



Effective Factors on Determination of Audit Fees in Iran

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Abstract

The aim of the study is to determine the effective factors on determination of audit fees in Iran. The theoretical framework was designed based on the literature and hypotheses for the study were formulated. The data was collected by distributing structured 50 items in Tehran stock exchange. Data collected were sorted out and keyed in into ARDL. The data were analyzed using descriptive and inferential statistics to answer the research questions. The result of the analyses showed that there was significant relationship between auditing fees and its predictors. Together the independent variables explained 90.2% of the variance in the dependent variables. The remaining 9.8% was due to unidentified variables. In relation to that, the study had contributed some knowledge about the understanding of auditing fees. For future research, it is recommended that other than the above variables might influence audit fees perhaps with a bigger samples and wider scope.

Keywords: Auditing fees, auditing quality, Tehran stock exchange, auto regressive distributed lag.

Introduction

Since the early work on the pricing of audit services by Simunic¹, substantial progress has been made in understanding the factors which determine audit fees. In Iran, due to the limitations on publicly available data for audit fees, much of the relevant empirical research for private sector firms has been based on surveys. The literature has traditionally contemplated two aspects of the audit independence: the mental attitude of the auditor characterized by the integrity and the objective approach to the audit process (named in fact independence). Some authors^{2, 3, 4} point out that mental independence requires a freedom from personal interest, bias or susceptibility to excessive pressure. However, since this mental process is unobservable and auditors also have incentives to violate their independence through satisfying their clients so as to maintain the economic bonding to the client^{5, 6}, there is a need for the auditors to be perceived as independent (named independence in appearance) from the management team who prepares the inimical statements.

Now one of the main conflicts of the auditing profession is determine the minimum rate of audit fees and violation rates in some institutions. In fact the price per service or goods is price that consumer are willing to pay for its use. However, in practice the formula no performance in countries that are lack of competitive economy and price determines or monopolies or at least a living wage. Now one of the main conflicts of the auditing profession is determine the minimum rate of audit fees and violation rates in some institutions. In fact the price per service or goods is price that consumer are willing to pay for its use.

Table -1
Audit organization fees 2009 in Iran

Audit Category	Hourly fees (Rials)		Percent increase
	2008	2009	
Audit Manager	83000	91500	10
Supervisor	79000	87000	10
Senior Auditor	70000	77000	11
Auditor	50000	60000	20
Assist the auditor	16000	19500	21

The remuneration of one hour or one day work various classes of auditor (Manager, supervisor, senior auditor and senior auditor) the internal parts of the country or in different countries is different due to the fame or expertise the accounting institution or auditor. Because in most countries including in Iran do not work individually independent auditors, but have formed auditing institute so auditing remuneration of that be included in contracts is more than money that audit institute deals to supervisors and their employees. Because part of it for supply public spending Institute and pay off their rights at during the audit Institute auditing work are not doing sufficiently and can be put aside interests of partners. Although basis determination of remuneration is performed according estimated work hours that calculation and is mentioned at contract auditing but often with the auditor agreed and business owner, that in many cases is not clear amount of hours or time required for do investigation, is determined the relevant contract. Economic council all year to proposed ministry affairs economic and finance defines the remuneration audit organization for accounting company has budget row state corporations), that profile three remuneration year 1388 shows audit organization. If remuneration time one hundred companies superior Britain's top 250 Company also one

hundred-institute America's top Accounting we compare with above table will achieve to tragic results (table 1, 2) .

Table -2
Hourly fees for world large institutions in England 2008
(Amount: £)

Company Name	Hourly fees in 100 top companies	Average Hourly fees in 250 top companies
Deloitte	831	1024
PWC	738	1121
Ernst & Yong	1089	1299
KPMG	538	2633

Source: 2009 Audit Fee Survey FTSE-100 & FTSE-250

Economic council is trustee the issue policymaking is considered in commodity prices and government products and services but, since the accounting remuneration the organization as "Basic Remuneration" For private sector auditors it runs unfortunately many accounting firms and official auditors' individual employed do work below this price. While the based regulations and criteria audit organization manager is one who has, about ten to twelve years experience working full-time and active audit. In addition, head of audit should be approximately eight to ten years experience in audit work. Let us not forget given that official accountant should be possessing at least bachelor of accounting or related fields so minimum age of audit manager will be 34 years and 32 years audit supervisor.

