



The Effects of Internal Audit, Audit Committee and Firm Characteristics on Audit Fees in a Multi-Country and Industry Setting

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Abstract

This paper examines the association between audit fees and attributes of internal audit (IA), audit committee (AC), as measured by independence and financial expertise, as well as characteristics of the firm. The determinants of audit fees have been extensively investigated in the prior literature, but the results are conflicting. We develop a comprehensive model from a multi-country and multi-industry perspective. A total of 3,136 companies covering a period of 10 years (2011-2020) with 15,247 observations from 55 countries were included in this study. We found that the most critical variables that have a significant positive effect on the audit fees are client size, leverage (risk), profitability, complexity, losses, AC independence, AC expertise and auditor size. The study also shows that audit pricing is significantly negatively related to foreign operations, auditor tenure, and internal audit independence. The results highlight variables that affect audit fees across a range of countries/industries.

Keywords: Audit Fee, Audit Board, Audit Committee, Internal Audit Independence, Auditor Rotation



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I. Introduction

This paper examines the association between audit fees and attributes of internal audit (IA), audit committee (AC), measured by independence and financial expertise, as well as characteristics of the firm. We investigate this issue from a multi-country and multi-industry perspective, probing for variables that consistently affect audit fees across such a diverse landscape. The seminal paper by Simunic (1980) initiated the examination of the factors that influence audit fees. The empirical evidence related to the effects that the attributes of IA, AC and firm characteristics on audit fees are still inconclusive at the global level. We further explore this area to provide incremental evidence.

Being a part of the corporate governance process, IA and AC together mitigate the problems related to the quality of information. IA makes it easier for the external auditors to assess the internal control system, the inherent risk and the regulatory compliance. Thus, possibly resulting in a reduction of substantive tests (Felix et al., 2001). Additionally, AC attempts to mitigate agency problems by ensuring quality financial reporting to principals. Does this affect audit fees?

The auditing literature contains a wealth of research on audit fees. Earlier studies on the variables influencing audit pricing were focused on the presence of an AC and IA in the organizations. Recent studies have examined the association between IA, AC and firm characteristics with audit fees. However, the empirical results in these studies are mixed and conflicting. There still exists a research gap. Furthermore, the relationships are not constant and vary depending on external factors such as the economy, regulations and country. As such, there is a need to complement the previous findings with a broader study. Given the continuously evolving role of corporate governance mechanisms such as IA and AC, the continued investigation of their influence on audit fees should be still relevant, the only question being to what extent.

So, we pose the following research question: *Do attributes of IA, AC and firm characteristics influence the amount and scale of audit fees charged by the external auditors? If yes, what variables are significant across a range of industries and countries?*

The rest of the paper is divided into five sections. Section II provides a comprehensive prior literature review and identifies the different results. This literature review then informs our hypotheses development. Section III develops a theoretical framework and estimation model. Section IV describes the sources of data and the detailed methodology used in this paper. Section V covers results and discussion. Finally, Section V is the Conclusion. It concludes the study findings and provides implications of our results as well as directions for future research.

II. Literature Review and Hypotheses Formulation

Audit Fees

The fees charged by the external auditors depend on a myriad of considerations. Agoes (2004) states: “*The amount of the charge depends on, among others, the risk of the assignment, the complexity of the services provided, the level of expertise required to carry out the services of proficiency level, the cost structure of the firm concerned and other professional considerations*”. Simunic (1980) developed a model that investigated the determinants of audit fees. Consequently, there was an explosion of research. Consistent with this prior research (Choi, et al, 2010; Hallak and Silva, 2012; Yatim et al., 2006), we measure the dependent variable as the natural logarithm of audit fees.

