

## Determinants of Audit Fees Pricing: Evidence from Nairobi Securities Exchange (NSE)

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### ABSTRACT

The study sought to find out the determinants of audit fees in Kenya, this was informed by the fact that most literature on audit fee models relates to developed countries while little attention has been given to developing countries like Kenya. Previous research has found the significance of the audit fee variables change according to each country's characteristics and period of analysis; such models therefore need to be revised periodically. Deductive approach was used in the study. Data was collected from listed firms' annual reports covering the period from 2008 to 2014. Out of the 62 listed firms targeted by the study, 41 firms were responsive representing a response rate of 66.12%. Linear regression model was used to test the hypothesis. The R square of the model was 0.709 meaning that 70.9% of the variations of audit fees are explainable by the model studied. F-statistic value of 67.273 and p-value (sig) of 0.000 indicates the model is statistically significant and can be relied to predict audit prices. The findings of the study support a link between Audit pricing and: Auditor Experience, Auditor Reputation, Big 4 status; Client size; Client complexity; and the reporting time lag are the important factors determining audit fees for Kenyan listed firms. A negative relationship was found between audit fees and auditor size while no relationship was found between audit fees and: reporting season, client profitability, and client risk.

**Keywords:** Audit fees, auditor reputation, client risk, reporting season, time lag, NSE.

### INTRODUCTION

Audit fees refer to the remuneration payable to an auditor for audit services rendered. Accountants in Kenya have to be cautious when entering into negotiations for professional work to avoid any issue that can ruin their independent professional judgment (ICPAK, 2006). Low audit fees can restrain audit firms, by restricting compensation (to audit staff). This can be attributed to the fact that many audited firms only view and audit as only see an audit as a purely compliance exercise (Izma, 2011). Isa, 210 para A23, specifies that the audit engagement letter must provide the basis of charging fees by the auditor (IFAC, 2012).

Audit fee determination is affected by Audit firm attributes or by the client's company characteristics. High audit fees will be charged by big 4 audit firms, which are normally big in terms of staffing and geographical coverage, with high reputation gained from several years' experience and industry specialization. Competition amongst audit firms is however expected to lower audit fees charged (Palmrose, 1986; Simon & Taylor, 2002). Big companies with risky operations and likely high profitability are charged relatively higher audit fees compared to smaller companies (Francis & Simon, 1987; Craswell & Francis, 1999).

Nairobi Stock Exchange was established in 1954 as a voluntary association of stockbrokers registered under the Societies Act. Currently there are 62 listed firms at the NSE, spreading across different

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segments, spread across through: financial, agricultural; automobiles; commercial and services; construction and allied; energy and petroleum; Investment; Manufacturing and allied and lastly, Growth enterprise segments.

The Kenyan audit industry is regulated by the Institute of Certified Public Accountants of Kenya (ICPAK) which is established by Part II of the Accountants Act of 2008. In recognition of the potential threat of audit fees on auditor independence, ICPAK prohibits charging of contingent fees; prohibits paying and receiving referral commissions; the auditor must inform the client of the engagement terms, specifically the basis upon which audit fees will be charged and the type of services covered by the charged fees, and assigning of enough time and adequate personnel to the audit (Government Printer, 2008)

The audit fee charged is influenced by auditor dependent factors: auditor size, the reputation of the auditor, auditor experience, competition in the audit market, industry specialization of the auditor and big four status of the auditor. Audit fees is also determined by the audited company factors such as company size, complexity of operations of the company, audited firm risk, and the profitability of the audited firm (Joshi & Al-Bastaki, 2000; Hay, Knechel, & Wong, 2006; Bedard & Johnstone, 2010). The auditing market and its audit fees is a subject studied mainly in developed economies, while the audit services market in emerging economies has been given limited attention. Hay, Knechel, & Wong, (2006) conducted a meta-study examining possible determinants of the amount of audit fees in the last 25 years (1977-2002), of the 88 research papers covered in their analysis, only 6 were related to auditing activity in emerging market countries, while 45 were related to United States’ market. In Kenya, Musembi (2011) analyzed the relationship between audit fees and board characteristics among listed non-financial firms in Kenya. The study found that audit fee is positively correlated to the board characteristics (diligence, expertise and size). Hay, Knechel, & Wong, (2006), conclude that the significance of certain variables changes according to each country’s characteristics and period of analysis; they recommended that models be revised periodically. From above, while major studies have been done in developed economies fewer studies have been done in developing countries like Kenya making this study necessary, also findings from previous research tend to vary across regions therefore a study in Kenya is important to determine the factors that affect audit fee determination. The study therefore sought to answer the following questions: (i) what are the audit firm’s and clients’ factors affecting audit fees determination in Kenya? And (ii) what is the correlation between audit fees and the different factors determining audit fees? The study therefore adds to the existing literature on audit fees, as the Kenyan market factors will be known from this study and compared to findings from other regions and countries.