Previous Studies: In practice, various factors can impact the pricing of audit fees. Anecdotal information provided by auditing practitioners confirms the fundamental role played by the number of direct labor hours expended on the audit. Other important factors typically identified by practitioners include the number of site visits required to conduct the audit, the quality of the personnel required to assess the relevant items, the quality of the client, the types of items requiring auditing, the level and quality of internal auditing conducted by the client, and the number of years the auditing firm has been associated with the client. Evaluation of the relative importance of each of these factors has attracted considerable attention in the auditing literature. Whisenant *et. al.*⁷ use a simultaneous equation model and show empirically that audit fees and non-audit fees are simultaneously determined. They find a positive relationship between audit fees and non-audit fees when *OLS* is used, but they find no relationship when they use a simultaneous specification of the fee model applying two-stage least squares (2SLS). In the same vein, Hay, Knechel and Li⁸ document that in New Zealand *OLS* regression results show a positive association between audit and non-audit fees, but they find no relationship between audit and non-audit fees using a simultaneous-equation model applying 2SLS, suggesting that audit and non-audit services are jointly determined.

Wallace⁹ the inverse relationship achieved between the cost of internal audit and independent audit fees in research on 32 large American companies. Cohen and Hanno¹⁰ concluded that stronger corporate governance enable auditors to reduce test content and investigation their own. Tsui *et. al.*¹¹ calculated the relationship between checksum mechanisms and internal oversight board and its effect on fees. They studied 650 Hong Kong companies during the three years 1996-1994 concluded that existence of an independent the board of directors significantly is related with low audit commission and this shows company the board of directors as a mechanism of within the organization governance, the effect is significant the determination of audit fees. Bedard and John Stone¹² have studied part of its research about the relationship between risk navigation system with planning, pricing, independent auditors, observed despite the inappropriate behavior in financial reporting, that was intended as corporate Governance Risk, audit working hours and increased the fee rate in other words leading to increased risk (There are appropriate mechanisms) increased audit fees. Hay *et. al.*¹³ showed in a study of over 130 accepted companies the New Zealand stock exchange during 1995 to 2005 that controls and stronger corporate governance positively is associated with demand for independent auditing services. The overall pattern the results of their research will follow of the theory that positive relationship and a complex is among the various elements of control, which this is because the relationship between corporate stakeholders, nature of the risks associated and access controls.

In Iran, Rahbari¹⁴ during their study has been Evaluation to examine the extent of shareholder rights in accepted companies in Tehran stock exchange. Finding of this study suggests that has not been observed components of shareholders' rights general and has many shortcomings in this field. Hassas and Alavi¹⁵ in research studied the relationship between resources spent on for internal audit and independent auditing expenses. The purpose of their research was identify the existence of internal audit at reduction in audit fees of independent business and survey usefulness of the internal auditors as replace the independent auditors. The results showed independent audit fees was related to the complexity of enterprise. So that increased resources have been spent for internal audit firm has led reduce the audit fees and the reduction has been further in economic terms, the internal auditors were reported to higher levels of financial and administrative assistant.

The present research explores from macro perspective an alternative way in which the audit fees could be explored employing time series data. For that purpose, we use the bounds testing (or ARDL) approach to co-integration proposed by Pesaran¹⁶ to test the sources of audit fees using data over the period 1997–2007. The ARDL approach to co-integration has some econometric advantages, which outlined briefly in the following section. Finally, we apply it taking as a benchmark previously utilized to other similar studies in order to sort out whether the results reported there reflect a spurious correlation

or a genuine relationship between audit fees and the variables in question. This contributes to a new methodology in the audit fees literature. Next section starts with discussing the model and the methodology. Then in next section, we describe the empirical results of unit root tests, the F test, ARDL co-integration analysis, diagnostic and stability tests and dynamic forecasts for dependent variable and last section summarizes the results and conclusions.

Material and Methods

The model proposed here is based on the model adopted of audit fees that has been previously utilized to other similar studies. Because the available literature on audit fees relies on cross-section analysis, there is no evidence on the time series behavior of audit fees. This study addresses this issue by using a 1997-2007 sample composed of the 80 largest market capitalization traded Iran firm. The first part of this section describes the proxies used to measure dependable variable, independent variables.

