

Auditor monitoring and restatement dark period

Auditor
monitoring

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Abstract

Purpose – Prior research has examined the impact of corporate governance mechanisms, including external auditing, on accounting restatements likelihood. However, little is known about auditor's monitoring role in restatement disclosure practices. The purpose of this study is to address this gap by investigating the impact of auditor's oversight on the timeliness of accounting restatement disclosures as measured by the length of the restatement dark period.

Design/methodology/approach – The study examines panel data from a sample of restating publicly traded US firms. Negative binomial regression is used to analyze the data because the dependent variable is a count variable and is over-dispersed.

Findings – The main study's results indicate that longer auditor tenure and non-audit services provision improve restatement disclosure timeliness. Conversely, companies whose auditors exerted abnormally high levels of audit effort have longer restatement dark periods.

Originality/value – This study is the first archival research that focuses on auditor's monitoring role and its impact on the timeliness of restatement disclosures. By doing so, this study contributes to the auditing academic research, professional practice and regulation by providing empirical evidence on an exasperating issue for all participants in the financial markets. In addition, it provides a better understanding of auditor's monitoring role in the accounting restatement process and offers insights to policymakers, practitioners and investors interested in corporate financial transparency and corporate governance.

Keywords Corporate governance, Corporate financial transparency, Disclosure lag, External auditing, Financial restatements

Paper type Research paper

1. Introduction

The past two decades witnessed a significant number of accounting restatements and financial reporting frauds (Bai and Koong, 2017; Plumlee and Yohn, 2010; Chin and Chi, 2009). This situation has raised major concerns among governments and regulators, and undermined public confidence in firms' financial transparency as well as the competence and integrity of their managers and external auditors (Hassink *et al.*, 2010; Scholz, 2008; GAO, 2006; Kinney *et al.*, 2004). Prior research has examined the impact of corporate



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governance mechanisms, including external auditing, on accounting restatements likelihood and has shown that auditors play a critical monitoring role in financial statements restatements (Pyzoha, 2015; Lobo and Zhao, 2013; Stanley and DeZoort, 2007; Agrawal and Chadha, 2005; Abbott *et al.*, 2004). Moreover, accounting restatements are viewed as egregious audit failures and are widely used in the archival auditing literature as an output-based proxy for actual audit quality (DeFond and Zhang, 2014).

More recently, a few studies have investigated restatement disclosure practices, especially disclosure timeliness or “dark periods.” Restatement dark periods represent the time that elapses between “the initial notification to the SEC and the time restated financial statements are filed with the SEC” (ACIFR, 2008). Longer dark periods dramatically increase the information deficit and uncertainty encountered by financial statements’ users (Schmidt and Wilkins, 2013; ACIFR, 2008; Leone, 2008). They also exacerbate investors’ suspicion and lack of confidence in financial markets (Badertscher and Burks, 2011). To date, researchers have devoted scant attention to auditor’s monitoring role in restatement disclosure practices. This study addresses this gap by investigating the impact of auditor oversight on the timeliness of accounting restatement disclosures, as measured by the length of the dark period.

Using a sample of 129 US restating public firms, this study finds that longer auditor tenure and non-audit services provision improve restatement disclosure timeliness. Conversely, companies whose auditors expended abnormally high levels of audit effort have longer restatement disclosure lags. These results provide strong evidence that auditor’s competencies and incentives play a critical role during the financial restatement process and have a significant impact on the timeliness of restatement disclosures. Moreover, our findings suggest that external auditors balance relevance and faithful representation when monitoring the financial restatement process, consistent with both attributes being the fundamental characteristics of useful financial information (FASB, 2010).

This research contributes to the emerging literature on earnings restatement disclosure practices (Badertscher and Burks, 2011; Myers *et al.*, 2013; Schmidt and Wilkins, 2013; Hirschey *et al.*, 2015; BenYoussef and Khan, 2018). More specifically, this study is the first archival research that focuses on auditor’s monitoring role and its impact on the timeliness of restatement disclosures. By doing so, this study contributes to the auditing academic research, professional practice, and regulation by providing initial empirical evidence on an exasperating issue for all participants in the financial markets (such as investors, regulators, public companies and external auditors). In addition, it provides insights to regulators, practitioners and investors interested in corporate financial transparency and auditor’s monitoring function. The remainder of the paper is organized as follows. The next section reviews prior literature and develops the hypotheses. Section III describes the research methodology. Section IV provides the results. Finally, Section V provides the conclusion for this study.

2. Background and hypotheses development

2.1 Earnings restatements and timeliness of restatement disclosures

Financial statements restatements are listed by U.S. Securities and Exchange Commission (SEC) (2002) as a main cause of investors’ confidence deterioration in financial reporting and market efficiency. In the extant literature, it has been documented that earnings restatements are followed by stock price decline (Palmrose *et al.*, 2004), increased equity capital cost (Hribar and Jenkins, 2004) and debt cost (Park and Wu, 2009) and organizational legitimacy threats (Arthaud-Day *et al.*, 2006).

Accounting restatements are considered as egregious audit failures. They are widely used in the archival auditing literature as an output-based proxy for actual audit quality (DeFond and Zhang, 2014). Prior research shows that restatements increase audit fees (Feldmann *et al.*, 2009) and auditor's legal liability (Kinney *et al.*, 2004). Liu *et al.* (2009) find that shareholders are less inclined to vote in favor of auditor ratification following a restatement, suggesting that restatements damage auditor's reputational capital. In addition, previous studies provide evidence that restatements are negatively associated with auditor's office size (Francis and Yu, 2009) as well as audit committee independence (Abbott *et al.*, 2004) and expertise (Agrawal and Chadha, 2005; Abbott *et al.*, 2004).

According to the FASB/IASB Conceptual Framework for Financial Reporting, timeliness is a complementary qualitative characteristic of useful financial information, which enhances information relevance. Timeliness is defined as "having information available to decision makers in time to be capable of influencing their decisions" (FASB, 2010). Untimely disclosure of financial information is associated with increased information asymmetry (Hakansson, 1977) and negative market reaction (Palmrose *et al.*, 2004; Easton and Zmijewski, 1993; Chambers and Penman, 1984; Kross and Schroeder, 1984). In the same vein, Bartov and Konchitchki (2017) provide evidence of significant negative stock market reactions associated with late SEC filings, consistent with timeliness being a fundamental qualitative characteristic of financial reporting (FASB, 2010). This is all the more true in the highly opaque and uncertain information environment that prevails following the initial announcement of accounting restatements. Accounting restatements are viewed as material news by investors (Palmrose *et al.*, 2004; Richardson *et al.*, 2003). Therefore, restatement disclosure lags dramatically increase the information deficit and uncertainty encountered by financial statements users. They also increase investors' suspicion and lack of confidence in financial markets. In a recent study, BenYoussef and Khan (2018) document negative market responses to longer restatement dark periods. Moreover, regulators have acknowledged the importance of timely restatement disclosures and requires firms to release awaiting restatements within four business days of management's initial non-reliance judgement (SEC, 2004).

