Auditor Turnover and the Likelihood of Future Accounting Litigation

Kevin W. Hee
California State University San Marcos

This paper investigates whether the type of auditor turnover (resignation vs. dismissal) is associated with the likelihood of the client firm being involved in future accounting-related litigation after the auditor turnover.
The evidence shows a statistically significant association between auditor resignations and future accounting-related litigation. This research has market implication for potential investors due to negative impact on a shareholder's financial position. The research also has practical implications for the accounting industry in terms of legal consequences and assessing audit risk for potential successor auditors because of the negative consequences (financial and nonfinancial) of being involved in future accounting-related litigation.

INTRODUCTION

This paper studies whether there is a difference in the association of auditor resignations versus auditor dismissals with the likelihood of the client firm being involved in future accounting-related litigation. This topic is important because of the significant impact on companies and financial information users of both auditor turnover and accounting litigation. Auditor turnover is important because it could be perceived as a potential red flag indicating accounting irregularities. These irregularities have the potential to cause significant financial losses to the company and its shareholders who are unaware of the accounting irregularities (Shu 2000). The parties who are responsible for the irregularities could profit and then sell their stake in the company before the negative consequences of those irregularities impact the unaware shareholders. In addition, changing auditors is a costly event because of the additional learning and training costs associated with a new auditor. Accounting litigation is important because a lawsuit based on accounting errors can also cause financial loss to both company and shareholders. Companies can incur legal expenses, reputation loss and even bankruptcy. Company shareholders can incur loss of net wealth. Business partners of the company can suffer through the business relationship with the company being litigated. Creditors can suffer if loans are either unpaid or partially repaid because of the litigation. While the two events (litigation and auditor change) can have similar determinants (e.g., a company with weak internal controls and material misstatements may be too risky for an auditor to keep as a client and that auditor may choose to resign and those material misstatements may lead to a future accounting lawsuit by a third-party), research on empirically analyzing the association between the events is limited. This paper's analysis has significant implications for investors because if there is a difference in the association between auditor change type and future litigation, an individual investor can make changes to his/her investments in companies that dismiss an

auditor or have an auditor resign based on that investor's risk profile. The implication for a business investor (e.g., business partner, corporate shareholder, creditor)

Auditors play an important role as a monitoring party whose main purpose is to provide assurance that financial statements are reasonably presented and there are no significant weaknesses in the company's internal controls. In doing so, auditors put in significant hours of work examining the company's business transactions and the processes of the accounting system. Based on the hundreds and thousands of hours spent by an auditor doing the work necessary to perform an audit under Generally Accepted Auditing Standards, it is fair to say that the market probably sees the auditor as an expert in the area of a company's financial reporting procedures. Given the presumed expertise of auditor, investors and the market put a significant amount of trust that the auditors will detect any material mistakes in companies' financial reporting. When auditors do not detect such misstatements, there can be consequences such as an individual (or a group of individuals) or another company filing a lawsuit against a company that reported mistaken financial statements or financial information. Very often, such a lawsuit can include the auditor that audited those financial statements.

Existing research provides consistent evidence that support the theory that auditor resignations are fundamentally different from auditor dismissals by the client (DeFond et al., 1997; Krishnan and Krishnan, 1997; Wells and Loudder, 1997; Shu, 2000; Lee et al., 2004; Rama and Read, 2006; Menon and Williams, 2008; Landsman et al., 2009; Catanach et al., 2011). Auditor resignations can be viewed as more serious than dismissals (Turner et al., 2005) and that has been supported by the market's more negative reaction to resignations compared to dismissals where market response has been found to be statistically insignificant (Wells and Loudder, 1997; Dunn et al., 1999; Boone and Raman, 2001; Griffin and Lont, 2010). The underlying theory is that auditor resignations (where the auditor decides to no longer provide external audit services to a firm) can be interpreted by the market as unexpected "bad news." (Wells and Loudder, 1997). This unexpected "bad news" could be a result of the riskiness of the client firm to the auditor (Bockus and Gigler, 1998). Auditor resignations could be due to the quality of the client firm's internal controls of financial reporting (Ashbaugh-Skaife et al. 2007). Since the auditor is considered an "insider" with proprietary knowledge of the client company's financial reporting processes, the decision to resign from an audit most likely is due to increased risk beyond the threshold of the auditor (Krishnan and Krishnan, 1997; Wells and Loudder, 1997; Shu, 2000; Landsman et al. 2009). Meanwhile, an auditor dismissal (where the client makes the decision to "fire" the auditor) is not interpreted by the market as a serious indicator of poor financial reporting quality even though that can be a possibility (i.e., where the client and auditor disagree on financial reporting policies to the point where the client no longer wants to keep the auditor for future audit and assurance duties). Rather an auditor dismissal is usually seen as a result of agency costs and a situation where more often than not, the client is not willing to continue paying the fees charged by the auditor (Ettredge et al., 2007; Hennes et al., 2014). In addition, recent research has shown evidence that the type of auditor (Big 4 versus non-Big 4), size and complexity of the firm play a role in the decision to dismiss an auditor (Hennes et al., 2014). Both resignations and dismissals may be an indicator of serious flaws in a company's ICFR and those flaws can sometime lead to future litigation involving the client firm due to those accounting flaws. While there has been research about the association between auditor resignations and proxies for litigation risk (Shu 2000, Catanach et al., 2011, Ghosh and Tang, 2015), there has not been a contemporary study that looks at the association between both types of auditor turnover and the likelihood of accounting-related litigation in the contemporary business environment. This study provides an additional contribution to the auditor change-litigation research stream by directly examining auditor resignations versus auditor dismissals in the context of litigation risk using post-SOX data.

This research is important because it helps financial information users and other external monitoring parties realize the significance of useful information obtained from an unobservable process (auditor-client negotiations) that can significantly impact the financial reporting quality of companies, which in turn, can impact investors and practitioners.