Audit Board/Audit Committee

The paper treats the terms audit board and audit committee synonymously (AC). The existence and influence of ACs affect audit fees. Lee and Mande's (2005) study suggests that effective ACs positively influence the level of audit coverage. Goodwin-Stewart and Kent (2006) argue that AC members have incentives to minimize the litigation risk and reputation loss, say due to fraudulent financial reporting, as such, they insist on quality audits, which may cost more. They also report a positive association between audit fees and the existence of AC, while Dinh (2012) reports a negative relationship. Also, Wu (2012) finds a significant negative relationship between audit fees and corporate governance mechanisms. On the other hand, Rainsbury et al. (2009) report that AC existence and audit fees are not related. Thus, the prior findings are mixed, though more studies support a positive relationship between AC and audit fees. We hypothesize:

H₁: The existence of an AC is positively related to audit fees

Audit Committee Expertise

ACs having financial expertise, do support high-quality financial statements (Burrowes and Hendriks, 2005). A financial expert in AC can result in a rigorous review of the IA. Goodwin-Stewart and Kent's (2006) results show that if the AC consists of at least one financial expert then it significantly, positively affects audit fees. Ghafran (2017) and Harris's (2007) studies provide similar results. Additionally, Bala et al.'s (2018)

study reveals that AC financial expertise is a significant positive factor in determining the amount of audit fees in Nigeria. On the contrary, Azmi et al. (2013), in the Malaysian context, find exact opposite results, that is, financial expertise is negatively related to the amount of audit fees. Interestingly, Haniffa and Cooke (2002) find that AC attributes do not influence audit fees in Malaysia. Thus, prior studies have conflicting findings but more studies support a positive relationship between AC financial expertise and audit fees. Therefore, we hypothesize:

H₂: The higher level of financial expertise of AC members is positively related to higher audit fees

Non-executive Member (Independence of Audit Committee)

An AC is strengthened by independent, non-executive directors who bring an independent mindset to their role. Sarbanes Oxley Act - SOX (2002) also recommends the independence of AC members. Kikhia (2015) posits that an independent AC evaluates corporate affairs without bias and monitors management more effectively. Carcello et al. (2002) and Yatim et al. (2006) find that ACs that are independent, have financial expertise, and are diligent result in higher audit fees. Similarly, Abbor et al.'s (2003) study shows that ACs that have more outside directors, that is, are more independent are associated with higher audit fees. Recently, Al-Hajaya (2019) reported a similar result for the Jordanian companies. The author also reported such companies hire Big4 firms to signal their commitment to audit quality. On the other hand, Kanakriyah (2020) and Kikhia (2015) find no relationship between AC independence and audit fees. However, the preponderance of the evidence indicates that a relationship between AC independence and audit fees exists. So, we hypothesize:

H₃: Non-executive members on AC are positively related to audit fees

Auditor's Tenure

The auditor's tenure is related to auditor independence and can affect audit fees. SOX (2002) contends that if the auditors conduct the audit for four or more years, they should not be considered independent. Beshkooh et al. (2003) find that optimal tenure for an auditor is one to three years from an audit effectiveness viewpoint. Warrad (2008) reports that audit partner tenure significantly explains audit fees for Jordanian companies. In the South Korean context, Kwon et al. (2014) show that audit fees increased after the auditor rotation. Silva et al.'s (2020) study shows that auditor rotation strongly influences audit fees. Castro et al. (2015) point out that large Brazilian companies lowered audit fees by changing auditors. Malagila et al.'s (2020) study also finds a positive relationship between longer audit tenure and lower audit fees. However, Urhoghide and Izedonmi (2015) reported a significant positive relationship between auditor tenure and audit fees for Nigerian companies. Also, Kikhia (2015) found no relationship between audit tenure and audit fees in China and Jordan.

The majority of the studies point to a significant and negative relationship between audit tenure and audit fees. Thus, we hypothesize:

H₄: Auditor tenure and audit fees are negatively related

Independence of Internal Audit Function (IAF)

According to Sierra-Garcia (2019): "A fundamental aspect to assess the independence of the IA is the status of this function within the organization and who determines its functions, who monitors its activity and who the IA must report to". The IAF variable is measured as a binary variable based on the placement of the IAF in the organizational hierarchy. When IAF is independent, Scheneider (1985) reports that the external auditors rely more on IAF and reduce audit work. Alzeban and Sawan (2015) argue that a good relationship between the AC and the IAF may strengthen corporate control. This may lead the external auditor to rely more on internal controls. Felix et al.'s (2001) study indicated that the higher contribution of IA to external audit reduces audit fees. Zaman and Sarens (2013) also report similar results. Recently, Sierra-Garcia et al. (2019) reported a positive relationship between the independence of IAF and audit fees. Given the results, we hypothesize:

H₅: There is a negative relationship between independent IAF and audit fees

Size of External Auditor

Haniffa and Cooke (2002) and DeAngelo (1981) find that large auditing firms (Big4) can charge higher fees relative to small auditing firms. Fafatas and Sun (2010) report that Big4 auditors who are dominant in the country can charge approximately 27% more fees compared to the competitor firms, after controlling for all other variables. Similarly, Castro et al. (2015) and VulHag and Leghari (2015) report a positive relationship between audit fees and Big4 audit firms. Choi et al.'s (2010) study results show that in the Chinese market, audit firm size results in higher audit quality and audit fees. Tran et al.'s (2019) study finds that the bigger the size and the better the experiences of the firms and auditors, the higher the audit fee.

Big4 audit firms are reputed and provide quality audit services. El-Gammal (2012) and Choi et al. (2010) contend that corporations signal higher quality audits by using Big4 and paying an additional premium. However, Naser and Hasan (2016) find that the status/reputation of the audit firm and audit fees are not related. Since the majority of prior studies provide evidence that external auditors' reputation or status impacts audit fees, we hypothesize:

H₆: The presence of Big4 auditors has a positive relationship with audit fees

Size of the Firm

The firm size can be measured using a variety of measures such as the average of total assets, total sales, sales growth, inventories, debt, liabilities or receivables. In the case of large firms, to form an audit opinion, more audit work/procedures are required. Given

the higher audit work, the higher audit fee is expected. Many studies (Silva et al, 2020; Liu, 2017; Ali and Aulia, 2015; Castro et al., 2015; Dinh, 2012; Galani et al., 2011) have shown that firm size has a positive and significant relationship with audit fees. Therefore, we hypothesize:

H7: The firm size (log of the average of total assets) is positively related to audit fees

Profitability (ROA)

Prior research indicates a positive relationship between audit fees and profitability (Dekeyser et al., 2019; Joshi and Al-Bastaki, 2000; Simunic, 1980). On the other hand, a few studies (Hossain, and Sobhan, 2019; Naser and Hassan, 2016; Ling, 2014) show that profitability and audit fees are not related. While Barua et al. (2019) and Ittonen and Peni (2012) report an interesting result that external auditors will increase the audit fees even if the auditee is making losses. Other evidence (Kanakriyah, 2020; Velte and Loy, 2018; Urhoghide and Izedonmi, 2015) indicates a negative relationship between profitability and audit fees. However, it seems logical that highly profitable companies will pay higher audit fees. Hence, we hypothesize:

H8: Profitability of the auditees positively influences audit fees

Leverage (financial risk)

Wu (2012) measures the leverage variable as total debt divided by the average of total assets, so do we. Higher debt loads indicate higher financial risk and more audit work resulting in higher audit fees (Haque et al., 2019; Prawitt et al., 2011; Messier et al., 2011). On the other hand, a few studies (see, Kikhia, 2015; Hallak and Silva, 2012; Naser and Nuseibeh, 2008) report a significant negative association between leverage and audit fees. Naser and Hassan (2016), on the other hand, report that audit fee is not significantly associated with companies' risk. The results are conflicting, but the majority of the studies support a positive relationship between leverage and audit fees. So, we hypothesize:

H9: Leverage (financial risk) has a positive relationship with audit fees

Losses

We can reason that a loss-making company's risk is higher and the firm is likely to pay a higher amount of audit fees. Zaman et al. (2011) suggest that when an auditee's business risk is higher than the acceptable level, audit fees include a premium. Since a loss-making firm has a higher level of risk, we can expect a positive association between losses and audit fees. In this situation, we hypothesize:

H10: Higher losses are positively related to audit fees

Complexity

Prior studies indicate that the complexity of the company can affect audit fees. Generally, this variable is

measured as the sum of stocks and debtors divided by the average of total assets (Ho and Hutchinson, 2010). The increase in the firm complexity often results in a higher level of difficulty in auditing the client (Haceknbrack and Knechel, 1997; Simunic, 1980). The majority of studies (Silva et al., 2020, January et al., 2019, Urhoghice and Izedonmi, 2015; Ho and Hutchinson, 2010) can be mentioned at this point. There are few studies, for example, Naser and Hassan (2016) that indicate a negative effect of firm complexity on audit fees. Given the evidence, we hypothesize:

H11: Firm complexity is positively related to audit fees

Foreign Operations

Joshi et al. (2000) posited that complex, diversified businesses with foreign operations required more audit resources. A higher number of foreign subsidiaries results in more audit work and thereby in higher audit fees. Sandra et al. (1996) stated that "Auditors of group companies, with a number of subsidiaries/branches, often incur high costs in examining the individual financial statements and in assessing the accuracy of consolidated financial statements". On the contrary, Hoffman et al. (2018) show a negative relationship between foreign transactions and audit fees. Since the majority of prior studies have a positive association between foreign operations and audit fees, we hypothesize:

H12: The existence of foreign operations is positively related to audit fees

In summary, the literature paints a rather complex picture. A range of studies conducted in developed and developing countries, different time settings and different methodologies presents conflicting and inconclusive evidence. As the economic, regulatory and capital market influences change, the findings in this area will also evolve and change. However, the research interest in IA, AC and firm performance will remain intense as these are essential mechanisms of corporate governance. The area certainly needs revisiting and the investigation of factors that affect audit fees should be periodically re-evaluated.

III. Theoretical Framework and Estimation Model

The estimation model is provided below:

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \varepsilon$$

Dependent Variable:

Y = Audit fees¹ paid to external auditors (Natural log of total fees paid to external auditors)

¹ Eikon database defines audit fees as fees for services that are reasonably related to the performance of the audit or review of the company's financial statements.

Explanatory Variables:

- X₁ = Audit board (if yes=1 otherwise 0, existence)
- X₂ = Audit committee expertise (under SOX requirements)
- X₃ = Percentage of Non-executive members
- X₄ = Auditor tenure: The number of years current auditor is serving the organization
- X₅ = Internal audit independence (based on Eikon scores)
- X₆ = Size of auditor (Big4 = 1, otherwise = 0)
- X₇ = Profitability (return on assets)
- X₈ = Firm size (log of average of total assets)
- X₉ = Leverage (long-term debts / average of total assets)
- X₁₀ = Losses (if the firm incurred losses in the previous financial year = 1; otherwise = 0)
- X₁₁ = Complexity (stocks and receivables / average of total of assets)
- X₁₂ = Foreign operations (if yes = 1, otherwise = 0)

IV. Data and Methodology

Data

The data were extracted from Thomson Reuters Asset 4, all data are in US dollars. All firms covered by Thomson Reuters Asset 4 from 2011 to 2020 were considered. Table 1a, Table 1b and Table 1c summarize the sample selection process.

Table 1a: Sample Selection

	SAMPLE
Observations for all firms in the Eikon database and in Asset 4 from 2011 through 2020	95,610
Observations dropped and the reason for dropping	66,249
MISSING DATA	
OBSERVATION WITHOUT INTERNAL AUDITING REPORTING	14,114
Final sample	15,247
	Period of study - 2011-2020
	Firms - 3136
	Countries - 55

Source: Authors' own compilation

The final sample includes 15,247 firm-year observations (3136 unique firms) from 55 countries. Panel B presents the distribution of observations across Global Industry Classification Standards (GICS - <https://www.msci.com/gics>) per industries and years. Consumer Discretionary (1817), Industrial (2571) and Financials (2722) have the highest number of observations.

Table 1b: Samples by Industrial Sectors

GICS Sector	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
Energy	3	68	73	81	85	83	82	98	108	87	768
Materials	17	107	139	157	158	176	185	187	197	174	1497
Industrials	35	186	218	234	229	279	341	366	383	300	2571
Consumer Discretionary	45	133	153	158	166	204	230	249	268	207	1817
Consumer Staples	23	86	92	89	97	108	112	127	134	111	979
Health Care	18	75	79	81	104	126	145	180	207	169	1184
Financials	38	203	227	243	245	318	374	395	420	259	2722
Information Technology	23	95	95	97	98	151	166	208	246	171	1330
Communication Services	12	71	76	76	87	100	96	105	120	103	846
Total	231	1118	1271	1344	1401	1717	1924	2121	2323	1796	15246

Source: Authors' own compilation

Panel C indicates that the United States has the largest number of observations (6961) followed by Canada (1276), the United Kingdom (1,219), Australia (1,053), Japan (934) and Germany (518).