Although most companies comply with the SEC deadline for initial restatement announcements, specifics about restatement's effects on previously reported earnings are generally not provided until the filing of the restated financial statements in either the amended or regular Form 10-K. This delay precludes investors from evaluating the restatement's materiality and pervasiveness and creates a "dark period" between the initial announcement in Form 8-K and the filing of the restated financial statements (Schmidt and Wilkins, 2013). During this dark period, uncertainty about the restatement's type, magnitude and pervasiveness impedes investors' valuation of the firm and could lead to costly loan default or stock delisting (ACIFR, 2008).

In prior research, only a few papers have studied the timeliness of restatement disclosures. Badertscher and Burks (2011) examine a sample of restatements over the 1997-2005 period and determined that extensive disclosure lags are typically caused by fraud investigations. In non-fraudulent cases, the length of the dark period is positively related to restatement attributes, especially the number of errors and their magnitude. Also, disclosure lags are longer for long-standing errors.

Using a sample of US restating firms between 2004 and 2009, Schmidt and Wilkins (2013) [SW hereafter] document a negative relationship between the duration of the dark period and audit quality as measured by the Big 4 membership. Moreover, the accounting financial expertise of the audit committee members, notably the chair, improves restatement disclosure timeliness.

In a broader study on the determinants of restatement disclosure practices, [Myers et al. \(2013\)](#) examine a sample of accounting restatements announced during the 2002-2008 period. Findings indicate that restatement disclosure timeliness is negatively associated with the magnitude of the restatement's impact on income and firm's accounting riskiness. Additionally, the periods that elapse between the misstatement period and the restatement announcement date, called detection period, are longer for multiple restatements and restatements announced during the first fiscal quarter.

In a recent study, [BenYoussef and Khan \(2018\)](#) examine a sample of 302 restatement announcements for the 2005-2007 period and find that restatement disclosure lag is negatively associated with CEO options exercised within or after the dark period.

Our study contributes to this emerging literature by examining the impact of auditor oversight on restatement disclosure lag. SW is the only prior study that touched, to some extent, the topic of auditor monitoring and restatement dark period. SW's focus is on the impact of audit committee characteristics on the length of the dark period, and only one of their key findings relates to auditor's attributes, i.e. auditor's size (as measured by Big 4 vs non-Big 4). Because audit committee is, essentially, an add-on governance mechanism to another mechanism, external auditing, we argue that researchers' attention should first go to examining the impact of auditor's monitoring on restatement disclosure timeliness. To provide a direct and more comprehensive and robust investigation of the impact of auditor monitoring on the restatement dark period, our study includes the same auditor's size variable as SW and a selected number of other factors related to auditor monitoring. Specifically, we selected factors that cover auditor competencies and incentives, both of which are dimensions of [DeFond and Zhang \(2014\)](#)'s framework about audit quality and are considered as key elements of auditor monitoring in the extant auditing literature.

2.2 External auditor monitoring

External auditing is an important corporate governance mechanism in modern organizations ([Barlaup et al., 2009](#); [Fan and Wong, 2005](#)). Auditors' monitoring role has been extensively studied in various fields such as economics ([Dye, 1993](#)), finance ([Minnis, 2011](#); [Datar et al., 1991](#)) and accounting ([Abad et al., 2017](#); [Blankley et al., 2012](#); [Chen et al., 2011](#); [Stanley and DeZoort, 2007](#)).

The primary objective of external financial reporting is to reduce information asymmetry between managers and stakeholders, notably shareholders. However, financial reporting may lack reliability, which erodes the usefulness of the financial statements for external users ([Maines and Wahlen, 2006](#)). Managers contract statutory and voluntary financial statements audits to reduce information risk associated with financial statements and enhance their credibility and usefulness for external users ([Barlaup et al., 2009](#); [Wallace, 2004](#)). As such, the auditor plays a critical role in the firm's financial reporting supply chain. In prior research, auditor's monitoring role in addressing information asymmetry and moral hazard problems in the principal-agent relationship has been well documented ([Wallace, 2004](#)).

Audit quality is one of the most researched topics in the auditing literature given the importance of this construct in the supply of audit services ([Brown et al., 2016](#)). The definition of the concept of audit quality has attracted considerable attention from researchers, regulators, and practitioners. After more than three decades, and:

[...] despite the importance of audit quality to the stability of the capital markets, and the large body of research investigating the topic, regulators, investors, and researchers continue to debate the definition, composition, and measurement of audit quality ([Christensen et al., 2016](#)).

Audit quality was defined early by [DeAngelo \(1981\)](#) as the market-assessed joint probability that a given auditor will both:

- (1) discover a breach in the client's accounting system [or a material misstatement]; and
- (2) report the breach.

More recent definitions emphasize that audit quality is a complex, multi-dimensional and continuous construct. [Francis \(2011\)](#) states that "audit quality is achieved by the issuance of the "appropriate" audit report on the client's compliance with generally accepted accounting principles." In their comprehensive, and now well-accepted, theoretical framework about audit quality, [DeFond and Zhang \(2014\)](#) define higher audit quality as "greater assurance that the financial statements faithfully reflect the firm's underlying economics, conditioned on its financial reporting system and innate characteristics." Moreover, the authors "characterize [. . .] the supply of audit quality as a function of auditor incentives [especially, litigation and reputation risks] and competencies [mainly, expertise and inputs to the audit process]" ([DeFond and Zhang, 2014](#)). Accordingly, in this study, audit quality is defined as the degree of auditor's effectiveness in monitoring the financial reporting supply chain, considering his/her incentives and competencies.

Previous studies established that external auditors play a significant monitoring role in financial statements' restatements ([Pyzoha, 2015](#); [Chung and McCracken, 2014](#); [Lobo and Zhao, 2013](#); [Chin and Chi, 2009](#); [Stanley and DeZoort, 2007](#)). However, as explained in the previous section, little is known about auditor's role in restatement disclosure practices, especially the length of disclosure lags. This study aims at filling this gap in the literature.

2.3 Hypotheses development

2.3.1 Timeliness of restatement disclosures and abnormal audit effort. Audit effort is one of the most commonly used input-based measures of audit quality in archival auditing research. Higher audit effort is expected to increase auditor competency and reduce the risk of undetected material misstatements in the client's financial statements, thereby improving the quality of the audit. Both audit fees and audit hours have been used to proxy for audit effort. However, audit hours have been much less used because of a lack of data availability. Despite a few limitations, audit fee models are quite robust with "R-squares often exceeding 70 per cent, which to some extent alleviates concerns about correlated omitted variables" ([DeFond and Zhang, 2014](#)).