This study examines the association between auditor turnover and the likelihood of future accounting-related litigation. Using a sample of auditor turnover data from 2004-2012, a logistic regression models

whether the type of auditor turnover (resignation or dismissal) affects the future likelihood of being involved in accounting-related litigation (e.g., shareholder lawsuit or third-party lawsuits involving financial reporting). In additional tests, the model incorporates the type of predecessor auditor and whether the reason for the auditor change was related to accounting treatment, internal controls or fraud. The evidence shows that there is a statistically significant association between auditor resignations and future accounting-related litigation in the main sample. The additional analyses show that when the predecessor auditor is a non-Big 4 audit firm, the initial association remains with auditor resignations having a higher likelihood of being associated with future accounting litigation compared to dismissals. The last analysis factors in whether there was an accounting-related disagreement disclosed as part of the auditor change.

Section II discusses the relevant literature and the theory behind the research topic. Section III presents the hypotheses, section IV discusses the research methodology including sample selection and model design, section V presents and the results and the paper's conclusions are included in section VI.

LITERATURE AND HYPOTHESIS DEVELOPMENT

Research on Auditor Turnover

Regulators, investors and even auditors have long been concerned and interested in the reasons driving auditor turnover. Auditors have the responsibility as an external monitor of the quality of financial reporting information disclosed by public companies. The market relies on auditors to provide reasonable assurance on the quality of the financial statements used by market participants in making decisions involving audited companies. Therefore, it can be argued that auditor change affects all market participants to varying degrees. In general, much of existing research on the market reaction to auditor changes finds either a significantly negative or insignificant market impact associated with those announcements (Johnson and Lys, 1990; Klock 1994; Schwartz and Soo, 1995; Dunn et al., Marshall 1999; Mande and Son, 2013). The significantly negative market reactions are most pronounced for auditor resignations (DeFond et al., 1997; Wells and Loudder, 1997; Griffin and Lont, 2010). Raghunandan and Rama (1999) and Griffin and Lont (2010) examine whether the market is impacted by auditor resignations and dismissals and if so, what are the driving forces behind the investor responses to both types of auditor change announcements. The authors find that resignation announcements have a more negative investor response compared to dismissals, which have a mostly insignificant impact on the client firm's market value in the period surrounding the dismissal announcement. This finding supports the belief that auditor resignations are a more serious issue by the market and more likely due to an auditor's decision that the audit is too risky. They also find evidence that if the firm had prior securities litigation or a higher risk of bankruptcy, these factors magnified the negative share price effect of the auditor resignation announcement. In general, the literature supports the view of resignation as a red flag for potential financial reporting issues (which would cause an auditor to remove itself from an engagement) while dismissals are mostly viewed as the result of agency costs (Hennes et al., 2014). However, Carcello and Neal (2003) find evidence to support the dismissal of an auditor for reasons beyond audit cost. They conclude that when audit committee independence is compromised, a firm dismissed an auditor if the auditor refuses to issue an unmodified audit opinion. This research seems to lend itself in support of the belief that auditor dismissals can occur because of a disagreement regarding financial reporting quality.

In addition to research on the market's perception of auditor change, there has also been research on the relationship between auditor turnover and different firm characteristics. Ettredge et al. (2007) tested the association between audit fees and auditor dismissals in the period immediately following Sarbanes-Oxley (SOX). Those authors find that higher audit fees are positively associated with a higher likelihood of auditor dismissal. They also find evidence that auditor dismissals are significantly associated with smaller firms, going concern opinions and firms that report future internal control weaknesses. The authors concluded that the evidence supported the assertion that companies did dismiss their auditors with the expectations of reducing fees paid to the successor audit firm. Ettredge et al. (2011) studied how adverse SOX 404 opinions affect auditor dismissals and conclude that companies receiving adverse

opinions are more likely to subsequently dismiss their auditors over a four-year period following the adverse 404 opinions. These firms are also more likely to hire a higher quality audit firm (defined as being a Big 4 auditor) with specialization in the client firms' industries. Researchers have also extensively studied the association between auditor turnover and problems with a company's ICFR and the consequences of those weaknesses (Hammersley et al. 2012; Huang and Scholz, 2012; Mande and Son, 2013). Huang and Scholz (2012) look at how restatements and resignations are related by examining auditor resignations over a five-quarter time period around the restatement announcement. They conclude that there is a higher likelihood of auditor resignation for restating firms and that likelihood is magnified for firms with non-Big 4 auditors. They also find evidence that restatements involving fraud and reversals of prior profits to restated losses are the main variables behind the higher likelihood of auditor resignation. While Huang and Scholz (2012) test auditor resignations before and after restatement announcements, Mande and Son (2013) examine auditor changes *after* a restatement announcement and conclude that restatements are an important predictor of auditor change in the year following the restatement announcement. They also incorporate the severity of the restatement into the analysis and find that as the restatement severity increases, the likelihood of future auditor change also increases. The authors conclude that both auditor dismissals and resignations are likely to happen after a company announces a restatement. Hammersley et al. (2012) contribute to the internal control weaknesses literature by studying companies that do not remediate previously disclosed material weaknesses in the following year. They compare this sample to a control sample of firms that disclosed a material weakness in internal controls and then remediated that weakness by the following year. The findings show that firms failing to remediate previously disclosed material weaknesses in internal controls are more likely to have their auditors resign and that likelihood increases with the number of material weaknesses reported.

Research on Litigation Risk

Litigation risk, which can be defined as the risk that an auditor is involved in a lawsuit, is a concern for not just auditors and their clients, but market participants as well. This is because auditor behavior may be impacted by the auditor's assessment of litigation risk. If an auditor feels that the litigation risk associated with a specific client is beyond tolerable levels, the auditor may decide to resign from an audit engagement. Another possibility is the auditor may ask for additional audit fees to compensate for the additional litigation risk. If the client company is not willing to pay the additional fees, the company can decide to dismiss the auditor. Therefore, litigation risk can have an impact on auditor turnover and the type of auditor turnover. Earlier studies examining litigation risk have used variables to proxy for litigation risk and the association of those proxy variables with audit fees and auditor choice (Stice, 1991; Carcello and Palmrose, 1994; Lys and Watts, 1994). There has been research examining the association between auditor resignations and litigation or client risk. Elder et al. (2009) study audit firms' client risk management strategies in response to clients' internal control weaknesses after SOX 404. The authors find that auditors have a "pecking order" in the strategies implemented to manage internal control risk due to client firm internal control weaknesses such as audit fee adjustment, issuing modified opinions and resignation. While auditor resignations is not the focus of this paper, Elder et al. (2009) find that, on average, in the presence of internal control weaknesses, an auditor will resign from engagements with a high control risk as opposed to raising audit fees for low control risk firms and issuing modified audit opinions for intermediate control risk firm. Catanach et al. (2011) examine auditor resignation in the context of the successor auditor's choice to accept an engagement with a firm following an auditor resignation and future outcomes of this decision on the client. Catanach et al. (2011) find that non-Big N successor audit firms accept resigned client firms at a higher rate compared to Big N firms. They also conclude that, of the resigned client firms that are accepted by Big N and non-Big N successor firms, the accepted resigned client firms for non-Big N auditors are significantly riskier than for Big N auditors. The most recent paper is by Ghosh and Tang (2015). This paper examines auditor resignations, but focuses on the post-resignation time frame in the context of auditor litigation risk, audit risk and business risk. Ghosh and Tang (2015) construct ex-ante indices for all three types of risk using data from the period before the auditor resignation and then analyze the incremental importance of the three risks in explaining future

