The influence of auditors' litigation risk on audit and non-audit fees

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Abstract

Objective: To analyze the influence of the auditor's litigation risk on audit and non-audit fees.

Method: Descriptive and documentary study with a quantitative approach. The population was composed of the listed companies in the United States of America, and the sample comprised 1,298 firms for each year of analysis, from 2013 to 2017. Data were collected from the Thomson Reuters Eikon® database and analyzed using descriptive statistics, correlation, and regression.

Results: Litigation risk and control variables influence audit fees. That is, auditors are inclined to spend more time and greater effort in implementing tests when facing a high litigation risk, which results in higher fees. A high litigation risk also influences non-audit fees because auditors feel the need to perform a more specialized service, resulting in higher fees.

Contributions: This study presents empirical evidence of the economic influence of the auditor's litigation risk, which is based on the client's characteristics, on audit and non-audit fees, corresponding to 18% and 1.3%, respectively.

Keywords: Risk of Litigation; Audit Fees; Non-Audit Fees.

1. Introduction

The purpose of auditing is to ensure that records are accurate and to give credibility to accounting information. Given the growing complexity of business transactions and accounting standards, an audit increases the potential of adding value to customers (DeFond & Zang, 2014). There are increasing demands of external users in a competitive market, especially banks and financial institutions, for more comprehensive audits (Jaramillo, Benau & Grima, 2012). Hence, it becomes essential that auditors assess the audited company's characteristics, such as technologies and business complexity, to become aware of the risks involved.

In this sense, litigation risks are a constant concern of auditors (Sun & Liu, 2011) because they are responsible for emitting an opinion regarding financial statements based on evidence and their judgment. In this process, auditors inevitably face different types of risks, such as the risks of litigation and blemishing their reputation. A litigation risk exposes auditors to financial sanctions, while the risk of reputation exposes auditors to difficulties in retaining and attracting new customers. While litigation risks create a liability, reputation risk affects an asset, the auditor's reputation. These are not independent risks because litigations and financial sanctions also harm an auditor's reputation (DeFond & Zang, 2014).

Litigation risks represent a threat to auditors, so they regularly assess their exposure to risk, the planning of the service provided, and the services' cost. In this sense, concerning costs, audit fees change according to litigation risk (Seetharaman, Gul & Lynn, 2002). Audit fees refer to the amount charged by auditors to review financial statements. Additionally, auditors provide non-audit services according to their clients' needs, which include due diligence, special audit, tax verification, and mergers and acquisitions, among others (Hoitash, Markelevich & Barragato, 2007).

Different studies listing the determinant of audit fees (Jaramillo, Benau & Grima, 2012; Hoitash, Markelevich & Barragato, 2007; Mayoral & Segura, 2007; Joshi & Bastaki, 2000). Hay, Knechel & Wong (2006) highlight that audit fees depend on the size, complexity, risk, and other characteristics of the audited company in addition to the auditor's qualifications and characteristics of the audit job. Therefore, the amount charged by auditors concerning audit fees shall consider the costs of performing the job, the consequences of the job, and litigation and reputation risks (Mayoral & Segura, 2007). In summary, litigation risks indicate that auditors should consider the effect of these risks on their work when issuing an audit opinion and establishing audit and non-audit fees (Kaplan & Willians, 2013).

In the scope of audit and non-audit fees, studies address the effect of corporate social responsibility (Kim & Park, 2013), the potential influence of the quality of corporate governance on the auditor's remuneration (Zaman, Hudaib & Haniffa, 2011), the client's characteristics in determining fees (Jaramillo, Benau & Grima, 2012; Hay, Knechel & Wong, 2006), and the relationship established between client and auditor (Whisenant, Sankaraguruswamy & Raghunandan, 2003). In the case of the auditor's litigation risk, studies have addressed the auditor's litigation risk linked to the audited client's market. These studies specifically focus on publicly traded and closed-capital companies, or in some market sectors, and assume these factors expose auditors to a greater litigation risk (Badertscher, Jorgensen, Katz & Kinney, 2014; Choi, Kim & Liu, 2009; Venkataram, Weber & Willenborg, 2008; Seethraman, Gul & Lynn, 2002; Simunic & Stein, 1996).