Prior research shows that audit fees are positively related to client riskiness, as measured by higher earnings management ([Abbott et al., 2006](#)) and litigation ([Venkataraman et al., 2008](#)) risks, public equity ([Badertscher et al., 2014](#)), existence of internal control weaknesses ([Hogan and Wilkins, 2008](#)), and poor corporate ethics ([Lyon and Maher, 2005](#)) and credit ratings ([Gul and Goodwin, 2010](#)). Moreover, recent studies find that higher audit fees are associated with decreased likelihood of accounting restatements after controlling for client riskiness ([Lobo and Zhao, 2013](#); [Blankley et al., 2012](#)).

Abnormal audit effort, as proxied by abnormal audit fees, indicates audit effort that is over and above what is expected under normal circumstances ([Jung et al., 2016](#)). Generally, an abnormal audit effort is caused by specific-engagement factors such as increased riskiness ([Eshleman and Guo, 2014](#); [Fargher et al., 2014](#); [Hay, 2013](#); [Causholli et al., 2010](#); [Schelleman and Knechel, 2010](#); [O'Keefe et al., 1994](#)). In other words, if the audit engagement is highly risky, the auditor is incited to devote more effort, resources and time for auditing the financial statements and deliver an acceptably high-quality audit ([Habib and Muhammadi, 2018](#)). An audit engagement could be considered as highly risky because of a

number of factors. Examples include, but are not limited to, increased complexity of business processes and controls (e.g. the company has several business segments) as well as increased complexity of the risk assessment and risk response stages of the audit process because of accounting restatements for instance. Because an accounting restatement is perceived as a major audit failure, the incumbent auditor is expected to be more sceptical and conservative during the restatement process to avoid a further restatement and ensuing litigation and reputational threats. He/she is also likely to exert increased (abnormal) scrutiny and effort on evaluating the client's risk profile and financial reporting system, understanding the nature of the misstatements, their sources and their impacts on the current audit, and identifying and assessing potential deficiencies in previous audits. *Ceteris paribus*, this results in a costlier audit (evidenced by an abnormally high level of audit fees) and a longer audit report lag, which translates into a longer disclosure lag. For these reasons, restatement disclosures can be delayed and a lengthier restatement disclosure lag is anticipated for higher levels of abnormal audit fees. Thus, the abnormal audit fees hypothesis is formulated as follows:

H1. Abnormal audit fees are positively associated with restatement disclosure lag.

2.3.2 Timeliness of restatement disclosures and non-audit services provision. Providing non-audit services (NAS) to existing audit clients could prejudice auditor's independence because of increased self-interest threat and financial dependence on the client, which reduces auditor's incentives to provide a high-quality audit (Markelevich and Rosner, 2013; Ahadiat, 2011; Frankel *et al.*, 2002; SEC, 2001). For instance, the auditor may be less sceptical, more acquiescent to the client's opinions and more willing to issue an unmodified opinion to avoid the loss of NAS fees. In contrast, NAS provision may increase auditor's competencies to supply a higher quality audit because of knowledge spillovers (Wu, 2006). Providing NAS allows the auditor to acquire a better understanding of the client and its environment, which improves the audit process effectiveness and efficiency. Most, if not all, of the non-audit services provided by audit firms to their clients involve some knowledge acquisition about the client and its environment, which directly contributes to the mandatory risk assessment stage of the audit process.

Theoretically, the existence of a negative effect of NAS provision on audit quality has been contested by a number of professional and academic papers. First, in accordance with generally accepted auditing standards, auditors must reject/resign from the audit engagement if their independence, in fact and in appearance, is not assured at any point during the audit process. Second, whether NAS provision would threaten auditor's independence is subject to factors, which are specific to each audit engagement (e.g. auditor's and audit firm adherence to ethics standards, importance of non-audit services fee relatively to other client revenue). Therefore, the independence impairment effect of NAS provision should be assessed on a case-by-case basis and cannot be easily generalized. This is not true for the knowledge spillover effect of NAS provision, which could not be easily contested. In fact, the debate in the literature is about whether the knowledge spillover effect outweighs the independence impairment effect rather than whether the former effect exists.

Empirical research about the impact of auditor-provided NAS on audit quality is inconclusive. DeFond and Zhang (2014) present a brief overview of this literature and an insightful analysis of its findings. According to the authors, the impact of NAS on audit quality depends on how the latter is measured. Most of the studies that use perception-based proxies of audit quality (e.g. ERCs, cost of capital, and likelihood of auditor ratification) document a negative effect of NAS on audit quality (Srinidhi and Gul, 2007; Ferguson *et al.*,

2004), suggesting that NAS are perceived as a threat to auditor's independence. However, most of the studies that use output-based proxies of audit quality (such as restatements, conservatism and GC opinions) find no evidence that NAS prejudice actual audit quality (Knechel and Sharma, 2012; Paterson and Valencia, 2011; DeFond *et al.*, 2002). Moreover, some types of NAS (tax and internal audit services) are positively associated with audit quality, consistent with the knowledge spillover argument (Paterson and Valencia, 2011; Cook *et al.*, 2008; Robinson, 2008; Huang *et al.*, 2007).

More recent papers about the impact of non-audit services provision on audit quality, including literature review and meta-analysis (Habib, 2012; Koh *et al.*, 2013; Eilifsen and Knivsfå, 2016; Ciconte *et al.*, 2017), conclude that:

The extant literature gives little evidence of a quality-reducing effect of advice on the audit [. . .] Most research even seems to point towards an increase in quality, in cases where, in addition to assurance, the firm offers advisory services. This advantage can be attributed to knowledge transfer, where auditors benefit from the knowledge of their colleagues who give advice to the firms they audit [. . .] Looking at the huge amount of studies, there seems to be little ground to assume that audit quality is impaired if the same firm offers audit and non-audit services (Bouwens, 2018).

Therefore, *ceteris paribus*, NAS provision is expected to increase auditor competencies about the audit engagement, which results in delivering a high-quality audit and a timelier auditor report. This translates into a shorter disclosure lag. The auditor-provided NAS hypothesis is formulated as follows:

H2. Non-audit services provision is negatively associated with restatement disclosure lag.

2.3.3 Timeliness of restatement disclosures and auditor tenure. Long auditor tenure may impair auditor's independence because of increased familiarity threat between audit team members and client's managers (Lim and Tan, 2010), thereby reducing auditor's incentives to provide a high quality audit (Singer and Zhang, 2018). However, long auditor tenure may improve auditor's client-specific competencies to supply higher quality audits because auditors are expected to acquire more knowledge about the client and its environment over time (Lee *et al.*, 2009; Stanley and DeZoort, 2007).