Table 1c: Number of Observations by Country

Country	Number of Observations	Country	Number of Observations	Country	Number of Observations
Argentina	4	Indonesia	2	Spain	290
Australia	1053	Ireland	156	Sweden	303
Austria	80	Republic of			
Belgium	134	Isle of Man	3	Switzerland	289
Bermuda	125	Italy	200	Taiwan	5
Brazil	14	Japan	934	Thailand	14
Canada	1276	Jersey	21	Turkey	4
		Korea	89	United Kingdom	1219
		Republic (S. Korea)			
Cayman Islands	6	Luxembourg	39	United States of America	6961
Chile	1	Malaysia	102	Uruguay	4
China	70	Mexico	24	Virgin Islands	1
				United Kingdom	
Cyprus	7	Morocco	1	Total observations	15246
Czech Republic	6	Netherlands	223		
Denmark	112	New Zealand	19		
Finland	70	Norway	90		
France	453	Oman	1		
Georgia	4	Philippines	2		
Germany	518	Poland	106		
Gibraltar	3	Portugal	13		
Greece	25	Puerto Rico	15		
Guernsey	1	Russia	8		
Hong Kong	40	Singapore	18		
Hungary	9	South Africa	59		

Source: Authors' own compilation

We restrict the analysis to publicly listed companies that follow recommendations of the Sarbanes-Oxley Act². We believed that considering only these firms would increase the reliability of the analysis. The sample selection starts with 29,361 firm-year observations with available data on audit fees, internal reporting and firm characteristics. We deleted 14,114 observations due to missing internal auditing reporting and other issues.

V. Results and Discussion

Results

Data were analyzed using STATISTICA Software 15.

Table 2: Descriptive Statistics

	No of observations	Mean	Standard Deviation	Skewness
Audit Fees	15247	12.31307	1.728304	-.0788652
Audit Board	15247	9675346	1.772384	-5.275943
AC Expertise	15247	8534138	3537045	-1.998421
% of Non-exc. Members	15247	9303726	1962814	-3.764979
Auditor Tenure	15247	9.46842	7.058871	5943749
IA Independence	15247	57.26001	8.131097	2.030267
Auditor Size	15247	7383131	4281196	-1.206773
Profitability	15247	22.87541	1.751032	3.761425
Firm Size	15246	2257918	1925601	2.506845
Leverage	15246	1265167	3324417	2.246984
Losses	15247	-2.262705	1.394055	-6.670882
Complexity	15247	1470453	3541627	1.993244
Foreign Op.s	15247	12.31307	1.728304	-0.788652

Source: STATISTICA Software 15 Output

² For example, does the company have an audit committee with at least three members and at least one "financial expert" within the meaning of Sarbanes-Oxley?

Table 2 presents the descriptive statistics such as the number of observations, mean and standard deviation and skewness for the dependent and independent variables. The value of standard deviation is much below the mean value for most of the variables. The total number of observations included for analysis is 15,247.

The results of the descriptive analysis indicate that audit fee paid by the companies range from a minimum of (log of audit fees) 5.011 to 20.05. The firm size is measured by the natural logarithm of the company's average of total assets with a mean value of 0.2257918. Profitability (ROA) has a mean of 22.8754. Additionally, leverage (financial risk) as a variable shows a mean value of 0.1265167. The mean value for the complexity of the companies is 0.1470453. The mean value for losses incurred by companies is -2.262705. Also, 75.83% of companies are audited by Big4 audit firms.

Table 3 presents a correlation matrix among dependent and independent variables. A perusal of all correlation values shows that there is a moderately high correlation (0.81) between "Percentage of Non-executive Members" and "Audit Board". This is expected and not very serious as no multicollinearity problems are indicated by the later analysis.