Estimating the auditor's litigation risk based on the client's characteristics, Sun & Liu (2011) and Krishnan & Zhang (2005) advanced in the topic mainly using the model developed by Shu (2000). Sun & Liu (2011) contributed to the literature by examining the effect of auditor's litigation risk on the auditing quality between Big Four and non-Big Four auditors. Krishnan & Zhang (2005) report that the disclosure of review reports by audited companies decreases auditor's litigation risks. Therefore, as highlighted by Sun & Liu (2011), most studies addressing litigation risks focused on the country level when analyzing the market to which clients belong. Hence, there is the possibility of performing studies to address auditor's litigation risks, considering the clients' characteristics to audit firms.

Given the previous discussion, this study is intended to contribute to the discussion regarding litigation risk. The focus, however, is on risks inherent to clients and applying and testing the model proposed by Shu (2000) by relating audit and non-audit fees. Therefore, the following question was asked to guide this study: **What is the influence of auditor's litigation risk on audit and non-audit fees?** The objective is to analyze the influence of auditor's litigation risk on audit and non-audit fees among publicly traded companies in the United States of America.

In this sense, measuring an auditor's litigation risk based on the client's characteristics is important because it more explicitly affects the legal responsibility of auditors than litigation risk at a country's level (Sun & Liu, 2011). According to DeFond & Zhang (2014), the literature in the audit field addressing auditor's litigation risks is predominantly theoretical, suggesting the need for empirical studies to provide insights regarding litigation risk and auditing (Abbott, Gunny & Pollard, 2017), specifically verifying the relationship between litigation risks and audit and non-audit fees.

Additionally, many studies have focused on the antecedents of the auditor's litigation risk (Schmidt, 2012; Cahan & Zhang 2006; Heninger 2001; Lys & Watts 1994). Differently from those studies, this study is intended to analyze the potential consequences of auditor's litigation risk. Specifically, to verify whether auditor's litigation risk reflects on increased audit and non-audit fees. This context was chosen because the method developed by Shu (2000) to measure an auditor's litigation risk refers to the American context and because this is a broad market that permits a greater number of observations.

An important contribution of this study is that it provides evidence regarding the relationship between auditor's litigation risk and audit and non-audit fees. Hence, this study shows the factors that determine audit fees, an important issue for Brazilian and international regulators seeking to identify the basis on which audit fees should be determined, the costs that shall be covered, and the factors that need to be considered when establishing audit fees (Kikhia, 2015).

Finally, this study's contribution includes evidence regarding the consequences of litigation risks arising from clients and how auditors respond to it. This study suggests that a threat of litigation requires auditors to respond, and this response reflects on audit and non-audit fees.

2. Litigation Risk and Audit and Non-Audit Fees

Auditing involves the characteristics of the client been audited, such as corporate governance and financial aspects, in which improper management or client-related fraud may lead to lawsuits that impact an auditor's responsibility, performance, and job functions (Sterzeck, 2017). In this context, auditing imposes different risks on auditors. An auditor's litigation risk is defined as the risk of auditors to become involved in a legal process. In this study, this risk is based on the client's characteristics. Audit risk is defined as the risk of auditors' expressing an inappropriate opinion when financial statements present significant distortions (Ghosh & Tang, 2015).

Therefore, as part of the planning and job of auditing financial statements, auditors are required to make judgments related to a client's risk. Judgments concerning risks permeate the auditing process as a whole, determining whether to accept a customer or not, how extensive audit tests will be, the nature of auditors' opinions, and fees. Thus, auditors play a crucial role in verifying the quality of a client's financial statements (Simunic & Stein, 1996).

In this sense, an auditor's opinion communicates his/her conclusion to stakeholders, and it is the role of auditors to warn the users of financial statements about imminent problems in an organization's financial reports or internal controls, which may include operational continuity issues (Hope & Langli, 2009) and risks, such as the business of the audited company. According to Shu (2000), auditors hold confidential information regarding their clients, and an auditor's resignation may indicate a high auditor's litigation risk, affecting the audited company, such as causing share prices to fall and negatively impact organizational growth.

