Accounting Comparability, Audit Effort, and Audit Outcomes*

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ABSTRACT

Accounting comparability among peer firms in the same industry reflects the similarity and the relatedness of firms' operating environments and financial reporting. From the perspectives of "inherent audit risk" and "external information efficiency," comparability is helpful for auditors in assessing client audit risk and lowers the costs of information acquisition, processing, and testing. I posit that the availability of information about comparable clients helps improve audit efficiency and accuracy. Empirical results show that comparability is negatively related to audit effort (surrogated by audit fees and audit delay). Moreover, comparability is negatively associated with the likelihood of audit opinion errors. These findings are robust to different specifications of regression models, particularly for the "endogeneity" issues due to the possible reverse causality that auditor style might influence client firms' comparability. In sum, the study shows that accounting comparability enhances the utility of accounting information for external audits.

Comparabilité de l'information comptable, travail d'audit et résultats de l'audit

RÉSUMÉ

La comparabilité de l'information comptable entre sociétés homologues appartenant au même secteur d'activité reflète la similitude et la parenté des environnements d'exploitation des sociétés et de leur information financière. Dans la perspective du « risque d'audit inhérent » et de l'« efficience de l'information externe », la comparabilité est utile aux auditeurs dans l'évaluation du risque d'audit associé à un client et elle réduit les coûts d'acquisition, de traitement et de contrôle de l'information. L'auteur pose l'hypothèse selon laquelle la disponibilité d'information relative à des clients comparables contribue à l'amélioration de l'efficience et de l'exactitude de l'audit. Les résultats empiriques montrent l'existence d'un lien négatif entre la comparabilité et le travail d'audit (dont rendent compte les variables de substitution que sont les honoraires d'audit et le temps nécessaire à la production du rapport d'audit). De plus, la comparabilité affiche un lien négatif avec la probabilité d'erreurs dans l'opinion d'audit exprimée. Ces observations résistent à différentes spécifications des modèles de régression, en particulier aux problèmes d'« endogénéité » attribuables au lien de causalité inverse possible faisant que le style adopté par l'auditeur puisse influer sur la comparabilité des sociétés clientes. L'étude montre, en somme, que la comparabilité de l'information comptable accroît l'utilité de l'information comptable pour les audits externes.

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1. Introduction

"Given the costs of producing, auditing, and processing financial information, it is likely that comparability" is an essential financial reporting practice (Kothari et al. 2010, 260). This paper studies the implications and benefits of accounting comparability for external auditing. Comparability among peer firms in the same industry reflects the similarity and the relatedness of firms' operating environments and financial reporting behaviors, and presumably helps lower the costs of information processing and testing. Thus, auditability may be improved when a client firm's comparability is higher. This study investigates whether accounting comparability is useful to auditors in terms of audit effort and audit outcomes.

Comparability is defined as the "quality of information that enables users to identify similarities in and differences between two sets of economic phenomena" (Financial Accounting Standards Board (FASB) 2010, CON2-6). If a company's financial information is more comparable with that of peer companies, the marginal costs of information acquisition and processing of peer companies are reduced (Sohn 2016; Engelberg et al. 2017) for investors (such as shareholders and creditors) and specialized monitors (such as financial analysts and auditors).[1] Therefore, investors and specialized monitors are better able to evaluate the company's performance (i.e., lower estimation risk), as peer-based comparability helps improve the valuation accuracy of analyzing the business fundamentals of the company (Young and Zeng 2015; Sohn 2016).

An individual firm's business operations are shaped by both firm-specific factors and industry common factors that affect itself and peer firms (Gong et al. 2013). When common economic factors explain a large amount of the similarity and/or dissimilarity of firms in an industry, these firms have higher comparability. Cognitively, it is difficult for individuals to process information signals that are unique to an entity. As a result, individuals tend to underestimate idiosyncratic information in judgments and decision making (Lipe and Salterio 2000). A higher degree of comparability lowers the costs of information acquisition, reduces information asymmetry, and increases the understandability and decision usefulness of financial information (De Franco et al. 2011; Kim et al. 2013). Thus, comparability mitigates the dependence on information from management reports (Gong et al. 2013). Taken together, comparability is an attribute that may enhance the utility of financial statements.

Information comparability contributes to externality gains (De Franco et al. 2011; Kim et al. 2013). It can provide information efficiency and knowledge spillovers achieved by a single firm in the auditing engagement. Given the role of externalities in expanding auditors' available information set, the study of information transfers in audit engagements provides additional insight into the economic benefits of audit efficiency and accuracy. Auditors are better able to understand how economic transactions are translated into accounting numbers for clients with a higher degree of comparability. This enhanced knowledge set facilitates auditors' ability to attest to clients' accounting results and thus improves audit quality.

Comparability of financial information also enriches a client firm's information environment, which is beneficial to audit planning and assessing the risk of the client's business. Risk measures assessed during the planning stage of an engagement are arguably

1. This study tends to disentangle comparability from audit specialization. Using market share (either the market leader or market share over a certain threshold) as audit specialization assumes that knowledge is transferrable across all clients within an industry, an assumption that is unlikely to be met in reality (DeFond and Zhang 2014). The study by Minutti-Meza (2013) treats audit specialization and comparability independently. He matches comparable clients between specialist auditors and nonspecialist auditors to examine whether auditor industry specialization improves audit quality, and concludes that there is no evidence supporting a different level of audit quality between the two types of auditors.

subjective, whereas comparability presumably enhances auditors' perceptions of actual risk. In fact, the "halo effect" theory reveals that an auditor inheriting or developing high-level performance-based judgments prior to evaluating more detailed accounts will reduce his/her use of the diagnostic information contained in the more detailed evidence (e.g., Murphy et al. 1993; O'Donnell and Schultz 2005, among many others). Comparability facilitates the "halo effect" in reliability assessment.

I investigate whether this particular client characteristic (a higher degree of accounting comparability) is an engagement-specific characteristic of audit risk and audit outcomes. The tests require empirical measures of pairwise firm-level accounting comparability — first developed by De Franco et al. (2011) — based on the degree of earnings-return "closeness" among peer firms. I anticipate that high comparability accommodates engagement teams expanding their comparative knowledge and skill sets; thus, audit judgments may be improved. Comparability reflects the degree to which a client firm's information risk and the risk of auditability entail. I conjecture that the association between a client firm's comparability and audit risk is negative. Moreover, comparability can improve audit efficiency (e.g., less redundancy of effort in information gathering and attestation). As a result, I expect that comparability is negatively related to audit fees and audit report delay.

Regressing audit metrics on comparability using 21,152 sample observations of U.S. firms during the 2000–2011 period, I find that accounting comparability is negatively associated with audit fees and audit delay (both indicating audit time and effort) and that comparability is positively related to audit reporting accuracy as in rendering a clean or a going-concern audit opinion. The relation between comparability and audit effort/outcomes is more pronounced for new audits (for instance, tenure within three years). Additional tests, including a "matching" approach,[2] show that these findings are robust to different specifications of regression models, particularly for the "endogeneity" issues due to possible reverse causality as comparability is one consequence of similar auditor styles (Francis et al. 2014).

This study contributes to the literature in the following ways. First, comparability is under-researched. In spite of its importance underscored by the FASB and PCAOB (the Public Company Accounting Oversight Board), the costs and benefits of this important characteristic of financial reporting are under-researched (Schipper 2003). Schipper (2003) calls for accounting research on the benefits of comparability, and subsequent research examines the benefits of comparability for analyst forecasts (De Franco et al. 2011) and credit ratings (Kim et al. 2013). However, its benefits for auditing have not been examined. This research answers the call and expands the scope of comparability research to auditing.

Second, I argue that enhanced comparability helps the auditor improve information efficiency and judgments. There is a limited understanding of the intrinsic quality of audit evidence, and little is known about its reliability and relevance (Francis 2011). Thus, it is extremely difficult for auditors to accurately assess true audit risk. Comparability improves the reliability and relevance of evidence controllable by a client firm and that beyond the client's control (i.e., externalities). This study provides a new perspective on information

2. The adoption of a "matching" approach requires us to select valid client and audit characteristics in the determinant model distinguishing high versus low comparability. However, only observable variables can be used to match. If unobservable confounders exist, matching would not work perfectly. Further, the closest matching would reduce sample size dramatically, making the statistical inferences subject to finite sample bias. For an alternative two-stage least squares approach, the biggest challenge is to use strong instrumental variables (IV). The bias in weak IV estimators would distort the results, leaving the endogeneity issue unresolved.

efficiency by drawing theoretical and empirical connections between accounting comparability and audit efficiency.

Third, the study has practical implications for both auditors and client firms. Auditors enjoy the qualitative characteristics of comparability in the attestation process. With the aid of accounting comparability, audit judgment and decision making improve, audit quality increases, and the risk of audit failure diminishes. The results also suggest that there may be a demand for client firms to make their accounting information comparable. In other words, comparability may bring tangible benefits to firms in terms of auditability (for instance, timely and transparent financial reports and audit reports, and lower audit fees).

The rest of this paper proceeds as follows. Section 2 presents the background and relevant literature, and develops testable hypotheses. Section 3 describes the sample and research variables. Section 4 outlines the methodologies and presents the results of testing the relationships between comparability and audit effort/outcomes. Section 5 describes a battery of robustness tests. Section 6 concludes. The Appendix describes the variables.

2. Background, related literature, and hypotheses

The framework of accounting comparability

The importance of comparability has been underscored in U.S. Generally Accepted Accounting Principles (GAAP). FASB Concepts Statement No.2 (1980, 40) states that "investing and lending decisions essentially involve evaluations of alternative opportunities, and they cannot be made rationally if comparative information is not available." The Statement of Financial Accounting Concepts (2010, BC3.33) states that "relevant and faithfully represented information is most useful if it can be readily compared with similar information reported by other entities and by the same entity in other periods." For information to be more comparable, like (unlike) things must look alike (unlike). Comparability is essential because resource allocations necessitate comparisons among various investment alternatives (Kim et al. 2013). Indeed, it facilitates efficient allocation.

