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DETERMINANTS OF EXTERNAL AUDITORS' REMUNERATION: EVIDENCE FROM THE UGANDAN INSURANCE SECTOR

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ABSTRACT: *There is perception in Uganda that the gap between the auditors' remuneration paid to the Big-4 (Deloitte, EY, KPMG and PwC) and that for the Small and Medium-sized Practices (SMPs) has continued to grow but little is known of what is causing the disparity. There are 100 companies in the insurance sector in Uganda yet there are 230 licenced audit firms at end of 2018 leading to an excess of supply over demand. A sample of 74 insurance players in Uganda was used for this longitudinal study based on selected data extracted from audited financial statements for the years 2014-2017. The study revealed that the client's annual income and total assets have a statistically significant influence on the auditor's remuneration. The auditor's size (SMP or Big-4) also had statistically significant influence on the auditor's remuneration - the client size influenced the choice of the auditor. The smallest insurance player had total assets of only USD 7,079 while the largest had USD 58.2million. In terms of income, the largest earned USD 34.6million per annum. Big-4 earned a premium of USD 17,235 on their remuneration per client per annum by virtue of their size and reputation. Given these three determinants, the auditor's remuneration was USD 23,189 per client for Big-4 compared to USD 2,422 per client for the SMPs. Whereas SMPs held 66% of the number of insurance audits in Uganda, their market share of the auditor's remuneration was 17%. This translates into a Concentration Ratio (CR4) of auditor's remuneration of 83% held by the Big-4. The estimated size of the auditor's remuneration in the insurance sector in Uganda is USD 822,000 per annum of which the SMP's share is approximately USD 150,000 per annum. The implications for accountancy practice, especially SMPs in Uganda, are that the gap can only be reduced through acquisition of medium and larger insurance players who would then be able to afford higher auditor's remuneration. Future research could include a qualitative dimension of in-depth interviews of selected insurance players to understand their criteria for audit firm choice and auditor's remuneration budget.*

KEYWORDS: Insurance, SMP, Big-4, Auditor's Remuneration, Concentration

INTRODUCTION

Regulation of Insurance Industry in Uganda

The Insurance Regulatory Authority of Uganda (IRAU) was set up in 1997 and its principal activity is to ensure effective administration, supervision, regulation and control of the insurance business in Uganda. The principal law under which insurance business is governed in Uganda is the Insurance Act, 2017. IRAU regulates insurance companies (the insurers), insurance brokers, loss assessors/adjusters and health membership organizations. In addition, IRAU accredits external audit firms (on an annual basis) that shall then allowed to audit the

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financial statements of the insurance players. IRAU also regulates the insurance agents that are attached to specific insurers.

General insurance companies provide insurance cover to their clients to protect them against unforeseen risks. General insurance includes fire, liability, marine and others. Life insurance business is different in that the insurer would compensate upon death of the insured person. Specific limitations clauses are indicated in all insurance contracts so that insured can understand the circumstances where claims may not be paid. Insurance brokers act on behalf of their clients and provide insurance advice and get paid a professional fee. Insurance brokers can be middlemen linking the insured and the insurers. Loss assessors/adjusters are insurance claim professionals. They are often lumped because the professional can do both activities but they are different. Loss assessor comes in to assess the loss that can then be submitted as a claim from the insurer. Loss adjuster on the hand is appointed by insurer to investigate the claim from the insured, if the claim is complex, substantial or contentious. Health membership organizations provide health care services to their members who have purchased health insurance. The health membership organizations may have their own hospitals/clinics and/or may accredit other independent qualified entities to provide such health care services on their behalf. All insurance protection is governed by an insurance contract between the insured and the insurer and based on seven basic principles (a) utmost good faith (b) insurable interest (c) proximate cause (d) indemnity (e) subrogation (f) contribution and (g) loss minimization.

Composite insurers (combining life and general insurance) were abolished by IRAU with effect from 1 January 2015. Life insurance companies were to operate as separate companies. At the time of the cut-off period, there were only three composite insurance companies that were required to shed off their life insurance business – set up as a separate affiliate group company or sell off, if deemed necessary. As part of its mandate, IRAU expects the insurance companies, insurance brokers, loss assessors/adjusters and health membership organizations to publish specific information in the newspapers arising from the external audit of their financial statements. That information includes summary statement of financial position (signed off by the directors), abridged statement of comprehensive income and solvency ratios. The publication has to be accompanied by a signed report by the external auditor in compliance with International Standard on Auditing (ISA 810) – Engagements to Report on Summary Financial Statements. External audit firms are to be rotated after every four years, as per IRAU guidelines.