The literature shows that auditors may respond in many ways when they perceive litigation risk to be high. In this context, the results of the studies by Krishnan & Krishnan (1997) and Shu (2000) provide evidence that auditors tend to leave commitments associated with high litigation risk. According to Krishnan & Krishnan (1997), there is a higher likelihood of litigious events when auditors resign than when a client dismisses its auditors.

An auditor's litigation risk is associated with engagement; thus, it is associated with the client's characteristics (Stice, 1991). Therefore, the concerns of auditors regarding litigations are related to the characteristics of the audited client. The empirical measure developed by Shu (2000) is intended to capture the auditor's litigation risk considering the client's characteristics because, according to Krishnan & Zhang (2005), the auditor's litigation risk is correlated to the client's litigation risk.

Based on studies addressing litigation, Shu (2000) developed a model to determine the auditor's litigation risk using the clients' characteristics. The variables that compose the model developed by Shu (2000) to measure the auditor's litigation risk are related to factors that increase clients' incentives in lawsuits. The company's size, market to book ratio, the proportion of shares traded, liquidity, and financial difficulties over the year, are the clients' characteristics that may increase the auditor's litigation risk. In the model, return on assets is positively related to the auditor's litigation risk. An explanation is that high accounting returns, together with low stock returns, correspond to earnings management evidence, which may lead to litigation against auditors.

Stice (1991) considers that the level of a client's accounts receivable and stock increase the auditor's litigation risk. Additionally, a modified audit opinion, participation in a high technology sector, and sales growth also increase an auditor's legal exposure.

Krishnan & Krishnan (1997) state that there are some ways in which auditors can control litigation risk, distancing themselves from situations with high litigation risk, by being more careful when selecting clients and paying greater attention to and improving audit quality. According to the authors, a client's financial situation is directly related to the auditor's litigation risk, while financial statements and auditors' opinions are ways one can monitor contracts.

According to Simunic & Stein (1996), an audit's quality is associated with litigation risk. The authors argue that an increase in a client's business risk may lead them to change their demand from high-quality auditors to low-quality auditors. According to Shu (2000), an increase in the audited company's risks decreases the audit quality. The author explains that a high auditor's litigation risk, accruing from the client's characteristics, leads to the auditor's dismissal and successor auditors are not Big Four firms, suggesting there is a negative relationship between litigation risk and the quality of auditing.

According to DeFond and Zhang (2014), high litigation costs may make high-quality auditors avoid risky clients more frequently than low-quality auditors, though high-quality auditors are more capable of minimizing litigation risks and improving the quality of the audit.

In this sense, we infer that larger audit firms, the so-called Big Four, are of higher quality and consequently have more capacity to diversity client risk than smaller, non-Big Four audit firms (Elder Zhang, Zhou & Zhou, 2009; Krishnan, Sun, Wang & Yang, 2013). In this context, Big Four audit firms may find it profitable to keep clients, even if they represent high auditor litigation risks. Therefore, high-quality audit or Big Four firms may accept high-risk clients and compensate for the risk with higher fees.

An auditor's responsibility is related to the risk involved in the process; thus, the higher the audit job's risk, the greater the responsibility, which demands higher fees to compensate for the risks (Kikhia, 2015). The study by Sun & Liu (2011) reports that high-risk clients force auditors to implement more efficacious audit procedures so that risks shall be incorporated into the audit job to determine the tasks and efforts required. Additionally, a high-risk company requires greater attention and a larger number of audit tests, resulting in higher audit fees (Simunic, 1980).

Auditors aware of a client's litigation risk may perform a more conservative audit and charge higher audit fees. Elder et al. (2009) states that a client's litigation risk results in a response on the part of auditors, which is reflected in adjusted fees, modified opinions, or even may cause an auditor to resign.

Regarding the relationship between these topics, auditor's litigation risk from a client and audit fees suggests that high-risk companies will demand more work and effort from auditors, consequently increasing audit fees (Simunic & Stein, 1996). In this sense, higher audit fees probably include temporary increases in audit work (Abbott, Gunny & Pollard, 2017), which may be a consequence of the auditor's litigation risk arising from the audited client.