resignations. The current paper differs from the Ghosh and Tang (2015) study by only looking at the post-SOX timeframe, while the other paper uses a 1999 to 2010 sample. Including pre- and post-SOX observations could potentially confound that paper's results. Bugarski and Ward (2012) find that SOX is important in explaining auditor resignations and auditors were more likely to resign in the post-SOX period. By focusing on post-SOX observations, the tests avoid any SOX-auditor turnover relationship effects that may impact the model's results.

Overall, the auditor change research stream shows the significant economic relationship auditor change has had with negative characteristics and events such as negative market returns, bankruptcy, going concern opinions and restatements. The litigation risk literature shows that auditors do factor litigation risk into their client portfolio mix decisions. However, the literature that has examined both auditor change and litigation risk relative to each other is still relatively unsaturated. By focusing on accounting-related litigation and using the auditor type to enhance the test, this paper significantly contributes to both auditor change and accounting litigation risk research streams.

HYPOTHESES

The trends in auditor change discussed above suggest that existing literature supports the argument that auditor resignations are different from auditor dismissals (DeFond et al., 1997; Krishnan and Krishnan, 1997; Wells and Loudder, 1997; Shu, 2000; Lee et al., 2004; Rama and Read, 2006; Menon and Williams, 2008; Landsman et al., 2009; Catanach et al., 2011. However, when deciding if one type of auditor change is more serious of an indicator of fraud or internal control weaknesses, the literature provides support for both views (Carcello and Neal, 2003 and Ettredge et al., 2007 both find that auditor dismissals are associated with internal control weaknesses). Overall, the literature provides support for the belief that auditor resignations are more strongly associated with an increase in litigation risk relative to auditor dismissals.

H1: Auditor resignations are associated with a higher likelihood of future accounting- related litigation relative to auditor dismissals.

Consistent in the accounting literature is the use of auditor firm size as a proxy for audit quality (Becker et al., 1998; Ghosh and Moon, 2005; Choi et al., 2010; Clinch et al., 2012; Knechel et al., 2013). Based on this precedent, whether the predecessor firm is a Big 4 or non-Big 4 auditor is used to proxy for audit quality. There is still considerable debate as to whether audit firm size is an appropriate measure of audit quality. There is a variety of literature that finds evidence suggesting Big 4 auditors provide higher quality audits than non-Big 4 auditors (Dopuch and Simunic, 1980; DeAngelo 1981; Palmrose 1988; Becker et al., 1998; Khurana and Raman, 2004; Behn et al., 2008). Based on the assumption that a Big 4 auditor provides higher audit quality than a non-Big 4 auditor, if a firm has a non-Big 4 auditor who resigns from the engagement, this is can be interpreted as an indicator of higher audit risk and lower audit quality compared to a situation where the auditor resignation involves a Big 4 auditor leaving the engagement. It can also be argued that if a Big 4 firm resigns from an engagement, it is due to the auditor assessing the audit risk level of the client to be excessive. Therefore, it is an empirical question as to whether the audit firm type will have a significant impact on the association between auditor turnover type and likelihood of future accounting litigation.

H2: Having a non-Big 4 predecessor auditor magnifies the association between auditor resignations and the likelihood of future accounting-related litigation relative to auditor dismissals.

The third hypothesis test follows results from Beneish et al. (2005), who examines auditor resignations from 1994 to 1998 and whether the conditions surrounding those resignations affect the uncertainty about financial reporting quality of the clients of the resigning auditor. That paper's findings show that when the auditor resignation disclosures are not due to disagreement over accounting treatment, there is no association between the resignation and movements in market value after the disclosure. The authors conclude that it is most likely that the act of the resignation alone is not informative. Expanding

on these results and using a larger, more contemporary data set, the H3 model factors in the reason behind the resignation/dismissal. If the reason behind the resignation is due to disagreement over accounting treatment or the adequacy of internal controls or fraud, there will be a higher likelihood of a resignation leading to future accounting litigation compared to a dismissal.

H3: Auditor resignations due to a disagreement over accounting treatment, adequacy of internal controls or fraud are associated with a higher likelihood of future accounting- related litigation/enforcement actions relative to auditor dismissals