Regulation of the External Audit Industry in Uganda

The Institute of Certified Public Accountants of Uganda (ICPAU) was established in 1992 by an Act of Parliament, now the Accountants Act, 2013. ICPAU is the national Professional Accountancy Organization (PAO) and its two key functions are to regulate and maintain the standard of accountancy in Uganda and to prescribe and regulate conduct of accountants and practicing accountants in Uganda. The external audit firms fall under the practicing accountants' category. ICPAU is a member of the International Federation of Accountants (IFAC) based in Switzerland as well as the Pan African Federation of Accountants (PAFA) based in South Africa.

As at end of 2018, there were 230 external audit firms (ICPAU, 2018) that had been authorized to practice accountancy in Uganda. This corresponds to 226 Small and Medium Practices (SMPs) and the Big-4 (Deloitte, EY, KPMG and PwC). Each of these firms (whether SMP or Big-4) are expected to ensure that all their audit engagements are conducted in accordance with

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the International Standards on Auditing (ISAs) issued by the International Auditing and Assurance Board (IAASB®). There are 40 ISAs starting with ISA 200 which spells out the overall objectives of the independent auditor and the conduct of an audit in accordance with the Standards. Another key Standard is ISA 220, the quality control for an audit of financial statements. The icing on the cake is International Standard on Quality Control (ISQC1) which makes it mandatory for every external audit firm that perform audit and reviews of financial statements to implement a robust quality control programme which is subject to inspection by ICPAU on an annual basis.

All audit firms are expected to apply ISA 700 when forming an opinion and reporting on a set of general purpose financial statements. The ISA 700 was revised and became effective for audits of financial statements ending on or after 15 December 2016. The following related ISAs were also revised or developed:

i. ISA 260 – Communication with those Charged with Governance

ii. ISA 570 – Going Concern

iii. ISA 705 – Modifications to the opinion in the Independent Auditor's Report

iv. ISA 706 – Emphasis of Matter Paragraph and Other Matter Paragraph in the Independent Auditor's Report

v. ISA 720 – The Auditor's Responsibilities Relating to Other Information

vi. A new standard was developed. ISA 701 – Communicating Key Audit Matters in the Independent Auditor's Report.

The external audit culminates in an independent auditors' opinion on the financial statements. The IAASB® had been working to enhance the value that investors and users of financial statements derive from reading the Independent Auditor's Report. The enhanced Independent Auditor's Report is at least three pages long and gives readers an idea of the extensive audit work that goes on in the background during the entire audit planning, fieldwork and completion procedures.

Scope of the Study

The study was restricted to the insurance players in Uganda using primary panel data collected from the IRAU library and covering financial statements for the years ended 31 December 2014, 2015, 2016 and 2017. The insurance players included insurers (life and general business), insurance brokers, loss assessors/adjusters, health membership organizations and the audit firms approved by IRAU.

Statement of the Problem

Despite that the number of registered SMPs in Uganda has more than doubled in the last 10 years (2008-2018), there is perception that the gap between the auditors' remuneration paid to the Big-4 and that for the SMPs has continued to grow. However, there has been lack of empirical evidence to highlight the gaps which could help formulate more informed policy changes for the future.

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Research Objectives

i. To determine how client and auditor size influence the auditor's remuneration

ii. To determine whether auditor's remuneration paid by the insurance players are significantly different

Research Null Hypothesis

i. H_0: Client and auditor size do not influence the level of auditor's remuneration

ii. H_0: Auditor's remuneration is not different among the insurance sector players

Justification for this Study

Published research on the determinants of the auditor's remuneration in the insurance sector in Uganda is not readily available. This study will inspire similar research across the East African region and provide empirical evidence on which ICPAU and other regional PAOs, PAFA and the IFAC SMP Committee can base any future policy pronouncements and support to the SMPs.

LITERATURE REVIEW/THEORETICAL UNDERPINNING

The external audit industry is a free market with supply and demand forces impacting the audit fees. ICPAU published guidelines on professional fees in 2011. The rationale for the guidance was to ensure that external audit firms (especially the SMPs) earn a reasonable level of remuneration commensurate with the level of professional assurance services to be provided as well as compliance with the ISAs. It was that the expectation that each audit firm protects its independence in accordance with the International Ethics Standards Board for Accountants' (IESBA®) Code of Ethics for Professional Accountants. In addition, ICPAU was concerned about a risk that audit fees may be insufficient to allow for commensurate time and skills to be deployed for the audit to comply with ISAs. The ICPAU guidelines recommend either a value-based approach (mainly gross turnover or total assets) or time-based approach based on time, skills and charge rates of each of the professional staff to be deployed on the audit client. Notwithstanding the ICPAU guidelines, it is acknowledged that the final audit fee is a mutual agreement between the specific audit firm and its client, but must be signed off in a formal engagement letter in line with ISA 210; Agreeing the Terms of an Audit Engagement.