According to PCAOB (AU Section 311.07), "The auditor should obtain a knowledge of matters that relate to the nature of the entity's business, its organization, and its operating characteristics. Such matters include, for example, the type of business, types of products and services, capital structure, related parties, locations, and production, distribution, and compensation methods. The auditor should also consider matters affecting the industry in which the entity operates, such as economic conditions, government regulations, and changes in technology, as they relate to his/her audit. Other matters, such as accounting practices common to the industry, competitive conditions, and, if available, financial trends and ratios, should also be considered by the auditor." In effect, accounting comparability is expected to allow more efficient and effective audits if performed in accordance with the Generally Accepted Audit Standards (GAAS).

Audit effort and audit outcomes

Audit effort relates to "the probability that the auditor detects an existing problem" (Caramanis and Lennox 2008, 116). As a norm, auditors' working hours are a reasonable proxy for audit effort (Davis et al. 1993). Litigation risk and reputation concerns motivate auditors to exert some degree of effort (DeAngelo 1981), along with professional rules and regulatory requirements that discipline auditors' actions (Caramanis and Lennox 2008).

Observable audit outcomes are sometimes direct, such as auditor resignations and client disagreements with the auditor (e.g., Form 8-K filing). The audit report is a final direct outcome, and its accuracy is verifiable ex post (Antle and Nalebuff 1991). Audit outcomes also include the informativeness of the audit report, the auditor's opinion of the going-

concern issue, and the auditor's opinion on the effectiveness of the client firm's internal controls over financial reporting. Indirect outcomes include accounting quality, as the audit constrains earnings management (e.g., Becker et al. 1998).

Prior research has studied some factors related to audit outcomes, mainly auditor characteristics, engagement-specific characteristics, client characteristics, and institutions (Francis 2011). Auditor characteristics include accounting firm size, brand name, industry expertise, and locale/unit of analysis. Engagement-specific characteristics are auditor independence, service fees (likely indicating client influence or economic bonding between client and auditor), engagement tenure, and others. Client characteristics include size, information environment, and corporate governance (e.g., audit committees). Institutional factors such as regulatory agencies, litigation, and investor protection also impact audit outcomes.

Accounting comparability and auditability

In response to changing business conditions over time and across clients, auditors have increased the extent to which they consider business risk when they evaluate factors that could influence audit efficiency and accuracy. Integrating risk assessment into materiality attestation can improve audit effectiveness by helping auditors better understand clients' business strategies and processes that drive business outcome (e.g., Ballou et al. 2004; Peecher et al. 2007). Comparative information helps auditors develop a holistic perspective on client firms' operations. If a client experiences similar underlying economic fundamentals and reporting over time when compared to an auditor's existing clients (i.e., higher comparability), then the auditor will be better off in his/her audit planning and processing. In fact, the "halo effect" influences the auditor's judgment of the reliability of assessments that develop from independent audit evidence. O'-nell and Schultz (2005) argue and provide evidence that the halo, associated with business-risk audits, influences auditors' judgment by altering their tolerance for inconsistent fluctuations in the account-level balances. In particular, they point out that "performing strategic assessment should reduce the extent to which evidence provided by inconsistent fluctuations influences account-level misstatement risk" (O'Donnell and Schultz 2005, 926).

Comparable financial information enables auditors to recognize similarities, differences, and trends over time periods and across client businesses. Auditors are able to better know how economic events translate into accounting outputs for their clients with a higher degree of accounting comparability, and this knowledge spillover facilitates the judgment and decision-making process during the audit engagement. A positive feature is that accounting comparability may provide efficiencies and knowledge spillovers for a single firm in the audit engagement.

Audit pricing

Prior studies have documented that audit pricing is a function of audit effort, the economic bonding with the client, and perceived audit risk (e.g., Simunic 1980; Palmrose 1988; Simunic and Stein 1996; Whisenant et al. 2003; Francis 2011, among many others). Specifically, audit fees are related to the effort of the auditor corresponding to the level of audit risk, and an auditability function of working complexity that affects the amount of effort to be spent on the audit. Hence, business complexity increases the effort required to effectively audit the client and thus results in higher fees.

Accounting comparability indicates the degree to which common economic factors (versus firm-specific factors) shape an individual client's business environment and financial reporting. The degree of accounting comparability is greater for firms with higher earnings quality, such as accruals quality, earnings predictability, and earnings smoothness

(De Franco et al. 2011). I propose that a higher degree of comparability indicates that a lower level of information uncertainty exists in auditing and attestation engagements. The amount of audit fees incorporates the expected cost of earnings information quality (Hribar et al. 2014), that is, the information in audit fees can be used to explain a firm's accounting quality.

Nevertheless, Caramanis and Lennox (2008) find a positive relation between audit hours (directly observable audit effort) and abnormal accruals, suggesting that auditors work harder if they know or suspect that their clients are manipulating earnings. In the same vein, both McDaniel (1990) and Asare et al. (2000) argue that service fee and time pressures reduce audit quality. Auditors may respond to these pressures by taking shortcuts on audit work with a subsequent decrease in working scope and quality. Other recent research also provides some contending reflections. For example, Gong et al. (2013) show that the extent of earnings synchronicity is negatively related to voluntary disclosure (for instance, management releases earnings forecasts). Their findings are consistent with the notion that management tends to increase more timely disclosures to reduce information uncertainty in response to the potential adverse effects of incomparable earnings. Deng et al. (2014) theorize that more information about audit evidence does not result in high audit efficiency. Choi et al. (2017) find evidence that comparability promotes firm-specific earnings information but not industry-level earnings information.

Consistent with De Franco et al. (2011) and Kim et al. (2013) who examine the benefit of comparability on capital markets, I propose that comparability facilitates information transfer for audit production and thus saves time and reduces the costs of information acquisition and attestation. Comparability, from the perspective of information efficiency for the audit engagement, can help reduce redundancy in information gathering and attestation. Comparability reflects a positive externality gain for auditors, and the decreased audit risk and effort will be reflected in their service fees. Taken together, the first hypothesis is stated as follows:

Hypothesis 1. *Ceteris paribus, accounting comparability is negatively related to audit fees.*

Audit delay

Timeliness, an enhancing characteristic of financial reporting like comparability, requires information available to users "before it loses its capacity to influence decisions" (Financial Accounting Standards Board (FASB) 1980, CON2-17). The length of the audit may be "the single most important determinant" affecting the timing of financial reports (Givoly and Palmon 1982, 491). The shorter the report delay, the more the decision usefulness that can be derived from financial statements. A delay in earnings announcements is likely to worsen information uncertainty associated with the decisions based on the financial reporting information. Both analytical evidence and empirical evidence reveal that the timeliness of financial reporting is related to the valuation accuracy (e.g., Givoly and Palmon 1982; Kross and Schroeder 1984; Bamber et al. 1993).

A client firm's audited financial reports are jointly produced by the client and its auditor (Antle and Nalebuff 1991). Comparability can be regarded from a "network perspective" (Hail et al. 2010). Directly comparable financial reports increase the communication efficiency in the financial accounting and reporting network, which brings benefits to both management and outsiders. Comparability across clients enables auditors to assess one client's relative financial position and performance among other clients. Accounting comparability over time is necessary for the identification of misstatements in a client firm's financial compliance and reporting. With the aid of comparable information, auditors can

systematically detect irregularities and errors in a client firm's financial reporting practices. Comparability improves the transparency of the firm and the forthrightness of the managers who interact with the auditor for timely audit work.

Accounting comparability improves efficiency in information collection and attestation. That is, it reduces the required effort by the auditor, resulting in a timelier audit report. Overall, I propose that comparability contributes to information efficiency for audit work. The second hypothesis is stated as follows:

HYPOTHESIS 2. *Accounting comparability is negatively related to audit delay.*

Accuracy of auditor's going-concern opinion

During the last decade, large accounting firms have adopted a new auditing approach referred to as a business-risk audit (BRA), which is based upon top-down, holistic performance perceptions of the client firm (e.g., O'Donnell and Schultz 2005; Curtis and Turley 2007; Knechel 2007). This process encourages the auditor to develop a much broader and deeper understanding of the client firm's business operations and related risks (Curtis and Turley 2007; Knechel 2007; Knechel et al. 2007). The BRA procedures urge auditors to determine the extent to which the client firm's strategic objectives are being accomplished (or not) and to assess the potential going-concern problems (O'Donnell and Schultz 2005; Knechel 2007). Some studies, for instance, Erickson et al. (2000) and Choy and King (2005), show that under certain circumstances, the BRA methodology may lead to greater audit efficiency and effectiveness. However, Bruynseels et al. (2011) indicate that auditors using the BRA methodology are less likely to issue a going-concern audit opinion for a client firm that files for bankruptcy subsequently.

An auditor's assessment of a client firm's ability to continue as going-concern is a matter of their professional judgment. Lennox (1999) uses the going-concern/client failure framework to measure auditor reporting accuracy. Specifically, auditors' going-concern assessments are deemed accurate if client failures are preceded by a going-concern audit opinion (GCAO) and if client firms that do not fail receive a clean opinion. The knowledge gained from industry-based experience can be applied to an unfamiliar task set within a familiar industry context (O'Donnell and Schultz 2005; Moroney and Carey 2011). Hence, comparability helps auditors gain more comprehensive knowledge of the "adequacy and feasibility" of the client firm's operations in light of the industry-wide environment and its own conditions (Bruynseels et al. 2011, 4). Comparability also helps auditors have better knowledge of the dynamics of the client firm's business and industry, which is particularly helpful for the going-concern assessment (Knechel et al. 2007; Bruynseels et al. 2011).