Most of the empirical research shows that auditor tenure increases audit quality probably because the positive impact of improved client-specific knowledge on audit quality outweighs the negative impact of potential familiarity threats (Chen *et al.*, 2008; Ghosh and Moon, 2005; Mansi *et al.*, 2004; Myers *et al.*, 2003; Geiger and Raghunandan, 2002). Moreover, previous studies provide evidence that short-tenured auditors are exposed to a higher litigation risk (Palmrose, 1991) and that auditor tenure is negatively associated with restatement likelihood (Stanley and DeZoort, 2007). Therefore, a longer auditor tenure is likely to improve auditor's client-specific competencies to supply higher quality audits as a better understanding of the client and its environment improves auditor's risk assessment and risk response during the audit process. Thus, *ceteris paribus*, auditor tenure is expected to increase auditor competencies about the audit engagement, which results in delivering a high quality audit and a timelier auditor report. This translates into a shorter disclosure lag. The auditor tenure hypothesis is formulated as follows:

H3. Auditor tenure is negatively associated with restatement disclosure lag.

The following figure illustrates the conceptual model of the study (Figure 1).

3. Research design

3.1 Data

This research investigates accounting restatements announced by US-listed companies during the 2005-2010 period. The study period starts from 2005 because the SEC regulation about restatement announcements, Release No. 33-8400, was issued in August 2004. During the sample period, 2,851 firms announced restatements through Form 8-K. Audit data for the sample firms are obtained from Audit Analytics and financial data from Compustat. Following Scholz (2008), 153 observations are removed because they are probable duplicate restatement announcements and because they have been issued within 90 days of each other. Moreover, 1,748 observations are eliminated because they did not have sufficient data in either Audit Analytics or Compustat to be included in our multivariate model. An additional 646 observations were removed from the sample because they are foreign (233) or financial (413) firms. Finally, similar to previous studies, 175 firms are eliminated because they provide specific information on the quantitative impact of the restatement in Form 8-K. Hence, the final sample consists of 129 restating firms. Table I summarizes the sample selection process.

The sample distribution of restatement categories is presented in Table II. As in SW, 12 types of accounting restatements are distinguished. In total, 284 misstatements are reported by the 129 sample firms with an average of 2.2 misstatements per company. Debt/equity, stock-based compensation/options, tax-related issues and revenue recognition are the four most frequent categories of misstatements. The longest dark periods are associated with stock-based compensation/options (over six months) and liabilities, reserves and accrual estimates (four months). The shortest disclosure lags correspond to consolidations, mergers and acquisitions (around a month and a half). For each type of restatement, Table II provides the percentage of errors announced by restating companies that are audited by the Big 4 auditors. In the study sample, large audit firms audited 61 per cent of the restatements within the lengthiest dark period category and 44 per cent of the restatements within the shortest one. Overall, the descriptive results do not reveal any particular trend related to Big 4 membership.

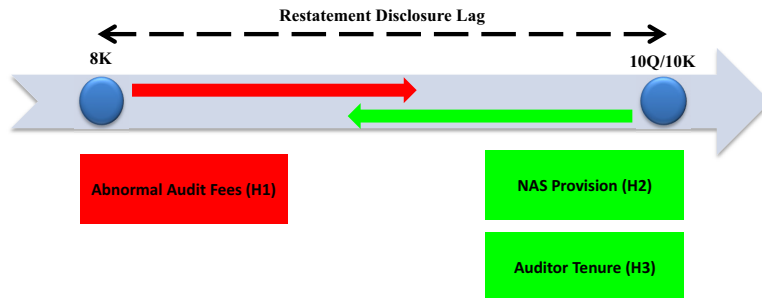


Figure 1.
Conceptual model

Firms announcing a restatement in Form 8-K during the 2005-2010 period	2,851
Less duplicate restatement announcements	(153)
Less firms with missing audit or financial data	(1,748)
Less foreign firms	(233)
Less financial firms	(413)
Less firms that quantify restatement impact in Form 8-K	(175)
Final sample	129

Table I.
Sample selection

Table II.
Distribution of
restatement types

Category	Incidents no.	Average dark period	%Big4
Debt, quasi debt, warrants and equity	33	74.85	0.48
Stock-based compensation/Options backdating	28	187.00	0.61
Tax expense/benefits/deferral/other (FAS 109) issues	28	103.11	0.64
Revenue recognition	27	83.70	0.44
Property, plant and equipment/Intangibles	23	84.82	0.65
Liabilities, payables, reserves and accrual estimate failures	22	121.36	0.68
Consolidations/Mergers and acquisitions	18	45.44	0.44
Expense recognition/Capitalization of expenditures	17	109.00	0.76
Inventory, vendor and/or cost of sales issues	17	74.94	0.59
Lease/leasehold issues	15	85.46	0.93
Foreign, related party, affiliated or subsidiary issues	11	81.00	0.73
Accounts/loans receivable, investments and cash issues	9	93.55	0.55
Other	36	74.42	0.66
Total announced misstatements across the 129 sample firms	284		

3.2 Model

To test the study's research hypotheses (*H1-H3*) about the impact of auditor oversight on restatement disclosure lag, a negative binomial regression model is developed. The model includes a number of auditor attributes, which are expected to strengthen his monitoring role during the restatement process and affect the timeliness of restatement disclosures. Negative binomial regression is used because the dependent variable (*DISCLAG*) is a count variable and is over-dispersed as it does not take zero values (Little, 2013); the mean of *DISCLAG* is 71.65 days, the median is 46 and the standard deviation is 65.45. The following equation describes the study's regression model and [Table III](#) provides variable definitions:

$$\begin{aligned}
 DISCLAG = & \beta_0 + \beta_1 ABFEE + \beta_2 NAS + \beta_3 AUDTEN + \beta_4 AUDSPEC \\
 & + \beta_5 BIG4 + \beta_6 AUDCH + \beta_7 MAG_ABS + \beta_8 RES_ADV \\
 & + \beta_9 LENG + \beta_{10} PERVAS + \beta_{11} HORIZON + \beta_{12} FRAUD \\
 & + \beta_{13} SIZE + \beta_{14} LEV + \beta_{15} ROA + \beta_{16} Year\ Fixed\ Effects \\
 & + \beta_{16} Industry\ Fixed\ Effects
 \end{aligned}
 \tag{1}$$