Most audit firms have a standard template for Engagement Letter and one of the key paragraphs is the methodology for estimating the audit fees. In most cases, the audit firm states that the professional fees are computed on the basis of the time spent by the partners and their professional staff, the levels of skill and responsibility involved on that specific assignment. The audit firm may go ahead and itemize the partner/professional staff, the estimated time (can be hours or days), the respective charge out rates (which are a reflection of skill) and the grand total. Team composition positively influences the audit fees charged (Hossain, Yazawa, & Monroe, 2017). However, evidence from an exclusive study on SMPs in East Africa revealed that audit fees were not necessarily commensurate with the team composition in the firm (Otete, 2018b)

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The choice of the audit firm and the audit fees agreed thereupon depends on the client. Insurance companies are regulated entities and this itself means that they pose a certain level of risk to the public. In the case of the insurance industry in the USA, where the level of complexity of the business implies higher risk and the Big-4 tend to be a natural choice for that type of company (Hsu, Troy, & Huang, 2015). Insurers that are listed on the stock exchange and/or are multinationals (typically with offices worldwide) chose Big-4 ahead of the SMPs because of the perception of audit firm size and audit quality (Gunawan & Sembel, 2015; Hsu et al., 2015; Okere, Ogundipe, Oyedeji, Eluyela, & Ogundipe, 2018; Olowookere, 2016; Otieno & Theuri, 2018; Sundgren & Svanström, 2013). It is common to find subsidiary auditors being the same as the Group auditors for purposes of synergies during group reporting process. Big-4 obviously have the added advantage of being located in most of the countries of the world. Access to technical materials across the globe culminate in proliferation of industry specialists and guarantee quality control (Asien, 2014; Asthana, Khurana, & Raman, 2018; Bills, Cunningham, & Myers, 2015; Kaawaase, Assad, Kitindi, & Nkundabanyanga, 2016; Minutti-Meza, 2013; Otieno & Theuri, 2018)

Normally, the Big-4 are dominant in their country jurisdictions and are ranked among the top firms in each country. In Iran, the Securities and Exchange Organization (SEO) undertakes such ranking and companies listed on the Tehran Stock Exchange (TSE) have developed a bias towards those highly regarded audit firms. However, a study found no significant difference in quality of the audits between the so-called “highly ranked” and the others categorized as “medium or low ranked” (MohammadRezaei, Mohd-Saleh, & Ahmed, 2018). Instead, the “highly ranked” firms charged more audit fees by virtue of their ranking. The reputation-based view to audit fee setting is considered unfair compared to the quality-based price discrimination view. Unfortunately, the reputation of an audit firm (its brand image) is easily seen by the public but determining the quality of an audit is difficult to discern.

Determining audit fees for a first-time client is challenging. One could simply quote the same audit fees as the predecessor auditor, if the information is available. On the other hand, an audit firm may use a zero-base approach and calculate from scratch using a value-based model. Client size, profitability and risk measures impact the level of audit fees charged. (Abdullah, Naser, & Al-Enazi, 2017; Hsu et al., 2015; Kikhia, 2014; Musah, 2017). If the audit firm gets a copy of the previous audited financial statements, they can determine the size of the client and also compare with peers in the same industry. Risk factors include criticality of financial ratios and the possible motivation for earnings management, the manipulation of accruals and tampering with fair value accounting judgements. Restatements arising from prior year adjustments can lead to justifications for additional audit fees, especially by the incoming auditor (Grant, Harber, & Minter, 2018)

Insurance company auditing is generally considered to be highly specialized and technical. In terms of financial accounting and reporting, a dedicated International Financial Reporting Standard (IFRS 4) was developed in 2005 to guide preparers of financial statements. Consequently, audit firms were also expected to be technically competent to understand IFRS 4, which itself will be replaced by IFRS 17 in 2021. However, there is no dedicated ISA for insurance companies despite concerns that the lack of industry-specific auditing standards had led to a myriad of approaches and made it difficult to understand how audit fees had been determined (Chong, 2015). However, the presence of assets reported at fair value had been found to be key driver of audit fees in the banking industry (Ettredge, Xu, & Yi, 2014). This could be the case for life insurance companies which also have many such assets compared to

