

THE PRICING OF AUDIT SERVICES: EVIDENCE FROM THE KUALA LUMPUR STOCK EXCHANGE (KLSE) LISTED COMPANIES

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ABSTRACT

In practice, audit fees are determined based on agreement, negotiation and consensus between auditee and auditor. With the exception of the Malaysian Institute of Accountants' schedule for determining minimum audit fees, no specific guideline has been issued either by the Malaysian government or other accounting bodies. This study examined the explanatory power of previously identified factors that could influence the pricing of audit services in the Malaysian setting. The factors examined included the size of company (measured either by total assets or turnover), complexity of company (measured by the number of the companies in the same group, i.e., holding, as well as subsidiaries), profitability, liquidity and leverage of auditees, audit opinion, size and location of the auditors, audit season, audit delay, and classification of the industries in which the auditees operate. Consistent with previous studies, the size and complexity of the audited companies were found to be the major determinants of audit fees.

ABSTRAK

Yuran juruaudit secara praktisnya ditentukan berasaskan persetujuan, perundingan dan tolak ansur antara syarikat yang diaudit dengan juruaudit. Tidak ada garis panduan khusus yang dikeluarkan sama ada oleh kerajaan atau badan perakaunan, selain daripada jadual penetapan bayaran yuran minimum seperti yang disarankan oleh Institut Akauntan Malaysia (IAM). Kajian ini cuba menerangkan keupayaan setiap faktor yang telah dikenalpasti dalam mempengaruhi penetapan yuran perkhidmatan juruaudit dalam persekitaran Malaysia. Faktor yang dikaji meliputi saiz syarikat (diukur melalui jumlah aset atau pusingganti), kompleksiti syarikat (diukur melalui bilangan syarikat subsidiari termasuk syarikat induk dalam kumpulan), keberuntungan, kecairan dan penggearan syarikat,

pendapat audit yang dikeluarkan, saiz juruaudit, lokasi juruaudit, musim audit, jangkamasa laporan audit dan juga pengauditan mengikut industri. Selari dengan kajian terdahulu, saiz dan kompleksiti syarikat yang diaudit merupakan faktor utama yang mempengaruhi penentuan yuran perkhidmatan juruaudit.

INTRODUCTION

The audit service industry plays an important role in a modern economy. Apart from assuring the public that the companies' annual reports are 'true and fair', the industry assumes a high profile because it generates billions of dollars in terms of revenue (IAB World Survey, 1987). A significant proportion of this revenue comes directly from audit fees charged by auditors to their clients. In part at least, this high profile has meant that auditing would come under increasing scrutiny by regulators and researchers. In Malaysia, an attempt by the Malaysian Institute of Accountants (MIA) to introduce a guideline for determining minimum audit fees was turned down by the Ministry of Finance due to pressure from lobbying groups. The schedule for determining minimum audit fees was intended to minimise disparity in fee structure, as implemented by other leading professionals in Malaysia, such as architects, lawyers, engineers and surveyors. The perplexity of the determination of audit fees is not beneficial to the profession or the business community. Therefore, there is a need for an explanatory model to help auditors as well as the clients better understand the basis of the fee-setting process.

Prior studies on audit fees have developed models to explain the level of audit fees paid by a company to external auditors. A majority of these studies have found auditee size, complexity and risks to be the major determinants of audit fees. Most studies have been carried out in developed countries including the United States (Simunic, 1980; Palmrose, 1986; Francis & Simon, 1987, among others), United Kingdom (Taylor & Baker, 1981; Taffler & Ramalingam, 1982; Chan, Ezzamel & Gwilliam, 1991; Che-Ahmad & Houghton, forthcoming), Australia (Francis, 1984; Francis & Stoke, 1986; Butterworth & Houghton, 1992), and Canada (Chung & Lindsay, 1988; Anderson & Zeghal, 1994). In addition, several studies have been carried out in developing countries such as Singapore (Low, Tan & Koh, 1990), India (Simon, Ramanan & Dugar, 1986) and New Zealand (Firth, 1985). The findings of the study will add to the body of knowledge in this field, especially as Malaysia is playing an increasingly important role in the international markets.

RESEARCH DESIGN

This study is a replication and extension of a previous model [see for example, Simunic (1980), Chung and Lindsay (1988), and Low, Tan and Koh (1990)]

applied on all Kuala Lumpur Stock Exchange (KLSE) listed companies that had accounting year end in 1991. Table 1 presents the procedure for the selection of companies.

Out of the 274 companies, 208 companies (75.9%) were audited by the Big Eight auditors (now known as the Big Six) and the rest were audited by non-Big Eight auditors. Data from publicly available published corporate annual reports were analysed. The model for audit fee is constructed in the following form:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_nX_n + e$$

where Y = Log audit fees
a, b₁, b₂, ... b_n = Constant term and Regression coefficients
X₁, X₂, ... X_n = Explanatory variables
e = Error term assumed to be normally distributed with constant variance.