Table 3: Correlation Matrix

	Audit Fees	Audit Board	AC Expertise	% of Non-exec Members	Auditor Tenure	IA Independence	Auditor Size	Profitability	Firm Size	Leverage	Losses	Complexity	Foreign Op.s
Audit Fees	1												
Audit Board	0.0284	1											
AC Expertise	0.0288	0.8442	1										
% of Non-exec Members	-0.0601	0.8149	0.4263	1									
Auditor Tenure	-0.0002	0.0942	0.2583	0.13	1								
IA Independence	-0.0281	-0.4217	-0.1762	-0.4722	-0.3492	1							
Auditor Size	0.0571	0.0194	0.0818	0.35	0.2773	0.0999	1						
Profitability	0.2716	-0.0217	-0.081	-0.014	0.0384	0.0968	0.0803	1					
Firm Size	-0.0152	-0.0036	0.017	0.0399	0.0749	-0.0213	0.0317	-0.0467	1				
Leverage	0.0675	0.0194	0.089	0.0386	0.0618	-0.1314	0.0118	-0.0477	-0.0656	1			
Losses	-0.647	0.0408	0.0166	0.014	-0.0482	-0.0392	-0.0069	-0.1466	-0.5266	0.0567	1		
Complexity	0.1389	-0.0491	-0.0618	-0.033	0.0189	0.0637	0.0091	0.1923	0.0176	0.2778	0.0802	1	
Foreign Op.s	-0.0093	0.0071	-0.006	0.0079	-0.0024	0.0084	0.022	0.0147	0.0023	0.0307	0.0083	-0.0026	1

Source: STATISTICA Software 15 Output

Table 4 presents the results of regression analysis. The dependent variable is audit fees and the twelve independent variables are corporate governance (audit board/committee, AC expertise, non-executive members), internal audit (independence of internal audit), external auditor (auditor size, auditor rotation), and firm characteristics (size, financial risk, complexity, profitability, and foreign operations). The results of the regression model in terms of standardized coefficients (Beta), t-values, and significant levels are presented in this table.

Table 4: Regression Results

	A priori Expectation	Coefficient	Standard Error	t-value	P> t	(95% Conf. Interval)	VIF	1/VIF
Audit Board	+	-0.107	0.113	-0.950	0.342	-0.329 0.114	3.110	0.322
AC Expertise	+	0.151	0.039	3.910	0.000	0.075 0.226	1.450	0.691
% of Non-exec Members	+	0.317	0.103	3.070	0.002	0.115 0.520	3.200	0.312
Auditor Tenure	-	-0.017	0.002	-9.230	0.000	-0.020 -0.013	1.240	0.805
IA Independence	-	-0.016	0.002	-8.900	0.000	-0.019 -0.012	1.610	0.622
Auditor Size		0.102	0.028	3.670	0.000	0.047 0.156	1.090	0.917
Profitability	+	0.574	0.007	84.700	0.000	0.560 0.587	1.090	0.916
Firm Size	+	0.331	0.144	2.300	0.022	0.049 0.614	1.410	0.708
Leverage	+	0.336	0.062	5.420	0.000	0.214 0.457	1.110	0.904
Losses	+	0.230	0.041	5.610	0.000	0.150 0.310	1.440	0.692
Complexity	+	0.060	0.009	6.940	0.000	0.043 0.077	1.130	0.886
Foreign Op.s	+	-0.090	0.032	-2.810	0.005	-0.153 -0.027	1.000	0.998
Constant		-0.119	0.213	-0.560	0.577	-0.537 0.299		

Source: STATISTICA Software 15 Output

Method: Ordinary Least Square (OLS)
 Number of observations = 15,246
 F- value (12, 15233) = 663.59
 Prob > F = 0.0000
 R² = 0.3433
 Adj. R² = 0.3428

The F- value (12, 15233 = 663.59) supports the significance of the regression at 0.01 level. The R-value is 0.3433, and the adjusted R square value is 34.28%. The explanatory power of the model, as expressed by adjusted R square, indicates that 34.28% of the variations in the dependent variable (audit fees) can be explained by the variation in independent variables. F-ratio is 7.658 and is significant at 0.01 level.

We also investigated the problem of multicollinearity by examining tolerance value and variance inflation factor (VIF). Table 4 also presents the VIF values for the regression equation when all independent variables are present in the equation. Using criteria given by Judge et al. (1985), the correlation between "Percentage of Non-executive Members" and "Audit Board" does not appear to be a serious issue. We conclude that multicollinearity problems are minimal.

Discussion

Table 5 presents the results of the hypotheses testing. In summary, out of the 12 hypotheses tested in the model, 10 are supported. The detailed discussions follow.