The dependent variable, *DISCLAG*, measures the length of the dark period. Similar to previous studies, *DISCLAG* is the number of days between firm's initial announcement of an imminent restatement in Form 8-K and the filing of restated financial statements in amended or regular Form 10-K, and it is winsorized at 1 per cent. In SW, the dark period starts on the date of discovering the need for restatement as stated in Form 8-K. Nevertheless, this date depends on managers and board members' perceptions (Myers *et al.*, 2013; Badertscher and Burks, 2011; Turner and Weirich, 2006). For instance, managers, board members and the audit committee can debate for several months on whether a misstatement is material to the financial statements before they agree on the necessity of restatement (Turner and Weirich, 2006). Moreover, the dark period should be defined with reference to stakeholders' point of view. It should therefore start when they are informed that a misstatement is discovered, i.e. when the restatement is announced. For these reasons and consistent with prior studies (BenYoussef and

Variable	Definition	Database
<i>Dependent variable</i>		
DISCLAG	Number of days between the initial restatement announcement in Form 8-K and the filing of the restated financial statements in amended or regular 10-K Form, winsorized at 1% level (BenYoussef and Khan, 2018; Schmidt and Wilkins, 2013; Badertscher and Burks, 2011)	Audit Analytics (hand collected)
<i>Independent variables</i>		
ABFEE	Equals to the residual of Ettredge <i>et al.</i> (2007) audit fee model	Audit Analytics Compustat
NAS	Equals to 1 if NAS fees in the restatement announcement year are greater than median; 0 otherwise (Knechel and Sharma, 2012).	Audit Analytics
AUDTEN	Natural logarithm of number of consecutive years of the auditor-client relationship through the end of the restatement year	Audit Analytics
<i>Control variables</i>		
Auditors attributes		
AUDSPEC	Equals to 1 if the audit firm has the largest market share of audit fee revenue in the client's industry (by two-digit SIC code); 0 otherwise (Lobo and Zhao, 2013)	Audit Analytics
BIG4	Equals to 1 if the restating firm is audited by a Big 4 auditor during the restatement year; 0 otherwise (Schmidt and Wilkins, 2013; Badertscher and Burks, 2011)	Audit Analytics
AUDCH	Equals to 1 if the restating firm changes auditor during the period beginning one year prior to the restatement announcement in Form 8-K and ending with the filing of the restated financial statements in amended or regular 10-K Form; 0 otherwise (Schmidt and Wilkins, 2013)	Audit Analytics
Restatement attributes		
MAG_ABS	Absolute value of the cumulative impact of the restatement on past earnings, scaled by total assets as of the year-end prior to the restatement announcement (BenYoussef and Khan, 2018; Myers <i>et al.</i> , 2013; Badertscher and Burks, 2011; Palmrose <i>et al.</i> , 2004)	Audit Analytics
RES_ADV	Equals to 1 if the restatement decreased previously reported net earnings; 0 otherwise (BenYoussef and Khan, 2018; Myers <i>et al.</i> , 2013)	Audit Analytics
LENG	Length of reporting periods restated (in years) (Myers <i>et al.</i> , 2013; Palmrose <i>et al.</i> , 2004)	Audit Analytics
PERVAS	Equals to 1 if the restatement involves misstatements that span more than one restatement category; 0 otherwise (Schmidt and Wilkins, 2013)	Audit Analytics
HORIZON	Time period in years that elapses between the end of a misstatement period and the restatement announcement in Form 8-K (Myers <i>et al.</i> , 2013)	Audit Analytics
FRAUD	Equals to 1 if the restatement involves financial fraud, irregularities, or misrepresentations, or the restatement is subject to SEC or other regulatory investigations; 0 otherwise (Schmidt and Wilkins, 2013)	Audit Analytics

Table III.
Variable definitions

(continued)

Table III.

Variable	Definition	Database
<i>Firm characteristics</i>		
SIZE	Natural logarithm of the firm's total assets as of the year-end prior to the restatement announcement (BenYoussef and Khan, 2018; Myers <i>et al.</i> , 2013; Badertscher and Burks, 2011; Palmrose <i>et al.</i> , 2004)	Compustat
ROA	Income before extraordinary items scaled by total assets as of the year-end prior to the restatement announcement (Myers <i>et al.</i> , 2013)	Compustat
LEV	Long term debt divided by total assets as of the year-end prior to the restatement announcement (BenYoussef and Khan, 2018; Myers <i>et al.</i> , 2013; Badertscher and Burks, 2011; Palmrose <i>et al.</i> , 2004)	Compustat

Khan, 2018; Badertscher and Burks, 2011), the calculation of the dark period in this study starts from the initial restatement announcement in Form 8-K.

The negative binomial model (1) considers a number of dependent and control variables. On the audit-supply side, we examine abnormal audit fees (*ABFEE*) – *H1*, non-audit services provision (*NAS*) – *H3* and auditor tenure (*AUDTEN*) – *H3*. We control for the following auditor's competencies and incentives variables as suggested by previous studies: auditor expertise (*AUDSPEC*), auditor size (*BIG4*) and auditor change (*AUDCH*). As explained in the theoretical background section, an estimate of abnormal audit fees (*ABFEE*) is used to proxy for abnormal audit effort. Ettredge *et al.*'s (2007) model is used to estimate abnormal audit fees. This model relates total audit fees to client's characteristics such as size, complexity and riskiness. We used all non-missing observations in Audit Analytics across the study period (2005-2010) to estimate the abnormal audit fee model in Equation (2). This allows for a better estimation of abnormal audit effort by reducing the variation of residual errors. After merging Compustat and Audit Analytic data, we end-up with 1,468 observations that we use to estimate model (2). The study's audit fees model provides an R-square equal to 72.37 per cent, which is higher than the 70 per cent threshold commonly recommended and used in prior research (DeFond and Zhang, 2014). The residual of this model, which represents the unexplained portion of audit fees, is used to proxy for abnormal audit effort. The study's audit fees model is as follows:

$$\begin{aligned}
 LNFEET = & \beta_0 + \beta_1 LNASSETS + \beta_2 ADJSALES + \beta_3 INVAR + \beta_4 DTRATIO \\
 & + \beta_5 LOSS + \beta_6 SEGNUM + \beta_7 GOCERN + \beta_8 AUDITOR + \beta_9 BUSY \\
 & + \beta_{10} Industry\ Fixed\ Effects + \beta_{11} Year\ Fixed\ Effects
 \end{aligned}
 \tag{2}$$

where

LNFEET = natural logarithm of audit fees.

LNASSETS = natural logarithm of total assets.

ADJSALES = sales/total assets.

INVAR = (total inventory + total accounts receivable)/total assets.

DTRATIO = total debt/total assets.

LOSS = 1 if company reports a net loss; 0 otherwise.