Bankruptcies without a prior going-concern audit report are often viewed as audit failures (e.g., McKeown et al. 1991; Carcello and Palmrose 1994). Geiger and Raghunandan (2001) document that more than 50 percent of bankruptcy companies do not receive going-concern opinions from their auditors in the year immediately preceding bankruptcy. The gap between GCAO and subsequent bankruptcies is often attributed to GCAOs having low information content and to auditors failing to provide timely warnings about bankruptcies (Carcello and Palmrose 1994). Existing literature, such as Behn et al. (2001) and Geiger and Rama (2003), shows that strategic information about a client firm can have a significant impact on the propensity that auditors issue a GCAO. I hypothesize that comparable information has a positive effect on going-concern reporting accuracy. Comparability can help the auditor detect potential deception regarding the true economic conditions of the client and evaluate the client's going-concern situation. The third hypothesis is stated as follows:

HYPOTHESIS 3. *Comparability is positively related to the opinion accuracy of the audit report.*

3. Data and measurements

Measures of accounting comparability

De Franco et al. (2011) develop the quantitative, performance-based measures of comparability, in which firms whose economic events are correlated will have correlated financial statements over time when their accounting is similar. They use stock returns as a proxy for valuation of economic events on a firm's financial statements. These economic events could "be unique to the firm but could also be due to industry- or economy-wide shocks" (De Franco et al. 2011, 899). The proxy for financial results is earnings. I estimate the following equation using the 16 previous quarters of data:

$$Earn_{it} = \alpha_0 + a_1 Return_{it} + \varepsilon_{it}, \tag{1a}$$

where *Earn* is the ratio of quarterly "originally as-reported" net income before extraordinary items to the beginning-of-period market value of equity; *Return* is the stock price return during the quarter. Firm *i*'s and firm *j*'s estimated accounting functions are used to predict their earnings, assuming that they would experience the same economic events or have the same return ($Return_{it}$). Specifically, I use the two estimated accounting functions for each firm with stock returns of a single firm, as follows:

$$E(Earn)_{iit} = \hat{a}_i + \hat{\beta}_i Return_{it}; \tag{1b}$$

$$E(Earn)_{ijt} = \hat{a}_j + \hat{\beta}_j Return_{it}; \tag{1c}$$

where $E(Earn)_{iit}$ ($E(Earn)_{ijt}$) is the predicted earnings of firm *i* (firm *j*) given firm *i*'s (firm *j*'s) function and firm *i*'s (firm *j*'s) return in period *t*. Pairwise accounting comparability ($AccComp_{ijt}$) between firms *i* and *j* is the negative value of the average absolute difference between the predicted earnings using the following firm *i*'s and *j*'s functions:

$$AccComp_{ijt} = -\frac{1}{16} \times \sum_{t-15}^{t} |E(Earn_{iit}) - E(Earn_{ijt})|. \tag{1d}$$

I estimate $AccComp_{ijt}$ for each firm *i* – firm *j* combination for *J* firms within the same industry classification (by the 2-digit SIC code) and whose fiscal year-ends in March, June, September, or December.[3] A higher value of $AccComp_{ijt}$ indicates a greater degree of comparability. In addition to the pairwise measure of comparability ($AccComp_{ijt}$), I construct a firm-year measure of comparability ($AcctComp_{it}$) by aggregating the pairwise firm *i* – firm *j* $AccComp_{ijt}$ for a given firm *i*.

Sample description

The sample period covers 2000–2011. I begin by including all U.S. public firms (with share code 10 or 11) at the intersection of the CRSP monthly returns file with COMPUSTAT quarterly data. I remove ADRs, closed-end funds, REITs, firms with negative sales or equity, and firms without the necessary data to compute the control variables in the main regression models. Using Audit Analytics for all the auditing variables, I first exclude firms with unidentified auditors (auditor coded as 0 and 9) and missing audit fees, and then combine with accounting comparability data and other nonmissing variables used throughout the empirical tests. For continuous variables, I either take the logarithm or winsorize them by year at the 1 percent and 99 percent percentiles. I

3. Following De Franco et al. (2011), I apply "exclusion" procedures for interfirm comparability. Please refer to De Franco et al. (2011, 900) footnote 3 for details.

then run simple OLS regression (audit fees and audit delay models mentioned in the next section) on the full sample with all related variables and exclude the output data with absolute value of studentized residual greater than four to remove the undue influence of outliers.[4] The final sample has a total of 21,152 firm-year observations with 6,183 individual firms.

Table 1 shows the descriptive statistics of the main variables. The mean and median of accounting comparability (*AccComp*) are −3.951 and −3.255, respectively, indicating that the average error in quarterly earnings between firm *i* and firm *j* functions is 4 percent of the market value.[5] On average, 87.6 percent of the sample firms are audited by Big N auditors (*BigN*), and 18.3 percent of the sample firms are audited by joint national and city industry specialist auditors (*Specialist*). The mean (median) of audit delay (*Delay*), the logged value of the number of calendar days from the fiscal year-end to the signature date of the auditor report, is 3.879 (4.078), or 49 (59) calendar days, respectively. The average (median) of audit fees (*LogFee*) in the natural logarithm format is 13.302 (13.412),

TABLE 1
Descriptive statistics on the regression sample

Variable	Mean	Std dev	Q1	Median	Q3
AccComp	−3.951	2.828	−4.412	−3.255	−2.350
LogFee	13.302	1.395	12.426	13.412	14.369
Delay	3.879	0.506	3.892	4.078	4.277
GCAO	0.039	0.191	0.000	0.000	0.000
Tenure	9.945	8.825	3.000	7.000	14.000
BigN	0.876	0.329	1.000	1.000	1.000
Specialist	0.183	0.387	0.000	0.000	0.000
CImp	0.122	0.559	0.003	0.011	0.049
AudChg	0.070	0.254	0.000	0.000	0.000
ROA	0.022	0.316	−0.036	0.032	0.073
SIZE	6.205	2.020	4.738	6.122	7.605
LOSS	0.321	0.467	0.000	0.000	1.000
$\|DA\|$	0.072	0.083	0.021	0.047	0.092
SalesG	0.136	0.448	−0.030	0.076	0.204
Lever	0.406	0.225	0.238	0.389	0.532
Export	0.012	0.034	0.000	0.000	0.014
CashVol	0.076	0.084	0.031	0.053	0.092
SEG	2.124	0.880	1.732	1.732	3.000
$\|SPI\|$	0.031	0.075	0.000	0.004	0.019
Restate	0.139	0.346	0.000	0.000	0.000
Season	0.835	0.372	1.000	1.000	1.000
M&A	0.195	0.396	0.000	0.000	0.000

Notes: All variables (except the dummy or logged variables) are winsorized at the 1 and 99 percentiles each year. The descriptive statistics are based on a sample of 21,152 observations during the 2000–2011 fiscal years. Refer to the Appendix for variable definitions.

4. Considering the effectiveness of alternative methods to mitigate the effect of influential observations, I try the MM-estimators — the robust regression suggested by Leone et al. (2017) — and find that the results of audit fees and delay regressions are statistically similar.

5. The firm-year average accounting comparability is similar to the average reported by De Franco et al. (2011, 905–906); their pairwise mean (median) value is −5.1 (−2.7), and the distribution is "left-skewed with large negative outliers." The statistics of other variables are also in line with prior studies.

respectively. The average client importance (*CImp*) is 0.122, indicating that a given client's market share consists of around 12.2 percent of the total market share of all the clients audited by a given auditor. About 4 percent of the client firms under study receive a GCAO from their auditor and 13.9 percent of firms undergo financial statement restatements.

Table 2 presents the correlations among variables to enter the regression. I observe that there are significant negative correlations between accounting comparability (*AccComp*) and both audit fees and audit delay, evidenced by the coefficients −0.036 (Pearson) and −0.041 (Spearman) for audit fees (*LogFee*), and by the coefficients −0.053 (Pearson) and −0.055 (Spearman) for audit delay (*Delay*), respectively. Notably, comparability is positively correlated with firm size (*SIZE*) and profitability (*ROA*), and is negatively correlated with cash flow volatility (*CashVol*), special items (|*SPI*|), the magnitude of abnormal accruals (|*DA*|), and the occurrence of financial statement restatements (*Restate*). This provides initial evidence that accounting comparability is inherently related to a client firm's financial reporting quality or audit quality. Furthermore, accounting comparability is positively correlated with the hiring of a Big N auditor (and/or an industry specialist auditor).

4. Empirical analyses

This section presents the regression models and results from testing the hypotheses described previously. Audit fees and audit delay are related to audit effort. Audit opinions and auditor report accuracy are directly observable or verifiable outcome variables.

Audit pricing regression

The audit pricing literature describes audit fees as a function of certain determinants, such as client size, complexity, growth, profitability, M&A activities, auditor type, auditor's acceptance decision, and auditor-client relationship/frictions. The literature includes (but is not limited to) Simunic (1980); DeAngelo (1981); Palmrose (1986a,b); Francis and Simon (1987); Francis and Wilson (1988); Simon and Francis (1988); Behn et al. (1999); Whisenant et al. (2003); Hogan and Wilkins (2008); and Fung et al. (2012). I estimate the following linear regression model, clustered by year and industry (2-digit SIC code):

$$\begin{aligned} LogFee_{it} = {} & \beta_0 + \beta_1 AccComp_{it} + \beta_2 SIZE_{it} + \beta_3 Lever_{it} + \beta_4 Quick_{it} + \beta_5 CURR_{it} \\ & + \beta_6 ROA_{it} + \beta_7 LOSS_{it} + \beta_8 |SPI|_{it} + \beta_9 Export_{it} + \beta_{10} SEG_{it} + \beta_{11} Issue_{it} \\ & + \beta_{12} Season_{it} + \beta_{13} SalesG_{it} + \beta_{14} CashVol_{it} + \beta_{15} M\&A + \beta_{16} Pension_{it} \\ & + \beta_{17} \Delta PB_{it} + \beta_{18} GCAO_{it} + \beta_{19} Restate_{it} + \beta_{20} AudChg_{it} + \beta_{21} CImp_{it} \\ & + \beta_{22} Delay_{it} + \beta_{23} Initial_{it} + \beta_{24} BigN_{it} + \beta_{25} Specialist_{it} \\ & + Industry \ \& \ Year \ Indicators + \varepsilon_{it}, \end{aligned} \tag{2}$$

where logged value of audit fees (*LogFee*) is the dependent variable that is predicted to be negatively related to accounting comparability (*AccComp*). Control variables include client size (*SIZE*), financial leverage (*Lever*), quick ratio (*Quick*), current ratio (*CURR*), profitability (*ROA*), loss or profit (*LOSS*), the absolute value of special items (|*SPI*|), foreign sales (*Export*), the number of business segments (*SEG*), financing activities — issuing debt or equity (*Issue*), busy season for audits (*Season*), sales growth rate (*SalesG*), cash flow volatility (*CashVol*), M&A activity (*M&A*), the existence of a pension or postretirement plan (*Pension*), change in Zmijewski's probability of bankruptcy score (Δ*PB*), dummies for receiving a going-concern audit opinion (*GCAO*), the occurrence of financial statement restatements (*Restate*), auditor change (*AudChg*), client importance (*CImp*), auditor report

