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Evaluation of Effective Factors on Auditing Fees

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The final results of this research show a meaningful relationship between the firm's size (scale), tenure (ownership) and consultancy services with the auditing fee.

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Evaluation of Effective Factors on Auditing Fees

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Abstract - As one of the biggest challenges of auditing firms is to determine the auditing fees, evaluating the factors effective on their remunerations is of high importance.

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I. Research Hypotheses

Following hypotheses are compiled to answer the questions under consideration:

a) There is a meaningful relationship between the consultancy services and auditing fee.
b) There is a meaningful relationship between the firm's size and auditing fee.
c) There is a meaningful relationship between the tenure (ownership) and auditing fee.
d) There is a meaningful relationship between the firm's size, ownership (tenure) and consultancy services with auditing fee.

II. Statistical Population

The statistical population of this research is companies holding stocks in Tehran's Stock Exchange Hall.

The statistical population is selected by systematic omission and according to the following circumstances:

a) These companies should have held stocks in Tehran's Stock Exchange at least since 1999.
b) They should not be any financial institutions or investing companies.
c) The selected companies should not have a change in their fiscal year between 1999 and 2008.
d) The companies should have been engaged in dealing during the period they are being processed.

III. Methodology

This research concerning classification is on the basis of purpose and its type is applicable research and inferential. Also, in this study, historical data are used to test the hypotheses; therefore, it is a type of quasi-experimental research. After calculating the independent and dependent variables and pre-processed data, research hypotheses based on linear regression analysis using SPSS software to be tested.

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a) Independent Variants

i. *Firm's size*

The firm's size is measured in different ways, which here it is scaled by sale revenue. It is a main variant in explaining auditing fee changes in regression models that is shown by (sale).

ii. *Ownership*

According to representative theory, Chan et al. believe that the firm's different ownerships must conform to a broader and a better-quality auditing that is necessary for the least regulations. The ownership control is mostly considered when the sum of the subscribed and unsubscribed capital stocks exceeds the 5% of the published common stock. As there is no preferred stock in Iran, in this paper ownership (tenure) is defined as: in sampling, the companies whose stock-holders possess 5% of the stocks are qualitatively shown by 1 and those that have a holder of less than 5% are shown by 0. Ownership variant is shown by (TOTsh) in this research.

iii. *Consultancy Services*

Although there is a threat in giving non-auditing services (consulting)to companies being audited and to the auditor's independence, auditing companies earn a large amount of their income by giving services to other companies. This income is an excess to the legal remuneration fees being received. However, it is assumed that the companies being audited may benefit from giving auditing services and fees out of information overlap. As Deburg et al believe "the total amount of the expenses of a company who provides services of both auditing and non-auditing is less than the expenses spent by one of the services of another auditing company." The consultancy fee paid to the auditor is shown by (cfee).

b) Dependent Variant

The auditing fee is shown by (afee). The auditors provide services for the companies in return for their fees. There is a committee of non-pensioned members of the board of directors far from the auditing system of the firm. In their negotiation for auditing fees, auditors accept distinct responsibilities of the financial invoices effecting on revealing. The company's commitments are determined administrated in accordance with the regulations. These regulations are so important for the auditors as they highlight their responsibilities for the financial issues. This paper aims to evaluate the effect of above-mentioned factors on auditing fees when it is hard to determine. Here the

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required data which are as follows are investigated: the firm's size (selling income), tenure (ownership), consultancy fee, auditing fee of the 4 fiscal years of 64 companies.

As the fee of all companies is easy to access these days, it is better to use in between the data to earmark r and s. So, according to percentiles we have:

Percentile	2006		2007		2008		2009		Average of 4 years	
	average	Regarding the 50th percentile	average	Regarding the 50th percentile	average	Regarding the 50th percentile	average	Regarding the 50th percentile	average	Regarding the 50th percentile
10%	117	55%	128	55%	180	63%	187	56%	144	57%
20%	140	65%	163	70%	207	73%	220	66%	174	68%
30%	164	76%	183	79%	221	78%	245	73%	197	77%
40%	192	89%	198	85%	238	83%	268	81%	219	85%
50%	215	100%	232	100%	285	100%	333	100%	260	100%
60%	271	126%	285	123%	322	113%	424	127%	327	122%
70%	318	148%	343	148%	377	132%	499	150%	387	145%
80%	342	159%	385	166%	471	165%	595	179%	441	167%
90%	412	192%	461	199%	639	224%	710	213%	528	207%

