The Determinants of External Audit Fees in Zimbabwe Listed Companies.

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Abstract
This explanatory study seeks to determine the factors which influence the external audit fees charged by audit firms that audit listed companies in Zimbabwe. The study considers variables that represent audit client size, complexity and riskiness. The study also includes qualitative factors which include audit firm size and type of audit opinion. A sample of 41 companies listed on the Zimbabwe Stock Exchange is selected and regression analysis is performed on the dependent and independent variables.

The results of the study indicates that total assets and revenue significantly affect the external audit fee at the 5% level and that the number of employees, audit firm size and audit opinion are not significant determinants of audit fees in Zimbabwe listed companies.

This study adds to the body of literature on audit fee determinants from a developing country and an economy emerging from a long period of economic decline.

Keywords: external audit fee, audit client size, determinants, audit client complexity, riskiness

Introduction
Zimbabwe started using the multi-currency regime in 2009, after a decade of economic decline. The cost of services in general in the economy was very high which saw companies and organisations charging out of reach costs for most services. This study focuses on the external audit fees charged by audit firms. The focus is on what determines the external audit fee within the Zimbabwean context.

According to the Public Accountants and Auditors Board (PAAB, 2014) the country has a number registered accounting firms, and mostly charge fees that vary from each other.

According to the Companies Act (24:03) s150 states that every company shall at an annual general meeting appoint an auditor to hold office until the next general meeting. The audited financial statements are used by investors and other stakeholders to make financial decisions with regards to the companies.

Previous studies on audit fees have been done in the developed world, and in countries with stable economies. Very few studies have been done in the African context and in countries with economic challenges, as this affects the pricing regimes for almost everything, including external audit fees.

Although previous studies on audit fees have been done on the variables of audit client size, complexity and riskiness, these findings have not been tested or compared to Zimbabwe for instance, therefore this study will seek to also compare findings from previous audit fee research in line with the Zimbabwean context.

This study is structured as follows: the literature review is discussed in terms of the theoretical framework and other findings on researcher in audit fees; the methodology is then discussed, followed by the analysis of the results, and will close by conclusions and recommendations.

1. Literature Review

Several studies have been conducted on factors that explain the amount of external audit fees paid. Simunic (1980) is among the initial investigators of what affects the pricing of audit services.

Several of these studies have been conducted in the USA, Australia, New Zealand, Canada, Japan, Singapore, Hong Kong, Pakistan and Bangladesh. As it can be seen few of the studies have been conducted in the African context. This study will therefore add to the body of knowledge on the determinants of audit fees in a developing country and a country emerging from an economic meltdown.

All these studies have used the audit fee model developed by Simunic (1980), and include the variables that explain audit client size, complexity and riskiness.

The other variable that has been researched a lot in audit fee research is the size of the audit firm. The size is measured by the “Big” audit firms versus the “Non-Big” audit firms. The studies on this variable investigate whether there is a premium charged by the “Big” audit firms on not. The findings from these studies are not conclusive. Other studies have found that a premium is charged by The Big audit firms and other studies report the non-existent of such a premium (Brinn et al, 1994).

Several studies investigating the factors affecting the external audit fees have examined several variables. The studies have used an explanatory model for audit fees and the key variables identified in these studies have been client size, client complexity and client...
riskiness (DeFond et al, 2000). Audit fee models including these three variables have demonstrated high-explanatory power, and have showed robustness across different samples (DeFond et al, 2000).

### 2.1 Audit client size.

Most of the previous audit fees studies (Palmrose, 1996; Chan et al., 1993; Craswell and Francis, 1999; DeFond et al, 2000) use audit client size as a parameter in their studies. These studies report a positive relationship between client size and the audit fees. Audit Client Size in previous audit fee studies has been measured by the variables total assets, (Swanson, 2008). With regards to audit client size this study also uses total assets. Total assets represent the size of the client, and it follows that as total assets increase, the audit fee will increase. Therefore a positive relationship with audit fees is expected; again total assets growth over a time period reflects also growth in revenues (Swanson, 2008).

### 1.2 Audit client complexity.

Previous audit studies by (Maher et al, 1992; Chan et al, 1993; Carcello et al., 2002) indicate that audit complexity significantly influence the audit fees. Hypothetically we would expect that as the audit client becomes more complex, more time and effort is needed to perform the external work. The increased audit effort will result in increased external audit fees (Pop & Iosivan, 2008). In this study the variable revenues has been used to indicate audit client complexity. The growth in revenues might be due to the complexity of the client in terms of growth and increased number of subsidiaries or foreign subsidiaries doing well in terms of revenue growth. Again as the revenues increase the transactions also increase thereby increasing the items to be audited and sampled, giving rise to more audit hours (Swanson, 2008).