## **LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

Findings of previous studies have established a relationship between audit fees and auditor attributes like: the auditor size, reputation of the audit firm, competition among audit firms, specialization of the auditor, cumulative experience of the auditor, and auditor status (big four). A relationship between audit fees and the audited company factors has been established, these include: complexity of operations, company size, riskiness of operations, and profitability of the audited firm (Joshi & Al-Bastaki, 2000; Hay, Knechel, & Wong, 2006; Bedard & Johnstone, 2010).

### **Client Size**

A positive relationship has been found between the audited company size and the fee charged by auditors (Simunic, 1980; Low, Tan, & Koh, 1990; Chan, Ezammel, & Gwilliam, 1993; Carson, Fargher, Simon, & Taylor, 2004). Previous studies have used company size affects audit plans, big

companies require more attention than smaller companies therefore more time will be spent auditing and as a result high audit fees will be charged on bigger companies as opposed to smaller ones (Palmrose, 1986; Simon & Taylor, 2002). Most common measures of company size include: the number of personnel, total revenues of the firm, and the total assets.

**Hypothesis 1:** Client Size is positively related to the audit fees charged

### **Client Complexity**

The common indicator of audited firm complexity is number of subsidiaries and branches (both local and foreign) of the client company. Highly diversified firms and companies with many subsidiaries have complex operations requiring comprehensive auditing by the auditor consequently, high audit fees will be charged by auditors for complex clients. This was confirmed by a study by (Sandra & Patrick, 1996) which found that firms with complex operations pay high fees for audits. Foreign subsidiaries have to adhere to several laws and disclosure requirements, which requires more manpower and time by the auditors to conduct their audit. There is a positive relationship between audited firm complexity and audit fees charged by the auditors (Carson, Fargher, Simon, & Taylor, 2004; Firth, 1997; Butterworth & Houghton, 1995; Chan, Ezammel, & Gwilliam, 1993; Low, Tan, & Koh, 1990; Simunic, 1980).

**Hypothesis 2:** Client Complexity is positively related to audit fees

### **Client Risk**

Client risk has been found to be a significant factor considered in charging audit fees. It gives odds of issuing an unqualified report on otherwise significantly misstated accounts by an auditor (AICPA, 1983). Sandra & Patrick, (1996) used debt ratios as measures of client risk. Additionally, client risk can also be measured by the following ratios: current assets to total assets; longterm debt to total assets; income before taxes to total assets (Carson, Fargher, Simon, & Taylor, 2004; Joshi & Al-Bastaki, 2000). The best measure of client risk is the debt ratio (longterm debt/total assets), it shows how able a company can repay its longterm debt. A high debt ratio indicates the longterm capital structure of the company may be affected, since the company may have difficulties in the debt repayments which may lower the credit rating of the company. Risky companies tend to be loss making and faced with legal suits both on the auditor and the company due to bankruptcy proceedings that may be instituted against the company. Auditors of risky companies have to undertake further tests in their audit work therefore more time on the work and as a result high audit fees will be charged (Francis & Simon, 1987; Craswell & Francis, 1999).

**Hypothesis 3:** Client risk is positively related to the audit fees charged

### **Client Profitability**

Corporate profits are used to appraise the performance of the management in making efficient use of the resources allocated to them. Profits can be determined by looking at the reported figures in the financial statements (Firth, 1997; Sandra & Patrick, 1996; Chung & Lindsay, 1988; Low, Tan, & Koh, 1990; WareskulKarim & Moizer, 1996). Profitability has been commonly measured by: Return on Equity (ROE); Return on Assets (ROA); Return on Investment (ROI); and Return on Capital Employed (ROCE). Highly profitable clients are subjected to comprehensive audits to verify and confirm their revenues and the matching expenses as a result high audit fees will be charged (Joshi & Al-Bastaki, 2000). Client profitability levels influences the audit fees charged by auditors (Sandra & Patrick, 1996).

**Hypothesis 4:** Client Profitability is positively related to Audit Fees charged

### **Auditor Size**

Big audit firms charge high audit fees (Francis, 2004). Auditor size can be determined by the assets held by the audit firm, market share of the auditor and the total workforce of the auditor. Choi, Kim, & Zang, (2010) analysed the relationship between the size of the auditor, quality of audits and the corresponding fees. They established that large audit firms charge a premium for their high quality audits. Therefore, auditor size is correlated positively to the audit fees charged (Palmrose, 1986).

**Hypothesis 5:** Auditor Size is positively related to the audit fees charged

### **Experience**

Several years of audit experience make auditors better at their audit work due to the experience gained over the years in the profession. An experienced auditor will charge a higher premium for their services hence higher audit fees as compared to less experienced auditors. Auditor experience is therefore important in determining the audit fees to be charged by an auditor (Ferguson, Francis, & Stokes, 2003).