The variables used in the model are briefly discussed below.

Table 1
Company Selection

Total listed companies as of 31st December 1991	292
Less : Companies with annual reports for the period less/more than 12 months	(11)
	281
Less : Newly listed companies	(3)
	278
Less : Company which merged with another listed company	(1)
	277
Less : Company under liquidation	(1)
Total companies in the study	276
Less : Companies deleted due to undue influence on regression estimate	(2)
Final companies selected	274

Audit Fee

The dependent variable for the model is audit fee. As in a number of other countries (e.g., Australia and United Kingdom), data on audit fees are publicly available by virtue of legal requirement (i.e., the Malaysian Companies Act, 1965) which has substantial penalties for inaccuracies or non-disclosure (Che-Ahmad and Houghton, forthcoming).

Auditee Size

Auditee size is by far the most significant explanatory variable consistently found in the literature (for example, Simunic, 1980; Francis, 1984; Firth, 1985; Palmrose, 1986; Chung & Lindsay, 1988; Low, Tan & Koh, 1990; Anderson & Zeghal, 1994). There are several indicators of company size such as total assets and turnovers. Chan et al. (1991) argues that turnover is likely to be a better explanatory variable than total assets since the total asset measure may vary significantly even in the same industry due to the age profile of assets or accounting policy choice. Both variables were used in this study and tested one at a time. As in most previous studies (for example, Simunic, 1980; Francis, 1984; Firth, 1985; Palmrose, 1986; Chung & Lindsay, 1988; Low, Tan & Koh, 1990; Anderson & Zeghal, 1994), a logarithmic transformation was used for both variables to measure size.

Complexity

Consistent with previous studies (for example, Taylor & Baker, 1981), the number of companies in the auditee's group (holding company plus subsidiaries) was used as a proxy of auditee complexity. This continuous variable represents the auditee's legal/organizational dispersion. As with size, this relationship is not linear, and as complexity increases, audit fees will increase at a decreasing rate (Butterworth & Houghton, 1992).

Profitability, Liquidity, and Leverage

These measures are commonly used ratios in the evaluation of a firm's profitability, liquidity and financial stability. All of these variables relate closely to audit risks (i.e., the risk of giving inappropriate opinion on financial information that is materially misstated), and the higher the risks, the higher the audit fees since audit work which has been carried out will also increase (Firth, 1985). Profitability is measured by the company's return on earning (ROE) while the ratio of cash to current liabilities was used to measure the liquidity of the auditees. These variables were expected to have a

negative relationship with audit fees. Leverage was measured by the ratio of long term debt (excluding deferred tax) to total equity.

Audit Opinion

This is another measure that relates to audit risks (Simunic, 1980). It was expected that the presence of qualified opinion would increase audit risks, and hence audit fees. A dummy variable was used to measure risks, and took the value of 1 if the auditee received qualified opinion, and 0 if the report was clean.

Auditor Size

Auditor size has been shown to affect the level of audit fees by Simunic (1980), Francis (1984), Palmrose (1986), and Simon and Francis (1988), based on a Big Eight/non-Big Eight dichotomy. On the contrary, Simon (1985), Firth (1985), Chung and Lindsay (1988), and Che-Ahmad and Houghton (forthcoming), however, found auditor size not significant, implying either that the market was competitive or that there was no product differentiation between the two groups. Consistent with previous studies, auditor size was measured using a dummy variable coded one (1) if the auditor was one of the Big Six¹ or zero (0) otherwise.

Busy Season, Auditor's Location, Audit Delay and Industry

Other explanatory variables which were found to have had an effect on audit fees were 'busy season', auditor's location and audit delay. Rubin (1988) showed that the variable 'busy season' was significant in a sample of the public sector market. However, Francis (1984) found it not to be so in the private sector. In this study, 'busy season' was defined as the period between 1 December and 31 March. A dummy variable was used to classify the season by examining the accounting year-end disclosed in the annual reports. Similarly, it was hypothesized that auditor firms based in big cities (i.e., coded 1 if the auditor's office was in Kuala Lumpur, Penang, Ipoh or Johor Bahru and 0 otherwise) charged higher fees than those in other locations due to higher audit staff costs. Audit delay was defined as the number of weeks between the end of the auditee's financial year and the date of its audit report. This variable could be expected to be negative or positive, depending on the nature of the delay. Longer lags might hint that there were audit problems requiring additional audit work, and hence additional costs, while shorter lags might indicate tight reporting deadlines (Chan et al., 1991). The industry in which the company operated might also explain the variations in audit fees due to the need for specialized audit

and differences in risks (Palmrose, 1986). In this study, the companies were divided into eight (8) industries based on the KLSE classification published in the KLSE Annual Companies Handbook (1991). There were 154 industrial, thirty-two (32) finance, three (3) hotel, twenty-eight (28) properties, three (3) trusts, thirteen (13) tins, twenty (20) oil palms and twenty-three (23) rubbers.