As the table shows, we can consider the minimum of the triangular function as about 50% with the maximum of 2 times bigger than the values, which means:

IV. The Test of Research Hypotheses

To test the research hypotheses, regression is used and to stabilize foundational circumstances the fee logarithm is used. Moreover, the unusable amount of the residual of the regression is recognized and deleted.

a) First Hypothesis

To examine the hypothesis, a fitting of the regression model of the consulting fee variant as well as the variant of the auditing fee is required. So, a model like what follows should be examined:

$$Afee_{it} = \beta_0 + \beta_1 Cfee_{it} + \varepsilon_{it}$$

In which we have:

$Afee_{it}$: The auditing fee of the company in t year

$Cfee_{it}$: The consultancy fee of the company in t year

ε_{it} : The residual of the regression equation of the company in t year

The hypothesis can be rewritten as follows:

H_0 : In companies the consultancy fee does not have any effect on auditing fee

H_1 : In companies the consultancy fee does affect the auditing fee

To examine the hypothesis, according to the meaningfulness test of the regression and the regression equation coefficient, we will editorialize after giving the regression equation. The replacing hypothesis will be accepted if the zero hypothesis is refuted.

$$Afee_{it} = 5.674 - 0.140\ Cfee_{it} + \varepsilon_{it}$$

According to the model above, the increase in consultancy fee has a direct influence on the increase in auditing fee; but before it is extended to the sample whether it can be accepted must be evaluated.

The Klomogorov-Smirnoff test confirms the relative normality of the data. (K-S=0.608 P=0.853) and as there are two groups of independent variants, the variances stability is approved. (f=0.555 p=0.457). The Durbin-Watson statistic (D=1.51) also shows no-correlation of the residual.

i. *First hypothesis test result*

According to the probable values of the model's meaningfulness and the independent variant coefficient and comparing it with the level of meaningfulness ($\propto$= 0.05), it can be said that the zero hypothesis, i.e. "in companies the consultancy fee does not affect the auditing fee" is refuted with 5% probability. So, 95% we can say that:

In companies the consultancy fee does affect the auditing fee.

b) Second Hypothesis

The firm's size affects the auditing fee.

To examine this hypothesis, we need a fitting of variant regression model of the firm's scale with the variant of auditing fee. Therefore, a model like this is needed:

$$Afee_{it} = \beta_0 + \beta_1 Size_{it} + \varepsilon_{it}$$

In which we have:

$Afee_{it}$ = the auditing fee of the company in t year

$Size_{it}$ = the size of the company in t year

ε_{it} = the residual of regression equation of the company in t year

This hypothesis can be rewritten like this:

H_0 = The size of the firm does not affect the auditing fee

H_1 = The size of the firm affects the auditing fee

In which, to examine the hypothesis according to the meaningfulness test of the regression and the

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regression equation coefficient we will editorialize after giving the regression equation. If the zero hypothesis is refuted, the replacing hypothesis can be accepted.

$$Afee_{it} = 2.191 + 0.277\ Size_{it} + \varepsilon_{it}$$

According to the model above, the increase in consultancy fee has a direct influence on an increase in auditing fee; but before it is extended to the population whether it can be accepted must be evaluated.

c) The Examination of the Model Relativity

The Klomogorov-Smirnoff test confirms the relative normality of the data (K-S=0.558 p=0.914) and according to the diagram of estimations against the residual, the relative stability of the variance is approved. Furthermore, Durbin-Watson statistic (D=1.55) also shows no-correlation of the rest.