Dependent variable: For conducting the analysis in the present study, one dependent variable is taken into account, namely audit fees. Presently, there is no specific theoretical perspective or adequate empirical evidence that supports the superiority of any specific proxy measure over the others. It is, therefore, decided that for the purposes of the present study, the commonly used proxy measures will be applied.

Independent variables: based on previously utilized to other similar studies, the present study includes five independent variables: i. ARQ, indicator of value added efficiency of audit report quality, ii. AFS, indicator of value added efficiency of Audit Firm Size, iii. RCB, indicator of value added efficiency

of reputation and corporate brand, iv. ATB, indicator of value added efficiency of audit time budget, v. AFIS, indicator of value added efficiency of audit firm industry specialization.

Therefore, in this research, model is as following:

$$AF = ARQ + AFS + RCB + ATB + AFIS \quad (1)$$

In terms of methodology, the paper adopts the recently developed autoregressive distributed lag (ARDL) framework by Pesaran¹⁷ to establish the direction of causation between variables. Recent advances in accounting literature dictate that the long run relation in equation 1 should incorporate the short-run dynamic adjustment process. It is possible to achieve this aim by expressing equation 1 in an error correction model as suggested by Engle and Granger¹⁸.

This approach is also known as Auto Regressive Distributed Lag (ARDL) that combines Engle and Granger¹⁸ two steps into one by replacing ε_{t-1} in equation 2 with its equivalent from equation 1. ε_{t-1} is substituted by linear combination of the lagged variables as in equation 3.

The ARDL approach involves two steps for estimating the long-run relationship. The bound testing procedure is based on F-statistics and is the first step of the ARDL co-integration method. At the second step of the ARDL co-integration procedure, it is also possible to obtain the ARDL representation of the Error Correction Model (ECM). To estimate the speed with which the dependent variable adjusts to independent variables within the bounds testing approach, following Pesaran *et. al.*¹⁶ the lagged level variables in equation 3 are replaced by EC_{t-1} as in equation 4:

$$\Delta AF_{t,j} = b_0 + \sum_{i=1}^{m1} b_{1i,j} \Delta AF_{t-i,j} + \sum_{i=0}^{m2} b_{2i,j} \Delta ARQ_{t-i,j} + \sum_{i=0}^{m3} b_{3i,j} \Delta AFS_{t-i,j} + \sum_{i=0}^{m4} b_{4i,j} \Delta RCB_{t-i,j} \quad (2)$$

$$+ \sum_{i=0}^{m5} b_{5i,j} \Delta ATB_{t-i,j} + \sum_{i=0}^{m6} b_{6i,j} \Delta AFIS_{t-i,j} + \gamma e_{t-1,j} + \mu_t$$

$$\Delta AF_{t,j} = c_0 + \sum_{i=1}^{n1} c_{1i,j} \Delta AF_{t-i,j} + \sum_{i=0}^{n2} c_{2i,j} \Delta ARQ_{t-i,j} + \sum_{i=0}^{n3} c_{3i,j} \Delta AFS_{t-i,j} + \sum_{i=0}^{n4} c_{4i,j} \Delta RCB_{t-i,j} + \sum_{i=0}^{n5} c_{5i,j} \Delta ATB_{t-i,j} \quad (3)$$

$$+ \sum_{i=0}^{n6} c_{6i,j} \Delta AFIS_{t-i,j} + c_7 AF_{t-1,j} + c_8 ARQ_{t-1,j} + c_9 AFS_{t-1,j} + c_{10} RCB_{t-1,j} + c_{11} ATB_{t-1,j} + c_{12} AFIS_{t-1,j} + \theta_t$$

$$\Delta AF_{t,j} = \alpha_0 + \sum_{i=1}^{k1} \alpha_{1i,j} \Delta AF_{t-i,j} + \sum_{i=0}^{k2} \alpha_{2i,j} \Delta ARQ_{t-i,j} + \sum_{i=0}^{k3} \alpha_{3i,j} \Delta AFS_{t-i,j} + \sum_{i=0}^{k4} \alpha_{4i,j} \Delta RCB_{t-i,j} \quad (4)$$

$$+ \sum_{i=0}^{k5} \alpha_{5i,j} \Delta ATB_{t-i,j} + \sum_{i=0}^{k6} \alpha_{6i,j} \Delta AFIS_{t-i,j} + \lambda EC_{t-1,j} + \mu_t$$