### 1.3 Client Riskiness

Existing research indicates that that audit fees is a function of both the cost of performing the audit and the expected cost of the audit risk. (Simunic, 1980). Audit risk is the risk that the external auditor will be held responsible to third parties for damages related to misstatements in the audited financial statements (Pop & Iosivan, 2008). Audit firms adjust for an increase in risk level by either increasing their audit effort or charging a premium to compensate themselves for the increase in audit risk (Pratt and Stice, 1994; Seetharaman et al., 2002). We would expect the external audit firm to charge higher audit fees when the audit risk increases. This is evidenced by previous studies which are mostly in agreement with this assertion.

As indicated in previous audit fees studies (Chan et al., 1998) audit risk is hard to measure. Most studies have used statement of financial position measures to indicate audit risk. Swanson (2008) indicates that the number of employees for the client is another measure of audit risk which has an effect on audit fees. As the number of employees increase, the amount of work performed by the auditor will increase. This study also uses the number of employees in the audit client firm as a proxy for audit risk. The above sections dealt with the size, complexity and risk attributes. These can be grouped up as client attributes. This study further includes auditor attributes and engagement attributes as parameters.

### 1.4 Auditor Attributes

Higher audit fees might be expected when an auditor is recognised to be of superior quality. A common measure of audit quality is the auditor being one of the Big4 audit firms. Previous audit fees research strongly supports the observation that Big firms are associated with higher audit fees (Chaney et al., 2004; McMeeking et al., 2006). This study also includes the variable of the audit firm size, whether the audit firm is in the Big4 league or not.

### 1.5 Engagement Attributes

These attributes include the audit opinion, non audit services provided to client and the season in which the audit is conducted. Earlier audit fee research indicates that they is a significant relationship between audit fees and the audit opinion raised by the auditor. A positive relationship is expected when the audit reports are qualified or modified. This study will also use the variable on the audit opinion, whether the report that was issued was unmodified or modified.

### 2. Methodology

The objective of this study is to explain the determinants of external audit fees in Zimbabwe. External auditors are a statutory requirement for all listed companies on the Zimbabwe Stock Exchange. The population of the companies was gathered from the Zimbabwe Stock Exchange as at 30 September 2014. The Zimbabwe Stock Exchange is made up of 67 listed companies, which is the population of companies in Zimbabwe. These are all public companies. These companies are from various sectors of the economy, the sectors represented include the banking and financial services; beverages; tourism; paper and packaging; agricultural; industrial holdings; mining; engineering; technology; agri-industrial; pharmaceuticals; food; property; retail; insurance;
building and associated industries; transport and printing and publishing.

Of the listed companies 3 were excluded from the study due to the fact that they were delisted on the Zimbabwean Stock Exchange, a further 11 of the listed firms were not included in the study as the external audit fees could not be established. Another 12 companies did not have a verifiable number of employees. This means that the study was based on a sample of 41 listed companies which had all the variables on the Zimbabwe Stock Exchange.

In line with previous studies (Chaney et al., 2004; McMeeking et al., 2006) on audit fees this study uses the explanatory research to explain the relationship between the various variables and audit fees. This gives the opportunity to contribute to the auditing field in terms of predicting audit fees in Zimbabwe.

Again due to the findings in previous audit fees research (Palmrose, 1996) the relationship between audit fees and client size is found to be non-linear, and the natural log has been used to address the problem of nonlinearity. Therefore the use of the natural log of the client’s total assets has been typically used in this study also.

The study uses the natural log of the audit fee as the dependent variable, and the independent variables will be the natural log of the total assets, revenue and the client’s number of employees.

In this study includes two qualitative factors through dummy variables representing the auditor attributes (Big 4 or non Big4); and the engagement attribute (audit opinion).

Based on prior research (Knechel and Willekens, 2006; Mitra et al., 2007; Huang et al., 2009) it is expected that the external audit fees to be positively associated with the natural log of total assets. Regression analysis is employed using Microsoft Excel Data Analysis Tool to identify the relationship between the variables and the correlation of the variables.

### 3.1 Model Development.

The model used in this study is similar from the previous to the one used by Pop & Iosivan (2008) and in this study qualitative factors are included, which are the dummy variables in the model. The model is as developed from the following equation:

$$
\text{Audit fees} = \alpha + \beta_1 \text{Total Assets} + \beta_2 \text{Revenue} + \beta_3 \text{Number of Employees} + \beta_4 \text{Report} + \beta_5 \text{Big4} + \varepsilon.
$$

As in all previous studies, regression analysis is used to explain the relationship between the variables. The natural log of the variable audit fees, total assets, revenue and number of employees is used to address the non-linearity of the variables.