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general insurance business or insurance brokerage. Life insurance companies are somewhat complex and thus call for experienced audit partner and team. This can be a factor of the audit firm that can determine audit quality and audit fees (Cahan & Sun, 2015; Sirois, Marmousez, & Simunic, 2016). However, sometimes the audit quality differences are not apparent among audit firms, whether SMP or Big-4 (Kaawaase et al., 2016). Life insurance complexities include the use of a qualified expert to conduct actuarial valuation of liabilities. The external auditor is expected to have skills and experience to test the actuarial assumptions and validate with other similar life insurance companies.

The banking industry audits in Uganda are largely dominated by the Big-4. For the year 2017, the Big-4 audited 24 of the 33 financial institutions in Uganda, while the SMPs audited only 9 of them. A second dimension reveals that the Big-4 audited banks had the equivalent of USD 2.96billion (92%) in net loans/advances to customers as at 31 December 2017, while those audited by SMPs had only USD 0.13billion (8%), a very significant disparity. This evidence is from the author's unpublished work on analysis of Uganda commercial bank financial statements for the year 2017. Listed company audits in Uganda and East Africa in general, are dominated by the Big-4 who earn as high as USD 570,000 on a single audit assignment while their SMP counterparts earned as low as USD 4,000 (Otete, 2018a). There have been many similar studies that pointed to audit market concentration of the Big-4 in other country jurisdictions (Asien, 2014; Asthana et al., 2018; Evans Jr & Schwartz, 2014; Ferguson, Pinnuck, & Skinner, 2017; Groff, 2016; Krauß, Pronobis, & Zülch, 2015; Mališ & Brozović, 2015; Ohlsson & Carlsson, 2018; Šindelář & Müllerová, 2017)

Gaps in Literature

Published research on studies pertaining to companies and audit firms in Uganda is difficult to find in online journals with the exception of one that touched on listed companies in East Africa (Otete, 2018a). Studies conducted in a homogeneous industry setting (like insurance sector) are not common and mixing companies from different industries (for example, listed companies) may lead to some industry-specific differences and impact the robustness of the statistical conclusions.

METHODOLOGY

The sampling frame was extracted from the website of IRAU from where the authentic list of licenced insurance players in Uganda can be downloaded.

Table 1: Number of insurance players per category

	Population
Life insurance companies	9
General insurance companies	22
Insurance brokers	39
Loss assessors/adjusters	24
Health membership organizations	6
	100

Source: Author's compilation from IRAU website www.ira.or.ug

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Variables Extraction

Upon obtaining written authorization to conduct the research, access was granted to the IRAU library. All insurance players submit a copy of their audited financial statements to IRAU. Using a data input template, the annual revenue, the total assets at year end and the audit fees for the years 2014, 2015, 2016 and 2017 were extracted direct from the audited financial statements in the reporting currency, the Uganda shilling (UGX).

A study of the determinants of audit fees for 50 listed companies in Bangladesh included several variables, among others the auditor size, client size, client complexity, client risk, client profitability and auditor experience (age of the firm). The results showed that only auditor size, client complexity and client size had a statistically significant influence on audit fees for the years 2014 and 2015 (Safiuddin & Mohsin, 2016). In a much earlier study of firms in South Asia (Bangladesh, India and Pakistan), auditor size and client size were the most influential determinants of audit fees for the one year of 1998, while client financial condition and complexity were muted (Ahmed & Goyal, 2005). A study specifically on the insurance business in the USA for the years 2006 and 2007 revealed that the higher the client risks and complexities influenced the choice of a Big-4 firm who inevitable charged premium audit fees. The study recommended a separate model for Big-4 and another for non Big-4 (Hsu et al., 2015). In Africa, a study was conducted on 24 firms listed on Ghana Stock Exchange for the years 2010-2014. The results revealed that the client's total assets, client return on assets and auditor size had significant influence on the fees paid to the audit firms. 62% of the sampled listed companies were audited by the Big-4 (Musah, 2017). These results were also confirmed in a study of 23 firms in the UK Alternative Investment Market (AIM) segment from 2007-2011 (Mohammed & Saeed, 2018).