TABLE 2
Correlation analysis

	AccComp	*SIZE*	*LogFee*	*Delay*	*CashVol*	*CImp*	*Restate*	*ROA*	*|SPI|*	*Tenure*	*|DA|*	*BigN*	*Specialist*
AccComp		0.205	−0.041	−0.055	−0.180	−0.030	−0.061	0.092	−0.116	0.089	−0.051	0.067	0.080
SIZE	0.161		0.774	−0.224	−0.451	0.360	0.014	0.314	−0.078	0.240	−0.086	0.342	0.215
LogFee	−0.036	0.741		−0.196	−0.293	−0.159	0.021	0.212	0.176	0.255	−0.029	0.265	0.112
Delay	−0.053	−0.185	−0.171		0.131	0.124	0.025	−0.190	0.050	−0.149	0.052	−0.181	0.070
CashVol	−0.149	−0.389	−0.365	0.068		0.060	0.015	−0.223	0.025	−0.182	0.071	−0.154	−0.026
CImp	−0.024	0.300	−0.123	0.112	0.035		−0.008[#]	0.093	0.034	−0.027	−0.040	−0.370	0.053
Restate	−0.052	0.018	0.024	0.022	0.010[!]	−0.007[#]		0.021	0.051	0.014	0.006[#]	0.027	0.038
ROA	0.092	0.337	0.237	−0.117	−0.401	0.046	0.014		−0.253	0.126	−0.071	0.086	0.049
|SPI|	−0.116	−0.112	0.090	0.045	0.092	−0.026	0.055	−0.297		−0.035	−0.022	−0.050	−0.047
Tenure	0.122	0.266	0.258	−0.138	−0.113	−0.031	0.018	0.133	−0.053		−0.019	0.299	0.083
|DA|	−0.083	−0.092	−0.075	0.011[!]	0.058	−0.028	0.054	−0.166	−0.074	−0.072		−0.048	−0.075
BigN	0.060	0.335	0.260	−0.149	−0.106	−0.291	0.033	0.088	−0.046	0.178	−0.042		0.190
Specialist	0.068	0.182	0.123	0.039	−0.035	0.026	0.052	0.081	−0.038	0.065	−0.080	0.179	

Notes: This table presents Pearson (Spearman) correlations below (above) the diagonal, based on a sample size of 21,152 observations during the 2000–2011 fiscal years. All correlations are significant at the 5 percent level, except those with superscript [!] indicating 5 percent~10 percent level or superscript [#] indicating ≥ 10 percent level. All variables (except the dummy or logged variables) are winsorized at the 1 and 99 percentiles each year. Refer to the Appendix for variable definitions.

delay (*Delay*), initial year audit engagement (*Initial*), and whether auditor type is Big N auditor (*BigN*), industry specialist auditor (*Specialist*), or not. I add industry indicators based upon the 2-digit SIC code, as well as year indicators, to control for the impact from changes in financial reporting regulations and macroeconomic conditions.

Table 3 presents the results of the multivariate regression of audit fees on accounting comparability for the pooled sample. As expected, the coefficient on *AccComp* ($\beta_1 = -0.019$, t-value = -7.31) shows that audit fees and comparability are negatively related, supporting Hypothesis 1. The regression results are also consistent with the simple correlation (Pearson coefficient: -0.036). This implies that a client with a higher degree of comparability entails less audit risk and/or higher information efficiency, and generally requires less audit effort. As a consequence, an auditor would charge lower audit fees.

TABLE 3
The association between accounting comparability and audit fees

		Dependent variable = Audit fees		
	Prediction	Coeff.	t-value	p-value
AccComp	−	−0.019	−7.31	<0.0001
SIZE	+	0.530	16.20	<0.0001
Lever	+	0.436	11.13	<0.0001
Quick	?	−0.015	−1.68	0.093
CURR	?	−0.005	−0.58	0.560
ROA	−	−0.306	−6.49	<0.0001
LOSS	+	0.062	4.75	<0.0001
|SPI|	+	0.190	8.37	<0.001
Export	+	1.314	15.26	<0.0001
SEG	+	0.105	7.51	<0.0001
Issue	?	−0.067	−4.53	<0.0001
Season	+	0.110	3.59	<0.0001
SalesG	?	−0.133	−5.41	<0.0001
CashVol	+	0.121	3.45	0.001
M&A	+	0.094	8.10	<0.0001
Pension	+	0.114	9.67	<0.0001
ΔPB	−	−0.225	−8.81	<0.0001
GCAO	+	0.071	2.31	0.021
Restate	+	0.082	5.85	<0.0001
AudChg	−	−0.095	−5.23	<0.0001
CImp	−	−0.015	−4.42	<0.0001
Delay	+	0.067	8.63	<0.0001
Initial	−	−0.088	−6.37	<0.0001
BigN	+	0.049	2.55	0.011
Specialist	+	0.150	5.30	<0.0001
Year and industry indicators			Included	
Adj. R^2 (Obs. = 21,152)			0.799	

Notes: This table presents regression results based on equation (2). The dependent variable is logged audit fees (*LogFee*). The explanatory variable of interest is accounting comparability (*AccComp*). Estimates on industry and year indicators are not reported for brevity. Significance is based on two-way clustered standard errors to account for time series (2-digit SIC industry group) and cross-sectional (year) dependence. Refer to the Appendix for variable definitions.

Regression results show that the other factors related to audit fees are essentially consistent with prior research, such as Whisenant et al. (2003). The size of client firm is an increasing function of audit fees. The positive coefficients on *BigN* (and *Specialist*) indicate that there is a Big N (and industry specialist auditor) fee premium, consistent with Fung et al. (2012). Special items (|*SPI*|), segment (*SEG*), and foreign sales (*Export*) — three variables that proxy for client complexity — are shown to be positively associated with audit fees. Current ratio (*CURR*), quick ratio (*Quick*), profitability (*ROA*), financial leverage (*Lever*), cash flow volatility (*CashVol*), and the propensity of auditors issuing a going-concern opinion (*GCAO*) control for client financial condition. The coefficient on *ROA* is negative, while the coefficients on leverage (*Lever*), going-concern audit opinion (*GCAO*), pension benefit plans (*Pension*), M&A activities (*M&A*), and cash flow volatility (*CashVol*) are positive. Client importance (*CImp*), auditor change (*AudChg*), and the situation of initial two-year engagement (*Initial*) are linked with fee reduction. The overall model is statistically significant, evidenced by the adjusted R^2 of 79.9 percent that is in line with prior audit fee research.[6]

Audit delay regression

Understanding the determinants of audit report delay could provide us some insights into audit efficiency and improve our knowledge of market reactions to earnings announcements (e.g., Givoly and Palmon 1982; Ashton et al. 1989). Among the client firm-related variables, audit report delay is a decreasing function of client size, industry type (whether the client is in the financial industry), and of ownership concentration (Ashton et al. 1987). Moreover, audit report delay is an increasing function of extraordinary items, net losses, financial condition, and modified auditor opinions (Bamber et al. 1993); of the issuance of going-concern opinions (Carcello et al. 1995); and of the occurrence of financial restatements (Kinney and McDaniel 1993). Among the auditor-related variables, audit report delay is a decreasing function of the percentage of audit work accomplished at interim dates (Ashton et al. 1987; Knechel and Payne 2001) and of the use of more experienced audit staff (Knechel and Payne 2001). Moreover, audit report delay is an increasing function of auditor change, of a structured audit approach (Bamber et al. 1993), and of incremental audit effort (Knechel and Payne 2001). The audit delay model is specified as follows, clustered by year and industry (by 2-digit SIC code):

$$\begin{aligned} Delay_{it} = {} & \beta_0 + \beta_1 AccComp_{it} + \beta_2 GCAO_{it} + \beta_3 BigN_{it} + \beta_4 SIZE_{it} + \beta_5 ROA_{it} + \beta_6 Lever_{it} \\ & + \beta_7 SalesG_{it} + \beta_8 LOSS_{it} + \beta_9 |DA|_{it} + \beta_{10} |SPI|_{it} + \beta_{11} SEG_{it} + \beta_{12} Export_{it} \\ & + \beta_{13} Restate_{it} + \beta_{14} Owner_{it} + \beta_{15} Tenure_{it} + \beta_{16} AudChg_{it} \\ & + Industry \ \& \ Year \ Indicators + \varepsilon_{it}. \end{aligned} \tag{3}$$

The goal is to test the association between accounting comparability (*AccComp*) and audit delay (*Delay*). I predict that they are negatively related (i.e., a negative β_1). As discussed previously, I add the following controls: a dummy variable of receiving a going-concern report (*GCAO*), auditor-type indicator of Big 4/5 audit (*BigN*), firm size (*SIZE*), profitability (*ROA*), leverage (*Lever*), sales growth (*SalesG*), loss dummy (*LOSS*), abnormal accruals (|*DA*|), special items (|*SPI*|), the number of business segments (*SEG*), foreign sales (*Export*), the occurrence of financial statement restatements (*Restate*), concentration of ownership (*Owner*), auditor tenure (*Tenure*), and dummy of auditor change (*AudChg*). I also include industry and year indicators in the regression.

6. I reexamine the sensitivity of the results by including an indicator of material weakness in internal control (1 if a client firm has a material weakness internal control opinion under Section 404, 0 otherwise) for the sample after 2003. I find that audit fees increase if the client firm is issued an adverse internal control opinion. More importantly, the coefficient on accounting comparability remains negative and significant.

Table 4 shows the regression of audit delay on accounting comparability for the pooled sample. I find a significant negative coefficient ($\beta_1 = -0.036$, t-value = -5.25) on accounting comparability (*AccComp*), supporting Hypothesis 2 that accounting comparability is negatively associated with audit delay. That is, a client firm with a higher degree of comparability helps its auditor produce the audit report more quickly, or the auditor may expend less effort in completing audit tasks.