The model is further developed as follows, using the natural logarithm:

$$
\text{AFEE} = \alpha + \beta_1 \text{TA} + \beta_2 \text{REV} + \beta_3 \text{NEMPLOY} + \beta_4 \text{REPORT} + \beta_5 \text{Big4} + \varepsilon.
$$

Where:

- **AFEE** = External audit fee paid by the client as reported in the annual report (the natural logarithm of the Audit Fees).
- **TA** = The total assets of the audit client (the natural logarithm of total assets).
- **REV** = The revenue of the audit client (the natural logarithm of revenues).
- **NEMPLOY** = The number of employees employed by the audit client (the natural logarithm of number of employees).
- **REPORT** = The dummy variable representing the audit report issued out by the auditor, 1 represents modified report and 0 for the unmodified report.
- **Big4** = The dummy variable indicating whether the audit firm is a Big 4 firm or non-Big4, 1 represents a Big 4 firm and 0 a non-Big 4 firm.
- **\varepsilon** = The prediction error.

### 3. Analysis of results

#### 4.1 Descriptive Statistics

The descriptive statistics are based on the actual figures on the variables and not the natural logarithm of the variables. Table 1 below shows descriptive statistics for the variables:
TABLE 1: DESCRIPTIVE STATISTICS

<table>
<thead>
<tr>
<th></th>
<th>AFEE</th>
<th>TA</th>
<th>REV</th>
<th>NEMPLOY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>262,286.80</td>
<td>227,224,780.02</td>
<td>117,069,856.39</td>
<td>2,366.85</td>
</tr>
<tr>
<td>Median</td>
<td>149,000.00</td>
<td>68,982,625.00</td>
<td>44,597,000.00</td>
<td>674.00</td>
</tr>
<tr>
<td>Minimum</td>
<td>36,000.00</td>
<td>8,374,274.00</td>
<td>604,526.00</td>
<td>22.00</td>
</tr>
<tr>
<td>Maximum</td>
<td>1,284,585.00</td>
<td>1,799,337,000.00</td>
<td>821,739,130.00</td>
<td>42,000.00</td>
</tr>
</tbody>
</table>

AFEE = External audit fee
TA = Total Assets
REV = Revenues
NEMPLOY = Number of employees

The descriptive statistics above give an overview of the size of the audit clients under consideration, the complexity of the clients and the riskiness of the clients. The mean and median of the external audit fees are $262,286.80 and $149,000 respectively. The minimum of the audit fee is $36,000 and the maximum recorded external audit fees is $1,284,585.

The mean and the median of the total assets are $227,224,780 and $68,982,625 respectively. The minimum of the total assets is $8,374,274 and the maximum is $1,799,337,000. As for the revenues the mean and median are $117,069,856 and $44,597,000 respectively. The minimum revenue is $604,526 and the maximum revenue is $821,739,130.

The riskiness of the audit client is considered through the number of employees’ variable. The mean and median of the number of employees are 2,366.85 and 674 employees respectively. The minimum number of employees is 22 and the maximum is 42,000 employees.

In terms of the audit reports, 78% of the reports are unmodified and 22% are modified reports. The size of the audit firm indicates that 93% of the audit clients were audited by a Big4 firm and only 7% were audited by a non-Big4 audit firm.

3.2 Regression statistics results

Table 2 below shows the regression results:

TABLE 2: REGRESSION STATISTICS

<table>
<thead>
<tr>
<th>Regression Statistics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>0.851</td>
</tr>
<tr>
<td>R Square</td>
<td>0.725</td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>0.685</td>
</tr>
<tr>
<td>Standard Error</td>
<td>0.511</td>
</tr>
<tr>
<td>Observations</td>
<td>41</td>
</tr>
</tbody>
</table>

The multiple correlation coefficient (Multiple R) in Table 2 above is 0.851. This indicates that the correlation among the independent and dependent variables is positive. The coefficient of determination, R² is 72.5%. This means that close to 73% of the variation in the dependent variable (external audit fees) is explained by the independent variables. The standard error of the regression is 0.511, which is an estimate of the variation of the observed audit fees prices about the regression line.

3.3 The estimated regression equation

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The results of the estimated regression equation include the estimated coefficients, the standard error of the coefficients, the calculated t-statistic, the corresponding p-value, and the boundaries of the 95% confidence interval. Table 3 below is a summary of the results:

**TABLE 3: ESTIMATED REGRESSION LINE**

<table>
<thead>
<tr>
<th></th>
<th>Coefficients</th>
<th>Standard Error</th>
<th>t Stat</th>
<th>P-value</th>
<th>Lower 95%</th>
<th>Upper 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.618</td>
<td>1.246</td>
<td>0.496</td>
<td>0.623</td>
<td>-1.912</td>
<td>3.147</td>
</tr>
<tr>
<td>TA</td>
<td>0.315</td>
<td>0.074</td>
<td>4.267</td>
<td>0.000</td>
<td>0.165</td>
<td>0.464</td>
</tr>
<tr>
<td>REV</td>
<td>0.345</td>
<td>0.079</td>
<td>4.339</td>
<td>0.000</td>
<td>0.183</td>
<td>0.506</td>
</tr>
<tr>
<td>NEMPL OY</td>
<td>-0.048</td>
<td>0.081</td>
<td>0.588</td>
<td>0.560</td>
<td>-0.213</td>
<td>0.117</td>
</tr>
<tr>
<td>Report</td>
<td>0.325</td>
<td>0.215</td>
<td>1.508</td>
<td>0.140</td>
<td>-0.112</td>
<td>0.762</td>
</tr>
<tr>
<td>Big4</td>
<td>-0.197</td>
<td>0.336</td>
<td>0.588</td>
<td>0.560</td>
<td>-0.879</td>
<td>0.484</td>
</tr>
</tbody>
</table>

The relationship between Total Assets and Audit Fees is positive, and is statistically significant at the 5% level (t stat = 4.267). In this case we reject the null hypothesis.

The relationship between revenue and audit fees is positive, and is statistically significant at the 5% level and the t-stat is 4.339, again we reject the null hypothesis. In terms of the audit reports the relationship between the audit opinion and audit fees is positive but insignificant at the 5% level as p>0.05 at 0.140.

The number of employees is negatively related with audit fees and is insignificant at the 5% level since p=0.560. The audit firm size is also negatively related to audit fees and is insignificant at the 5% level since p= 0.560.

The estimated equation will therefore be as follows:

\[
AFEE = 0.618 + 0.315TA + 0.345REV - 0.048NEMPLOY + 0.325Report - 0.197Big4 + \epsilon. 
\]

Due to the fact that the other variables are not significant in the determination of the audit fees the variables are removed from the equation, and a functional model is developed as follows:

\[
AFEE = 0.618 + 0.315TA + 0.345REV 
\]

### 3.4 Correlations

Table 4 below provides the correlation among the variables in the study.

**TABLE 4: CORRELATIONS**

<table>
<thead>
<tr>
<th></th>
<th>AFEE</th>
<th>TA</th>
<th>REV</th>
<th>NEMPLOY</th>
<th>Report</th>
<th>Big4</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFEE</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TA</td>
<td>0.734</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REV</td>
<td>0.743</td>
<td>0.548</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEMPLOY</td>
<td>0.476</td>
<td>0.429</td>
<td>0.550</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report</td>
<td>0.034</td>
<td>-0.003</td>
<td>-0.178</td>
<td>0.240</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Big4</td>
<td>0.250</td>
<td>0.246</td>
<td>0.365</td>
<td>0.075</td>
<td>-0.077</td>
<td>1.000</td>
</tr>
</tbody>
</table>

The dependent variable AFEE is strongly positively correlated with Total Assets and Revenue, and positively correlated with NEMPLOY, audit opinion and the audit firm size. This means that any increase in the independent variables will give rise to an increase in the external audit fees.
Regarding the correlation between the independent variables, Table 4 shows that TA is positively correlated with Revenue, number of employees and firm size (Big4 or non-Big4), and negatively correlated with the audit opinion. REV is positively correlated with the number of employees and the audit firm size (Big4 or non-Big4). NEMPLOY is positively correlated with the audit opinion and audit firm size, and the audit opinion is negatively correlated with the audit firm size (Big4 or non-Big4).

4. Conclusion

This study seeks to contribute to the audit literature in developing countries especially in Africa, by analysing the determinants of external audit fees charged by external auditors. The study focused on a country that is recovery from a decade of economic decline, with out of market pricing regimes due to use of the multi-currency system. The empirical findings show that with regards to Zimbabwean companies, the determinants of audit fees relate to the audit client size, complexity and riskiness. The study indicates that audit client size, represented by its Total Assets is a very significant determinant of audit fees. The study also reflects that Revenues generated by the companies are also very significant determinant of external audit fees. This is also in agreement with previous audit fee studies. The study also relates to the riskiness of the companies by using the number of employees variable. The findings indicate that the number of employees is not significant determinant of external audit fees.

With regards to the qualitative factors, the study finds out that the audit opinion and the audit firm size are not significant in the determination of audit fees. This is supported by the fact that the 93% of the companies are audited by firms in the Big4 league and the 78% of the opinions are unmodified. study was limited to only listed companies on the Zimbabwe Stock Exchange, this means that other areas like the public sector in Zimbabwe were not represented by the sample, and the unavailability of certain parameter or variables in the listed companies might that the sample size was reduced. Areas that need further research include the effects of board composition, gender and audit firm specialisation on the external audit fees. Further audit fees studies in the African context may also be based on the extent of disclosure in terms of non-audit fees.

References


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