RESEARCH DESIGN

This paper uses data from Audit Analytics, Compustat and CRSP. Audit Analytics provides information on auditor turnover type (resignation or dismissal), litigation/regulatory actions data, as well as the data for the audit-related control variables. Compustat and CRSP provide all the financial accounting and stock price data for the other control variables used in the models. The sample starts in 2004 and goes to 2014. 2004 is used as the starting point because the research model uses internal control opinion information and that data became available in 2004 after the implementation of SOX Section 404. Table 1 (Panel A) shows the sample selection process. The merged Compustat and CRSP database provided 67,389 firm-years of financial data that are used to calculate many of the control variables in the model (including discretionary accruals). The Auditor Changes, SOX 404 and Audit Opinion datasets within Audit Analytics to gather the necessary audit-related data for the models. The Auditor Change dataset provided 13,995 firm- years, the SOX provided 92,493 firm-years and the Audit Opinion dataset provided 169,710 firm-years. After merging all of those datasets, the initial testing sample includes all firms with financial and audit data for the period 2004-2012 (32,954 firm-years). After deleting all firm-years without the data necessary to compute the financial independent and control variables, the sample set is 13,260 firm-year observations. This data set is then merged with the auditor change data set in Audit Analytics. After all auditor turnover observations related to merger and acquisitions (including client firm mergers or audit firm mergers) are deleted, the remaining data set has 4,399 firm-year observations. The final data-cleaning step is to merge the legal data information with the remaining financial and audit data set. Since the paper examines the likelihood of future accounting litigation, only the firm-years where the litigation takes place after the auditor turnover are kept. The final sample includes 2,622 firm-years for the period 2004-2012. That final sample of 2,622 observations include all firm-years where a firm was involved in litigation after the auditor change date. Panel B of Table shows the breakdown of observations by industry and auditor turnover type. In addition, when breaking down the sample by auditor turnover and auditor type (Big 4 versus non-Big 4), of the 378 auditor resignations, 180 involved a Big 4 auditor as the predecessor auditor. Of the 2,244 auditor dismissals, 371 involved a Big 4 auditor being the auditor dismissed.

TABLE 1
PANEL A: SAMPLE SELECTION PROCEDURE

		Firm-years
Firm-years from merged CRSP and Compustat where CIK is available	67,389	
Firm-years from Auditor Changes dataset	13,995	
Firm-years from SOX 404 dataset	92,493	
Firm-years from Audit Opinion dataset	169,710	
After merging datasets: Firm-years with Compustat, CRSP and Audit Analytics data (2004-2012)	32,954	
Less: Missing financial, investor and audit control variables data	(19,694)	
		13,260
Less: Missing auditor turnover data	(8,861)	
		4,399
Less: Missing legal and regulatory data	(1,777)	
Final Sample (2004-2012)	2,622	

PANEL B: DISTRIBUTION OF SAMPLE BY INDUSTRY

Industry	Total (no. obs.)	Percentage	Auditor Resignations	Auditor Dismissals
Agriculture	9	0.3%	1	8
Mining and Construction	119	4.5	28	91
Food	51	1.9	11	40
Chemicals	88	3.3	11	77
Computers	369	14.1	75	294
Durable manufacturers	612	23.3	70	542
Extractive	208	7.9	26	182
Financial	64	2.4	11	53
Pharmaceuticals	190	7.2	29	161
Retail	222	8.5	39	183
Services	190	7.2	31	159
Textile and printing/publishing	132	5.0	6	126
Transportation	231	8.8	13	218
Utilities	130	5.0	25	105
Other	7	0.6	2	5
Total	2,622	100.00	378	2,244

The main hypothesis models the likelihood of future accounting-related litigation using auditor turnover type and a set of control variables that existing research has shown to affect the likelihood of future litigation. The second and third hypotheses introduce the effects of predecessor auditor type (H2) and whether there is a disclosed disagreement between auditor and client (H3) on the relation between litigation likelihood and auditor turnover type. Table 2 provides a description of the variables used in the analysis.

TABLE 2
VARIABLE DESCRIPTION

Variable	Definition
ACCT_LIT	1 if the firm if a firm is involved in accounting-related litigation in a year after a firm reports an auditor dismissal or resignation, and 0 if otherwise. Accounting-related litigation is defined as litigation involving accounting malpractice, financial reporting, or accounting based on the Audit Analytics coding.
AUDITOR_RESIGNED	1 if a firm reports an auditor resignation on an 8-K and 0 if otherwise
DISAGREEMENT	1 if a firm reports a disagreement with the auditor over accounting treatment, adequacy of internal controls or fraud and 0 if otherwise
AUDITOR_RESIGNED * DISAGREEMENT	1 if a firm reports an auditor resignation on an 8-K and discloses that the reason behind the auditor change is related to either accounting treatment, internal controls or fraud and 0 if otherwise
SIZE	Log of total assets
AUD_FEES	Log of annual audit fees
INVREC	Inventory plus trade receivables scaled by total assets
LEV	Total liabilities scaled by total assets
ASSETS_GR	Change in total assets scaled by total assets from year t-1
BTM	Total book value divided by market value of the firm in year t
ROA	Income before extraordinary items scaled by average total assets
LOSS	1 if the firm reports a loss and 0 if otherwise, where a loss is defined as reporting net income before extraordinary items less than zero
GOING_CONCERN	1 if the firm received a going concern opinion in year t-1
COUNT_WEAK	Number of material weaknesses disclosed in the SOX 404 report
MATERIAL_WEAKNESS	1 if the firm disclosed a material weakness in its SOX report and 0 if otherwise
DACC	Firm i's discretionary total accruals in year t derived from the modified Jones (1991) model. To estimate the model yearly by two-digit SIC code, we require at least 10 observations. The regression is $TACC_{i,t}/Ta_{i,t-1} = a_1*[1/Ta_{i,t-1}] + a_2*[REV_{i,t}- REV_{i,t}/Ta_{i,t-1}] + a_3*[PPE_{i,t}/Ta_{i,t-1}]$ where TACC is total accruals for firm I, which is defined as income before extraordinary items minus net cash flow from operating activities.
TENURE	Number of years between the predecessor auditor's engagement begin and end date
SUCCESSOR_BIG4	1 if the firm that takes over the audit from the resigning firm is a Big 4 audit firm, and 0 if otherwise
ARL	Number of days between the end of firm i's fiscal year and the audit completion date

RESTATEMENT	1 if a firm has announced a restatement during the sample period of 2004 to 2012 and that restatement announcement occurred before the litigation start date, and 0 if otherwise
NEGINVRESP	1 if a firm has a negative excess return from t-2 to t+2 around the auditor change announcement date (excess return is defined as the market-adjusted return for the company, 0 if otherwise

The following logistic regression model is used for H1:

$$ACCT\_LIT = \alpha_0 + \alpha_1 SUCCESSOR\_BIG4 + \alpha_2 SIZE + \alpha_3 AUD\_FEES + \alpha_4 INVREC + \alpha_5 LEV + \alpha_6 ASSETS\_GR + \alpha_7 BTM + \alpha_8 ROA + \alpha_9 LOSS + \alpha_{10} GOING\_CONCERN + \alpha_{11} COUNT\_WEAK + \alpha_{12} MATERIAL\_WEAKNESS + \alpha_{13} DACC + \alpha_{14} AUDITOR\_RESIGNED + \alpha_{15} ARL + \alpha_{16} TENURE + \alpha_{17} RESTATEMENT + \alpha_{18} NEGINVRESP + + FIXED\ YEAR\ EFFECTS + INDUSTRY\ CONTROLS + \varepsilon \quad (1)$$