SEGNUM = number of the company's business segments.
GOCERN = 1 if company receives a going concern opinion; 0 otherwise.
AUDITOR = 1 if auditor is a Big 4; 0 otherwise.
BUSY = 1 if company's fiscal year-end is between Dec. 1 and Mar. 31; 0 otherwise.

As in [Knechel and Sharma \(2012\)](#), non-audit services provision (*NAS*) is measured using a binary variable that equals to one if *NAS* fees are higher than the median and zero otherwise. Auditor tenure (*AUDTEN*) measures the length of the auditor-client relationship in years. Similar to [Lobo and Zhao \(2013\)](#), auditor industry specialization (*AUDSPEC*) is captured by an indicator variable identifying firms whose auditors are specialist, i.e. have the largest market share of audit fee revenue in the client's industry (by two-digit SIC code). Auditor size (*BIG4*) is a dummy variable that identifies companies audited by Big 4 audit firms at the time of restatement announcement. Finally, following [SW](#), auditor change (*AUDCH*) is measured by a binary variable that equals to 1 if the restating firm changes its auditor during the period beginning one year prior to the restatement announcement in Form 8-K and ending with the filing of the restated financial statements in amended or regular Form 10-K.

In addition, the negative binomial model (1) controls for restatement attributes and firm characteristics that might affect the dark period duration, as suggested by prior studies ([BenYoussef and Khan, 2018](#); [Myers et al., 2013](#); [Schmidt and Wilkins, 2013](#); [Badertscher and Burks, 2011](#)). Controls for the severity and complexity of the restatement include restatement magnitude (*MAG_ABS*), restatement direction (*RES_ADV*), length of restated periods (*LENG*), restatement pervasiveness (*PERVAS*), restatement horizon (*HORIZON*) and fraudulent restatement (*FRAUD*). Consistent with prior studies, positive coefficients are expected for these control variables because resolving a more severe and complex misstatement would be more tedious and might complicate the "remediation process." *MAG_ABS* is the absolute value of the cumulative impact of the restatement on past earnings scaled by total assets as of the year-end prior to the restatement announcement. *RES_ADV* is an indicator variable that is set equal to 1 if the restatement decreased previously reported earnings. *LENG* measures the length of the restated reporting periods in years. *PERVAS* is a dummy variable that identifies firms having restatements with errors that span more than one restatement category. *HORIZON* is the time period that elapses between the end of a misstatement period and the restatement announcement in Form 8-K. *FRAUD* is a binary variable that identifies firms with fraudulent restatements, i.e. the restatement involves financial fraud, irregularities, misrepresentations or is subject to SEC or other regulatory investigations.

On the audit-demand side, the negative binomial model (1) includes the following firm-specific control variables: firm size (*SIZE*), return on assets (*ROA*) and leverage (*LEV*). *SIZE* is defined as the natural log of total assets as of the year-end prior to the restatement announcement. *ROA* is calculated by dividing income before extraordinary items by total assets. *LEV* is measured by dividing long term debt by total assets. No directional predictions are provided for these control variables because of inconclusive findings in the prior literature. Finally, model (1)[1] includes year and industry fixed effects to control for systematic variations in the dependent variable across years.

4. Empirical results

4.1 Descriptive statistics

[Table IV](#) presents descriptive statistics for all variables. First, the table shows that the mean (median) of the dependent variable *DISCLAG* is 71 (46) days. It provides descriptive

Variable	Mean	Median	Q25	Q75	SD
<i>Dependent variable</i>					
<i>DISCLAG</i>	71.65	46.00	12.00	131.00	65.45
<i>Independent variables</i>					
<i>ABFEE</i>	0.17	0.19	-0.16	0.58	0.75
<i>NAS</i>	0.50	0	0	1	0.50
<i>AUDTEN</i>	1.73	1.61	1.10	2.40	0.96
<i>Control variables</i>					
<i>AUDSPEC</i>	0.09	0	0	0	0.29
<i>BIG4</i>	0.57	1	0	1	0.50
<i>AUDCH</i>	0.26	0	0	1	0.44
<i>MAG_ABS</i>	0.211	0.014	0.003	0.051	0.827
<i>RES_ADV</i>	0.74	1	0	1	0.44
<i>LENG</i>	2.73	2	1	3.25	2.84
<i>PERVAS</i>	0.59	1	0	1	0.49
<i>HORIZON</i>	0.45	0.38	0.33	0.52	0.27
<i>FRAUD</i>	0.16	0	0	0	0.36
<i>DURING_AUDIT</i>	0.36	0	0	1	0.48
<i>SIZE</i>	5.35	5.24	3.97	6.38	2.00
<i>ROA</i>	-0.18	-0.01	-0.18	0.06	0.56
<i>LEV</i>	0.26	0.10	0	0.36	0.54

Table IV.
Descriptive statistics

statistics for the independent variables. By construction, the mean value of the non-audit services provision variable (*NAS*) is 50 per cent. The median auditor tenure (*AUDTEN*) is 5 years. The average value for auditor expertise (*AUDSPEC*) is 0.09, which indicates that most of the restating firms in the sample are not audited by industry specialists. As for the auditor size variable (*BIG4*), a considerable number of the sample firms (57 per cent) are audited by Big 4 audit firms. In addition, almost 27 per cent of the sampled firms changed their incumbent auditor during the period beginning one year before the restatement announcement and ending with the filing of the restated financial statements in amended or regular Form 10-K.

Finally, **Table IV** presents descriptive statistics for control variables. For restatement attributes, the mean (median) of *MAG_ABS* is 21 per cent (1.4 per cent), which is consistent with SW (same median). Across all of the sampled firms, 74 per cent of the restating firms have restatements that decreased previously reported net earnings (*RES_ADV*). The average length of the restated time period (*LENG*) is around 2.7 years and approximately 59 per cent of the restating firms have restatements with errors that span more than one restatement category (*PERVAS*). The average time period between the end of the misstatement period and the restatement announcement in Form 8-K (*HORIZON*) is nearly five months and a half (0.45 year), which is similar to SW (0.44 year), and around 16 per cent the restating firms reported fraudulent restatements (*FRAUD*).

On an average, the study's sample of restating firms has somewhat less severe and complex restatements than SW with less income-reducing restatements (82 per cent in SW), shorter restated time period (3.26 years in SW) and less pervasive and fraudulent restatements (76 per cent and 25 per cent in SW, respectively). Because SW sample period is between 2004 and 2009 while this study's sample covers the 2005-2010 period, these differences are consistent with [Scholz \(2014\)](#) which reveals "a downward trend in the number and severity of restatements filed by [US] issuers [between 2003 and 2012]" ([Scholz, 2014, p. iii](#)).