DESCRIPTIVE RESULTS

Table 2 presents the mean, minimum, maximum, skewness and kurtosis for untransformed data. Certain variables showed a marked degree of skewness and kurtosis. This was due to differences in company characteristics in terms of size, industry, diversification, risk and the presence of outliers² (Lin & Yin, 1990).

Table 3 exhibits a matrix of simple correlations. As expected, audit fee was highly correlated with surrogates for auditee size (i.e., total assets and turnover) and complexity (number of subsidiaries plus one). Certain explanatory variables especially those that proxy for auditee size was highly correlated with other independent variables. This could have been due to multicollinearity. These variables were then adjusted using logarithmic transformations.

REGRESSION ANALYSIS

Table 4 shows the final results of the regression equation after excluding the variables that did not yield statistically significant regression coefficients³. Overall, a good linear fit was achieved in the regression estimate with an adjusted R^2 of .82550. Furthermore, the regression assumptions of normally distributed residuals and constant variance were not violated^{4,5}.

Complexity turned out to be the most significant determinant of audit fees followed closely by auditee size (as measured by log turnovers)^{6,7}. Leverage was also positively associated with audit fee. This variable could be linked quite directly to the agency theory which predicts that a higher level of leverage (i.e., higher agency conflicts) would lead to more extensive and therefore more costly audit (Francis & Wilson, 1988). Profitability was (weakly) significant but the sign was not in the expected direction. One would have expected high profitability to result in reduced audit fees due to less risks. One plausible reason is the ability of the company to bear costs. Firth (1985: 27) attributes this to the understanding between the auditor and the auditee "on the basis that audit firms may charge low fees when their client is going through difficult financial times, and correspondingly will charge higher fees when economic circumstances are good." Audit delay

Table 2
Descriptive Statistics of Dependent and Explanatory Variables (n=276)

Variable	Mean	Std. Deviation	Kurtosis	Skewness	Min.	Max.
Audit Fees (RM 000)	133.461	309.108	121.81	9.67	3.0	4,300.0
Size						
Total Assets (RM000)	876,480.573	3,932,921.192	200.67	13.36	343.0	61,000,100.0
Turnover (RM000)	295,306.213	572,143.855	30.79	4.68	203.0	5,574,600.0
Subsidiaries plus one	16.423	23.13	22.63	3.98	1	207
ROE	0.10	0.81	181.00	-11.07	-11.95	5.14
Leverage	1.94	8.11	187.96	12.77	-5.90	124
Liquidity	6.50	83.83	261.91	16.05	0.00	1,373.50
Audit opinion	0.076	0.266	8.40	3.21	0	1
Auditor size	0.754	0.432	-0.603	-184	0	1
Season	0.65	0.48	-1.61	-0.64	0	1
Auditor's location	0.93	0.26	9.06	-3.32	0	1
Audit delay	16.27	5.80	6.74	1.46	5	54
Industry	2.74	2.47	-0.32	1.12	1	8

Table 3
Pearson Product Moment Correlation Coefficients (n=276)

	Total Assets	Turnover	Subsidiaries plus one	ROE	Leverage	Liquidity	Auditor	Opinion	Season	Location	Audit Delay	Industry
Audit Fee	0.844*	0.687*	0.734*	0.015	0.500	0.032	0.055	-0.025	-0.109**	0.079	-0.056	-0.104**
Total Assets		0.642*	0.549*	0.021	0.059	-0.016	0.074	-0.043	-0.035	0.052	-0.094	-0.079
Turnover			0.542*	0.138	-0.005	0.087	0.034	-0.089	-0.022	0.104**	0.136*	-0.244*
Subsidiaries plus one				-0.027	0.041	-0.011	0.054	0.026	-0.074	0.112**	0.078	0.751*
ROE					-0.809*	0.024	0.125	-0.273*	0.076	-0.002	-0.473*	-0.043
Leverage						-0.001	-0.116	0.169*	0.056	0.047	0.346*	-0.093
Liquidity							0.020	-0.019	0.031	0.017	-0.042	-0.042
Auditor								0.058	0.022	0.067	-0.244*	-0.039
Opinion									0.009	0.080	0.431*	-0.025
Season										0.089	-0.103**	-0.064
Location											0.006	-0.150
Audit Delay												0.045

* Significant at $\alpha=0.05$ ** Significant at $\alpha=0.10$

Table 4
Results of Ordinary Least Square Regression (n=274)