**Hypothesis 6:** Auditor Experience is positively related to the audit fees charged.

### **Reputation**

Auditor reputation refers to the perception of an audit firm providing better quality work consistently. Highly reputable audit firms have adequate trainings for their staff. A highly reputable audit firm will have a high demand for its services and therefore high audit fees can be charged. High audit fees will enable auditors recoup their investments in attaining the high reputation enjoyed by the firm. A highly reputable audit firm will charge a high premium for its services as compared to other firms with a lower reputation. The higher the reputation of an audit firm the higher the audit fees charged (Che Ahmed & Houghton, 1996; Larcker & Richardson, 2004; Gonthier & Schatt, 2007).

**Hypothesis 7:** Auditor Reputation is positively related to Audit Fees

### **Big-Four**

International audit firms are well established brands and are perceived to be offering high quality audits; as a result clients pay a premium to enjoy the services of the Big 4 audit firms. The high fees cuts across many countries since such audit firms have offices in many countries as compared to other audit firms (Palmrose, 1986). Big 4 audit firms have adequate finances which enable them to invest in highly skilled personnel and adequate training programs for their staff which guarantee high quality audits. Studies in the United States, United Kingdom and Australia have established that Big 4 audit firms offer high quality audits and charge high audit fees (DeAngelo, 1981; Chan, Ezammel, & Gwilliam, 1993; Butterworth & Houghton, 1995; Craswell, Francis, & Taylor, 1995)

**Hypothesis 8:** Big four status of the auditor is positively related to the audit fees charged

### **Time Lag**

Audit fee variations can also be explained by the period between the end of the financial year of the company and the release of the audit report by the auditor. A lesser period is associated with either an expensive audit fees or an efficient financial reporting framework by the client company and effective controls which lessen the audit work for the auditor therefore for the auditor and therefore less fees charged. However, lesser time lag for companies with ineffective controls means use of more resources by the auditor such as more time or staff to undertake the audit faster which may lead to higher audit fees being charged. A longer time lag is an indication of financial challenges such as

challenges to the internal control systems and such a company needs more audit work which results in more time on the audit and therefore high audit fees charged (Chan, Ezammel, & Gwilliam, 1993; Ezzamel, Gwilliam, & Holland, 1996).

**Hypothesis 9:** Time lag is positively related to audit fees

### **Season (Year-End)**

The reporting season can be classified as either the busy period or the non-busy period for the auditors. Busy period is considered to be December to March where most companies have their financial years ending. Chan, Ezammel, & Gwilliam, (1993) found a difference in the nature of audit work performed during the busy season and the non-busy season. High audit fees will be charged on firms which have their financial years ending during the busy period as the auditorss have limited staff and may have to work overtime to beat the agreed audit timelines and therefore a premium will be charged by auditors during this busy season. Companies with their financial years ending in the busy period would pay high audit fees than those in the non-busy reporting season (Chan, Ezammel, & Gwilliam, 1993; Craswell, Francis, & Taylor, 1995).

**Hypothesis 10:** Company reporting season is positively related to Audit fees

## **METHODOLOGY**

The purpose of this research was to evaluate factors influencing determination of pricing of audits, the use of deductive approach was found suitable. Under this approach, a study starts with formulation of a theory or hypotheses; data is then collected to test the theory or hypotheses. Deduction is useful where an explanation needs to be made as to why and what causes changes in the variables under study. Induction on the other hand is appropriate where a researcher seeks an interpretation of an event or phenomena (Saunders et al, 2007).

The population of the study was drawn from all the firms listed at the NSE throughout the period 2008 to 2014 and their respective auditors; this was informed by the availability of published annual reports by the listed firms in Kenya. Companies whose financial results for the seven years were not available were not analyzed in this study; also companies incorporated out of Kenya were not analyzed due to differences in currency. The researcher targeted annual financial statements of listed firms in 2008 and 2014 financial years.

Data was collected through secondary sources from the published annual reports of the listed firms that were obtained from their respective websites and the Capital Markets Authority. Information about the audit firms was obtained from their respective websites. Relevant published information from sources other than the respective companies was also be used; this included newspapers and magazines. Data was obtained from 41 out of the 62 listed firms currently, covering the years 2008 to 2014.

The nature of the data was mainly quantitative. Descriptive statics mean and standard deviation was used to present the research findings. Pearson-product moment correlation was used to measure the relationship between each two variables (Dependent and Independent). Regression analysis was used to link the relationship between audit fees and their determinants.