Table 4 also shows that audit delay is positively related to financial leverage (*Lever*) and the occurrence of financial restatements (*Restate*), and negatively related to firm size — consistent with Bamber et al. (1993). However, I do not observe a significant relation between the magnitude of abnormal accruals ($|DA|$) and audit delay. Prior research (e.g., Ashton et al. 1987) finds no strong relation between client operational complexity and audit delay, while I observe a significantly positive relation between audit delay and both business segments and foreign sales (β_{11} for $SEG = 0.056$, t-value = 7.88; β_{12} for $Export = 0.081$, t-value = 5.45, respectively). While prior literature has not specifically reported the relationship between large auditing firms and audit delay, research has reported the audit production by Big N auditors. For instance, audit reports of large auditors are more conservative with more modifications (Francis and Krishnan 1999), and more informative reporting (Weber and Willenborg 2003), smaller abnormal accruals (e.g., Becker et al. 1998; Francis et al. 1999), and a stronger earnings-return relation (e.g., Krishnan 2003; Teoh and Wong 1993). However, Lawrence et al. (2011) attribute the effect of Big 4 auditors on audit quality to the confounding factor of client characteristics

TABLE 4
The association between accounting comparability and audit delay

		Dependent variable = Audit delay		
	Prediction	Coeff.	t-value	p-value
AccComp	−	−0.036	−5.25	<0.0001
GCAO	+	0.397	9.85	<0.0001
BigN	−	−0.013	−0.45	0.650
SIZE	−	−0.050	−14.33	<0.0001
ROA	−	−0.245	−6.67	<0.0001
Lever	+	0.462	9.01	<0.0001
SalesG	?	0.020	2.09	0.037
LOSS	+	0.072	4.73	<0.0001
$\|DA\|$	+	0.035	1.64	0.101
$\|SPI\|$	+	0.408	4.67	<0.0001
SEG	+	0.056	7.88	<0.0001
Export	+	0.081	5.45	<0.0001
Restate	+	0.022	2.50	0.012
Owner	−	−0.016	−3.08	0.002
Tenure	?	−0.012	−4.47	<0.0001
AudChg	+	0.035	3.62	0.000
Year and industry indicators			Included	
Adj. R^2 (Obs. = 21,152)			0.451	

Notes: This table presents regression results based on equation (3). The dependent variable is audit delay (*Delay*). The explanatory variable of interest is accounting comparability (*AccComp*). Estimates on industry and year indicators are not reported for brevity. Significance is based on two-way clustered standard errors to account for time series (2-digit SIC industry group) and cross-sectional (year) dependence. Refer to the Appendix for variable definitions.

(more specifically, client size) after they find no significant difference in the effect of Big 4 versus non-Big 4 auditors on audit quality based on a sample matched on the clients' characteristics. In this study, I find an insignificant relationship between Big N auditor and audit delay, and auditor tenure is negatively related to audit delay.

Audit opinion accuracy regression

To test Hypothesis 3, I examine the effects of accounting comparability on the opinion accuracy of auditors' issuance of going-concern reports by examining the type I and type II errors.[7] I estimate the following logistic model:

$$\begin{aligned} Error_{it} = {} & \beta_0 + \beta_1 AccComp_{it} + \beta_2 SIZE_{it} + \beta_3 BigN_{it} + \beta_4 Lever_{it} + \beta_5 \Delta Debt_{it} + \beta_6 LOSS_{it} \\ & + \beta_7 PB_{it} + \beta_8 CFO_{it} + \beta_9 DCF_{it} + \beta_{10} CImp_{it} + \beta_{11} Issue_{it} + \beta_{12} Delay_{it} \\ & + \beta_{13} EXCH_{it} + \beta_{14} Tenure_{it} + \ Year\ Indicators + \varepsilon_{it}. \end{aligned} \tag{4}$$

The dependent variable is either *Type I Error* or *Type II Error*. *Type I Error* equals one if an auditor issues a GCAO to a client firm who does not subsequently go bankrupt in the next fiscal year ($t + 1$), and zero otherwise. For the type I error test, the sample includes client firms that receive first-time going-concern opinions, as issuing a first-time GCAO to a client firm is particularly difficult for the auditor (Li 2009).[8] I have 669 firm observations that have received first-time going-concern opinions. *Type II Error* equals one if the bankrupt client does not receive a GCAO in any of the prior three years ($t-1$ to $t-3$), and zero otherwise. For the type II error test, the sample includes only bankrupt clients. I have 261 firms that declare bankruptcy.

In equation (4), following Mutchler et al. (1997), DeFond et al. (2002), and Li (2009), I control for financial distress factors, which include Zmijewski's probability score of bankruptcy (*PB*), cash from operating activities (*CFO*), financial leverage (*Lever*), change in long-term debt ($\Delta Debt$), operating loss (*LOSS*), and a dummy of negative cash flow (*DCF*). Following Geiger and Rama (2006), I add client size (*SIZE*), auditor report delay (*Delay*), and stock exchange (*EXCH*) as additional controls. Following Geiger and Raghunandan (2002) and Li (2009), I add the controls for auditor tenure (*Tenure*) and client importance (*CImp*). The results of estimating equation (4) are reported in Table 5. Most of the control variables in the type I error test are significant at *p*-value less than 10 percent except *BigN*, *LOSS*, *DCF*, and *CImp*, and controls in the type II error tests are significant at *p*-value less than 10 percent except *LOSS*, *CImp*, *Tenure*, and *BigN*.

The result shows that big audit firms are ineffective in their professional judgment regarding rendering a clean or a going-concern opinion. This finding is consistent with Geiger and Rama (2003), who study audit reporting decisions on financially stressed companies and conclude there is no Big 4 reporting effect, and with Lawrence et al. (2011), who do not find a strong effect of Big 4 on audit quality. Other researchers, such as Mutchler et al. (1997) and Geiger et al. (2005) also study going-concern opinions issued to bankrupt clients and conclude that there is no significant Big 4 effect on type II errors. More importantly, the coefficient on accounting comparability (*AccComp*) is significantly negative ($\beta_1 = -0.030$ with *p*-value < 5 percent in the type I error test,

7. Using the bankruptcy outcome as an ex post measure of whether a client firm should be issued a qualified report is not always a perfect measure of opinion accuracy (Lennox 1999). For example, type II error can occur when a client firm voluntarily liquidates (Geiger and Rama 2006).

8. If a firm's bankruptcy is in year $t + 2$ or $t + 3$ after being issued a GCAO at year t, rather than the auditor having made a mistake, this may represent an even earlier warning to the market (Carcello and Palmrose 1994). I redefine *Type I Error* for firms not going bankrupt within three years after being issued a GCAO, and find similar test results.

TABLE 5
The association between accounting comparability and audit opinion accuracy

		Dependent variable = *Type I Error*			Dependent variable = *Type II Error*	
	Prediction	Coeff.	$p >$ chi-sq	Prediction	Coeff.	$p >$ chi-sq
AccComp	−	−0.030	0.038	−	−0.023	0.047
SIZE	−	−0.052	0.065	−	−0.034	0.021
BigN	−	−0.024	0.133	−	0.017	0.245
Lever	+	0.094	0.071	−	−0.125	0.060
ΔDebt	−	−0.080	0.021	−	−0.072	0.063
LOSS	−	−0.026	0.121	−	−0.041	0.203
PB	+	0.008	<.0001	+	0.009	0.072
CFO	−	−0.056	0.091	−	−0.061	0.015
DCF	+	0.210	0.127	+	0.180	0.062
CImp	?	0.005	0.260	?	−0.009	0.100
Issue	−	−0.098	0.063	−	−0.124	0.026
Delay	?	0.008	0.034	?	0.027	0.097
EXCH	−	−0.057	0.027	−	−0.071	0.070
Tenure	?	−0.020	0.091	?	0.015	0.183
Year indicators		Included			Included	
Obs.		669			261	
Pseudo R^2		0.173			0.132	

Notes: This table presents the logistic regression based on equation (4). *Type I Error* equals one if an auditor issues a GCAO to a client that does not subsequently file for bankruptcy in next fiscal year, and zero otherwise. The sample is restricted to firms that receive first-time GCAO. *Type II Error* equals one if an auditor fails to issue a GCAO to a client that subsequently goes bankruptcy, and zero otherwise. The sample is restricted to firms that go bankrupt. The explanatory variable of interest is accounting comparability (*AccComp*). The *p*-value is two-tailed and based on Wald chi-squared statistic robust to heteroscedasticity and time series correlation (Rogers 1993). Estimates on year indicators are not reported for brevity. Refer to the Appendix for variable definitions.

and $\beta_1 = -0.023$ with *p*-value < 5 percent in the type II error test, respectively). This lends support to the statement that the client characteristic of high comparability is helpful for an auditor's professional judgment in a going-concern assessment. Hence, the results confirm Hypothesis 3 that comparability is positively related to audit report accuracy.

The control variables *SIZE*, Δ*Debt*, and *CFO* have the predicted coefficient signs. *SIZE* has a negative effect on audit error. Prior papers, that is, Nogler (1995) and Geiger and Rama (2006), document that smaller companies are better able to resolve their going-concern uncertainties but larger companies receiving GCAOs are more likely to subsequently go bankrupt. Like client firm size, the magnitude of operating cash and the change in long-term debt have a significant negative effect on audit error. The significant coefficient on *EXCH* suggests that listing on a large exchange is positively associated with subsequent bankruptcy (Geiger and Rama 2006) and makes it easier for an auditor to judge the client's going-concern-related decision. For the controls of auditor tenure and audit delay, results show that auditor tenure (*Tenure*) is negatively associated with type I audit error only, while audit delay (*Delay*) is positively associated with audit error (both type I and type II).

5. Sensitivity and additional tests

Does accounting comparability help new auditors?

Audit failures occur more frequently in the earlier years of auditor tenure (Geiger and Raghunandan 2002), and auditors face higher litigation risk in the initial years of audit engagements (e.g., Palmrose 1987, 1991; Stice 1991). Further, short tenure is associated with lower earnings quality relative to medium tenure (e.g., Johnson et al. 2002; Myers et al. 2003; Carcello and Nagy 2004; Ghosh and Moon 2005; Davis et al. 2009). I examine whether accounting comparability could help new auditors in terms of audit efficiency and opinion accuracy.