Cumulative Sum (CUSUM) and Cumulative Sum of Square (CUSUMSQ): Brown, Durbin and Evans¹⁹ used recursive residuals to test for structural change over time. The null hypothesis is as following:

$$H_0 : \left\{ \begin{array}{l} \beta_1 = \beta_2 = \dots = \beta_T = \beta \\ \sigma_1^2 = \sigma_2^2 = \dots = \sigma_T^2 = \sigma^2 \end{array} \right\} \quad (10)$$

Where β_1 is the vector of coefficients in period t and σ_t^2 is the disturbance variance for that period the authors suggest a pair of tests. The first in the CUSUM test, which computes as following:

$$W_r = \sum_{t=k+1}^{\gamma} \omega_t / \delta_{\omega} \quad \text{for } \gamma = k+1, \dots, T \quad (11)$$

Where δ_{ω}^2 is an estimate of the variance of the ω_t 's, given below. W_r is a cumulative sum and should be plotted against γ . Under the null, $E(W_r) = 0$. But, if there is a structural break, W_r will tend to diverge from the horizontal line.

Note that the CUSUM and CUSUMSQ are quite general tests for structural change in that they do not require a prior determination of where the structural break takes place. If this is known, the Chow-test will be more powerful. However, if this break is not known, the CUSUM and CUSUMSQ are more appropriate. If the diagram presented were within the boundaries, zero hypotheses are accepted which is based on lack of structural break and if the diagram goes out of the

boundaries (it means that if dealt to them), zero hypothesis is rejected which is based on lack of structural break and the presence of structural break is accepted²⁰. CUSUM statistics is useful to find systematic changes in long term coefficients of regression and CUSUMSQ statistics is helpful when deviation from regression coefficients stability is randomized and occasional (short term).

Results and Discussion

For a number of variables included in the study a priori expectations might be of stationary. Prior to the testing of co-integration, we conclude a test of order of integration for each variable using Augmented Dickey Fuller (ADF)²¹, Phillips Perron (P-P)²². Even though the ARDL framework does not require pre-testing variables to be done, the unit root test could convince us whether or not the ARDL model should be used.

Table 3 shows that half variables are non stationary and will be stationary with once making difference. Therefore, AF, AFS and RTB variables are accumulation of degree zero (I (0)) and other variables are one accumulated degree (I (1)).

The estimated coefficients of the long-run relationship and Error Correction Mode (ECM) are displayed in table 4.

Table 3
Result of unit root tests by ADF and Philips – Perron

variables	(ADF) test	Philips – Perron test	result
AF	ADF(1) = -3.24	-3.61	stationary
5% Critical Value	-2.94	-2.94	
ARQ	ADF(0) = -1.19	-1.84	Non Stationary
5% Critical Value	-2.94	-2.94	
AFS	ADF(1) = -4.21	-4.54	stationary
5% Critical Value	-2.94	-2.94	
RCB	ADF(0) = -1.09	-1.98	Non Stationary
5% Critical Value	-2.94	-2.94	
RTB	ADF(0) = -3.18	-3.29	Stationary
5% Critical Value	-2.94	-2.94	
AFIS	ADF(1) = -2.25	-2.41	Non stationary
5% Critical Value	-2.94	-2.94	

Table -4
Estimated Long-run and ECM Coefficients using ARDL (1,0,0,0,0) Model (AF as dependent variable)

Estimated long-run coefficients			Estimated ECM coefficients		
Regressor	Coefficient	t-Ratio(prob)	Regressor	Coefficient	t-Ratio(prob)
ARQ	0.38	3.01[008]	DARQ	0.35	4.24[005]
AFS	0.31	3.54[007]	DAFS	0.28	4.65[001]
RCB	0.22	2.85[016]	DRCB	0.19	3.42[007]
ATB	0.12	4.17[000]	DATB	0.09	4.28[004]
AFIS	0.26	2.05[024]	DAFIS	0.24	3.64[006]
C	6.24	3.34[006]	DC	3.26	4.84[000]
			ECM(-1)	-0.52	-7.18[000]