Considering firm characteristics, the mean (median) of firm size (*SIZE*) is 5.35 (5.24), which corresponds to an average total assets value of US\$189m. In addition, the mean values of *ROA* and *LEV* are -0.18 and 0.26 , respectively. As in previous studies, the average restating firm in this study is relatively small, unprofitable and not highly leveraged. In SW, restating firms are bigger (median total assets is US\$446m), less unprofitable (mean *ROA* is -0.08) and less leveraged (mean of leverage is 0.18). Once again, these differences are in line with the trend documented by Scholz (2014).

Table V provides pairwise correlations for all variables, with Pearson (Spearman) coefficients above (below) the diagonal, and significant coefficients in bold type ($p \leq 0.10$). The correlation coefficients suggest that restatement disclosure lag (*DISCLAG*) is longer when the restating company is audited by a large audit firm (*BIG4*) and the incumbent auditor exerts abnormally high audit effort (*ABFEE*). Moreover, the dark period is lengthier for more severe and complex restatements as suggested by the positive correlations between the dependent variable (*DISCLAG*) and the following restatement attributes: restatement magnitude (*MAG_ABS*), restatement direction (*RES_ADV*) and length of the restated time period (*LENG*). As for firm characteristics, *DISCLAG* is positively correlated with firm's size (*SIZE*) and profitability (*ROA*) and negatively related to company's leverage (*LEV*).

Some other significant correlations are as follows. For instance, larger restating firms are audited by Big 4, industry-expert and long-tenured auditors. They purchase more NAS from their auditors and have less material restatements but longer restated time periods. In the same vein, large audit firms are more likely to be long-tenured and specialist auditors, supply more NAS to their audit clients and are associated with less material restatements but longer restated time periods.

4.2 Multivariate statistics

To investigate the impact of auditor oversight on restatement disclosure lag, *H1-H3* is tested using the negative binomial regression model (1). Table VI presents the results from the estimation of the model. All of the study's hypotheses are supported, showing that auditor oversight has a significant impact on the dark period length. Moreover, the model's scaled deviance and Pearson chi square values are 1.60 and 0.89, respectively. These values are close to 1, which indicates adequate fit for negative binomial models (Little, 2013; SW).

As predicted by *H1*, abnormal audit fees are significantly and positively associated with restatement disclosure lag ($p < 0.05$). The dark period is longer when the auditor spends abnormally high audit effort during the restatement announcement year because of factors that are not captured by the audit fees model (2). This result is consistent with the auditor's incentives argument explained above. The coefficient estimate for *ABFEE* is 0.25, indicating that a unit increase in *ABFEE* is associated with a predicted disclosure lag that is 28 per cent ($1 - \exp^{0.25} = 0.28$) longer. Considering an average dark period of 71 days, this corresponds to an additional delay of 20 days.

H2 predicts that non-audit services provision improves restatement disclosure timeliness. The coefficient on *NAS* is negative and significant ($p < 0.10$), suggesting that restating firms that purchase more *NAS* from their auditors have shorter dark periods. This result is consistent with the argument that providing *NAS* to audit clients increases auditor's competencies because of knowledge spillovers. With a coefficient of -0.40 , *NAS* provision is associated with a disclosure lag reduction of 33 per cent ($1 - \exp^{-0.40} = 0.33$) or 23 days.

According to *H3*, auditor tenure is expected to be significantly and negatively related to restatement disclosure lag. Consistent with the auditor's competencies argument, the results show that *H3* is not rejected, i.e. long-tenured auditors are associated with shorter dark periods ($p < 0.10$). A restating firm with a long-tenured auditor would have a predicted dark

	DISCLAG	ABFEE	NAS	AUDTEN	AUDSPEC	BIG4	AUDCH	MAG_ABS	RES_ADV	LENG	PERVAS	HORIZON	FRAUD	SIZE	ROA	LEV
DISCLAG																
ABFEE	0.15															
NAS	0.05	0.15														
AUDTEN	0.00	0.09	0.19													
AUDSPEC	-0.06	0.10	-0.05	0.13												
BIG4	0.16	0.17	0.15	0.54	0.17											
AUDCH	0.12	-0.19	-0.07	-0.08	-0.07	-0.04										
MAG_ABS	0.32	0.06	-0.14	-0.20	0.08	-0.24	0.02									
RES_ADV	0.26	0.02	-0.06	-0.04	-0.06	-0.05	-0.05	0.05								
LENG	0.45	0.15	0.22	0.16	0.04	0.19	-0.15	0.24	0.15							
PERVAS	-0.01	0.14	0.04	-0.05	-0.06	0.06	0.03	-0.01	-0.09	-0.02						
HORIZON	-0.09	-0.07	0.07	0.22	0.03	0.02	0.00	-0.15	0.11	-0.08	-0.10					
FRAUD	0.12	0.10	0.17	-0.16	-0.14	-0.10	-0.06	0.12	0.05	0.19	0.01	-0.01				
SIZE	0.23	0.08	0.44	0.31	0.20	0.48	0.00	-0.36	-0.06	0.20	0.14	0.05	-0.01			
ROA	0.24	0.02	0.08	0.01	0.10	0.07	0.09	-0.16	0.11	0.20	0.15	-0.12	-0.03	0.36		
LEV	-0.17	-0.04	0.22	-0.04	-0.07	-0.05	-0.07	-0.25	-0.18	-0.02	0.02	0.16	0.12	0.30	-0.07	

Notes: Pearson (Spearman) coefficients are above (below) the diagonal. Italic coefficients are significant at $p \leq 0.10$

Table V.
Pairwise correlations
between variables

Variable	Prediction	Coefficient	z	P > z
Intercept	?	1.63	2.63	0.01
<i>Independent variables</i>				
ABFEE	+	0.25	2.20**	0.03
NAS	-	-0.40	-1.74*	0.08
AUDTEN	-	-0.22	-1.86*	0.06
<i>Control variables</i>				
AUDSPEC	-	-1.13	-3.00***	0.00
BIG4	?	0.60	2.74**	0.01
AUDCH	+	0.35	1.67*	0.10
MAG_ABS	+	0.35	2.26**	0.02
RES_ADV	+	0.67	3.21***	0.00
LENG	+	0.13	2.66**	0.01
PERVAS	+	-0.08	-0.39	0.70
HORIZON	+	0.28	0.98	0.33
FRAUD	+	0.14	0.61	0.55
SIZE	?	0.17	2.67**	0.01
ROA	?	0.31	0.93	0.35
LEV	?	-0.48	-3.18***	0.00
<i>Firm and year fixed effect</i>				
Number of obs.	129			
Wald chi2 (31)	199.55			
Prob > chi2	0			
Pearson Chi-square (Value/DF)	1.60			
Scaled Deviance (Value/DF)	0.89			

Table VI.
Impact of auditor
monitoring on the
timeliness of
restatement
disclosures

Note: ***, **, * denote statistical significance at the 1%, 5% and 10% levels, respectively (two-tailed)

period that is 26 per cent ($1 - \exp^{-0.22} = 0.19$) or 14 days shorter than a company with a short-tenured auditor.

