the local sample firm-years, and have more business segments. However, the local sample firm-years have a high ratio of receivables and inventories to total assets, and carry more debts. The reporting lags of the cross-listed sample tend to be shorter than the local sample during the sample period. All these difference are statistically significant at the one or five percent level (Panel C). Additionally, 24 percent of the cross-listed sample firm-years have audit opinions other than unqualified, compared to 3 percent of the local firm-years. Also, the percentages of firm-years with CEO as a chairman of the board for cross-listed sample and local sample are 27 percent and 18 percent, respectively.

Table 3 shows descriptive statistics of 301 D&O insurance purchasers and 59 non-purchasers. Mean and median audit fees, total audit fees including audit-related fees, and non-audit fees of purchasers are greater than those of non-

purchasers at the one percent significance level (\$1.75 million versus \$0.66 million, and \$0.87 million versus \$0.35 million). Purchasers tend to be larger than non-purchasers, but the difference is weakly significant at the ten percent significance level. Both the number of business segments and the inherent risk are not significantly different between purchasers and non-purchasers (Panel C). The median debt ratio of purchasers is higher than that of non-purchasers at the five percent significance level, although the mean ratio of each group is not significantly different. The reporting lags of non-purchasers tend to be longer than those of purchasers. While purchasers have similar numbers of the cross-listed and local firm-years, non-purchasers have a majority of the local firm-years (for purchasers, 152 cross-listed versus 149 local firm-years; for non-purchasers, 18 cross-listed versus 41 local firm-years). On the contrary, while non-purchasers have similar numbers of firm-years with and without CEO domination, purchasers tend to be firms without CEO domination.

Test results

Table 4 reports (i) the probit analysis for the first-stage estimation of equation (1) in the Heckman procedure, and (ii) the ordinary least square estimation of equation (2) for excess coverage. First, the probit analysis shows that the cross-listing status, membership in high-tech industry, financial distress, and CEO ownership are significant determinants of purchase decisions for our

sample firms. Once a firm purchases D&O insurance, firm size and CEO ownership appear to be significant determinants of coverage limits.

Table 5 presents second-stage estimation results. To measure managerial opportunism, we use excess coverage beyond expected coverage limits that are residuals from the estimation of equation (2). The coefficient of EXCOV for the local sample, γ_2 , is significantly positive at one percent level. However, the coefficient of EXCOV for cross-listed firms ($\gamma_2 + \gamma_3$) is positive but insignificant, indicating that managerial opportunism is not a significant determinant of audit pricing for firms cross-listed in the U.S. On the other hand, the coefficients of USLISTED*EXCOV are significantly negative, supporting H2. These results indicate that auditors charge higher fees for managerial opportunism of local firms in Canada where auditors could be financially responsible for managerial opportunism, but not necessarily for firms cross-listed in the U.S. These results are interesting, since auditors of cross-listed firms are subject to both the several and joint rule in Canada and the proportionate rule in the U.S., and auditors' exposure to liability for cross-listed firms still can be large. These findings suggest that auditors perceive litigation risk associated with the litigious environment in the U.S. as potentially more costly than managerial opportunism for the cross-listed firms, whereas auditors perceive managerial opportunism as potentially more costly than litigation risk for the local firms. That is, although a cross-listing status of an audit client increases auditors' litigation risk and affects

audit pricing, an increase in litigation risk due to managerial opportunism does not necessarily affect audit pricing due to the proportionate rule in the U.S. Despite the lower probability of being sued in Canada, an increase in expected legal liability due to managerial opportunism increases audit fees under the joint and several liability rule.

In addition, the coefficients of USLISTED are significantly positive, which is consistent with prior studies (Seetharaman et al. 2002; Choi et al. 2006). Overall, these results imply that, once litigation risk (lawsuit probability) of a legal regime is controlled using a cross-listing status, the impact of managerial opportunism on audit fees differs according to the types of legal liability rule. In particular, managerial opportunism has a significant influence on audit pricing in Canada where auditors are subject to the several and joint liability rule, but not for cross-listed firms whose auditors are subject to the proportionate rule.

The results for other control variables are consistent with existing evidence. Firm size, operational complexity (as measured by number of business segments), financial distress, reporting lags, fees paid for non-audit services, and CEO domination increase audit fees, but membership in financial or utility industries reduces audit fees.