ACCT_LIT is a binary variable identifying companies that are involved in accounting-related litigation. *ACCT_LIT* equals one if Audit Analytics reports a company has been involved in accounting-related litigation in the period of time after an auditor change has been disclosed. Litigation is classified as "accounting-related" if Audit Analytics reports that the litigation involved accounting malpractice, financial reporting, or accounting based on the Audit Analytics coding. There is no discrimination regarding the initiator or the litigation (shareholder or third-party), nor does the litigation have to be settled. The only requirement is that the litigation be accounting-related as previously defined and begin after the auditor change. Prior research has found associations with several factors and the risk of future litigation (Stice 1991; Francis et al., 1994; Krishnan and Krishnan, 1997); Shu 2000; Palmrose and Scholz, 2004, Ghosh and Tang, 2015). This prior research found that variables such as financial distress, financial performance and risk, and growth are associated with future litigation. These variables are included in the model to control for factors beyond audit turnover that may be associated with the likelihood of future accounting-related litigation. Client financial distress is expected to be positively associated with future litigation risk. Therefore, *LOSS* is an indicator variable equal to one if the client firm reports a loss in the year of the auditor turnover disclosure. The model also controls for financial performance using return on assets (*ROA*) and financial risk with the percentage of total assets in inventory and trade receivables (*INVREC*) and leverage (*LEV*). Firms with higher market capitalization and lower book-to-market ratios are more likely to be sued. Therefore, *BTM* and *SIZE* control for that association. Earnings quality is factored into the equation with *DACC*, which is the firm's discretional accruals, calculated using the modified Jones model[1]. Stice (1991) finds that client growth and audit failure risk are also associated with litigation risk. Therefore, variables for asset growth (*ASSETS_GR*), auditor tenure (*TENURE*), the existence of a material weakness (*MATERIAL_WEAKNESS*), the number of material weaknesses reported (*COUNT_WEAK*), audit fees (*AUD_FEES*) and issuance of a going concern opinion (*GOING_CONCERN*) in the preceding year are included to control for these factors. Tanyi et al. (2010) compare involuntary and voluntary auditor changes using audit report lags as a quantitative proxy for auditor effort. It is also known that resignations are associated with more negative investor responses (Griffin and Lont, 2010) and litigation often follows negative investor response (Francis, et al. 1994), so an indicator variable for negative investor response in the four-day period around the disclosed start date of the litigation (t-2 to t+2) is included. Mitra et al. (2015) conclude that material internal control problems are associated with audit report lags. Therefore, a control variable for audit report lag (*ARL*) is included in the model to help control for audit quality. ARL is the number of days between the client firm's fiscal year-end and the date of the audit report. Huang and Scholz (2012) also find that restatements are associated with auditor resignation. Therefore, restatements are controlled for in the model with an indicator variable set equal to one if the company has announced a restatement during the test period of

2004 to 2012 before the start date of the litigation (*RESTATEMENT*). For H3, an indicator variable (*DISAGREEMENT*) is included that takes on the value of 1 if the client firm discloses a disagreement with the auditor that involves accounting treatment, internal controls or fraud. The interaction variable, *AUDITOR_RESIGNED*DISAGREEMENT* will then be the variable of interest in determining whether the information included regarding the reason behind the auditor change has incremental explanatory power. Given that large variety of potential factors that could influence the likelihood of future accounting litigation, it is probable that there may be correlations between the independent variables. As such, the model is tested for multicollinearity. The author tests for multicollinearity by calculating the variance inflation factor (VIF) for each of the independent variables. None of the VIF's calculated exceed 1.5, which indicates that while there is some correlation, it is not problematic for the results.

The main logistic model shown above will also be used to test H2, but the sample will be limited to only observations where the predecessor auditor is a non-Big 4 audit firm. The predecessor auditor is the auditor that either resigned or was dismissed. For H3, two new variables are introduced. DISAGREEMENT is an indicator variable equal to one if a firm reports a disagreement with the auditor over accounting treatment, adequacy of internal controls or fraud and zero if otherwise[2]. An interaction variable, AUDITOR_RESIGNED*DISAGREEMENT is equal to one if a firm reports an auditor resignation on an 8-K and discloses a disagreement with the auditor over accounting treatment, adequacy of internal controls or fraud and zero if otherwise. These variables are listed in Table 2.

RESULTS

Table 3 presents descriptive statistics for the variables used in the logistic regression models. Panel A provides the descriptive statistics for the auditor resignation observations while Panel B provides statistics for the auditor dismissals. Looking at the mean value for the *ACCT_LIT* variable, the values for both samples are close (0.054 for resignations and 0.062 for dismissals), yet the difference is statistically significant, so that would lead one to expect a statistically significant difference from the regression results. The higher mean in *SUCCESSOR_BIG4* for the auditor dismissal sample can be interpreted as initial evidence that auditors take resignations more seriously from the risk perspective and the Big 4 audit firms are less likely to take on clients where the preceding auditor resigned. However, this is not a conclusion that can be arrived just from viewing the descriptive statistics. In general, the firms that had auditor resignations were smaller, faster-growing, had lower earnings and reported losses more often. The auditor resignation firms also reported more going concern opinions and had a higher overall frequency of disclosing a material weakness in ICFR and report higher numbers of material weaknesses, on average. Comparing discretionary accruals, the auditor resignation sample had higher discretionary accruals and took longer on average to complete the yearly audit compared to the auditor dismissal sample. Overall, the descriptive statistics seem to provide initial support to H1 that the firms involved in auditor resignations have characteristics that are related to riskier firms. However, no conclusions can be established before analyzing the multivariate results.

TABLE 3
PANEL A: DESCRIPTIVE STATISTICS FOR COMPANIES REPORTING AN AUDITOR RESIGNATION

Shown are descriptive statistics for the sample of firms who reported an auditor resignation during the time period 2004-2012. All variables are described in Table 2.