### **Model Specification and Operationalization of Variables**

$$\ln(\text{ADFEE}) = \beta_0 + \beta_1(\text{Size}) + \beta_2(\text{EXP}) + \beta_3(\text{Disc}) + \beta_4(\text{Big4}) + \beta_5 \ln(\text{TAST}) + \beta_6(\text{SUB}) + \beta_7(\text{CRisk}) + \beta_8(\text{ROE}) + \beta_9(\text{SSN}) + \beta_{10}(\text{TLAG}) + \varepsilon_i$$

**Where**  $\beta_0$  represent the constant for audit fees regression equation (Fixed audit costs component)

$\beta_1$ -  $\beta_{10}$  represent the respective correlation coefficient’s of the independent variables.

$\epsilon_i$  – represents the error term of the model.

**Dependent Variable (Ln (ADFEE))**

The dependent variable is natural log of audit fees paid for auditing annual accounts of parent companies and consolidated accounts. Audit fees do not include fees for auditing annual reports of branches and subsidiaries

**Table1.** *Independent Variables Specification Source*

VARIABLE	MEASURE
Auditor Size (SIZE)	No. of partners in the audit firm in the period of the study
Auditor Experience(EXP))	No. of Years in practice by the audit firm
Auditor Reputation (DISC)	Dummy variable No. of disciplinary cases in last 7 years if there is none=1, else 0
Big 4 status (BIG 4)	Dummy variable, if Auditor is big 4 = 1, else 0
Client Size Ln(TAST)	Natural log (Ln) of Total Assets
Client Complexity (SUB)	Number of subsidiaries of the company being audited
Client Risk (CRISK)	Ratio of EBT to Total Assets of the company being audited
Client Profitability (ROE)	Return on Equity (Ratio of Profit after tax attributable to Equity owners to Owners Equity)
Season (SSN)	Dummy Variable, If Reporting period is Dec-Mar = 1, else =0
Time lag (TLAG)	No of days from financial year end to the signing of results by auditors

**RESULTS**

**Descriptive Statistics**

According to the findings of the study evaluated 41 listed companies at the Nairobi Securities Exchange out of 62 listed firms giving a response rate of 66.13%. This was so because a good number of companies were listed at the NSE as from 2008 to 2014 and as a result their annual reports were not available for analysis. In addition some companies did not adhere to the Capital Markets Regulations that require annual filing of annual reports with the capital markets authority; this may be due to the small fine charged of sh. 1,000,000 which is affordable to most companies. It’s important to note that the average audit fees is Kshs. 10,496,275.26 over the period of the study while the maximum and minimum were Kshs 37,258,000.00 and 650,000.00 respectively as shown by the table below.

**Table2.** *Descriptive Statistics*

	N	Range	Minimum	Maximum	Mean	Std. Deviation
ADFEE	287	4.05	13.38	17.43	15.8760	.79960
PART	287	10	2	12	9.25	2.780
YEARS	287	95.00	12.00	107.00	60.6655	30.63774
CASES	287	1.00	0.00	1.00	.7073	.45579
Big 4	287	1.00	0.00	1.00	.9512	.21579
TAST	287	6.44	20.48	26.92	23.6891	1.61565
SUB	287	22.00	0.00	22.00	4.6690	3.98579
CRISK	287	65.38	-27.43	37.95	6.5020	8.07738
ROE	287	288.91	-233.04	55.87	10.3591	20.01817
SSN	287	1.00	0.00	1.00	.7247	.44743
TLAG	287	144.00	37.00	181.00	84.3449	25.16219
Valid N (listwise)	287					

**Correlations among Independent Variables**

Correlation analysis is useful to determine not only the relationship of variables but also strength of the association amongst variables. A scatter plot can as well be generated to inspect the relationship among variables; it indicates the linear association of variables under study. The study used Pearson

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correlation to summarize the direction and strength of linear relationship existing if any between the independent and the dependent variables. Results shown in Table 3 indicate the correlation matrix of the variables in the study. The values of 1 indicate correlations between variables themselves.

**Table3.** Correlations of the Variables of the study

	ADFE E	PART	YEAR S	CASE S	BIG 4	TAST	SUB	CRIS K	ROE	SSN	TL AG
ADFE E	1										
PART	-.093	1									
YEAR S	-.162**	.830**	1								
CASES	.247**	-.636**	-.904**	1							
BIG 4	.410**	.551**	.332**	-.146**	1						
TAST	.634**	.103*	.009	.054	.402**	1					
SUB	.522**	-.129*	-.117*	.129*	.144**	.106*	1				
CRISK	-.055	.089	.108*	-.119*	.147**	-.204**	.188*	1			
ROE	.032	.064	.077	-.064	.120*	.102*	.090	.485**	1		
SSN	.313**	-.137**	-.138**	.135*	.186**	.203**	.237*	-.074	.135*	1	
TLAG	-.141**	.126*	.083	-.098*	-.238**	-.280**	-.085	-.168**	-.168**	-.079	1

\*\* Correlation is significant at the 0.01 level (1-tailed). \* Correlation is significant at the 0.05 level (1-tailed). The results are based on 287 data points of the research.