5. Robustness checks

Autocorrelation

Since our sample includes several observations from the same firm, to the extent that different firm-years of the same firm are not independent, this autocorrelation problem can lead to overstated t-statistics. To address this issue, we run the Newey-West (1987) estimation that provides heteroskedasticity- and autocorrelation-consistent t-statistics. Table 6 shows the Newey-West (1987) estimation result, which is consistent with the ordinary least squares estimation result shown in Table 5.

Risk-averse managers

In a case that high D&O coverage limits might indicate managers' risk aversion, the use of D&O coverage as a proxy for managerial opportunism could weaken our findings. For example, risk-averse managers would choose both high D&O coverage limits and conservative accounting choices to protect themselves. If this case is true, our finding of the significant positive association between coverage limits and audit fees suggests that the amount of coverage inadvertently signals auditors what to expect regarding the amount of potential risk exposure.

6. Conclusion

In this paper, we examine whether auditors price managerial opportunism and whether the types of legal liability rule for auditors in different legal regimes affect audit pricing of managerial opportunism. Using excess D&O insurance

coverage of Canadian firms as a proxy for managerial opportunism, we find a positive association between excess D&O insurance coverage and audit fees for the local sample, indicating that auditors charge higher fees to firms whose managers are likely to behave opportunistically. But we find that once the litigation risk due to the client's cross-listing in the U.S. is controlled, the association between managerial opportunism and audit fees disappears for the cross-listed sample. In other words, auditors of local firms under the joint and several liability rule charge higher fees to firms whose managers are likely to behave opportunistically, whereas auditors of cross-listed firms do not necessarily price managerial opportunism due to the proportionate rule in the U.S. This finding implies that the legal liability rule for auditors as well as litigation risk have an impact on audit pricing.

This research has several limitations. First, we employ a cross-country analysis to examine the effects of managerial opportunism on audit pricing according to the type of the legal liability rule for auditors. We attempt to include all determinants for audit pricing known to the literature and available for our tests. However, potential omitted variables, especially certain differences in the U.S. and Canada could weaken our findings. The comparison of the effects before and after the 1995 PSLRA within the U.S would minimize the problem, if audit fees and D&O insurance are obtainable. Second we do not control for auditors' own professional insurance liability coverage. Audit fees could differ to the extent

that auditors' insurance coverage affects audit efforts to avoid future expected losses. Whether and how auditors' own insurance coverage affects audit effort and audit quality is an open research question. Third, we do not control for auditors' reputation concerns. Not only monetary concerns, but also reputation concerns would affect audit efforts and audit fees, especially in a competitive audit market. The examination of the effect of reputation concerns (after controlling for monetary concerns) on audit quality and audit fees will add to our understanding of the audit pricing mechanism.

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TABLE 1
Sample selection and descriptive statistics

Panel A: Sample selection					
	No. of	No. of			
	Firm-years	firms			
Sample Period: 2002~2004					
TSX 300 in Compustat Canadian industrial quarterly file	1,262	432			
Changed a cross-listing status during a year	(234)	(69)			
Merged, acquired, or bankrupt	(38)	(20)			
Financials unavailable in Compustat	(245)	(77)			
D&O insurance coverage limits unavailable	(58)	(11)			
Governance data unavailable	(206)	(57)			
Audit and non-audit fees unavailable	<u>(121)</u>	<u>(32)</u>			
Final sample	360	166			
Panel B: Descriptive statistics of full sample (N=360)					
	Mean	Min	Median	Max	Std. Dev.
Audit fees (m\$)	1.57	0.01	0.71	59.88	4.19
Audit fees plus					
Audit-related fees (m\$)	1.87	0.01	0.86	65.83	4.74
Non-audit fees (m\$)	0.78	0.00	0.27	24.18	2.02
D&O coverage limits (m\$)	67.68	0.00	35.00	446.00	84.33
SIZE	6.99	1.22	6.97	10.90	1.80
NUMSEG	2.44	1.00	1.00	12.00	2.19
INHRISK	0.24	0.00	0.19	2.28	0.24
DEBT	0.24	0.00	0.22	1.75	0.21
ALAG	52.01	17.00	50.00	140.00	20.81
USLISTED	170 (47%) cross-listed vs. 190 (53%) local firm-years				
LOSS	121 (34%) with losses vs. 239 (66%) with no losses				
FINUTIL	29 (8%) in financial or utility industries vs. 331 (92%) others				
APROBLEM	46 (13%) other than unqualified vs. 314 (87%) unqualified				
BIG4	341 (95%) Big 4 auditors vs. 19 (5%) non-Big 4 auditors				
CHAIR	81 (23%) with CEO=chairman vs. 279 (77%) CEO ≠ chairman				