Based on the previous discussion, this study's first hypothesis was established to relate audit fees and auditor's litigation risk:

- **H_1: Audit companies charge higher audit fees from clients presenting higher auditor's litigation risk.**

Regarding non-audit fees, the question raised by regulators is that the provision of these services hinders auditors' independence (Lim & Tan, 2007). Previous studies addressing non-audit services show that these services establish economic connections that weaken an auditor's independence and, consequently, audit quality (Simunuc, 1984; DeAngelo, 1981). Concerns with reputation and potential litigations (Watts e Zimmerman, 1983) may motivate auditors to be more independent when performing non-audit jobs though (Lim, Ding, and Charoenwong, 2013). In this sense, the greater the auditor's litigation risk, the more work, and attention auditors will pay when performing non-audit jobs, resulting in higher non-audit fees.

Services other than auditing should not impair the level of independence and quality of the audit job. Therefore, a balance is needed between independence and audit quality, and the economic factor resulting from the service provided (Lim& Tan, 2007). DeFond, Raghunandan & Subramanyam (2002) reports that the auditors' concerns with blemished reputation and litigation costs outweigh the expected benefits of compromising their independence.

Hence, auditors need to maintain their independence and preserve audit quality even when performing non-audit services. Concerns with blemished reputation and exposure to litigation should be sufficient for providing quality non-audit services. Additionally, due to concerns over reputation and potential exposure to litigations, auditors are likely to provide high-quality audit services when also providing non-audit services to their clients (Lim, Ding & Charoenwong, 2013).

Hay, Knechel & Ling (2008) suggest that the demand for audit services is a function of the set of risks faced by stakeholders (creditors, managers, shareholders, etc.) and the set of control mechanisms to mitigate these risks. Therefore, the risks posed by an audited client are also related to the demand for non-audit fees, the objective of which is to minimize risks. Thus, auditors have to perform a detailed job to mitigate risks, which increases efforts (Kikhia, 2015) and may also increase non-audit fees.

According to Antle, Gordon, Narayanamoorthy & Zhou (2006), non-audit fees are related to many factors, such as accounts receivable and inventories, past performance, and the client's characteristics (Ashbaugh, LaFond & Mayhew, 2003; Firth, 1997). In this sense, the client's characteristics include its risk factors and are related to the auditor's litigation risk, which may influence non-audit fees.

The previous discussion resulted in the second hypothesis intended to test the influence of non-audit fees on auditor's litigation risk:

- **H_2: Audit firms charge higher non-audit fees from clients with a higher auditor's litigation risk.**

3. Methodological Procedures

This descriptive, documentary, and quantitative study identified a population of 11,505 publicly traded companies located in the United States of America, with data available in the Thomson Reuters Eikon® database. Those companies that did not have data available regarding the study's variables were excluded, and a final sample of 1,298 listed public companies was obtained, totaling 6,490 observations—the study period comprised from 2013 to 2017. Data concerning the independent, dependent, and control variables are described based on the studies that support them, as shown in Table 1.

Table 1

Variables addressed in this study

Variables	Description	Metric	Author(s)
Dependent Variables			
HAUD	Audit fees	Logarithm of the total amount paid for audit fees.	Kikhia (2015); Jaramillo, Benau and Grima (2012); Venkataraman, Weber and Willenborg (2008); Abbott et al. (2003); Joshi and Hasan (2000).
HNAUD	Non-audit fees	Logarithm of the total amount paid for non-audit fees.	Jaramillo, Benau and Grima (2012); Abbott et al. (2003).
Independent Variables			
RLIT	Litigation risk	Equation 1	Sun and Liu (2011); Krishnan and Zhang (2005); Shu (2000).
Control Variables			
ALAV	Leverage	(Noncurrent liabilities)/(Total Assets)	Venkataraman, Weber and Willenborg (2008); Abbott et al. (2003).
LUCR	Profitability	(Net Profit)/(Net Sales)	Jaramillo, Benau and Grima (2012); Joshi and Hasan (2000).
BigN	Audit firms	Dummy: 1 if the company is a Big Four audit firm and 0 otherwise.	Kikhia (2015); Jaramillo, Benau and Grima (2012); Sun and Liu (2011); Venkataraman, Weber and Willenborg (2008); Mayoral and Segura (2007); Carson, et al. (2004).