**Regression Analysis**

Regression analysis was used to analyze data for the study. All the years were regressed together for the 41 companies analyzed to get 287 data points. Results of the Regression output as indicated by model summary in Table 4 below indicates the R square of the model is 0.709 meaning that 70.9% of the variations of fees charged is explainable by the variables in the model, while 29,1% of the variations in audit fees is explained by variables not considered in by the model. An adjusted R square of 0.699 was found meaning 69.9% of variations could have been explained by the model had the sample been drawn from the whole population.

**Table4.** Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.842 <sup>a</sup>	.709	.699	.43902

a. Predictors: (Constant), TLAG, SSN, YEARS, CRISK, SUB, TAST, ROE, Big 4, PART, CASES

Similarly, the ANOVA results indicate F-statistic value of 67.273 and p-value (sig) of 0.000 which indicates the model is statistically significant and can be relied to predict audit fees. See Table 5 below indicating the ANOVA Results. From the regression model output in Table 6 below, the unstandardized Beta coefficients in Table 6 below, the model is Fees = 7.570 – 0.126PART + 0.12YEARS + 0.612CASES + 1.189BIG4 + 0.269TAST + 0.075SUB + 0.04CRISK – 0.03ROE + 0.062SSN + 0.05TLAG + ε<sub>i</sub>

**Table5.** ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	129.660	10	12.966	67.273	.000 <sup>b</sup>
	Residual	53.196	276	.193		
	Total	182.856	286			

a. Dependent Variable: ADFEE  
b. Predictors: (Constant), TLAG, SSN, YEARS, CRISK, SUB, TAST, ROE, BIG 4, PART, CASES

**Table6.** Regression Model Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	7.570	.516		14.665	.000	6.553	8.586
	PART	-.126	.023	-.437	-5.498	.000	-.171	-.081
	YEARS	.012	.003	.442	3.626	.000	.005	.018
	CASES	.612	.156	.349	3.919	.000	.305	.920
	BIG 4	1.189	.187	.321	6.352	.000	.821	1.558
	TAST	.269	.020	.543	13.659	.000	.230	.308
	SUB	.075	.007	.373	10.562	.000	.061	.089
	CRISK	.004	.004	.039	.928	.354	-.004	.012
	ROE	-.003	.002	-.075	-1.922	.056	-.006	.000
	SSN	.062	.065	.035	.958	.339	-.065	.189
TLAG	.005	.001	.168	4.505	.000	.003	.008	

a. Dependent Variable: ADFEE

### Analysis of Results

The results of the study indicate a negative relationship between audit fees and the auditor size, this is against the author’s expectation and that of the previous studies of: Palmrose (1986) and Choi, Kim, & Zang, (2010) who established a relationship between the audit fees charge and the size of the auditor. This is explained by the measure for auditor size in the study (number of partners in the audit firm); a better measure would have been the total number of employees in the audit firm. This data however, could not be obtained due to confidentiality issues cited by auditors. The study also found a positive relationship between audit fees and Auditor Experience; this is in line with the author’s expectations and that of the previous studies of Ferguson, Francis, & Stokes (2003) who found that years of professional practice increases audit fees charged. A positive relationship was also found between audit fees and the Auditor Reputation, this is consistent with the studies of: Gonthier and Schatt, 2007; Larcker and Richardson, 2004; and Che-Ahmad and Houghton, 1996. Meaning auditors with a good reputation in Kenya charge high audit fees.

The study established a positive relationship between the Big 4 status of an audit firm and fees, confirming the findings of studies in the US (DeAngelo, 1981), Australia (Butterworth & Houghton, 1995; Craswell, Francis, & Taylor, 1995) and UK (Chan, Ezammel, & Gwilliam, 1993). It can be concluded that Big Four audit firms charge premium fees in Kenya. A positive relationship was also found between audit fees charged and the client size, as measured by the natural logarithm of total assets. This is consistent with the findings of earlier studies of (Carson, Fargher, Simon, & Taylor, 2004; Simon & Taylor, 2002; Chan, Ezammel, & Gwilliam, 1993; Low, Tan, & Koh, 1990; Palmrose, 1986; and Simunic, 1980) which found a strong link between the audit fees charged and the size of the audited firm. Positive relationship was also established between the audit fees charged and the client complexity which was indicated by the subsidiary companies of the client. This is consistent with earlier findings of: (Carson, Fargher, Simon, & Taylor, 2004; Firth, 1997; Sandra & Patrick, 1996; Butterworth & Houghton, 1995; Chan, Ezammel, & Gwilliam, 1993; Low, Tan, & Koh, 1990; and Simunic, 1980) who found a strong relationship between audited firm complexity and audit fees. A positive relationship was also found between the audit fees charged and the Time lag in reporting the financial results of companies; this is consistent with the author’s expectations and that of previous studies of: Chan et al., 1993; Ezzamel, Gwilliam and Holland, 1996.