Notes:

Dollar amounts are stated in million Canadian dollars; SIZE = the natural log of lagged total assets; NUMSEG = the number of business segments; INHRISK = the sum of inventory and receivables divided by total assets; DEBT = the ratio of debts to total assets; ALAG = the number of calendar days between the fiscal year-end date to the reporting date; USLISTED = 1 if an audit client is cross-listed in the U.S., and 0 otherwise; LOSS = 1 if a client firm reports a loss in the past two years, and 0 otherwise; FINUTIL = 1 if a firm is in financial (SIC codes 6000-6099, 6200-6299) or utilities (4900-4999) industries, and 0 otherwise; APROBLEM = 1 if an audit opinion other than unqualified is issued, and 0 otherwise; BIG4 = 1 if an auditor is one of Big 4 audit firms, and 0 otherwise; and CHAIR = 1 if the CEO is also the chair of the board of directors.

TABLE 2

Descriptive statistics of cross-listed and local sample

Panel A: Descriptive statistics of cross-listed sample (N=170)

	Mean	Min	Median	Max	Std. Dev.
Audit fees (m\$)	2.40	0.04	1.00	59.88	5.89
Audit fees +					
Audit-related fees (m\$)	2.83	0.05	1.20	64.83	6.64
Non-audit fees (m\$)	1.05	0.00	0.32	24.18	2.55
D&O coverage limits (m\$)	85.56	0.00	49.52	442.00	89.69
SIZE	7.38	2.84	7.30	10.90	1.89
NUMSEG	3.53	1.00	2.50	12.00	2.26
INHRISK	0.19	0.00	0.15	1.31	0.18
DEBT	0.21	0.00	0.21	0.78	0.17
ALAG	49.76	21.00	47.50	140.00	20.55

LOSS 64 (38%) with losses vs. 106 (62%) with no losses

FINUTIL 11 (6%) in financial or utility industries vs. 159 (94%) others

APROBLEM 41 (24%) other than unqualified vs. 129 (76%) unqualified

BIG4 158 (93%) Big 4 auditors vs. 12 (7%) non-Big 4 auditors

CHAIR 46 (27%) with CEO=chairman vs. 124 (73%) CEO≠chairman

Panel B: Descriptive statistics of local sample (N=190)

	Mean	Min	Median	Max	Std. Dev.
Audit fees (m\$)	0.82	0.01	0.48	8.02	1.12
Audit fees +					
Audit-related fees (m\$)	1.00	0.01	0.58	9.44	1.28
Non-audit fees (m\$)	0.55	0.00	0.24	11.46	1.33
D&O coverage limits (m\$)	51.68	0.00	25.00	446.00	75.96
SIZE	6.64	1.22	6.67	9.95	1.65
NUMSEG	1.46	1.00	1.00	11.00	1.59
INHRISK	0.30	0.01	0.23	2.29	0.28
DEBT	0.27	0.00	0.24	1.75	0.23
ALAG	54.03	17.00	52.00	140.00	20.88

LOSS 57 (30%) with losses vs. 133 (70%) with no losses

FINUTIL 18 (9%) in financial or utility industries vs. 172 (91%) others

APROBLEM 5 (3%) other than unqualified vs. 185 (97%) unqualified opinion

BIG4 183 (96%) Big 4 auditors vs. 7 (4%) non-Big 4 auditors

CHAIR 35 (18%) with CEO=chairman vs. 155 (82%) CEO≠chairman

TABLE 2 (Continued)

Panel C: T-tests and Wilcoxon tests (cross-listed sample vs. local sample)

	t-value (p-value)	z-value (p-value)
Audit fees	3.42 (<.01)***	5.13 (<.01)***
Audit fees +		
Audit-related fees	3.53 (<.01)***	4.90 (<.01)***
Non-audit fees	2.31 (0.02)**	2.69 (<.01)***
D&O coverage limits	3.84 (<.01)***	4.88 (<.01)***
SIZE	3.96 (<.01)***	3.52 (<.01)***
NUMSEG	9.96 (<.01)***	13.14 (<.01)***
INHRISK	-4.51 (<.01)***	-4.95 (<.01)***
DEBT	-3.08 (<.01)***	-2.63 (<.01)***
ALAG	-1.95 (0.05)*	-2.28 (0.02)**

Notes:

***, **, and * indicate the significance at 1 percent, 5 percent, and 10 percent level, respectively, based on two-tailed tests.