Variable	Mean	Median	Standard Deviation	Min	Max
ACCT_LIT	0.054	0	0.132	0	1.000
SUCCESSOR_BIG4	0.054	0	0.226	0	1.000
SIZE	5.618	5.686	1.760	0.281	11.835
AUD_FEES	13.398	13.561	1.233	8.517	17.277
INVREC	0.233	0.163	0.216	0	0.841
LEV	0.202	0.086	0.338	0	2.220
ASSETS_GR	0.392	0.059	2.674	-0.848	41.023
BTM	0.926	0.538	5.400	-2.702	98.473
ROA	-0.109	0.018	0.429	-5.018	0.351
LOSS	0.417	0	0.494	0	1.000
GOING_CONCERN	0.091	0	0.287	0	1.000
MATERIAL_WEAKNESS	0.132	0	0.339	0	1.000
COUNT_WEAK	0.292	0	0.964	0	9.000
DACC	0.067	-0.001	3.293	-14.050	51.939
AUDITOR_RESIGNED	1.000	1.000	0	1.000	1.000
ARL	78.652	74.000	54.269	25.000	511.000
RESTATEMENT	0.589	0	0.149	0	1.000
NEGINVRESP	0.601	0	0.398	0	1.000

PANEL B: DESCRIPTIVE STATISTICS FOR COMPANIES REPORTING AN AUDITOR DISMISSAL

Shown are descriptive statistics for the sample of firms who reported an auditor dismissal during the time period 2004-2012. All variables are described in Table 2.

Variable	Mean	Median	Standard Deviation	Min	Max
ACCT_LIT	0.062	0	0.183	0	1.000
SUCCESSOR_BIG4	0.052	0	0.216	0	1.000
SIZE	5.087	5.116	1.350	0.111	10.735
AUD_FEES	12.398	12.561	1.351	7.521	16.489
INVREC	0.533	0.283	0106	0	0.741
LEV	0.182	0.106	0.223	0	2.026
ASSETS_GR	0.412	0.071	2.153	-0.875	40.353
BTM	0.750	0.684	4.940	-2.211	97.484
ROA	0.125	0.198	0.329	-4.318	0.651
LOSS	0.643	0	0.370	0	1.000
GOING_CONCERN	0.041	0	0.183	0	1.000
MATERIAL_WEAKNESS	0.098	0	0.291	0	1.000

COUNT_WEAK	0.193	0	0.644	0	9.000
DACC	0.054	0.001	2.083	-12.053	50.391
AUDITOR_DISMISSAL	1.000	1.000	0	1.000	1.000
ARL	76.156	72.000	43.187	18.000	488.000
RESTATEMENT	0.414	0	0.153	0	1.000
NEGINVRESP	0.337	0	0.099	0	1.000

The regression results for H1 are presented in Table 4. The coefficient of interest is for the *AUDITOR_RESIGNED* variable. If auditor resignations do affect the likelihood of future accounting-related litigation, the coefficient should be positive and statistically significant. The results show that the coefficient is significantly positive (1.21, χ^2=11.19, p-value<0.01), which provides support for the market's belief that auditor resignations, overall, can be perceived as an indicator of accounting weaknesses in the client firms, and does lead to a higher likelihood of future legal action. Another way to interpret the coefficient is to look at the odds ratio of the *AUDITOR_RESIGNED* coefficient, which is 3.35. This means, holding the other variables in the model constant, the odds of a firm with an auditor resignation in year t being involved in future accounting litigation is 3.35 times higher compared to a firm with an auditor dismissal in year t. Once again, this finding supports the majority of empirical research on market impact of auditor turnover because that research showed that only auditor resignations had any statistically significant impact on market value of companies with auditor change (DeFond et al., 1997; Wells and Loudder, 1997; Griffin and Lont, 2010). Knowing that the odds are significantly higher of a firm being involved in future litigation in the years after a resignation versus a dismissal is very helpful for any potential investor looking to invest in a company because that investor may feel that a company with a recent auditor resignation is a riskier investment compared to a similar firm where an auditor was dismissed recently. Another specific scenario where this paper's evidence would be impactful is lending decisions by a creditor. If a creditor is in the process of deciding whether to offer financing to a company that has had recent auditor turnover, the creditor may either reject the financing request or require additional due diligence or more conservative debt covenants with the loan agreement.

The coefficient for *AUD_FEES* is negative and significant, which supports existing research that uses audit fees as a proxy for audit quality (Simunic 1980; Hay et al., 2006; Hogan and Wilkins, 2008; Han et al., 2016) and higher audit quality leading to a lower likelihood of future accounting litigation. The coefficient for the *LEV* variable is also positively significant and supports the perception that firms with higher leverage can be riskier. An interesting finding is the positive and significant coefficient for *TENURE*. This finding can be interpreted as evidence that longer tenured auditors may have independence issues when it comes to financial reporting issues that potentially lead to future accounting-related litigation. The statistically significant positive coefficient is interesting as it has public policy implications for the issue of mandatory auditor rotation. If tenure plays a role in affecting the likelihood of future litigation when there is an auditor change, the legislative parties in the accounting industry may want to argue for a shorter mandatory auditor rotation period as opposed to a longer one. *RESTATEMENT* is positive and significant, which is in line with restating firms having higher risk associated with them. Prior research has consistently shown restatements being associated with lower financial reporting quality and this finding also supports Huang and Scholz (2012), who find that restating firms are more likely to have auditor resignations.