The study did not support any relation between audit fees charged and the reporting season, the client profitability and client risk as the p-values were higher than the level of significance  $\alpha=0.05$ . Therefore the three variables are not significant in the determination of audit fees in Kenya. This is

inconsistent with the author’s expectation and the findings of previous studies which found a positive relationship between the variables and audit fees.

**Robustness Tests**

Linear regression models are based on four key assumptions that the model must fulfill so that its findings can hold or be considered valid. The assumptions include: Multicollinearity, Normality, Homoscedasticity and Outliers (Hair, Black, Babin, & Anderson, 2010). These are discussed in the sections below.

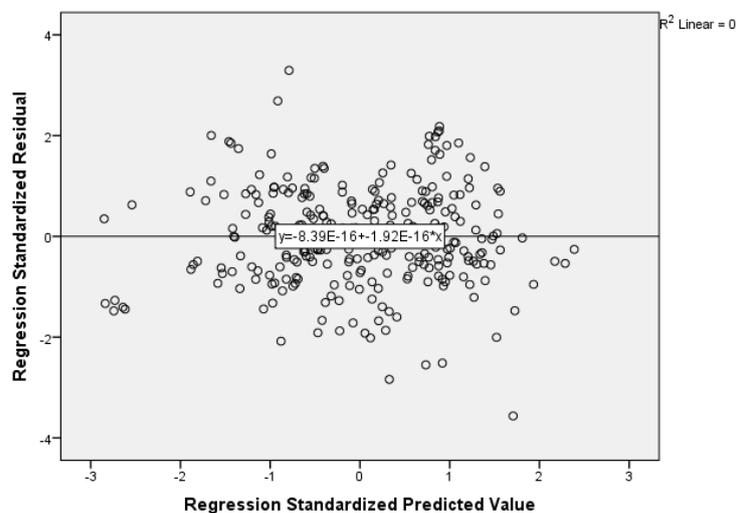
**Multicollinearity Tests**

Correlations can be an indicator of multicollinearity between variables under study; however, high coefficient of correlation does not always show lack of multicollinearity problems. To detect this problem, the study used variance inflation factor value (VIF) and the tolerance factor for the independent variable that were considered to be relevant. Tolerance factor values closer to zero and VIF values above 10 indicate presence of multicollinearity in the audit model under review. From Table 7 below, the Tolerance Factors range from 0.07 to 0.843, while the Variance inflation factors range from 1.186 to 14.067. A VIF value greater than 10, indicates presence of multicollinearity problem, therefore multicollinearity exists on the Auditor Experience as measured by the Number of Years in practice by the audit firm.

**Table 7.** Collinearity Statistics

	Collinearity Statistics	
	Tolerance Factor	VIF
PART	.166	6.007
YEARS	.071	14.067
CASES	.133	7.525
BIG 4	.413	2.421
TAST	.667	1.500
SUB	.843	1.186
CRISK	.586	1.706
ROE	.690	1.450
SSN	.805	1.243
TLAG	.755	1.324

**Homoscedasticity**



**Figure 1.** Scatter plot Dependent variable: ADFEE

Source: Author, 2015

Another fundamental assumption in regression models is that the error variances of the sample under study are assumed to be similar as measured by the term of error variances of the model. While this assumption is commonly made in statistics, it’s not a guarantee that it would hold when regressions are done. If there are high variations of errors around the line of best fit then there will be no tendency or a recognizable pattern in the scatter lot. Homoscedasticity was tested in the study so as to determine the variations from the line of best fit; this was done through a scatter plot of the Regression Standardized Residual versus Regression Standardized predicted value. A line of best fit was then plotted and from the findings in figure 1 below, the best fit line is tangential i.e. a straight vertical line indicating presence of homoscedasticity in the data.

**Tests for Outliers**

An outlier is a data point that highly deviates from the other data points being analyses. It has an effect of significantly influencing findings of a study as a result; any outlier identified must be treated before conclusions and further analysis of data. The study employed Cook’s Distance to identify outliers; it measures the differences between the coefficients of regressions derived from the entire data and the regression coefficients from the sample having removed any identified case from the estimation process. Cook’s Distance value greater than 1 indicates a case of a potential outlier. From the table below, 0.049 is the highest value of Cook’s distance which is below the standard 1.0, meaning that for the 287 observations, there was no outlier since Cook’s distance is lower than the Benchmark value of 1.0.