I interact accounting comparability and short auditor tenure (*AccComp*×*ShortTenure*) and repeat the previous empirical tests (of audit fees, audit delay, and opinion accuracy). *ShortTenure* is an indicator variable of one if auditor tenure is no greater than three years, and zero otherwise. Geiger and Raghunandan (2002) find that auditors take an average of three years to acclimate to a new auditing engagement. Similarly, Johnson et al. (2002) and Gul et al. (2007) use three years as a cutoff point to examine audit quality. Table 6, panel A, where the dependent variable is audit fees, shows that the coefficients on both *AccComp* and the interaction of *AccComp*×*ShortTenure* are significantly negative (p-value is 0.047 and 0.000, respectively). In panel B, where audit delay is the dependent variable, the coefficients on both *AccComp* and the interaction of *AccComp*×*ShortTenure* are again significantly negative (p-value is 0.016 and <0.0001, respectively). Taken together, the results suggest that accounting comparability helps improve new auditors' efficiency by reducing their audit effort.[9]

An increase in the propensity of an auditor's issuance of a GCAO to a client that subsequently does not go bankrupt (i.e., the Type I error) can be viewed as auditor incompetence. Geiger and Raghunandan (2002) are unable to conclude the effect of auditor tenure on the type I error rates. An earlier study by Carcello and Neal (2000) considers the relation between auditor tenure and audit opinions for financially distressed clients, but does not specifically explore whether auditor tenure affects auditors' type I error rate. Knechel and Vanstraelen (2007) extend these two studies by inspecting the nature of auditors' opinion errors for nonbankrupt clients and find a weak relation between auditor tenure and the ability to predict bankruptcy.

Extrapolating from prior literature on the association between auditor tenure and audit opinion accuracy, I examine whether comparability is helpful for short-term auditors' judgmental competence. Myers et al. (2003) point out that the issue of endogeneity is severely concerned if audit firm tenure is short. I therefore expect that comparability is more important in helping improve a new (rather than longer-tenure) auditor's ability to discern whether a client firm is at serious risk of bankruptcy, thereby helping the auditor to express an accurate audit opinion. The results in Table 6, panel C, reveal that the coefficients on *AccComp*×*ShortTenure* are negative and statistically significant for both the type I and type II error tests (p-value is 0.011 and 0.020, respectively). Taken together, the results suggest that comparability is particularly useful to a new auditor in improving efficiency, assessing business risk, and expressing more accurate audit opinions.[10]

9. The variable of initial year audit engagement (*Initial*) is not included in this test (panel A) as it is highly correlated with the dummy of short auditor tenure. Similarly, auditor tenure is not included in audit delay and opinion error regressions (panels B and C).

10. However, I do not rule out an alternative explanation. It is possible that the auditor uses his/her repeated audits over time of the same client to acquire information efficiency, which substitutes for audit efficiency obtained from having more comparable clients. In general, comparability may become less important for older clients.

TABLE 6
Audit effort/outcomes and accounting comparability partitioning by auditor tenure

Panel A: Test of audit fees by auditor tenure

	Dependent variable = Audit fees		
	Coeff.	*t*-value	*p*-value
AccComp	−0.012	−1.99	0.047
ShortTenure	−0.036	−1.75	0.080
AccComp×*ShortTenure*	−0.055	−3.61	0.000
Other controls		Included	
Year and industry indicators		Included	
Adj. R^2 (Obs. = 21,152)		0.800	

Panel B: Test of audit delay by auditor tenure

	Dependent variable = Audit delay		
	Coeff.	*t*-value	*p*-value
AccComp	−0.021	−2.40	0.016
ShortTenure	−0.018	−1.61	0.107
AccComp×*ShortTenure*	−0.054	−3.92	<.0001
Other controls		Included	
Year and industry indicators		Included	
Adj. R^2 (Obs. = 21,152)		0.452	

Panel C: Test of audit opinion accuracy by auditor tenure

	Dependent variable = *Type I Error*		Dependent variable = *Type II Error*	
	Coeff.	*p*>chi-sq	Coeff.	*p*>chi-sq
AccComp	−0.016	0.067	−0.017	0.083
ShortTenure	−0.008	0.124	−0.005	0.191
AccComp×*ShortTenure*	−0.040	0.011	−0.029	0.020
Other controls	Included		Included	
Year indicators	Included		Included	
Obs.	669		261	
Pseudo R^2	0.174		0.132	

Notes: Panel A presents the regression results based on equation (2) with an interacting effect between accounting comparability (*AccComp*) and short auditor tenure (*ShortTenure*). The dependent variable is logged audit fees. Panel B presents the regression results based on equation (3) with the same interacting effect. The dependent variable is audit delay. Panel C presents the regression results based on equation (4) with the same interacting effect. The dependent variable is auditor's opinion accuracy (either *Type I Error* or *Type II Error*). Estimates of control variables and year and industry indicators are not reported for brevity. In panels A and B, significance is based on two-way clustered standard errors to account for time series (2-digit SIC industry group) and cross-sectional (year) dependence. In panel C, coefficient *p*-value is two-tailed and based on Wald chi-squared statistic robust to heteroscedasticity and time series correlation (Rogers 1993). Refer to the Appendix for variable definitions.

Auditor type

Accounting comparability among peer firms could be an outcome of similar auditor style. For instance, Francis et al. (2014) document that having the same auditor style increases the comparability of reported earnings within Big 4 auditors' clientele.[11] I consider the influence of audit firms on their audit engagement and investigate the effect of auditor type (Big N or non-Big N, and industry specialist or nonindustry specialist) on the relationship between accounting comparability and audit fees/delay.

I run regression equations (2) and (3) after subsampling by auditor type. Table 7, panel A, where the dependent variable is audit fees, shows that the coefficients on

TABLE 7
Audit effort and accounting comparability by auditor type

Panel A: Test of audit fees by auditor type

	Dependent variable = Audit fees							
	Big N		Non-Big N		Specialist		Nonspecialist	
	Coeff.	*t*-value	Coeff.	*t*-value	Coeff.	*t*-value	Coeff.	*t*-value
AccComp	−0.020	−6.43	−0.021	−3.20	−0.020	−4.62	−0.019	−7.92
Other controls	Included		Included		Included		Included	
Year and industry indicators	Included		Included		Included		Included	
Obs.	18,528		2,624		3,870		17,282	
Adj. R^2	0.803		0.751		0.769		0.800	

Panel B: Test of audit delay by auditor type

	Dependent variable = Audit delay							
	Big N		Non-Big N		Specialist		Nonspecialist	
	Coeff.	*t*-value	Coeff.	*t*-value	Coeff.	*t*-value	Coeff.	*t*-value
AccComp	−0.037	−5.19	−0.034	−4.51	−0.034	−4.60	−0.036	−5.22
Other controls	Included		Included		Included		Included	
Year and industry indicators	Included		Included		Included		Included	
Obs.	18,528		2,624		3,870		17,282	
Adj. R^2	0.454		0.430		0.436		0.451	

Notes: Panel A presents the regression results based on equation (2) for two subsamples by auditor type (Big N auditor versus non-Big N auditor, and industry specialist auditor versus nonindustry specialist auditor). The dependent variable is logged audit fees. Panel B presents the regression results based on equation (3) for two subsamples by auditor type. The dependent variable is audit delay. The explanatory variable of interest is accounting comparability (*AccComp*). Significance is based on two-way clustered standard errors to account for time series (2-digit SIC industry group) and cross-sectional (year) dependence. Estimates of control variables and year and industry indicators are not reported for brevity. Refer to the Appendix for variable definitions.

11. The notion of comparability in Francis et al. (2014) differs from the equity market-based measure in De Franco et al. (2011) and Barth et al. (2012); comparability in Francis et al. (2014) indicates that two firms in the same period and industry group have similar accruals and earnings structure (i.e., accruals difference and/or earnings comovement).

AccComp for both Big N auditor sample firms and non-Big N sample firms are significantly negative (*t*-value is −6.43 and −3.20, respectively). The coefficients on *AccComp* for both sample firms by industry specialist auditor and those by nonspecialist auditor are again significantly negative (*t*-value is −4.62 and −7.92, respectively).[12] In panel B, where the dependent variable is audit delay, the coefficients on *AccComp* for both Big N auditor sample firms and non-Big N sample firms are significantly negative (*t*-value is −5.19 and −4.51, respectively). The coefficients on *AccComp* for both sample firms by industry specialist auditor and those by nonspecialist auditor are again significantly negative (*t*-value is −4.60 and −5.22, respectively). Taken together, the main finding that accounting comparability is positively associated with audit efficiency holds for client firms by different auditor type.

Changes model analysis

Audit effort corresponds to the change of inherent risk of a client firm. O'Keefe et al. (1994) argue that the level of audit effort (in terms of audit hours and labor) is sensitive to client size, business complexity, financial leverage, and other inherent risks. I employ a "change" analysis using the change of accounting comparability as an inherent risk factor for a seemingly "root cause analysis" of audit effort. More importantly, the analysis is necessary to account for the possibility of reverse causality: comparability may be the outcome of the homogeneity of auditor style (Francis et al. 2014).

I reformulate the first hypothesis on the basis that lower audit fees are related to better accounting comparability as the client potentially entails less inherent business risk. For the change analysis, I use the same equation (2) described in section 4, except that all the dependent and independent variables are calculated in change form (i.e., the value for year *t* minus the value of the same variable for year *t*−1). In general, last year's audit fees predict well this year's audit fees (Dao et al. 2012), so I control for prior year audit fees ($LogFee_{it-1}$). The results from the above multivariate regression for the change analysis are presented in Table 8. In panel A, change of accounting comparability, $\Delta AccComp$, is used to explain the change of audit fees. The sample entering the regression has 13,552 observations.

The coefficient on $\Delta AccComp$ is −0.023 (*p*-value = 0.048), indicating that a client firm's increase in accounting comparability leads to a reduction in audit fees paid to its external auditor. The results suggest that an increase in accounting comparability is associated with less effort for the auditor. The coefficient on $LogFee_{it-1}$ is 0.016 with *p*-value < 0.0001. Other change variables controlling for the change of audit pricing are generally significant at the 10 percent level, except the change of financing leverage ($\Delta Lever$), current ratio ($\Delta CURR$), segments (ΔSEG), fiscal year-end ($\Delta Season$), pension plan ($\Delta Pension$), the retention of auditor ($\Delta AudChg$), and the hiring of a Big N auditor ($\Delta BigN$). In sum, the results of panel A support Hypothesis 1 that audit fees decrease as comparability increases. The results suggest that both the client firm and its auditor benefit from high-quality information sets surrounding client firms that have a greater degree of comparability.[13]

12. Empirical results on the relation between auditors' industry specialization and audit fees are mixed. There exist two countervailing explanations for the mixed evidence: one is related to audit quality and the other is related to economies of scale (for detailed explanations, please refer to Cahan et al. 2008, 2011; Francis 2011).