TABLE 4
RESULTS OF LOGISTIC REGRESSION OF ACCOUNTING LITIGATION LIKELIHOOD ON AUDITOR TURNOVER FOR ALL SAMPLE FIRMS (2004-2012)

Analysis of Maximum Likelihood Estimates				
Parameter	**Estimate**	**Standard Error**	**Wald Chi-Square**	**Pr > ChiSq**
Intercept	**35.38**	**10.48**	**11.391**	**0.0007**
SIZE	-0.0004	0.1179	0.0000	0.9973
AUD_FEES	**-1.176**	**0.1987**	**35.015**	**<.0001**
INVREC	-0.8639	0.5830	2.195	0.1384
LEV	**1.7103**	**0.5880**	**8.4618**	**0.0036**
ASSETS_GR	-0.0377	0.0749	0.2534	06147
BTM	0.00176	0.0368	0.0023	0.9618
ROA	0.0726	0.4206	0.0298	0.8630
LOSS	-0.1003	0.2409	0.1733	0.6772
GOING_CONCERN	1.4445	1.2013	1.446	0.2292
COUNT_WEAK	0.0205	0.1501	0.0186	0.8915
MATERIAL_WEAKNESS	-0.3030	0.4405	0.4733	0.4915
DACC	0.0202	0.0213	0.8969	0.3436
AUDITOR_RESIGNED	**1.2087**	**0.3613**	**11.189**	**0.0008**
ARL	**-0.00422**	**0.00233**	**3.2588**	**0.0710**
TENURE	**0.0219**	**0.00908**	**5.8035**	**0.0160**
RESTATEMENT	**1.108**	**0.2381**	**3.299**	**0.0002**
NEGINVRESP	2.239	0.3776	2.365	0.1132
Observations	2,015			
Adjusted R^2 (%)	0.1953			
Likelihood Ratio	225.32			

Table 5 shows the test results for H2, which tests whether the predecessor auditor type provides additional information to the association between auditor change type and likelihood of future accounting litigation. In this test, the sample consists of only observations where the predecessor auditor is a non-Big 4 firm. Because this study looks at future litigation (litigation that takes place after the auditor change), the predecessor auditor is the auditor of record during the time period that is the focus of the litigation.

Research has consistently used the auditor firm type (Big 4 or non-Big 4) as a proxy for auditor quality (DeFond and Zhang 2014). If the coefficient of interest (*AUDITOR_RESIGNED*) is statistically significant and positive, this could be interpreted as support for prior research that has used non-Big 4 auditors as a proxy for lower audit quality. In this model, the coefficient for *AUDITOR_RESIGNED* is still positive and statistically significant (3.46, χ^2=10.65, p-value<0.01), meaning that the predecessor auditor type does statistically impact the likelihood of being involved in accounting-related litigation in the period after the resignation relative to a dismissal. Calculating the odds ratio for the *AUDITOR_RESIGNED* variable, the odds of a firm with an auditor resignation in year t being involved in future accounting litigation are 31.8 times higher compared to firms that dismissed their auditor in year t. Compared to the results from H1, the odds of being involved in future accounting litigation are 31.8 times more likely with an auditor resignation (versus a dismissal) when the auditor resigning is a non-Big 4 auditor versus 3.35 times as likely without factoring in the predecessor auditor. Therefore, incorporating the auditor type in the analysis of provides incrementally significant information. This result shows the importance of looking at the type of auditor leaving the engagement. For example, if an investor is interested in purchasing stock in a company that has just disclosed an auditor change, knowledge of whether the leaving auditor is Big 4 or non-Big 4 adds value to that decision process because this paper's findings show the type of leaving auditor has an impact on future litigation risk. This result supports the belief from most concurrent research that uses audit firm type as a proxy for audit quality and that the Big 4 audit firms provide higher audit quality (on average) than non-Big 4 auditors.

TABLE 5
RESULTS OF LOGISTIC REGRESSION OF ACCOUNTING LITIGATION ON AUDITOR TURNOVER WHERE PREDECESSOR AUDITOR IS NON-BIG 4 (2004-2012)

Analysis of Maximum Likelihood Estimates				
Parameter	**Estimate**	**Standard Error**	**Wald Chi-Square**	**Pr > ChiSq**
Intercept	**38.6**	**16.68**	**5.3568**	**0.0206**
SUCCESSOR_BIG4	13.8168	620.8	0.0005	0.9822
SIZE	-0.1799	0.2292	0.6163	0.4324
AUD_FEES	**-0.5070**	**0.2998**	**2.8596**	**0.0908**
INVREC	**-2.0472**	**0.8238**	**6.1747**	**0.0130**
LEV	**1.5551**	**0.9193**	**2.8615**	**0.0907**
ASSETS_GR	0.0619	0.2212	0.0783	0.7796
BTM	-0.0072	0.0476	0.0229	0.8797
ROA	-0.0809	0.3944	0.0420	0.8375
LOSS	-0.3611	0.3528	1.0481	0.3060
GOING_CONCERN	0.9111	1.2228	0.5551	0.4562
COUNT_WEAK	-0.0631	0.1361	0.2146	0.6431
MATERIAL_WEAKNESS	-0.0248	0.5554	0.0002	0.9644

DACC	0.0063	0.0507	0.0153	0.9015
AUDITOR_RESIGNED	**3.4604**	**1.0603**	**10.6515**	**0.0011**
ARL	**-0.008**	**0.00308**	**6.5708**	**0.0104**
TENURE	**0.0526**	**0.0249**	**4.4569**	**0.0348**
RESTATEMENT	**1.608**	**0.2234**	**4.1311**	**0.0408**
NEGINVRESP	1.241	0.3776	2.1534	0.1213
Observations	1,903			
Adjusted R^2 (%)	0.2301			
Likelihood Ratio	226.86			

While H2 analyzes the effect of the predecessor auditor being a smaller, non-Big 4 auditor, H3 tests whether the reason behind the auditor change that is disclosed affects the association between the auditor turnover type and the likelihood of future accounting-related litigation. There are a multitude of reasons as to why an auditor change occurs, and one would imagine that if an auditor change was due to financial accounting irregularities or fraud, the likelihood of future accounting litigation would be higher than if the auditor change were due to audit costs or a rebalancing of an auditor's client portfolio. Table 6 shows the results of the H3 test. When the disclosed reason behind the auditor change is due to accounting treatment, internal controls or fraud, that information is incrementally informative in determining whether that firm is more likely to be involved in future accounting litigation compared to a firm that dismisses an auditor. The coefficient for the interaction variable (*AUDITOR_RESIGNED*DISAGREEMENT*) is positive and statistically significant (2.87, χ^2=6.75, p-value<0.01). Using the odds ratio for the *AUDITOR_RESIGNED*DISAGREEMENT* interaction variable, the odds of a firm with an auditor resignation that's involved an accounting disagreement in year t being in future accounting litigation are 17.67 times higher compared to firms that dismissed their auditor due to an accounting disagreement in year t. In addition, the tenure, leverage, restatement, negative investor response and audit fees control variables are also statistically significant and in the expected directions. This result has practical implication for any market participant contemplating whether to invest in a company that discloses an auditor change and the reason behind that change. For example, a shareholder faces additional risk of investment loss if that shareholder invests in a firm that discloses an auditor resignation and discloses that the change was due to a disagreement involving accounting or fraud reasons. The same situation can be applied to a bank deciding whether to extend a loan or line of credit to that company. The risk of not earning the required rate of return is higher. Showing that the auditor turnover reason provides significant information has public policy implications because it provides support for the direction that the accounting industry has been moving towards: more transparency and additional disclosures, especially in the auditing field.