Source: study's data.

In the model proposed here, the choice of the determinants potentially explaining the amount of audit and non-audit fees was based on the variables used by previous studies. Considering that auditors' litigation risks are associated with various factors (Shu, 2000; Carcello & Palmrose, 1994; Lys& Watts, 1994; Stice, 1991), a comprehensive measure needs to be used. Shu (2000) explains auditor's litigation risk using 14 characteristics of the audited firm.

A proxy developed by Shu (2000), also adopted by Sun & Liu (2011) and Krishnan & Zhang (2005) was used to measure the auditor's litigation risk, as shown in Equation 1.

$$RLIT = 0,276{*}TAM + 1,153{*}EST + 2,075{*}REC + 1,251{*}ROA +$$
$$1,501{*}LG + 0,301{*}CV - 0,371{*}RET + 0,235{*}MB + 1,464{*}PA +$$
$$1,060{*}DIF + 0,928{*}SET + 0,463{*}OP - 10,049$$

Equation (1)

Where:
- *RLIT*: litigation risk.
- *TAM* (Size): natural logarithm of total assets.
- *EST* (Inventory): inventory divided by total assets.
- *REC* (Revenue): customers divided by total assets.
- *ROA* (Return on Assets): net income divided by total assets.
- *LG* (General liquidity): total assets divided by total liabilities at the end of the year.
- *CV* (Sales Growth): sales from the previous year minus sales from the current year divided by sales from the previous year.

- *RET* (Return on Equity): dividend distribution on the last day of the fiscal year.
- *MB* (*Market to Book*): market price of the shares divided by book value of the shares on the last day of the fiscal year.
- *PA* (Share Ratio): proportion of shares that were traded during the fiscal year.
- *DIF* (Financial difficulties): 1 if the firm had negative equity in the previous year and 0 otherwise.
- *SET* (Sector): 1 if the firm is in the sectors coded 2830, 3570, 7370, 8730, and between 3825 and 3839 (health, information technology, and telecommunications), and 0 otherwise.
- *OP* (Audit Opinion): 1 if the firm received a modified audit opinion in the previous year, and 0 otherwise.

Equation 2 is used to test H_1 and Equation 3 is used to test H_2.

$$HAUD = \beta_0 + \beta_1 RLIT + \beta_2 ALAV + \beta_3 LUCR + \beta_4 BigN + \Sigma sector\_fixed\_effect_{it} + \Sigma eyear\_fixed\_effect_{it} + \varepsilon \qquad \text{Equation (2)}$$

$$HNAUD = \beta_0 + \beta_1 RLIT + \beta_2 ALAV + \beta_3 LUCR + + \beta_4 BigN + \beta \Sigma sector\_fixed\_effect_{it} + \Sigma year\_fixed\_effect_{it} + \varepsilon \qquad \text{Equation (3)}$$

Initially, the Shapiro-Wilk normality test was performed to verify whether auditor's litigation risks influence audit and non-audit fees in the United States of America firms. The test shows that data were not normally distributed (Z=14.134;z<0.000); however, normality was assumed according to the Central Limit Theorem due to the sample's size. Later, Spearman's Correlation was performed and, to analyze the model, Equations 2 and 3 were operationalized using Ordinary Least Squares (OLS) with robust standard errors, controlling for sector and year fixed effect.

Robust regression is justified because the White test was significant (P=214.07; p<0.000), indicating the presence of heteroscedasticity. Regarding the control of sector and year fixed effects; these prevent the results from being influenced by particular characteristics such as the sector. According to Mayoral & Segura (2007), controlling for year fixed effects is intended to control potential temporary effects and macroeconomic effects. All the tests were performed with *STATA14®*.