Dollar amounts are stated in million Canadian dollars; SIZE = the natural log of lagged total assets; NUMSEG = the number of business segments; INHRISK = the sum of inventory and receivables divided by total assets; DEBT = the ratio of debts to total assets; ALAG = the number of calendar days between the fiscal year-end date to the reporting date; USLISTED = 1 if an audit client is cross-listed in the U.S., and 0 otherwise; LOSS = 1 if a client firm reports a loss in the past two years, and 0 otherwise; FINUTIL = 1 if a firm is in financial (SIC codes 6000-6099, 6200 -6299) or utilities (4900-4999) industries, and 0 otherwise; APROBLEM = 1 if an audit opinion other than unqualified is issued, and 0 otherwise; BIG4 = 1 if an auditor is one of Big 4 auditors, and 0 otherwise; and CHAIR = 1 if the CEO is also the chair of the board of directors.

TABLE 3

Descriptive statistics of purchasers and non-purchasers

Panel A: Descriptive statistics of D&O insurance purchasers (N=301)

	Mean	Min	Median	Max	Std. Dev.
Audit fees (m\$)	1.75	0.04	0.77	59.88	4.56
Audit fees +					
Audit-related fees (m\$)	2.08	0.06	0.92	64.83	5.14
Non-audit fees (m\$)	0.87	0.00	0.30	24.18	2.18
D&O coverage limits (m\$)	80.95	1.30	50.00	446.00	86.22
SIZE	7.07	1.91	7.01	10.90	1.80
NUMSEG	2.44	1.00	1.00	12.00	2.19
INHRISK	0.24	0.00	0.19	2.29	0.25
DEBT	0.25	0.00	0.24	1.75	0.20
ALAG	50.94	17.00	48.00	140.00	19.46

USLISTED 152 (51%) cross-listed in U.S. vs. 149 (49%) local firm-years

LOSS 93 (31%) with losses vs. 208 (69%) with no losses

FINUTIL 27 (9%) in financial or utility industries vs. 274 (91%) others

APROBLEM 43 (14%) other than unqualified vs. 258 (86%) unqualified

BIG4 387 (95%) Big 4 auditors vs. 14 (5%) non-Big 4 auditors

CHAIR 57 (19%) with CEO=chairman vs. 244 (81%) CEO≠chairman

Panel B: Descriptive statistics of D&O insurance non-purchasers (N=59)

	Mean	Min	Median	Max	Std. Dev.
Audit fees (m\$)	0.66	0.01	0.39	3.34	0.71
Audit fees +					
Audit-related fees (m\$)	0.78	0.01	0.54	4.11	0.90
Non-audit fees (m\$)	0.35	0.00	0.12	2.36	0.53
D&O coverage limits (m\$)	-	-	-	-	-
SIZE	6.58	1.22	6.42	9.42	1.78
NUMSEG	2.44	1.00	1.00	9.00	2.27
INHRISK	0.25	0.00	0.19	1.26	0.22
DEBT	0.20	0.00	0.14	0.91	0.21
ALAG	57.46	17.00	55.00	132.00	26.15

USLISTED 18 (31%) cross-listed in U.S. vs. 41 (69%) local firm-years

LOSS 28 (47%) with losses vs. 31 (53%) with no losses

FINUTIL 2 (3%) in financial or utility industries vs. 57 (97%) others

APROBLEM 3 (5%) other than unqualified opinions vs. 56 (95%) unqualified

BIG4 54 (92%) Big 4 auditors vs. 5 (8%) non-Big 4 auditors

CHAIR 24 (41%) with CEO=chairman vs. 35 (59%) CEO≠chairman

TABLE 3 (Continued)

	t-value (p-value)	z-value (p-value)
Audit fees	3.91 (<.01)***	3.62 (<.01)***
Audit fees + Audit-related fees	4.08 (<.01)***	3.96 (<.01)***
Non-audit fees	3.64 (<.01)***	3.58 (<.01)***
SIZE	1.94 (0.06)*	1.84 (0.07)*
NUMSEG	-0.02 (0.97)	0.89 (0.37)
INHRISK	-0.21 (0.84)	-0.35 (0.73)
DEBT	1.57 (0.12)	2.36 (0.02)**
ALAG	-1.82 (0.07)*	-1.70 (0.09)*

Notes:

***, **, and * indicate the significance at 1 percent, 5 percent, and 10 percent level, respectively, based on two-tailed tests.