Using extant literature from prior studies, the following determinants (independent variables) were thus included in this study:

i. **Client size**: The annual income figures were then translated into US dollars (USD) using the annual average USD/UGX exchange rate determined from the Bank of Uganda (BOU) statistical data.

ii. **Client size**: The total assets figures at end of each year-end were converted into USD using the applicable year-end exchange rate.

iii. **Auditor size**: The name of the audit firm was derived from the independent auditor's report to determine whether firm is Big-4 or SMP. A dummy variable was used for Big-4 = 1, and SMP = 0

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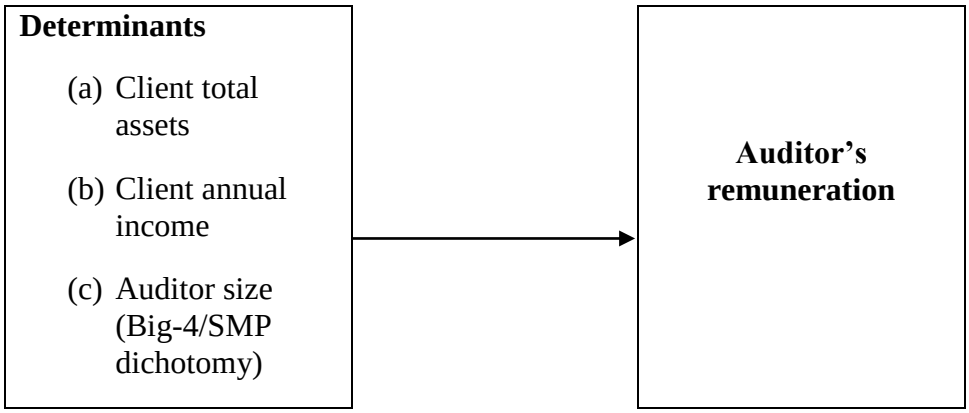
Conceptual Framework



Conceptual framework – adapted from prior studies on determinants of audit fees (Ahmed & Goyal, 2005; Hsu et al., 2015; Mohammed & Saeed, 2018; Musah, 2017; Safiuddin & Mohsin, 2016; Simunic, 1980).

A longitudinal study was preferred to the cross-section because the data was available from the IRAU library. This approach was affordable (in terms of time and costs) compared to collecting the same data by visiting each and every insurance player in Uganda. The figures in UGX were translated/converted into USD to enable future similar studies to be easily compared to the descripting statistics and findings from this study.

RESULTS/FINDINGS

Descriptive statistics

Whereas a census of all the insurance players was conducted during the data collection process during the fourth quarter of 2018, not all the companies were included in the data analysis. As a longitudinal study was adopted, it was imperative that the sample had an equal number of observation years of data. Upon examination of the missing data, it was considered necessary to exclude some companies because some had been in operations for less than the target four years. The final sample was 74 insurance players compared to a population of 100 – overall sample representation = 74%.

Table 2: Number of insurance players per category

	Population	Sample
Life insurance companies (LIN)	9	7
General insurance companies (GIN)	22	21
Insurance brokers (IBR)	39	25
Loss assessors/adjusters (LAA)	24	15
Health membership organizations (HMO)	6	6
	100	**74**

Source: Author's compilation

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Table 3: Number of audits per firm, by year

	Year 1 2014	Year 2 2015	Year 3 2016	Year 4 2017
Abet	1	-	-	1
Allied	6	7	6	5
Augustus	7	6	5	8
BDO	1	1	-	-
BRJ Mazars	-	-	-	1
BVL	1	1	1	1
Dativa	-	-	-	1
Deloitte*	7	12	10	9
EY*	1	1	2	5
Exodus	1	1	1	1
FCK	1	1	1	1
GT	4	4	3	2
GTX	1	1	1	1
Goldgate	4	3	3	1
Goldrock	-	1	1	1
Hitesh	1	-	-	-
Jim Roberts	-	-	-	1
JRA	-	1	1	1
JSR	-	-	-	1
JWIS	1	1	1	-
Kisaka	-	-	-	1
KIT	-	-	1	1
KK&S	1	1	1	2
KPMG*	11	7	7	7
KSK	1	-	-	-
Knick Waks	2	2	-	-
M&K	2	-	-	-
MTC	1	1	1	-
Nagenda	5	5	5	3
Osillo	1	2	3	3
P&K	-	-	-	1
PKF	2	3	6	3
PwC*	6	6	6	3
RSM	-	1	-	-
Santa Fe	-	-	1	2
sng SK&Co	4	2	2	-
Springs	1	2	5	6
Team & Co	-	1	-	-
Tomson	-	-	-	1
	74	**74**	**74**	**74**