**Table8.** *Residuals Statistics<sup>a</sup>*

	Minimum	Maximum	Mean	Std. Deviation	N
Cook's Distance	.000	.049	.004	.007	287

a. Dependent Variable: ADFEE

**Tests of Normality**

Normality is the property of data distributions in a study to exhibit the properties of the normal distribution. Since the data in the study was drawn from a large sample (287 data points), the variations from the normal distribution will not significantly alter the results of the study since non-normality is considered negligible if the sample size consists of more than 199 observations as proposed by (Hair, Black, Babin, & Anderson, 2010) .

**RECOMMENDATIONS CONCLUSIONS**

The study’s main objective was to determine whether the determinants of audit fees from prior research findings will be relevant and applicable to the determination of the audit fees charged in Kenya. The study used data from 41 listed companies and for which their financial reports were available through 2008 to 2014, the study investigated the research hypotheses. The linear regression model was used to analyze data. Linear regression was chosen because it was found to be the most suitable tool to explain the relationships between the dependent variables and the independent variables of the study. The findings of the study give the overall picture of how audit fees are determined in a growing economy like Kenya.

From the study it is evident that the audit market for listed firms in Kenya is dominated by the Big 4 audit firms. Based on the results of the study I can conclude that: Auditor Experience, Auditor Reputation, Big 4 status; Client size; Client complexity; and the reporting lime lag are the important factors determining audit fees for NSE listed firms.

The following recommendations can be made arising from the study. First, ICPAK should put in place measures that will encourage disclosure of key information like the financial statements of audit firms as very little information is publicly available about audit firms in Kenya. Secondly, it was also noted

that some companies failed to comply with CMA Act which requires the filing of annual reports to the authority annually, based on this fact I recommend strict sanctions against companies failing to comply to the reporting requirements under the CMA Act. Thirdly, it was also noted that most companies did not disclose non-audit fees. ICPAK should formulate requirements to ensure not only audit fees are disclosed but also non-audit fees as well. Non-audit fee poses a serious threat on the professional independence of an auditor especially if an auditor becomes over dependent on such fees. The study encountered the following limitations. First, the choice of the listed firms created some bias in the study since it is dominated by the Big 4 audit firms. Secondly, the effect of other macroeconomic factors such as inflation was overlooked in the study. Thirdly, the inclusion of financial firms made it impossible to use the debt ratio as a proxy for client risk. Lastly, the effect of the various industries was not analyzed in the model adopted for the study.

Arising from the study, the following areas are recommended for future studies. First, the effect of the various industries or sectors in the determination of audit fees should be studied as there various regulations and requirements governing various industries. Secondly, the effect of macroeconomic factors such as inflation should be studied. Thirdly, a study should be done to evaluate the strategies used by the big 4 audit firms so as to command a very high stake in the local audit market. Finally, the effect of internal controls, such as audit committees and internal audit departments, on audit fees should be studied.

## **REFERENCES**

- [1] AICPA. (1983). *Audit Risk and Materiality in Conducting an Audit, Statement on Auditing Standards No. 47*. USA: American Institute of Certified Public Accountants.
- [2] Bedard, J. C., & Johnstone, K. M. (2010). Audit Partner Tenure and Audit Planning and Pricing. *Auditing: A Journal of Practice and Theory* , 29 (2), 45-70.
- [3] Butterworth, S., & Houghton, K. A. (1995). Auditor Switching: The Price of Audit Services. *Journal of Business Finance and Accounting* , 22 (3), 323-344.
- [4] Carson, E., Fargher, N., Simon, D., & Taylor, M. (2004). Audit Fees and Market Segmentation further evidence on how client size matters within the context of audit fees models. *International Journal of Auditing* , 8 (1), 79-91.
- [5] Chan, P., Ezammel, M., & Gwilliam, D. (1993). Determinants of Audit Fees for Quoted UK Companies. *Journal of Business Finance and Accounting* , 20 (6), 765-786.
- [6] Che Ahmed, A., & Houghton, K. A. (1996). Audit Fee Premiums to Big Eight Firms: Evidence from the Medium-size UK Audittees. *Journal of International Accounting, Auditing and Taxation* , 5 (1), 53-72.
- [7] Choi, J., Kim, J., & Zang, Y. (2010). Audit Office Size, Audit Quality, and Audit Pricing. *Auditing: A Journal of Practice and Theory* , 29 (1), 73-97.
- [8] Chung, D. Y., & Lindsay, W. D. (1988). The Pricing of Audit Services: The Canadian Perspective. *Contemporary Accounting Research* , 5 (1), 19-46.
- [9] Craswell, A. T., Francis, J. R., & Taylor, S. L. (1995). Auditor Brand Name, Reputations and Industry Specialisations. *Journal of Accounting and Economics* , 20 (3), 297-322.
- [10] Craswell, A., & Francis, J. R. (1999). Pricing Initial Audit Engagements: A Test of Competing Theories. *The Accounting Review* , 74 (2), 201-216.
- [11] DeAngelo, L. E. (1981). Auditor Size and Audit Quality. *Journal of Accounting and Economics* , 3 (3), 183-199.