Considering control variables, findings provide evidence that a restating firm that is audited by an industry expert is expected to have a disclosure lag, which is 69 per cent ($1 - \exp^{-1.13} = 0.67$) or 48 days shorter than a company with a non-specialist auditor. Big 4 membership is also significantly, yet positively, related to restatement disclosure lag ($p < 0.05$), in accordance with the auditor's incentives argument. A restating company that is audited by a large audit firm would have a predicted disclosure lag that is 84 per cent ($1 - \exp^{0.60} = 0.81$) or 58 days longer than a company audited by a non-Big 4. The dark period is also lengthier for restating firms that change auditors during the period beginning one year prior to the restatement announcement and ending with the filing of the restated financial statements ($p < 0.10$). A company switching auditors would have a predicted disclosure lag that is 43 per cent ($1 - \exp^{0.35} = 0.41$) or 29 days longer than a non-switching firm.

Finally, Table VI indicates that the restatement dark period is longer for firms having more material (*MAG_ABS*) and income-reducing (*RES_ADV*) restatements, longer restated periods (*LENG*), larger size (*SIZE*). Conversely, disclosure lag is shorter for highly leveraged companies (*LEV*). The remaining control variables (*PERVAS*, *HORIZON*, *FRAUD*, and *ROA*) are non-significant.

5. Conclusion

This study aims at investigating the impact of external auditor oversight on the timeliness of accounting restatement disclosures. Using a sample of 129 US restating public firms,

results indicate that longer auditor tenure and non-audit services provision improve restatement disclosure timeliness. Conversely, companies whose auditors exerted abnormally high levels of audit effort have longer restatement disclosure lags. Overall, the study's findings provide strong evidence that auditor's competencies play a critical role during the restatement process and have a significant impact on restatement disclosure timeliness. The more competent the auditor (auditor tenure, non-audit services provision, industry specialization), the shorter the disclosure lag. Results also show the importance of auditor's incentives in the restatement process. In certain circumstances (highly risky/complex engagements, large audit firms), the auditor has sufficient incentives to delay the release of the restatement details, probably because he wants to ensure that the disclosed information is faithfully represented. Considering that timeliness enhances relevance, these findings suggest that auditors balance relevance and faithful representation when monitoring the financial restatement process, consistent with both attributes being the fundamental characteristics of useful financial information (FASB, 2010).

This research contributes to the emerging literature on financial statements restatement disclosure practices (Badertscher and Burks, 2011; Myers *et al.*, 2013; Schmidt and Wilkins, 2013; Hirschev *et al.*, 2015; BenYoussef and Khan, 2018). More specifically, this study is the first archival research that focuses on auditor's monitoring role and its impact on the timeliness of restatement disclosures. By doing so, this study contributes to the auditing academic research, professional practice, and regulation by providing initial empirical evidence on an exasperating issue for all participants in the financial markets (such as investors, regulators, public companies and external auditors). On the one hand, restatement disclosure lags are strenuous for investors. It is not by chance that these lags are called dark periods. During these periods, investors find themselves in an obscure and highly uncertain situation. They know that previously disclosed (and probably audited) financial statements contain significant misleading information that require correction and re-issuance of those financial statements. However, they are given no specific information about the type and magnitude of the warranted restatements. They are desperately waiting for the company to provide some useful details on the restatement so that they can take appropriate courses of action. On the other hand, external auditors represent one of the most critical and rare mandatory corporate governance mechanisms for public companies, which guarantee the reliability of the financial statements disclosed by those companies. Therefore, when restatements are announced, external auditors are required to play a key role in monitoring the restatement process and examining the restated financial statements, especially that the misleading financial statements were probably audited by an external auditor. As a result, investigating the impact of auditor's monitoring on the length of the dark period, which is most likely the most critical issue that inventors and the public are exposed to during a financial restatement, is a high-priority research topic in auditing.

In addition, this study focuses on key auditors' attributes, which have been shown to play a critical role in the quality of the audits performed by external auditors. Moreover, this study is not limited to one of the dimensions of auditor's attributes. It involves a number of auditor's characteristics that belong to the two categories of auditor's attributes: incentives and competencies (DeFond and Zhang, 2014). Finally, the study's findings document empirically the importance of some of the external auditor's attributes that contribute to improving the timeliness of restatement disclosures. These findings could trigger implications of great importance for regulators, auditors, investors and public companies concerned with accounting restatement issues and external auditor's monitoring of the financial reporting supply chain of publicly accountable companies.

First, policymakers, particularly the Security Exchange Commission in the USA and the provincial securities commissions in Canada, shall issue more stringent guidelines to standardize the disclosures of restated earnings (BenYoussef and Breton, 2018) and to recognize and enhance the importance of auditor's monitoring role in reducing restatement disclosure lags to a level that would be acceptable to public companies' stakeholders. Second, based on the study's results, external auditors shall take appropriate actions to modify the composition of their audit engagement teams when they audit restated companies such that they can provide more effective (higher quality) and, particularly, more efficient (that is more timely) audits and thereby shorten the restatement dark period while ensuring that the restated financial statements are highly reliable (Yuen *et al.*, 2013). Third, our study increases investors' awareness of the external auditor's role in reducing the length of restatement disclosure lags. In addition, it gives them concrete directions about how they can exercise more pressure on public companies to take appropriate actions to enhance auditor's role in auditing restated companies and reduce dark periods' length. For instance, shareholders can, through their annual ratification of the external auditor, press the boards of public companies to select sufficiently independent and competent auditors to audit the companies' financial statements, especially when restatements are envisioned.

However, the study's results and conclusions are subject to caveats. First, abnormal or unexpected audit fees are used to measure abnormal audit effort. This proxy is subject to measurement errors. Because of lack of data on actual audit hours, a more accurate estimate of abnormal audit effort could not be used in this research. Second, the study's sample is limited to restating firms that disclosed earnings restatements through an 8-K Form. It does not include firms announcing restatement in other forms (such as 10-Q, 10-K or press release). Restatement announcements in these forms are not material but they could accumulate over time to a material amount, called little "r" restatement. Third, the study has a large drop in sample size due to missing data. This is a concern whenever a sample is being used to make inferences about the population.

Note

1. Our model (1) might be subject to endogeneity issues. We conducted the Hausman test for endogeneity (Greene, 2002). After identifying the instrumental variables (IV) for ABFEE and NAS variables, examining the strength of the IV and testing for endogeneity, we concluded that our model does not suffer from endogeneity issues.

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