Table 5: Testing for Hypotheses

#	Hypothesis	Supported	Not Supported
H1:	The existence of an AC is positively related to audit fees.		√
H2:	The higher level of financial expertise of AC members is positively related to higher audit fees.	√	
H3:	Non-executive members on AC are positively related to audit fees.	√	
H4:	Auditors' tenure and audit fees are negatively related.	√	
H5:	There is a negative relationship between independent IAF and audit fees.	√	
H6:	The presence of Big4 auditors has a positive relationship with audit fees.	√	
H7:	The firm size (log of the average of total assets) is positively related to audit fees.	√	

H ₈ :	The profitability of the auditees positively influences audit fees.	√	
H ₉ :	Leverage (financial risk) has a positive relationship with audit pricing.	√	
H ₁₀ :	Higher losses are positively related with audit fees.	√	
H ₁₁ :	Firm complexity is positively related with audit fees.	√	
H ₁₂ :	The existence of foreign operations is positively related to audit fees.		√

Source: STATISTICA Software 15 Output

Hypothesis 1 (Audit Board/Committee) predicts a negative but insignificant relationship with audit fees ($t = -0.95$; $P > 0.05$). This is in line with Wu (2012) reporting a negative relationship between corporate governance and audit fees. Sobrinho (2016) also found that better governance practices reduce legal risks and the auditors then reduce audit fees. Additionally, Collier and Gregory (1996) argued that *“From the supply side, the audit committee’s existence strengthens internal controls which may lead the external auditor to reduce the assessed level of control risk and charge lower audit fee.”* These arguments seem to hold across a broad swathe of industries and countries, given our results.

Hypothesis 2 (Audit Committee Expertise) reveals a positive and significant relationship between audit committee expertise and audit fees ($t = 3.91$; $p < 0.01$). This result strongly supports previous findings (Mustapha et al., 2020; Ghafran and O’Sullivan, 2017; Goodwin-Stewart and Kent, 2006). This implies that AC members across the countries represented in our sample demand high-quality audits from the auditor, thereby increasing the audit efforts and time commitment that subsequently results in higher audit fees.

Hypothesis 3 (Percentage of Non- executive Members) predicts that the percentage of non-executive members on AC, which is an indicator of AC independence, is positively related to audit fees. The results ($t = 3.07$; $p < 0.01$) indicate a significant positive effect on audit fees. This is in line with prior studies (Olushola et al., 2020; Al Hajaya, 2019; Rainsbury, 2009; Harris, 2007; Yatim et al., 2006; Abbott et al., 2003). These studies indicated that independence in AC is related to higher audit fees. This is important, since the percentage of non-executive members seem to make the audit board independent (or at least the perception) across a range of industries and countries.

Hypothesis 4 (Auditor Tenure) indicates a strong negative and significant relationship between auditor size and audit fees ($t = -9.23$; $p < 0.01$). This result strongly supports previous findings (Malagila et al. 2020; Castro et al., 2015; Urhoghide and Izedonmi, 2015; Köhler and Ratzinger-Sakel, 2012). As audit tenure increases the resulting efficiencies negatively affect audit fees. Eight previous studies reported a significant negative relationship between audit tenure and audit fees (Hay et al., 2006). Our results support those studies.

Hypothesis 5 (Internal Audit Independence) predicts a negative but significant relationship with audit fees, as supported by our analysis ($t = -8.90$; $p < 0.01$). An independent internal audit function can strengthen a range of monitoring, governance and risk management activities generally broader in scope than the external audit (Carey et al., 2000). Such extra assurance may result in reduced audit fees. The results in the literature primarily support such assertion. Our results indicate that such results are common across a range of industries and even across cultures, that is, countries.

Hypothesis 6 (Auditor Size) indicates a positive and significant relationship between auditor size and audit fees ($t = 3.67$; $p < 0.01$). Our result strongly supports previous findings (Kanakriyah, 2020; Naser and Hassan, 2016). Big4 audit firms are large and provide higher quality audit services to their clients and do charge premium audit fees. This perception is reinforced by our results.

Hypothesis 7 (Firm Size) predicts a strong positive and significant relationship with audit fees ($t = 84.70$; $p < 0.05$). Our finding supports the previous research (Hossain and Sobhan, 2019; Wu, 2018; Januarti and Wiryaningrum, 2018; Nasser and Hassan, 2016; Urhoghide and Izedonmi, 2015). Firm size indicates larger revenues, national and multinational operations, and complex product lines, among other things, which are reflected in higher audit fees.