Source: Author's compilation with ascending name of audit firm. **denotes – Big-4 firm*

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Out of a total of 296 (that is 74x4 years), the SMPs held 196 of those insurance audit assignments which corresponds to 66% (two-thirds) of the portfolio in terms of numbers. During the four-year period, a total of 39 audit firms had been engaged by the insurance players to audit their financial statements. The IRAU annually approves audit firms to audit the books of the insurance players. Interested audit firms submit their technical proposals and firm profiles to IRAU for approval. By end of 2018, the approved list had 42 firms, including all the Big-4. The study reveals that the changeovers among the Big-4 arose from the mandatory audit rotation whereby after a 4-year period, the insurance player must appoint a new external auditor. The same was generally true for the SMPs, except some instances where the SMP was external auditor for only one or two years before being replaced by another firm. Auditing of insurance companies (life and general) requires extra professionally qualified human capital, skills and experience on information systems audit, taxation, data analytics and deep understanding of insurance business risks, including fraud.

Table 4: Descriptive statistics of the four main variables

n = 74	Mean	Minimum	Maximum
Auditor's remuneration (*AREM*)	USD 9,437	USD 158	USD 54,025
Client total assets (*CTA*)	USD 5,250,510	USD 7,079	USD 58,200,000
Client annual income (*CAI*)	USD 2,762,529	USD 1,098	USD 34,600,000
Auditor's size (*ASZ*)	0.34	0	1

Source: Author's compilation

Averages for the four-year period: The mean of 0.34 on the dummy variable shows that 34% of the firms that audited the financial statements of the 74 insurance players were Big-4 which means that the remainder of 66% (two-thirds) were SMPs. The lowest auditor's remuneration was USD 158 and this was paid to an SMP, while the highest remuneration earned was USD 54,025 to one of the Big-4. The insurance player with the lowest total assets of USD 7,079 was a loss assessor/adjuster while the maximum was USD 58.2million owned by a general insurance company. The minimum income was earned by an insurance broker at USD 1,098 per annum. The highest earnings were USD 34.6million per annum by a general insurance company.

Research Objective 1: To determine how client and auditor size influence the auditor's remuneration

Step 1: Prior to performing hypothesis testing, a linear correlation matrix was constructed to provide a view of the relationship (direction and strength) of the variables.

Table 5: Composite linear correlation matrix of the four variables

Variables	Auditor's remuneration	Client total assets	Client annual income	Auditor's size
Auditor's remuneration (*AREM*)	1.0000			
Client total assets (*CTA*)_	0.7148	1.0000		
Client annual income (*CAI*)	0.7257	0.9508	1.0000	
Auditor's size (*ASZ*)	0.8028	0.6096	0.5297	1.0000

Source: Author's compilation.

Print ISSN: 2053-4086(Print), Online ISSN: 2053-4094(Online)

The above table shows that there is a prima facie positive and strong relationship among the variables. The strongest linear relationship is between client total assets and the annual income (+0.95) followed by the linear relationship between auditor size and auditor's remuneration (+0.80)

Step 2: Involved performing a regression analysis of the independent variables that are proxies of the size of the client. These proxies (regressors) are the annual income and total assets. The dependent variable is the auditor's remuneration. The averages of the four years were obtained and used for the multivariate regression testing.

Table 6: Multi-regression of the determinants on the auditor's remuneration

AREM	**Coef.**	**Standard Error**	**t-value**	**p-value**	**Sig.**
CTA	-0.001	0.000	-2.36	0.021	**
CAI	0.002	0.000	4.50	0.000	***
ASZ	17235.345	1887.567	9.13	0.000	***
_CONS	1750.147	848.439	2.06	0.043	**

Mean dependent variable	9437	SD dependent variable	12452
R-squared	0.787	Number of observations	74
F-test	86.164	Prob > F	0.000

Source: Author's compilation. SD= Standard Deviation
*** p<0.01, ** p<0.05, * p<0.1

The results showed F (3,70) = 86.164, p=0.000 implying that the overall multivariate model for auditor's remuneration is statistically significant. The coefficient of determination (R-squared = 0.787) shows that about 79% of the variation in the auditor's remuneration is predicted by changes in the client and auditor size.