Table 4 shows that the expected negative sign of the ECM is highly significant the estimated coefficient of the ECM (-1) is equal to -0.52, suggesting that deviation from the long-term audit fees is corrected by 0.52 percent over the following year. This means that the adjustment takes place relatively quickly. Also, analyzing the stability of the long-run coefficients together with the short run dynamics, the cumulative sum (CUSUM) and the cumulative sum of squares (CUSUMSQ) are applied. According to Pesaran and Shin¹⁷ the stability of the

estimated coefficient of the error correction model should also be empirically investigated. A graphical representation of CUSUM and CUSUMSQ are shown in figures (1, 2).

Figures (3, 4) represent the forecasting errors and the plots of the actual and forecast values. The graphical evidence presented in Figures (3, 4) indicates the estimated model tracks the historical data very well.

Plot of Cumulative Sum of Recursive Residuals

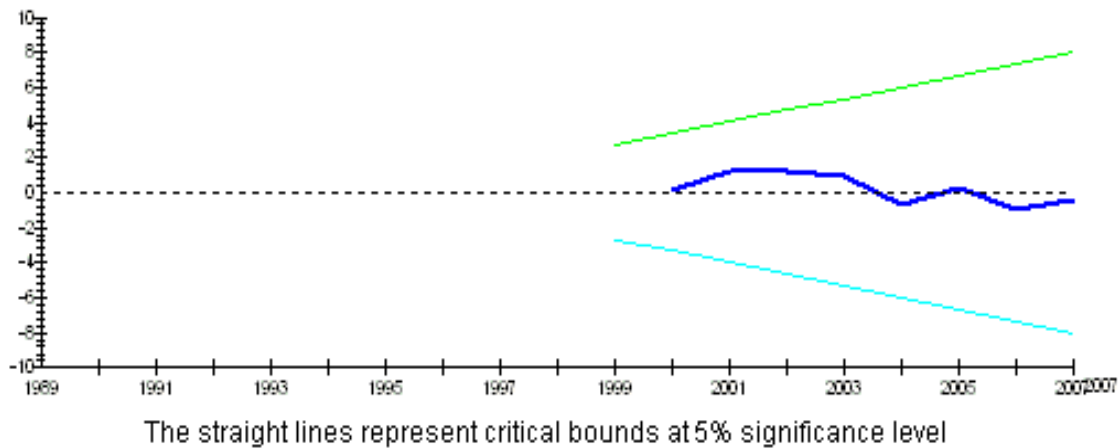


Figure-1
 Plots of CUSUM statistics for coefficients stability tests

Plot of Cumulative Sum of Squares of Recursive Residuals

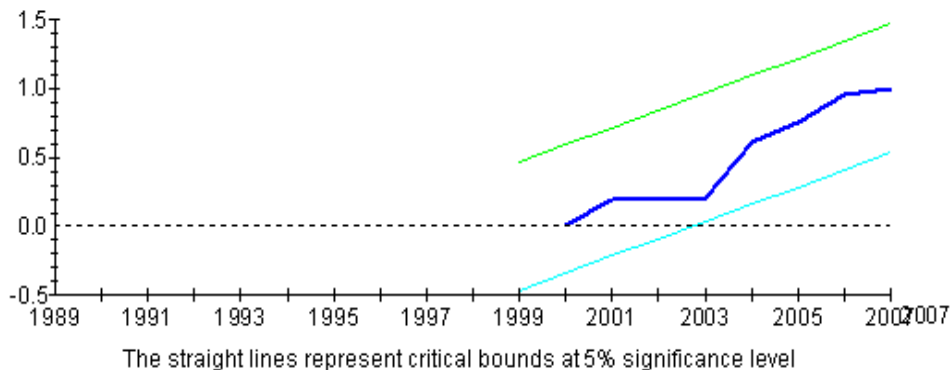


Figure-2
 Plots of CUSUMQ statistics for coefficients stability tests

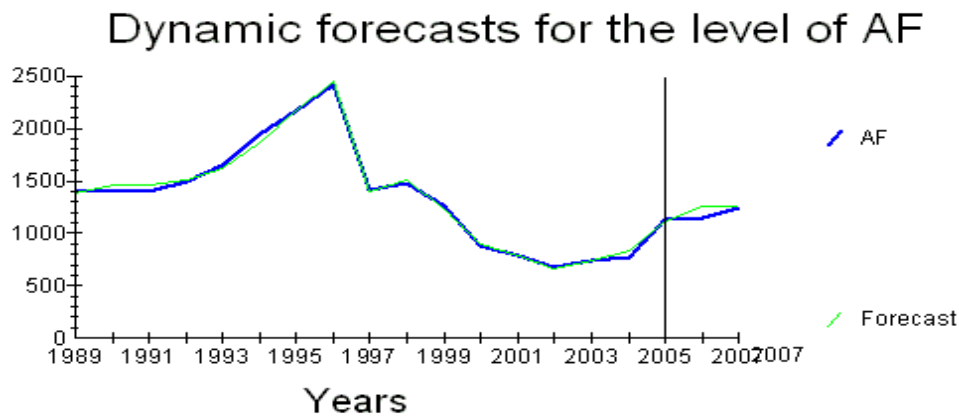


Figure-3
 Plots of the actual and forecasted values for the level of AF

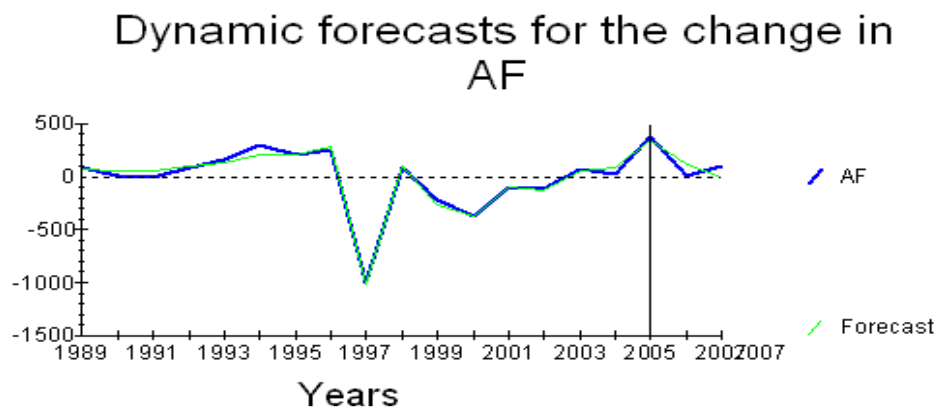


Figure-4
 Plots of the actual and forecasted values for the level change of AF

Conclusion

This study has extended previous work on audit fees by examining a data set derived from a 1997-2007 sample of Iran firms, which were publicly traded on the stock exchange of Iran. The principal purpose of the present study is to investigate the association between the efficiency of audit fees base (audit quality, audit firm size, reputation and corporate brand, Audit time budget and audit firm industry specialization). The availability of