4. Results Analysis

This section presents a description and analysis of the results. It initiates by presenting a descriptive analysis of the variables and Spearman's Correlation between variables, and finally, the regressions to verify whether there is a relationship between litigation risk and audit and non-audit fees. Table 2 presents the descriptive statistics of the variables used in this study.

Table 2

Descriptive analysis of variables

Variables	Minimum	Maximum	Mean	Standard deviation
Audit fees*	7.5	485,991.00	3,251.00	13,635.00
Non-audit fees*	0.00	36,400.00	244.00	1,225.00
Litigation risk	-13.203	13.650	3.377	2.189
Leverage	-2.601	8.561	0.352	0.350
Profitability	3.903	10.512	7.799	0.851
Audit firm	0	1	0.781	0.413

*Thousand dollars.

Source: study's data.

As shown in Table 2, the audit and non-audit fees of the companies included in the sample are discrepant. Note that some firms do not present any expenses with non-audit fees. Regarding the independent litigation risk variable, the firms impose a risk of 3.377 on average to the auditors, while some firms impose a risk of 13.650.

The remaining variables also present considerable differences. For instance, leverage and profitability present discrepant values, which may be related to the firms' economic sector. Regarding the audit firm, note that Big Four firms audit most of the firms; the mean (0.781) is closer to 1.

Afterward, the intensity and direction of the relationship between the variables were measured using Spearman's correlation coefficient to identify potential multicollinearity problems in the data. According to Fávero (2015), the presence of multicollinearity does not mean the model has problems, but high collinearity generates an increase in error. In this sense, correlation does not necessarily suggest a cause and effect relationship, but rather, an association between the study's variables. Table 3 presents Spearman's correlation results.

Table 3

Spearman's correlation between the variables

	HAUD	HNAUD	RLIT	ALAV	LUCR	BigN
HAUD	1	1.000**	0.766**	0.387**	0.709**	0.540**
HNAUD		1	0.766**	0.387**	0.709**	0.540**
RLIT			1	0.444**	0.772**	0.454**
ALAV				1	0.364**	0.194**
LUCR					1	0.438**
BigN						1

**Correlation is significant at the level of 1%. HAUD= Audit fees; HNAUD= Non-audit fees; RLIT= Litigation risk; ALAV=Leverage; LUCR=Profitability; BigN= audit firms

Source: study's data.

Table 3 shows that Spearman's correlation matrix of the study's variables provides preliminary evidence that the independent variable litigation risk is positively related to audit and non-audit fees. Additionally, a relationship was found between the dependent variables audit and non-audit fees and the remaining control variables, leverage, profitability, and audit firm.

Regarding audit fees, the variables litigation risk (0.766), leverage (0.387), profitability (0.709), and audit firm (0.540) presented a significant and positive correlation at a 1% level. Regarding non-audit fees, the variables litigation risk (0.766), leverage (0.387), profitability (0.709), and audit firm (0.540) also presented a significant and positive correlation at 1%.

A high correlation was found between the study's explanatory variables. Note that there is a 77% correlation between litigation risk and profitability among the analyzed firms. Additionally, litigation risk was strongly correlated with leverage and audit firms, 44% and 45%, respectively. Moreover, leverage presented a 36% correlation with profitability, while profitability presented a correlation of approximately 44% with audit firms (BigN).

Regarding these findings, we assume that audit and non-audit fees are positively associated with the litigation risk of the firms analyzed. However, Spearman's correlation only presents the association between variables. Therefore, to test the hypotheses concerning litigation risk and the remaining control variables concerning audit and non-audit fees, an OLS regression was performed, and the results are presented in Table 4.

Table 4

Results of the Multiple Linear Regression model

Variable		Audit fees (Equation 2)	Non-audit fees (Equation 3)
Constant	Coefficient	3.834	0.448
	Sig.	0.000***	0.000***
Litigation risk	Coefficient	0.085	0.006
	Sig.	0.000***	0.000***
Leverage	Coefficient	-0.021	-0.001
	Sig.	0.192	0.143
Profitability	Coefficient	0.228	0.015
	Sig.	0.000***	0.000***
Audit firm	Coefficient	0.275	0.021
	Sig.	0.000***	0.000***
Sector and Year Fixed Effects		Yes	Yes
Model's Sig.		0.000***	0.000***
R^2		65.11	65.90
Adjusted R^2		65.02	65.81
Durbin-Watson		2.058	2.048
VIF		1.16 – 2.20	1.16 – 2.20
Number of observations		6.490	6.490

***Significant at 1%; **5%; *10%. OLS regression with robust standard errors controlling for sector and year fixed effects. VIF=Variance Inflator Factor; Sig.=significance.