Dollar amounts are stated in million Canadian dollars; SIZE = the natural log of lagged total assets; NUMSEG = the number of business segments; INHRISK = the sum of inventory and receivables divided by total assets; DEBT = the ratio of debts to total assets; ALAG = the number of calendar days between the fiscal year-end date to the reporting date; USLISTED = 1 if an audit client is cross-listed in the U.S., and 0 otherwise; LOSS = 1 if a client firm reports a loss in the past two years, and 0 otherwise; FINUTIL = 1 if a firm is in financial (SIC codes 6000-6099, 6200 -6299) or utilities (4900-4999) industries, and 0 otherwise; APROBLEM = 1 if an audit opinion other than unqualified is issued, and 0 otherwise; BIG4 = 1 if an auditor is one of Big 4 auditors, and 0 otherwise; and CHAIR = 1 if the CEO is also the chair of the board of directors.

TABLE 4
 Probit and ordinary least squares estimations

	Predicted sign	Model (1) Coef. (Chi-square)	Model (2) Coef. (t-value)
Intercept	?	-0.32 (0.26)	14.26 (50.60)
SIZE	+	0.05 (0.55)	0.47 (14.99)***
USLISTED	+	0.53 (6.40)**	0.01 (0.15)
MBRATIO	-	0.04 (0.13)	0.05 (1.14)
HIGHTECH	+	1.10 (7.39)***	0.13 (0.99)
DEBT	+	1.51 (5.83)**	-0.30 (-1.12)
ACQ	+	-0.34 (2.20)	-0.10 (-0.87)
DIVESTOR	+	0.50 (1.14)	-0.15 (-0.92)
OWN	-	-1.27 (4.54)**	-0.80 (-2.26)**
OUTBLOCK	+	-0.52 (0.36)	0.21 (0.49)
n		360	301
Model fit		$\chi^2 = 52.35 (<.01)$	Adjusted R ² = 0.58

Notes:

***, **, and * indicate the significance at 1 percent, 5 percent, and 10 percent level, based on two-tailed tests.

SIZE = the natural log of lagged total assets; USLISTED = 1 if an audit client is cross-listed in the U.S., and 0 otherwise; MBRATIO = the ratio of market value to book value in the fiscal year; HIGHTECH = 1 if a firm is a member of Pharmaceuticals (SIC codes 2833-2836), R&D Services (8731-8734), Programming (7371-7379), Computers (3570-3577), or Electronics (3600-3674) industries, and 0 otherwise; DEBT = the ratio of debts to total assets; ACQ = 1 if the book value of total assets at the end of the fiscal year increases by more than 25 percent from the beginning of the fiscal year, and 0 otherwise; DIVESTOR = 1 if the book value of total assets at the end of the fiscal year decreases by more than 25 percent from the beginning of the fiscal year, and 0 otherwise; OWN = the percentage of shares held by the chief executive officer; and OUTBLOCK = the percentage ownership held by outside shareholders who individually own over 10 percent of the firm's stock.

TABLE 5
Second-stage OLS estimation of audit fees on explanatory variables

	Predicted Sign	(A) Dependent variable = LnAF Coef. (t-value)	(B) Dependent variable = LnTAF Coef. (t-value)
Intercept	?	8.37 (23.38)***	8.53 (24.24)***
USLISTED	+	0.19 (1.87)**	0.18 (1.77)**
EXCOV	+	0.20 (2.97)***	0.21 (3.13)***
USLISTED*EXCOV	-	-0.25 (-2.33)**	-0.22 (-2.10)**
SIZE	+	0.53 (19.67)***	0.53 (19.71)***
NUMSEG	+	0.09 (5.29)***	0.09 (5.26)***
INHRISK	+	-0.03 (-0.15)	0.04 (0.24)
LOSS	+	-0.08 (-0.86)	-0.08 (-0.87)
DEBT	+	0.35 (1.61)*	0.36 (1.67)**
FINUTIL	-	-0.10 (-0.60)	-0.19 (-1.17)
APROBLEM	+	0.04 (0.34)	0.03 (0.32)
ALAG	+	0.01 (3.41)***	0.01 (3.11)***
LnNAF	+	0.03 (1.45)*	0.04 (1.85)**
BIG4	+	0.08 (0.44)	0.07 (0.44)
CHAIR	+	0.00 (0.04)	0.02 (0.17)
N		301	301
Adjusted R ²		0.79	0.79

Notes:

***, **, and * indicate the significance at 1 percent, 5 percent, and 10 percent level, respectively, based on one-tailed tests.