TABLE 6
RESULTS OF LOGISTIC REGRESSION OF ACCOUNTING LITIGATION ON AUDITOR TURNOVER INCORPORATING DISAGREEMENT REASON (2004-2012)

Analysis of Maximum Likelihood Estimates				
Parameter	**Estimate**	**Standard Error**	**Wald Chi-Square**	**Pr > ChiSq**
Intercept	**22.79**	7.52	9.7148	0.0018
SUCCESSOR_BIG4	**1.0102**	0.2197	21.1438	<.0001
SIZE	-0.0652	0.1224	0.2834	0.5945
AUD_FEES	**-1.0946**	0.2017	29.4428	<.0001
INVREC	**-1.1399**	0.5919	3.7087	0.0541
LEV	**1.6816**	0.5909	8.1002	0.0044
ASSETS_GR	-0.0426	0.0780	0.2976	0.5854
BTM	0.0019	0.0343	0.0030	0.9560
ROA	0.1574	0.4028	0.1527	0.6960
LOSS	-0.1004	0.2406	0.1740	0.6766
GOING_CONCERN	1.6146	1.2235	1.7414	0.1870
COUNT_WEAK	0.0135	0.1442	0.0088	0.9252
MATERIAL_WEAKNESS	-0.2625	0.4360	0.3626	0.5471
DACC	0.0205	0.0215	0.9093	0.3403
AUDITOR_RESIGNED	0.4072	0.3865	1.1100	0.2921
ARL	**-0.0042**	0.0024	3.1320	0.0768
TENURE	**0.0225**	0.0091	6.0522	0.0139
RESTATEMENT	**1.992**	**0.1983**	**5.0876**	**0.0293**
NEGINVRESP	**1.115**	**0.6038**	**5.6621**	**0.0243**
DISAGREEMENT	**-0.5934**	**0.2271**	**6.8250**	**0.0090**
AUDITOR_RESIGNED* DISAGREEMENT	**2.8717**	**1.105**	**6.7534**	**0.0094**
Observations	1,755			
Adjusted R^2 (%)	0.2458			
Likelihood Ratio	227.96			

CONCLUSION

Auditor actions' association with litigation risk can take the form of higher audit quality, higher audit fees, more frequent opinion modifications like going concern opinions, adjusting of client portfolios and resignations/dismissals from client engagements. Having the information to differentiate between auditor turnover types and any association between auditor turnover type and future accounting litigation can have significant impact on market participant and auditor behavior in regard to choosing future audit clients. If an auditor knows that there is a stronger association between auditor turnover type and future accounting litigation, that type of information is invaluable in determining what new clients to pick up and whether accepting a new client is within tolerable audit risk levels. Therefore, auditors' client portfolio decisions can be improved by factoring these disclosures into the decision-making process. Investors would find this information useful because litigation impacts their personal wealth should they decide to invest in a company. Investors can use the auditor change type, reason for auditor-client disagreement (if there is one) and the predecessor auditor type to factor future litigation risk into their investment decisions. By looking at any recent auditor changes involving a potential investment, the type of auditor leaving the engagement and the reason behind the auditor change, an investor can make better investment decisions that are in line with their risk tolerances.

This study analyzes whether there is a difference between auditor resignation and auditor dismissals in the effect on the likelihood of future involvement in accounting-related litigation. The results show two of the drivers in that relation is the type of auditor that is resigning and the reason behind the auditor change. The main test also provides support for concluding that auditor resignations for both Big 4 and non-Big 4 auditors increases the likelihood of future accounting litigation, and when the sample is limited to only auditor change involving a non-Big 4 firm as the predecessor auditor, the *AUDITOR_RESIGNED* variable is also statistically significant. Adding whether there was an accounting-related reason behind the change provides even more information as to the likelihood of future accounting litigation for firms involved with an auditor resignation due to a disagreement about accounting treatment, internal controls or fraud. The findings with the non-Big 4-predecessor auditor are consistent with previous research that has used audit firm type (Big 4 vs. non-Big 4) as a proxy for auditor quality. More importantly, this evidence helps to extend current research findings that auditor resignations are associated with negative market impact by providing support for the theory that investors and other market participants should focus on the type of auditor turnover, the type of auditor resigning and the reason behind the auditor change when assessing the likelihood of future legal risk of investing in the client firm. While auditor resignations can be interpreted as a red flag of "unexpected bad news", market participants and other financial information users need to consider the type of audit firm involved in the resignation. This paper's results also show the importance of increased auditor information disclosure in helping market participants in their predictive models. Having information on the reasons behind the auditor turnover was statistically significant in assessing future litigation risk. The findings only add to the support behind additional disclosure of auditor information. In addition, this research is useful for potential successor audit firms looking to take over new clients during a time when the revenue growth rates for the accounting industry are at record lows. Audit firms should ensure that they do their due diligence in examine potential elevated legal and audit risk for new clients depending on the predecessor auditor type.

ENDNOTES

DACC is the firm i's discretionary total accruals in year t derived from the modified Jones (1991) model. To estimate the model yearly by two-digit SIC code, at least 10 observations are required. The regression is TACCi,t/TAi,t-1 = a1*[1/TAi,t-1] + a2*[REVi,t- REVi,t/TAi,t-1] + a3*[PPEi,t/TAi,t-1] where TACC is total accruals for firm i, which is defined as income before extraordinary items minus net cash flow from operating activities.

The disagreement data is provided by Audit Analytics.

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