Independent Variables	Expected Sign	Coefficient	Standard Error	t-test Level	Significance
Log turnover	+	0.323761	0.020952	15.452	0.0000*
Log subsidiaries +1	+	0.492159	0.031047	15.852	0.0000*
Leverage	+	0.009514	0.002843	3.347	0.0009*
Audit Delay	+/-	-0.004804	0.002565	-1.873	0.0622**
ROE	-	0.049524	0.029703	1.667	0.0967**
Constant		1.828040	0.162036	11.282	0.0000*

Adjusted R2 = 0.82550 F Ratio = 249.82926 Significant = 0.0000

* Significant at a = 0.05 ** Significant at a = 0.10

was another variable that was (weakly) significant. The negative coefficient might have been due to tight reporting deadlines as discussed earlier. Other variables such as liquidity, audit opinion, auditor size, audit season, auditor's location and the industry in which the auditee operated were not as significant as expected. It can be concluded that these explanatory variables are not important factors in determining audit fees (at least of KLSE listed companies).

The results of separate regressions within industries suggested that except for size and complexity, the importance of other explanatory variables differed for different industries. This might be due to the need for specialized audit and differences in risks as indicated earlier. Table 5 presents the details of the regressions.

CONCLUDING REMARKS

The study examined factors affecting audit fees for Kuala Lumpur Stock Exchange (KLSE) listed companies based on the 1991 corporate annual reports. The results conform with earlier audit fees models developed in other countries. Company size and complexity were the most important factors, consistently detected in all tests, in explaining the variation in audit fees. Risk as measured by leverage was also a significant determinant. Other significant variables, albeit weak, are audit delay and profitability. The latter was found to have had a positive association with audit fees, which could be explained by the willingness of the company to bear costs.

The predictive model for audit fees used in this study may be of interest to various users such as external auditors, company directors, internal accountants, shareholders and others interested in assessing the audit fee charged to audited companies. While the MIA guideline utilises only one variable (i.e., the size factor) in ascertaining minimum audit fees, this model presented several other factors that are also important in audit fee determination. However, the selection of potential variables for the Ordinary Least Square Regression (OLS) was based on economic considerations as well as simplicity in application. Many variables that were non-observable or non-measurable such as auditor's non-audit services and behavioural factors are potentially relevant for explaining the audit fee variation and could be looked into in future research.

Table 5
Results of Ordinary Square Regression within Industries*

Independent Variables	Industrial (n=152)	Finance (n=32)	Properties (n=28)	Oil Palm & Rubber (n=43)
Log turnover	#	#	#	#
Log subsidiaries +1	#	n.s.	#	#
ROE	n.s.	n.s.	n.s.	n.s.
Liquidity	n.s.	n.s.	n.s.	n.s.
Leverage	n.s.	n.s.	n.s.	n.s.
Audit Opinion	n.s.	n.s.	n.s.	#
Auditor Size	#	n.s.	n.s.	n.s.
Busy Season	n.s.	n.s.	n.s.	n.s.
Auditor's Location	n.s.	n.s.	n.s.	n.s.
Audit Delay	n.s.	n.s.	n.s.	#
Constant	#	n.s.	#	#
Adjusted R ²	0.75665	0.78607	0.85718	0.94755
F Ratio	150.24331	107.55597	79.02498	181.67058
Significant	0.0000	0.0000	0.0000	0.0000

* Oil palm and Rubber were combined due to their similarities and lack of data. Another sector (i.e., Hotels) was not tested due to lack of data (n=3).

= significant at $\alpha = 0.05$

n.s. = not significant

Notes

1. These firms are Price Waterhouse, Arthur Andersen/Hanafiah Raslan Mohamad, Ernst and Young, Coopers and Lybrand, KPMG Peat Marwick/Desa Megat, and Kassim Chan and Co./Deloitte and Touche.
2. Two companies were subsequently dropped from the sample due to undue influence on the regression estimates (see Table 1).
3. The result of the analysis with all explanatory variables (excluding log total assets) indicates that all signs of the coefficients were in the right direction except for ROE.
4. The test of constructing and examining histograms of the residuals and normal probability plots of the observed and expected distribution of the residuals do not depart from the assumptions of normality and equality of variance.
5. The variance inflation factor (VIF) which ranged from 1.310 to 3.534 showed that multicollinearity was not a serious problem.
6. A separate analysis was carried out where log audit fees were regressed on log total assets and the remaining non-size explanatory variables. The result was quite similar, with size and complexity as the most significant predictors. Other variables that were also significant included industry, liquidity and audit delay. The differences in the results when the alternate measure of auditee size was used remain unexplained.
7. The test with the presence of outliers was also conducted and the result was similar, but the adjusted R^2 was slightly lower.

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