Source: study's data.

As shown in Table 4, the models were significant at 1%. The VIF test of multicollinearity among variables presented values below 10 for both models, showing acceptability of data regarding this assumption. The Durbin-Watson test also showed acceptability of data regarding the assumption of serial autocorrelation in the residues, as it presents values close to 2.

The explanatory power of the econometric models, observed with R^2, concerning the audit fees was 65.11%, while the explanatory power was 65.90% for non-audit fees. Regarding adjusted R^2, which indicates the extent to which the model generalizes the results, the closer the value to R^2, the higher the model's explanatory power. Note that the adjusted R^2 of the audit fees is 65.02%, and for non-audit fees, it is 65.81%, showing that the models' explanatory power is significant.

Previous studies addressing the determinants of audit and non-audit fees report models with explanatory power (R^2) varying from 17.4% and 80.1% (Kikhia, 2015; Jaramillo, Benau & Grima, 2012; Venkataraman, Weber & Willenborg, 2008; Abbott et al., 2003; Joshi & Hasan, 2000). In this sense, according to the studies presented in the literature, both models in this study show robust explanatory power because when compared with other studies, the models are among those of the most significant explanatory power.

Regarding Equation 2, as shown in Table 4, litigation risks have a significant and positive impact on audit fees; that is, the higher (lower) the litigation risk, the higher (lower) is the audit fees. In economic terms, the coefficient of 0.085 (Table 4) indicates that the variation of one standard deviation in the litigation risk represents a change of approximately 18% (0.085*2.189 (Table 2) in audit fees.

Given the evidence found for this variable in the model, H1 was accepted, and audit firms charge higher audit fees from clients presenting a higher auditor's litigation risk. This result corroborates the study by Venkataraman, Weber, and Willenborg (2008), which reports that exposure to auditors' litigation risk reflects higher audit fees.

This finding indicates that when auditors identify a high litigation risk, they are encouraged to spend more time and effort in audit work, such for example, performing more tests (Bronson, Ghosh & Hogan, 2017; Simunic & Stein, 1996), a fact that may lead audit firms to charge a premium for the work and risk assumed (Bronson, Ghosh & Hogan, 2017). It is impossible though to identify the number of hours auditors spent due to increased work (DeFond & Zhang, 2014) accruing from increased litigation risk. This fact constitutes a limitation because the amount paid to the audit firm does not specify the amount paid for additional work arising from litigation risks.

The results of Equation 3 show that litigation risks had a significant and positive impact on audit fees. This result suggests that the higher (lower) the litigation risk, the higher (lower) is the amount paid to non-audit fees. Regarding the economic analysis, the coefficient of 0.006 (Table 4) indicates that the variation of one standard deviation in litigation risk represents an increase of 1.3% (0.006*2.189 (Table 2)) in non-audit fees. This finding supports H_2, that is, audit firms charge higher non-audit fees from clients presenting higher auditor's litigation risk. In this context, Sun & Liu (2011) state that auditors are encouraged to exert more effort and perform more specialized work, such as special demand audit and tax verification, given a high litigation risk.

Regarding the other explanatory (control) variables, leverage did not present a significant relationship in any of the two models. Despite not finding a significant relationship, a fact that diverges from the study by Abbott et al. (2003), which reports a negative and significant relationship of leverage with both fees, the negative sign is consistent with the results reported by the previously mentioned study.