LnAF = the natural log of audit fees; LnTAF = the natural log of total audit fees, including both audit fees and audit-related fees; EXCOV = excess coverage (residuals from OLS regression in Table 4); USLISTED = 1 if an audit client is cross-listed in the U.S., and 0 otherwise; SIZE = the natural log of lagged total assets; NUMSEG = the number of business segments; INHRISK = the sum of inventory and receivables divided by total assets; LOSS = 1 if a client firm reports a loss in the past two years, and 0 otherwise; DEBT = the ratio of debts to total assets; FINUTIL = 1 if 1 if a firm is in financial (SIC codes 6000-6099, 6200-6299) or utilities (4900-4999) industries, and 0 otherwise; APROBLEM = 1 if an audit opinion other than unqualified is issued, and 0 otherwise; ALAG = the number of calendar days between the fiscal year-end date to the filing date of the audit report; LnNAF = the natural log of non-audit fees; BIG4 = 1 if an auditor is one of Big 4 auditors, and 0 otherwise; and CHAIR = 1 if the CEO is also the chair of the board of directors, and 0 otherwise.

TABLE 6
Second-stage Newey-West estimation of model (3)

	Predicted Sign	(A) Dependent variable = LnAF Coef. (t-value)	(B) Dependent variable = LnTAF Coef. (t-value)
Intercept	?	8.37 (19.74)***	8.53 (20.33)***
USLISTED	+	0.19 (1.78)**	0.18 (1.66)**
EXCOV	+	0.20 (2.75)***	0.21 (2.73)***
USLISTED*EXCOV	-	-0.25 (-2.53)***	-0.22 (-2.26)**
SIZE	+	0.53 (19.02)***	0.53 (19.44)***
NUMSEG	+	0.09 (6.20)***	0.09 (6.07)***
INHRISK	+	-0.03 (-0.13)	0.04 (0.20)
LOSS	+	-0.08 (-0.96)	-0.08 (-0.94)
DEBT	+	0.35 (1.49)*	0.36 (1.59)**
FINUTIL	-	-0.10 (-0.59)	-0.19 (-1.19)
APROBLEM	+	0.04 (0.35)	0.03 (0.32)
ALAG	+	0.01 (2.57)***	0.01 (2.25)**
LnNAF	+	0.03 (1.20)*	0.04 (1.61)**
BIG4	+	0.08 (0.45)	0.07 (0.48)
CHAIR	+	0.00 (0.04)	0.02 (0.18)
N		301	301
Adjusted R ²		0.79	0.79

Notes:

***, **, and * indicate the significance at 1 percent, 5 percent, and 10 percent level, respectively, based on one-tailed tests.

LnAF = the natural log of audit fees; LnTAF = the natural log of total audit fees, including both audit fees and audit-related fees; EXCOV = excess coverage (residuals from OLS regression in Table 4); USLISTED = 1 if an audit client is cross-listed in the U.S., and 0 otherwise; SIZE = the natural log of lagged total assets; NUMSEG = the number of business segments; INHRISK = the sum of inventory and receivables divided by total assets; LOSS = 1 if a client firm reports a loss in the past two years, and 0 otherwise; DEBT = the ratio of debts to total assets; FINUTIL = 1 if 1 if a firm is in financial (SIC codes 6000-6099, 6200-6299) or utilities (4900-4999) industries, and 0 otherwise; APROBLEM = 1 if an audit opinion other than unqualified is issued, and 0 otherwise; ALAG = the number of calendar days between the fiscal year-end date to the filing date of the audit report; LnNAF = the natural log of non-audit fees; BIG4 = 1 if an auditor is one of Big 4 audit firms, and 0 otherwise; and CHAIR = 1 if the CEO is also the chair of the board of directors, and 0 otherwise.