time series as well as cross section information in the data set permits lagged audit fee information to be incorporated in the statistical analysis. Using the level of audit fees as the dependent variable, for Iran firms lagged audit fees are found to have the most significant coefficient of all variables included in the regression. Empirical findings, based on linear multiple regression analysis, indicates the association between the efficiency of audit fees and its determinants. The results at relationship between audit fees and its determinants confirm the previously utilized to other similar studies but our results are more robust. Previous studies on audit fees have typically taken a 'cost-plus' interpretation of audit fee determination: audit fees are primarily determined by auditing

effort, with appropriate adjustment for specific factors that can affect effort such as client complexity and the provision of other client accounting services. Because auditing effort is not usually observable, regression specifications are motivated by using proxy variables, almost always related to client size, such as total assets.

The results of this study showed that audit report quality has a positive and significant effect on audit fees therefore; quality is most important effective factors in audit fees. However, be recommended that Iranian society of CPAs and Tehran stock exchange should be perform independent audit quality for evaluation by stronger tools and resources and after evaluation applied, it should be presented Guidelines and policies to promote increased quality of independent auditing. Another effective factors in audit fees is audit firm industry specialization therefore audit institutes should can be rise their professional by trained in a particular industry because they can be rise their audit activities in the target industry by high efficiency and effectiveness.

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