The regression model is summarised as follows:

$$Y_1 = \alpha_1 + \beta_1 X_1 + \beta_2 X_2 + + \beta_3 X_3$$

Y_1 = *AREM*

α_1 = *_CONS* (constant)

X_1 = *CTA*

X_2 = *CAI*

X_3 = *ASZ*

$\beta_1, \beta_2, \beta_3$ = Regression coefficients

Print ISSN: 2053-4086(Print), Online ISSN: 2053-4094(Online)

Client total assets (CTA): The regression co-efficient of -0.001 means that an increase in the client total assets by USD 10,000 would lead to reduction in the auditor's remuneration by USD 10 per annum. This is arrived at by using $\beta_1 X_1$, which is -0.001 x USD 10,000, which is equal to -USD 10.

Client annual income (CAI): The regression co-efficient of +0.002 means that an increase in the client annual income by USD 10,000 would lead to an increment in the auditor's remuneration by USD 20 per annum. This is arrived at by using $\beta_2 X_2$, which is +0.002 x USD 10,000, which is equal to +USD 20.

Auditor size (ASZ): The regression co-efficient of +17235 reflects the premium auditor remuneration that a firm would earn by virtue of being a Big-4 firm, even before taking into account the client size. If the firm is an SMP, this premium is not available since the dummy of zero (SMP = 0) is used in the model.

The final linear regression is:

AREM, in USD per annum = $1{,}750 - 0.001CTA + 0.002CAI + 17235ASZ$

Research Objective 2: To determine whether auditor's remuneration paid by the insurance players are significantly different

Using the absolute size of the companies, there insurance companies (both general and life) would pay higher auditor's remuneration (in absolute terms). Hence using this approach would render the research question redundant. To get around this hurdle, the auditor's remuneration is divided by both total assets and annual income to arrive at a ratio. This way, all the insurance players (irrespective of size and category) can be sensibly compared to establish whether there are statistically significant differences. The Analysis of Variance (ANOVA) technique is used to address this research objective using the *AREM-CAI* ratio (which is auditor's remuneration as a percentage of client annual income) and the *AREM-CTA* ratio (which is auditor's remuneration as a percentage of client total assets). The table below shows that on average, the insurance players pay 1.30% of their annual income to external auditors for their independent audit services. From a total assets perspective, that percentage is 0.74%. These two percentages are close to the 1.00% that ICPAU had provided in their 2011 guidelines to audit firms. The high percentages shown in the maximum column are outliers, but appears to have little effect on the mean.

Table 7: Descriptive statistics of the two ratios

n = 74	**Mean**	**Minimum**	**Maximum**
AREM-CAI ratio	1.30%	0.02%	21.6%
AREM-CTA ratio	0.74%	0.03%	7.8%

Source: Author's compilation

First step: Using the *AREM-CAI* ratio, the F (4,69) =1.16, p=0.338. This F-statistic is tending towards 1.00 which means that there is very little variation among the insurance players. The probability (p=0.338) is greater than the level of significance of 0.05. Consequently, the null hypothesis is **accepted** that any differences in auditor's remuneration paid by insurance players are not statistically different if the auditor's remuneration-annual income ratio is used. Given

Print ISSN: 2053-4086(Print), Online ISSN: 2053-4094(Online)

that the differences are not statistically different, there is no need to perform post-hoc test to identify where differences lie.

Second step: Using the *AREM-CTA* ratio, the F (4,69) =12.91, p=0.000. The probability is far less than the level of significance of 0.05. Consequently, the null hypothesis is **rejected** that any differences in auditor's remuneration paid by insurance players are not statistically different.

Table 8: ANOVA of auditor's remuneration as a percentage of total assets (*AREM-CTA* ratio) by insurance player

Company type	%age	Frequency
GIN	0.197	21
HMO	0.486	6
IBR	0.514	25
LAA	2.506	15
LIN	0.219	7
		74

Source: Author's compilation.

From the table, it looks somehow obvious that the LAA pay a higher percentage than the rest. The 21 GIN companies, for example, on average pay approximately 0.2% of their total assets as auditor's remuneration to their external auditor. On the extreme, the 15 LAAs pay 2.5% of their total assets as auditor's remuneration. This being the case, a post-hoc test was conducted to statistically identify where differences lie.

Table 9: *AREM-CTA* ratio by pair-wise insurance player comparisons

Row mean - Column mean	GIN	HMO	IBR	LAA
HMO	1.000			
IBR	0.975	1.000		
LAA	0.000**	0.002**	0.000**	
LIN	1.000	1.000	0.999	0.000**

**Pr = Probabilities that are significant at 5% Source: Author's compilation from Sidak post-hoc technique

After running the post-hoc test**,** it has been established that the statistically significant differences in the auditor's remuneration are evident in the loss assessors/adjusters (LAA) compared to the other players. Among the other players (GIN, LIN, IBR and HMO), any observed differences are not statically significant.