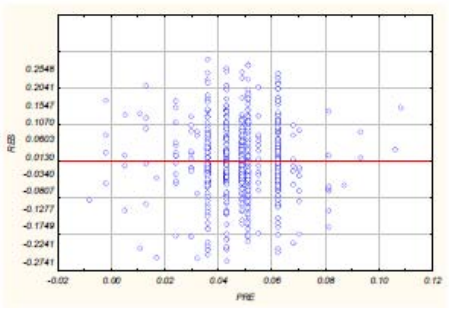

Diagram of estimate against residual for examining the variance stability

i. *Second hypothesis test result*

According to the probable values of the model's meaningfulness and the independent variant coefficient and comparing it with the level of meaningfulness (= 0.05) it can be said that the zero hypothesis, i.e. "the size of the company does not affect the auditing fee" is refuted with 5% certainty. So, with 95% of certainty we can say that:

The size of the company affects the auditing fee.

d) Third Hypothesis

The ownership (tenure) of the companies affects the auditing fee.

To examine this hypothesis we need a fitting of regression model of tenure variant with the variant of auditing fee; therefore, a model like what follows needs to be examined:

$$Afee_{it} = \beta_0 + \beta_1\ TOTsh_{it} + \varepsilon_{it}$$

in which we have:

$Afee_{it}$ = the auditing fee of the ith company in t year

$TOTsh_{it}$ = the tenure of the ith company in t year

ε_{it} = the rest of regression equation of the ith company in t year

This hypothesis can be rewritten like what follows:

H_0 = The kind of tenure of companies does not affect the auditing fee

H_1 = The kind of tenure of companies affects the auditing fee

In which, to examine the hypothesis according to the meaningfulness test of the regression and the regression equation coefficient we will editorialize after giving the regression equation. If the zero hypothesis is refuted, the replacing hypothesis can be accepted.

According to the model above, the increase in tenure has a direct influence on an increase in auditing fee; but before it is extended to the population whether it can be accepted must be evaluated.

e) The Examination of the Model Relativity

The Klomogorov-Smirnoff test confirms the relative normality of the data. (K-S=0.583 p=.885) and as there are two groups of independent variants, the stability of variances can be accepted using Lonez test.(f=0.189 p=0.664). Furthermore, Durbin-Watson statistic (D=1.54) also shows no-correlation of the rest.

i. *Third hypothesis test result*

According to the probable values of the model's meaningfulness and the independent variant coefficient and comparing it with the level of meaningfulness (= 0.05) it can be said that the zero hypothesis, i.e. "the tenure of the company does not affect the auditing fee" is refuted with 5% certainty. So, with 95% of certainty we can say that:

The tenure of companies affects the auditing fee

f) Fourth Hypothesis (Complementary Test)

Here we will examine a model with all the variants like:

$$Afee_{it} = \beta_0 + \beta_1\ Cfee_{it} + \beta_2\ Size_{it} + \beta_3\ TOTsh_{it} + \varepsilon_{it}$$

In the meaningful model the variants of tenure and size are in the level of 5%, and the variant of consultant fee stays at the level of 10%. The model shows the ability of 33% of paying the auditor fee.

$$Afee_{it} = 2.221 - 0.107\ Cfee_{it} + 0.274\ Size_{it} + 0.166 TOTsh_{it} + \varepsilon_{it}$$

V. Conclusion

According to the first hypothesis, it can be said that the consultancy fee affects the auditing fee. In the companies with a high level of consultancy fee, the level of auditing fee is lesser, and it is expected that for each unit of consultancy fee increase a counter-effect of 0.14 unit will be put on auditing fee. As a matter of fact, this

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parameter will not be more than 0.28 and lesser than 0.07.

According to the second hypothesis, it can be said that the size of the firm affects the auditing fee. In the companies with a high level of scale (higher selling rate), the level of auditing fee is higher. It is expected that for each unit increase of the firm size, an effect of 2.19 units will be put on auditing fee. According to the fuzzy model, this parameter will not be more than 4.38 and lesser than 1.09.

According to the third hypothesis, it can be said that the tenure affects the auditing fee. In the companies with a high level of tenure, the level of auditing fee is higher. It is expected that for each unit of increase in tenure, an effect of 0.187 unit will be put on the fee. Furthermore, according to the fuzzy model this parameter will not be more than 0.374 and lesser than 0.094.

All in all, the highest level of examining the auditing fee refers to the size of the firm, and the least level of examining of this fee refers to consultancy fee.

We can editorialize about the auditor fee by using the size of the firm, tenure and consultant fee; but the level of correlation is not enough for further estimations.

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