13. These changes in audit fees can be caused by *direct* or *indirect* impacts of accounting comparability, due to its inherent business risk or the knowledge spillover effect. I do not separate these two effects here for several reasons: (i) audit firms base their fees on the perceived risk of audit failure, so they are likely able to assess the overall changes in business operation and reporting with an aid of comparative information; (ii) the audited companies with high comparability deem their businesses less risky and less complex, and thus negotiation of audit fees is potentially beneficial to these client firms; and (iii) variables in audit fee change model, to some extent, control for the *indirect* impact.

TABLE 8
Change analyses for the association between accounting comparability and audit effort

Panel A: Does the increase in accounting comparability reduce audit pricing?

	Dependent variable = Annual change of audit fees	
	Coeff.	*p*-value
ΔAccComp	−0.023**	0.048
ΔSIZE	0.096**	0.016
ΔLever	0.025	0.101
ΔQuick	−0.042*	0.091
ΔCURR	0.012	0.137
ΔROA	−0.093**	0.022
ΔLOSS	0.127**	0.046
Δ|SPI|	−0.324**	0.029
ΔExport	0.623***	<0.0001
ΔSEG	0.078	0.145
ΔIssue	−0.163**	0.026
ΔSeason	0.004	0.388
ΔSalesG	−0.009**	0.023
ΔCashVol	0.067*	0.056
ΔM&A	0.062**	0.020
ΔPension	0.005	0.299
ΔPB	0.082**	0.019
ΔGCAO	0.124*	0.081
ΔRestate	0.235**	0.022
ΔAudChg	−0.027	0.166
ΔCImp	−0.031*	0.075
ΔDelay	0.052***	0.001
ΔInitial	0.079**	0.043
ΔBigN	0.004	0.267
ΔSpecialist	0.092*	0.054
$LogFee_{it-1}$	0.016***	<0.0001
Year & Industry Indicators	Included	
Adj. R^2 (Obs. = 13,552)	0.282	

Panel B: Does the increase in accounting comparability reduce audit delay?

	Dependent variable = Annual change of audit delay	
	Coeff.	*p*-value
ΔAccComp	−0.049**	0.036
ΔGCAO	0.058*	0.092
ΔBigN	−0.006	0.271
ΔSIZE	−0.045**	0.052
ΔROA	−0.109**	0.040
ΔLever	0.003	0.220
ΔSalesG	0.013*	0.052

(The table is continued on the next page.)

TABLE 8 (continued)

Panel B: Does the increase in accounting comparability reduce audit delay?

	Dependent variable = Annual change of audit delay	
	Coeff.	*p*-value
$\Delta LOSS$	0.060**	0.088
$\Delta \lvert DA \rvert$	0.004	0.367
$\Delta \lvert SPI \rvert$	0.063**	0.021
ΔSEG	0.008**	0.014
$\Delta Export$	0.114**	0.010
$\Delta Restate$	0.061**	0.049
$\Delta Owner$	−0.047*	0.085
$\Delta Tenure$	0.002	0.260
$\Delta AudChg$	0.051*	0.079
$Delay_{it-1}$	0.005***	0.006
Year & Industry Indicators	Included	
Adj. R^2 (Obs. = 13,610)	0.217	

Notes: Panel A presents the regression results based on the "change" model of equation (2). The dependent variable is change in audit fees ($\Delta LogFee$), and the explanatory variable of interest is change in accounting comparability ($\Delta AccComp$). Panel B presents the regression results based on the "change" model of equation (3). The dependent variable is change in audit delay ($\Delta Delay$), and the explanatory variable of interest is change in accounting comparability ($\Delta AccComp$). Significance is based on two-way clustered standard errors to account for time series (2-digit SIC industry group) and cross-sectional (year) dependence. *, **, and *** indicate statistical significance at the 10 percent, 5 percent and 1 percent levels, respectively. Refer to the Appendix for variable definitions.

I further analyze whether shortened audit report delay documented in the primary analysis in equation (3) is accompanied by an increasing degree of client's comparability, which should subsequently reduce the audit report delay. The dependent variable in the tests is the change in audit delay, $\Delta Delay$, measured as the current period audit delay less than the value for audit delay in the prior year. Similarly, I estimate the regressions using the change in accounting comparability, along with control variables known to influence audit delay. All change variables are calculated relative to the prior year. I also include the prior-period audit delay ($Delay_{it-1}$). The sample entering the regression has 13,610 observations. Table 8, panel B, presents the regression results of estimating the audit delay "change" model. The coefficient on $\Delta AccComp$ is negative and significant ($\beta_1 = -0.049$, *p*-value = 0.036). Hence, the findings confirm that the increases in accounting comparability associated with information spillover and/or a reduction in business inherent risk seem to be helpful to audit production in terms of shortened audit delay.

Economic similarity and alternative measures of comparability

The auditor could benefit from both economic similarity and accounting comparability across client firms. For example, accounting comparability gives an auditor a "familiarity" with complex issues, such as the application of lease standards. Economic comparability helps an auditor determine a client's reaction to economic shocks, such as the need to record impairment. Meanwhile, client firms "deemed to be economically similar may not be truly comparable" (Minutti-Meza 2013, 792). A lingering concern is that the results

above could be also caused by the difference in "economic events, as opposed to in the accounting for these events" (De Franco et al. 2011, 922).

Following De Franco et al. (2011), I use firm-year measures of cash flow correlations across firms (*CashCorr*) and stock return correlations (*ReturnCorr*) to better control for confounding economic factors. These two measures are detailed in De Franco et al. (2011, 923). Table 9, panel A, shows that the coefficient on the former is negative and statistically significant, while the coefficient on the latter is insignificant. More importantly, the coefficients on accounting comparability (*AccComp*) are still negative and significant for both audit fees and audit delay models. The coefficient estimates on other controls load with the same signs and with essentially similar statistical significance to those reported in Tables 3 and 4 for the respective audit fees or audit delay model.

I also test the sensitivity of using alternative measures of accounting comparability. Following De Franco et al. (2011), I use one of two measures: earnings correlations across firms (*EarnCorr*) or the average of the four highest accounting comparability values (*AccComp4*). These two measures are detailed in De Franco et al. (2011, 922). The regression results are shown in Table 9, panel B. The coefficient on either *EarnCorr* or

TABLE 9
Economic similarity and alternative measures of comparability

Panel A: Test of economic similarity

	Dependent variable = Audit fees		Dependent variable = Audit delay	
	Coeff.	*t*-value	Coeff.	*t*-value
AccComp	−0.016	−3.11	−0.031	−4.12
CashCorr	−0.013	−2.08	−0.024	−2.67
ReturnCorr	−0.007	−1.50	0.006	1.03
Other controls	Included		Included	
Year & Industry Indicators	Included		Included	
Adj. R^2 (Obs. = 21,152)	0.800		0.451	

Panel B: Test of alternative measures of comparability

	Dependent variable = Audit fees				Dependent variable = Audit delay			
	Coeff.	*t*-value	Coeff.	*t*-value	Coeff.	*t*-value	Coeff.	*t*-value
EarnCorr	−0.028	−4.52			−0.046	−3.17		
AccComp4			−0.011	−6.96			−0.023	−5.20
Other controls	Included		Included		Included		Included	
Year & Industry Indicators	Included		Included		Included		Included	
Adj. R^2 (Obs. = 21,152)	0.799		0.799		0.451		0.451	

Notes: Panel A presents the regression results of audit fees or audit delay model including the effect of economic similarity controlling for stock return and cash flow correlations across firms. Panel B presents the regression results of audit fees or audit delay model using alternative measures of comparability, namely correlated earnings (*EarnCorr*) or the average of the four highest accounting comparability values (*AccComp4*). Estimates on controls and industry and year indicators are not reported for brevity. Significance is based on two-way clustered standard errors to account for time series (2-digit SIC industry group) and cross-sectional (year) dependence. Refer to the Appendix for other variable definitions.

AccComp4 is again negative and significant for both audit fees and audit delay models. Overall, the alternative measures provide corroborative evidence that accounting comparability is positively related to audit efficiency.

Endogeneity between accounting comparability and audit effort

Conventionally, we think that audit effort and audit quality are positively related. Auditors may respond to fee and time pressures by "cutting corners" on audit tasks with a decrease in both working scope and quality. Caramanis and Lennox (2008) find a positive association between audit hours (i.e., directly observable audit effort) and abnormal accruals, even after controlling for endogeneity. Auditors have to work more if they deem that client firms are attempting to misstate earnings. Furthermore, the homogeneity of auditor style can lead to high comparability (Francis et al. 2014),[14] which is positively correlated with earnings quality (De Franco et al. 2011). Hence, a two-stage procedure incorporating audit effort and audit quality is necessary to test the interaction of these variables with comparability and to assess the validity of test results from single-equation models. I apply the "matching" approach (e.g., Minutti-Meza 2013) for testing the robustness of the main results.

I first develop and estimate a determinant model to construct a propensity score-matched sample. In the determinant model, the left-hand side is the dummy variable that indicates firms with high accounting comparability (*HighComp* is set to be one if *AccComp* is above the sample median each year, and zero otherwise). I include firm size (Bills et al. 2015; Minutti-Meza 2013), profitability, firm loss (De Franco et al. 2011), Big N (Francis et al. 2014), book-to-market ratio (Barth et al. 2012; De Franco et al. 2011), and auditor, industry, and year fixed effects on the right-hand side of equation (5) below. A logistic model estimate of the determinant model generates a propensity score that can be interpreted as a firm's probability of having higher *AccComp* conditional on these observable firm characteristics. I then construct a matched sample by selecting any pair of firms without replacement in the same industry group (by the 2-digit SIC code) and year, and with the same auditor, that are classified as having lower *AccComp* and higher *AccComp*, respectively, but having sufficiently close propensity scores generated by the determinant model.