DISCUSSION

From the table below, general insurance companies are the largest on both total assets and annual income dimensions. The life insurance companies are in second place. These would be classified as the large clients. On the hand, the health membership organizations and insurance

Print ISSN: 2053-4086(Print), Online ISSN: 2053-4094(Online)

brokers could be classified as medium-sized companies. The loss assessors/adjusters would be categorized as small companies.

Table 10: Parameters for each category of insurance player (average for years 1-4)

Company type	Total assets USD	Annual income USD	Auditor's remuneration USD
GIN	13,221,000	6,936,000	19,100
LIN	11,028,000	4,545,000	18,900
HMO	1,804,000	2,726,000	7,682
IBR	1,190,000	387,000	4,474
LAA	34,000	59,000	509

Source: Author's compilation. Listed in descending order of total assets.

From the predicted model, it would imply that the general insurance companies, life insurance companies and health membership organizations would pay higher auditor remuneration by virtue of higher annual incomes. Although the co-efficient for total assets is negative (-0.001), its weight is half that for annual income (+0.002)

Table 11: Auditor's remuneration per category of insurance player

Company type	Big-4 USD	SMPs USD
GIN	27,400	6,200
LIN	18,900	0
HMO	30,770	3,064
IBR	15,567	2,039
LAA	0	509

Source: Author's compilation.

From the above table, the Big-4 earn much higher than the SMPs which is predicted from the model. Big-4 firm earns an average premium fee of USD 17235 above their SMP counterpart. Secondly, the loss assessors/adjusters have the least total asset and annual income figures in the insurance industry. From the model, total assets and annual income influence the auditor's remuneration. This finding extends the research conducted almost four decades ago (Simunic, 1980). Since the loss assessors/adjusters would be categorized as small companies, it follows that the remuneration to their auditors would follow the same pattern. This explains the average of USD 509 earned by SMPs who audit the loss assessors/adjusters. All the life insurance companies are audited by the Big-4 probably because of their higher audit risk and this observation is consistent with the study of the USA insurance sector (Hsu et al., 2015).

Print ISSN: 2053-4086(Print), Online ISSN: 2053-4094(Online)

IMPLICATIONS TO RESEARCH AND PRACTICE

The model suggests that as the client annual income and total assets increase, the auditor's remuneration is expected to increase. The study revealed 52 incidences of rotation from one external auditor to another. However, the auditor's remuneration increased in only 18 (one-third) of those incidences and then 34 (two-thirds) where the incoming auditor was remunerated with lower fees than the predecessor auditor. In about 50% of the circumstances, the client's annual income or total assets had deteriorated and hence possibly justified a reduction in the auditor's remuneration. The implications to the auditing practice in Uganda is that there is a 50% chance that the reduction in auditor's remuneration was caused by other factors like competition (as opposed to declining client size).

The audit rotation in the insurance sector confirms the Big-4/SMP dichotomy. There was one year when a general insurance company appointed an SMP to replace a Big-4. The same happened to an insurance broker. But in both incidences (only 2 in four years), the auditor's remuneration paid to the SMP was lower than the Big-4 firm that had not been re-appointed. The implications for future research are that this provides good foundation to understand opportunities and threats as the SMPs try to increase their market share in the congested audit market.

CONCLUSION

Audit firms can use this model of client annual income and/or client total assets to estimate the auditor's remuneration that should be expected. Where the auditor's remuneration from the previous financial year is available, that figure can also be used in the analysis. At end of the day, the final auditor's remuneration is a function of negotiation between the client and the auditor. From the audit firm perspective, especially the SMPs, they can align their risk-based audit methodology to the client's level/composition of annual income and total assets to justify the estimated fees included in their financial proposal.

FUTURE RESEARCH

This is a foundation on which future studies can be built. A qualitative research approach could be appended to this conceptual framework in which a smaller group of insurance players could be approached for in-depth interviews. In particular, the factors that the insurance players consider most critical in deciding on auditor's remuneration of an incumbent auditor and the choice of the auditor at point of rotation (whether mandatory or voluntary). A similar longitudinal quantitative research model can be extended to other East African countries.

Appreciation

This study was successfully accomplished through co-operation from the Insurance Regulatory Authority of Uganda (www.irau.or.ug) which has the mandate to regulate the insurance business in Uganda.

Print ISSN: 2053-4086(Print), Online ISSN: 2053-4094(Online)

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