Hypothesis 8 (Profitability) predicts that influences audit fees. A positive and significant association between ROA and the audit pricing ($t = 2.30$; $p < 0.01$) is discovered. Prior literature review shows mixed findings. Though, the majority of the studies indicate that ROA is positively related to audit fees (Dekeyser et al., 2019; Hasan, 2017; Andriyani and Laksito, 2017; Joshi and Al-Bastaki, 2000; Sandra and Patrick, 1996). Our results indicate that such findings hold across a wide range of industries and countries.

Hypothesis 9 (Leverage) predicts that leverage has a positive relationship with audit fees. The results indicate a strong positive influence of leverage on audit fees ($t = 5.42$; $p < 0.01$). Obviously, the higher the risk premium due to financial problems and litigation, the higher the audit fees. Furthermore, often loan agreements include covenants, and firms are expected to comply with such covenants. For example, financial data presented in financial statements to be audited by the ‘Big4’ audit firms and a certain level of financial ratios should be maintained, among other things, can be the requirements for loans. Thus, our results seem logical.

Hypothesis 10 (Losses) predicts a positive and significant relationship between losses and audit fees ($t = 5.61$; $p < 0.001$). Wu (2012), Hay (2006) and Simunic (1980) had similar results. Generally, firm losses as an indicator of risk have been studied in very few papers. We did find a positive association between losses and audit fees.

Hypothesis 11 (Complexity) predicts a positive and significant relationship between complexity and audit pricing ($t = 6.94$; $p < 0.01$) which indicates that the more complex the client’s operations, the more the audit work, and the higher the audit fees. Previous findings on firm complexity and audit pricing are often divergent. But this study supports the previous evidence as in Silva et al, 2020; Januarti et al., 2019 and Urhoghide and Izedonmi, 2015. We believe our findings may be more conclusive given our sample.

Hypothesis 12 (Foreign Operations) reveals a negative and significant relationship between foreign operations and audit fees ($t = -2.81$; $p > 0.01$), contrary to our expectations. However, it supports the recent findings of Hoffman et al. (2018). This negative relationship can be due to a variety of reasons such as outsourcing of foreign work, global shift to International Financial Reporting Standards (IFRS) and online and remote auditing. This may be a useful future research area.

V. Conclusion

The determinants of audit fees have been extensively investigated in the prior literature. As the previous results indicate, multiple factors determine audit fees. However, prior results are conflicting and inconsistent. The economy, market and country-specific factors do influence audit fees in different, often contradictory, ways. To address these inconsistencies, we developed a comprehensive model after a detailed study of the literature. We found that the most critical factors which have a significant positive influence on audit fees are client size, leverage (risk), profitability, complexity, losses, AC independence (non-executive members), AC expertise and auditor size. These factors hold across a range of industries and countries.

Additionally, the study shows that audit pricing is significantly negatively related to foreign operations, auditor tenure and internal audit independence. On the other hand, no significant relationship was found between the existence of audit boards and audit fees. Hence, our results are mostly in line with the prior evidence. We do find strong relationships among most of the variables. Out of the twelve hypotheses tested in this study, ten support the prior studies and one does not. The R square for the entire model equals 34,33%, thus it has good explanatory power. Additionally, our results cover a more recent period, across a large number of countries and multiple industries, providing more robust results.

The model developed in this study should be useful for auditors, corporations and regulators. The auditors can develop a better insight into the factors that influence audit fees allowing them to price the audits more accurately. The corporations can understand the reasoning behind the audit fees. The results also highlight the importance of ACs. This may motivate regulators to enforce appropriate governance practices for the listed companies, especially the independence and expertise findings for ACs and internal audit function.

Future research may investigate additional factors that influence AC diligence and the impact of emerging technologies on remote auditing, as it is a new reality in the age of pandemics. This situation may have affected the fair values of a firm's tangible and intangible assets and also the income stream. Such pandemic effects may interact with the findings in this study and may provide a fertile research area in the coming years. Additionally, factors such as internal audit costs and industry specialization may also be examined in future studies. Finally, it will be interesting to examine how ownership concentration, family ownership and foreign ownership affect the audit fees, within different institutional setups.

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