Profitability had a significant and positive influence on audit fees but not on non-audit fees, suggesting that profitable companies pay more for audit fees but not for non-audit fees, considering that higher profits may demand more rigorous audit tests of control and substantive tests, which also require more audit time. This finding reinforces the study by Joshi & Hasan (2000), which reports this result when analyzing the relationship between profitability and audit fees and non-audit fees. As opposed, Jaramillo, Benau & Grima (2012) do not confirm that profitability influences fees. This divergence may be related to the country where the study was conducted. The study was conducted in Mexico and addressed a sample of 59 firms.

A significant and positive association was found between audit and non-audit fees regarding the variable audit firm. In this sense, large audit firms are believed to have a greater incentive to protect their reputation and provide high-quality services (Sun & Liu, 2011), which implies higher audit and non-audit fees. This result is in line with the studies by Kikhia (2015), Jaramillo, Benau & Grima (2012), Venkataraman, Weber & Willenborg (2008), Mayoral & Segura (2007) and Carson, et al. (2004), which report that Big Four audit firms charge comparatively higher fees.

In general, this study shows that auditor's litigation risk arising from the client's characteristics is one of the factors considered when fees are established. According to Sun & Liu (2011), a higher auditor's litigation risk demands more supervision and specialization from auditors, and an auditor's willingness to provide the service is supported by charging higher audit and non-audit fees. Additionally, other factors reported in the literature were reinforced in this study as determinants of audit and non-audit fees, namely leverage, profitability, and audit firm.

Finally, the empirical application of the model of litigation risk developed by Shu (2000) in the American context enabled verifying auditor's litigation risk, which is associated with the client's characteristics, and its influence on audit and non-audit fees. Note that the number of observations and the model's explanatory power rendered the results more robust than those reported by studies seeking to verify the determinants of audit fees. Additionally, the American context is a strong and well-developed financial market, so that this study's findings can support audit firms in the market's other environments when dealing with audit and non-audit fees and auditor's litigation risk.

5. Conclusions

This study's objective was to analyze the influence of the auditor's litigation risks on audit and non-audit fees among listed companies in the United States of America. This descriptive, quantitative, and documentary study addressed data concerning the period between 2013 and 2017.

Two hypotheses were tested. The first was that audit firms charge higher fees from clients with higher auditor's litigation risk. Even though this relationship may seem evident, no study had investigated it by segregating firms with litigation risks from those with no litigation risks. The litigation risk model developed by Shu (2000) was tested in this study using data from the American market. The influence of litigation's risk on audit fees was identified along with the influence of other control variables. The results revealed a significant and positive relationship at 1%.

In practice, this result suggests that when auditors realize that the audited firm imposes a high litigation risk, they are more likely to spend more time and effort in implementing audit tests (Bronson, Ghosh & Hogan, 2017; Simunic & Stein, 1996). More time and efforts imply increased fees due to the added work and risk assumed. In addition to the litigation risk, the variables control, profitability, and audit firm also appeared related to audit fees, contributing to identifying factors explaining the amount of fees.

Hypothesis 2 refers to audit firms charging higher non-audit fees of clients presenting higher auditor's litigation risk. In the same way, as with audit fees, auditor's litigation risk also presented a significant and positive association with non-audit fees at 1%.

Hence, auditors are encouraged to work harder and provide more specialized services when they perceive high litigation risks, for instance, special audits, tax verification, mergers, and acquisitions (Sun & Liu, 2011). In turn, having to perform more tasks also influences non-audit fees. The control variables profitability and audit firm were significant at 1%; that is, they also influenced non-audit fees.

This study provides evidence concerning the test verifying the relationship between auditor's litigation risk and audit and non-audit fees. It also focuses on the auditor's litigation risk based on the client's characteristics. Moreover, this study's results show the impact of auditor's litigation risk on audit and non-audit fees, 18% and 1.3%, respectively.

One of this study's limitations is the fact that the litigation risk model was used, which is specific for the American context, thus, its results cannot be generalized. Future studies can analyze whether the relationship between audit and non-audit fees and auditor's litigation risks differ between publicly traded and private companies, and also address other periods and other stock markets such as in developing countries, for instance. Future research is suggested to also verify differences in economic and cultural terms as well as the legal system and macroeconomic factors in different countries, and verify associations between auditor's litigation fees and audit and non-audit fees.

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