In the second stage, I run the OLS regression models using a matched sample in which firms with high comparability are matched with firms with low comparability on the determinants of *HighComp* without replacement. I estimate equation (6a), an audit fees model, or equation (6b), an audit delay model, on the sample of 5,608 matched observations. The model equations using a "matching" approach are specified as follows:

$$HighComp_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 ROA_{it} + \beta_3 LOSS_{it} + \beta_4 BigN_{it} + \beta_5 BTM_{it} + Industry\ \&\ Year\ \&\ Auditor\ Indicators + \varepsilon_{it}, \quad (5)$$

$$LogFee_{it} = \gamma_0 + \gamma_1 HighComp_{it}\ or\ Instrumented\ AccComp_{it} + \gamma_{2-25} Controls_{it} + Industry\ \&\ Year\ Indicators + \vartheta_{it}, \quad (6a)$$

or

$$Delay_{it} = \alpha_0 + \alpha_1 HighComp_{it}\ or\ Instrumented\ AccComp_{it} + \alpha_{2-16} Controls_{it} + Industry\ \&\ Year\ Indicators + \mu_{it}. \quad (6b)$$

14. That is to say, high-quality auditors would like to pressure client firms to choose more comparable accounting methods and even accounting outputs. As both Kothari et al. (2010) and Francis et al. (2014) argue, auditors are likely to have their own working procedures for interpretation, implementation, and enforcement of accounting standards and for compliance with GAAP and GAAS as well.

Equation (5) captures that comparability is potentially the consequence of both client and audit characteristics. Controls in equation (6a) of the audit fees model and equation (6b) of the audit delay model are essentially the same as equations (2) and (3) in section 4, respectively.

The results are reported in Table 10. I continue to find negative and significant (at the 5 percent level) coefficients on *HighComp* (−0.016 or −0.029 for the audit fees and audit

TABLE 10
Accounting comparability and audit effort: Matching

	Dependent variable = *HighComp*	Dependent variable = Audit fees	Dependent variable = Audit delay
HighComp		−0.016***	−0.029**
SIZE	0.007***	0.455***	−0.046***
ROA	0.055**	−0.291***	−0.220***
LOSS	−0.030**	0.059**	0.074**
BigN	0.028*	0.050**	−0.006
BTM	−0.081**		
|SPI|		0.129**	0.386**
AudChg			0.033*
GCAO		0.063*	0.362***
Export		1.024***	0.082**
Restate		0.075**	0.022**
Lever		0.352**	0.409***
SalesG		−0.125**	0.020*
SEG		0.112***	0.058**
CashVol		0.120*	
CImp		−0.015*	
CURR		0.008	
Delay		0.055**	
Initial		−0.082**	
Issue		−0.060*	
M&A		0.093**	
Pension		0.106***	
Quick		−0.011	
Season		0.098*	
Specialist		0.145**	
ΔPB		−0.203***	
|DA|			0.028
Owner			−0.015**
Tenure			−0.010*
Auditor Indicators	Included	Not Included	Not Included
Year & Industry Indicators	Included	Included	Included
Obs.	21,152	5,608	5,608
Pseudo R^2 (Adj. R^2)	0.126	(0.752)	(0.392)

Notes: This table presents the results of estimating the relationship between accounting comparability and audit efficiency using matching approach. The first column shows the determinant model for high or low accounting comparability. The second and third columns show the OLS regression tests using a matched sample. Significance is based on two-way clustered standard errors to account for group dependence (clustered on 2-digit SIC industry classification and on year). *, **, and *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively. Refer to the Appendix for variable definitions.

delay regressions, respectively), suggesting that the main results are not driven by differences in client fundamentals (such as size, profitability, and growth) or by audit style. Overall, the findings suggest that high comparability induces less audit effort and helps with timely audit production, and the negative association between audit effort and comparability does not appear to be subject to endogeneity bias.

6. Conclusions

This study investigates how accounting comparability affects the overall quality and perceived risk of an external audit. Comparability enables auditors to identify similarities and differences in how client firms' economic events are translated into accounting results over time and across clients. I argue that comparability reflects low audit risk from inherent client business risk per se and provides a positive externality gain from and for multiple audit engagements. I predict that accounting comparability is negatively associated with audit risk and audit delay, and positively associated with audit quality and opinion accuracy. Empirical tests indicate that comparability is systemically associated with audit efficiency and accuracy. Specifically, it shows that comparability is negatively related to audit service fees and audit delay, and positively related to audit opinion accuracy (both type I and type II errors).

This study is important in expanding our understanding of the accounting quality of comparability. An audit client with a higher degree of information comparability is associated with a lower level of information risk and audit risk. At the same time, comparability contributes to externality gains that result in audit efficiency. Comparability has a dual effect: (i) lower audit fees, which benefit auditees, and (ii) more timely and accurate audit reporting, which benefits auditors. Given the role of externalities in expanding auditors' available information set, the study of intraindustry information transfers in audit engagements provides additional insights into the economic benefits of audit accuracy and audit efficiency.

Notwithstanding the above results, I bring to attention some potential caveats of the study. First, I rely on some association tests to present these findings. Confirming the causality would require knowledge of whether and how audit firms or individual auditors improve their attestations based on accounting comparability (within clients, across clients, on account level and materiality tests, etc.). Unfortunately, access to such information is not realistic. Second, the documented association tests are from unobservable audit effort/outcomes and comparability. It is difficult to rule out the possibility of omitted-variables bias skewing the results. Despite these limitations, my paper takes an early step in understanding the benefits of accounting comparability for auditing and assurance services.

Appendix

Research variables	
AccComp	Accounting comparability, a firm-year measure following De Franco et al. (2011). Refer to section 3 for details
LogFee	Natural log of total audit fees during the fiscal year
Delay	Auditor report delay, measured as the number of calendar days from fiscal year-end to the signature date of the auditor's report, in logged format

(The Appendix is continued on the next page.)

Appendix (continued)

Type I Error	Dummy of one if an auditor issues a going-concern audit opinion to a client firm that does not subsequently file for bankruptcy in next fiscal year, and zero otherwise
Type II Error	Dummy of one if an auditor fails to issue a going-concern audit opinion to a client firm that subsequently declares bankruptcy, and zero otherwise
Control variables	
BigN	Dummy of one if a firm's auditor is a Big 4/5 auditor, and zero otherwise
Specialist	Dummy of one if the auditor is a joint city and national industry specialist following Reichelt and Wang (2010, 656), based on their definition 2 of industry market share, and zero otherwise
Tenure	Duration of the auditor-client relationship in years after reconciling COMPUSTAT and Audit Analytics databases. In multivariate regression, it is used as the logged value
ShortTenure	Dummy of one if auditor tenure is three years or less, following, for example, Johnson et al. (2002) and Gul et al. (2007), and zero otherwise
GCAO	Dummy of one if a firm receives a going-concern audit opinion from its auditor, and zero otherwise
CImp	Client importance, calculated as a ratio (multiply 100) of the client's total assets to the sum of the total assets of all the clients of the same auditor at the same year
AudChg	Dummy of one if there is the auditor change during the fiscal year, and zero otherwise
Initial	Dummy of one if the audit engagement is the initial two years, and zero otherwise
SIZE	Firm size, measured as the natural log of total assets (at) at the end of the year measured in millions of dollars
ROA	Return on assets, net income before extraordinary items (ib) scaled by total assets
LOSS	Dummy of one if net income before extraordinary items is negative (i.e., ib < 0), and zero otherwise
Lever	Financial leverage, calculated as long-term debt (dltt) plus debt in current liabilities (lct) divided by total assets
ΔDebt	Annual change in long-term debt divided by total assets
Owner	Client's ownership concentration, measured as the natural logarithm of the client's number of common shares outstanding (csho) scaled by the number of common shareholders (cshr)
SalesG	Growth rate in sales (sale) over the previous fiscal year
CURR	Current ratio, calculated as current assets (act) scaled by current liabilities (lct)
Quick	Quick ratio, calculated as current assets less inventory (act − invt) scaled by current liabilities
Export	Ratio of foreign sales (pifo) to total sales
SEG	Square root of the number of geographic segments
|SPI|	Absolute value of special items (spi), divided by total assets
CFO	Annual cash flows from operations less cash flows from extraordinary items (oancf − xidoc), following the approach in Hribar and Collins (2002), scaled by lagged assets
DCF	Dummy of one if *CFO* is positive, and zero otherwise

(The Appendix is continued on the next page.)

Appendix (continued)

CashVol	Standard deviation of cash flows from operating (oancf), scaled by lagged assets, over rolling six years (requiring a minimum of five years of data to estimate)
$\|DA\|$	Absolute value of performance-adjusted discretionary accruals based on Kothari et al. (2005)
Issue	Dummy of one when the client firm issues equity (sstk) or long-term debt (dltt) during the year that is more than 5 percent of total assets, and zero otherwise
Restate	Dummy of one if there is a subsequent financial restatement, and zero otherwise
Season	Dummy of one if the client's fiscal year-end month (fyr) is December, and zero otherwise
Pension	Dummy of one if the company has a pension or postretirement plan, zero otherwise. Following Whisenant et al. (2003), I define the existence of current fiscal year plan assets or cost greater than $1 million from COMPUSTAT footnote data (aco_pnfnda)
M&A	Dummy of one if the client firm is involved in a merger or acquisition in the current year, and zero otherwise
PB	Zmijewski's probability of bankruptcy score (Zmijewski 1984)
ΔPB	Annual change in Zmijewski's probability of bankruptcy score
EXCH	Dummy of one if the client firm is listed on New York or American Stock Exchange in the beginning of fiscal year, and zero otherwise
CashCorr	Firm-year measure of cash flow correlations across firms, I compute it based on the definition by De Franco et al. (2011, 923) to capture "covariation in near-term economic shocks"
RetrunCorr	Firm-year measure of stock return correlations across firms; I compute it based on the definition by De Franco et al. (2011, 923) to capture "covariation in economic shocks related to cash flow expectations over long horizons"
AccComp4	Average of the four highest accounting comparability (*AccComp*) values
HighComp	Dummy of one if *AccComp* is above the sample median each year, and zero otherwise
EarnCorr	Alternative measure of accounting comparability used in sensitivity test; I compute a firm-year measure of correlated earnings based on the definition by De Franco et al. (2011, 922)

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