- [12] Ezzamel, M., Gwilliam, D. R., & Holland, K. M. (1996). Some Empirical Evidence from Publicly Quoted UK Companies on the Relationship Between the Pricing of Audit and Non-audit Services. *Accounting and Business Research* ,27 (1), 3-16.
- [13] Ferguson, A., Francis, J., & Stokes, D. (2003). The Effect of Firm-wide and Office-level Industry Expertise on Audit Pricing. *The Accounting Review* , 4 (2), 429-448.
- [14] Firth, M. (1997). The Provision of Non-audit Services and Pricing of Audit Fees. *Journal of Business Finance and Accounting* , 24 (3), 511-525.
- [15] Francis, J. R. (2004). The Effect of Auditor Firm Size on Audit Prices: A study of the Australian Market. *Journal of Accounting and Economics* , 6, 131-151.
- [16] Francis, J. R., & Simon, D. T. (1987). A Test of Audit Pricing in a Small-client Segment of the US Market. *The Accounting Review* , 62 (1), 145-157.
- [17] Gonthier, B., & Schatt, A. (2007). Determinants of Audit Fees for French Quoted Firms. *Managerial Auditing Journal* , 22 (2), 139-160.
- [18] Government Printer, 2008. The Accountant’s Act, Kenya Gazette Supplement No. 99 (Acts No. 15) of 2008. Government Printer. Nairobi.
- [19] Hair, J., Black, W., Babin, B., & Anderson, R. (2010). *Multivariate Data Analysis: A Global Perspective* (7th ed.). Upper Saddle River, New Jersey: Pearson Prentice Hall.
- [20] Hay, D., Knechel, W. R., & Wong, N. (2006). Audit Fees: A Meta-analysis of the Effect of Supply and Demand Attributes. *Contemporary Accounting Research* , 23 (1), 141-191.
- [21] ICPAK. (2006). *Code of Ethics for Professional Accountants*. Nairobi, Kenya: ICPAK.
- [22] IFAC (2012). International Federation of Accountants - International Standards on Auditing (ISA) No. 200, Overall Objectives of the Independent Auditor and the conduct of an Audit in Accordance with International Standards on Auditing. A Handbook of International Quality Control, Auditing Review, Other Assurance, and Related Services Pronouncements, New York, USA
- [23] Izma, N., 2011. Clarified ISAs to Raise Audit Quality, Fees, Reduce Risks. Accessed from HYPERLINK "<http://www.mia.org.my/at/at/2011/04/03.pdf>" <http://www.mia.org.my/at/at/2011/04/03.pdf> on 13/08/2015.
- [24] Joshi, P. L., & Al-Bastaki, H. (2000). Determinants of Audit Fees: Evidence from the Companies Listed in Bahrain. *International Journal of Auditing* , 4, 129-138.
- [25] Larcker, D., & Richardson, S. (2004). Fees Paid to Audit Firms, Accrual Choices and Corporate Governance. *Journal of Accounting Research* , 42 (3), 625-658.
- [26] Low, R. C., Tan, P. H., & Koh, H. C. (1990). The Determinants of Audit Fees: An analysis of the Singapore Context. *Journal of Business Finance and Accounting* , 17 (2), 285-292.
- [27] Musembi, D. (2011). The Relationship Between Board Characteristics and Audit Fees: A Case Study for Non-Financial Companies Listed on the Nairobi Stock Exchange. Unpublished MBA Project, University of Nairobi.
- [28] Palmrose, Z. (1986). Audit Fees and Auditor Size: Further Evidence. *Journal of Accounting Research* , 24 (1), 97-110.
- [29] Saunders, M., Lewis, P., Thornhill, A. (2007). *Research Methods for Business Students*. 4<sup>th</sup> Ed. Prentice- Hall. Harlow, England.
- [30] Sandra, W. M., & Patrick, P. H. (1996). The Determinants of Audit Fees in Hong Kong: An empirical Study. *Asian Review of Accounting* , 4 (2), 32-50.

- [31] Simon, D. T., & Taylor, M. H. (2002). A Survey of Audit Pricing in Ireland. *International Journal of Auditing* , 6 (1), 3-12.
- [32] Simunic, D. A. (1980). The Pricing of Audit Services: Theory and Evidence. *Journal of Accounting Research* , 18 (1), 161-190.
- [33] WareskulKarim, A. K., & Moizer, P. (1996). Determinants of Audit Fees in Bangladesh. *International Journal of Accounting* , 54 (2), 273-306.