Studying the Relationship between Audit Quality and Auditor Expertise on Earnings Management

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BACKGROUND: This paper aims to study the relationship between audit quality and auditor expertise on earnings management in firms listed in Tehran Stock Exchange. In this regard, a sample including 77 firms listed in Tehran Stock Exchange for the period of 6 years has been examined. In this survey, earnings management variable has been evaluated according to Jones modified model (1995); two criteria of auditor size and auditor tenure have been used to examine audit quality variable and auditor expertise variable has been examined according to market value index. To test the hypothesis of the research, regression model, t-test, F-test and coefficient of determination at 95 percent level of significance have been used. The findings indicate that in general, audit quality has an impact on earnings management and an increase in audit quality would prevent clients from implementing earnings management. Furthermore, the criteria of auditor size and tenure are considered to be important factors that affect earnings management and cause its decrease. The findings also show that there is no significant relationship between auditor expertise and earnings management.

INTRODUCTION

Among important factors that cause fundamental changes in Iran’s economic environment, communalizing the ownership of economic agencies financing via public participation and privatization of public sector and economic corporations can be mentioned. In such circumstances, clarity and favorable quality of financial information, which are the basis of optimized economic decisions of investors, credit providers and generally those who use financial information, are of particular significance.

According to agency theory, managers are shareholders’ representatives and should act in their interests [7]. Therefore, managers have an exclusive access to some parts of information and they provide and present information such as financial one. However, sometimes they make decisions that harm shareholders’ interests and cause confounding of financial reports. In fact, earnings management occurs when managers use their own judgments in financial reports in a way that manipulating the content of financial reports misleads some shareholders about the company’s economic performance.

On the other hand, the prevailing auditing context in an economic agency basically plays an essential role in providing favorable quality of financial information. The general aim of auditors is to protect shareholders’ interests against the significant existing manipulations and mistakes of financial reports[9]. Achieving this favorable goal is completely dependent on audit firms’ characteristics.

Generally in order to maintain their professional credibility and good reputation and avoid legal claims against them, auditors seek for increasing audit quality[9]. Meanwhile, managers prevent auditors from achieving this goal by pursuing their personal interests in reporting earnings. Hence, referring to the point that audit quality and auditor expertise increases information reliability, the present study is intended to find an acceptable answer to question that whether high audit quality and auditor expertise can limit the applying of earnings management in firms listed in Tehran Stock Exchange.

The remainder of this paper is organized as follows. Literature reviews and research background are discussed in Section 2. The hypothesis development and research methodology are discussed in Section 3. The
Sample selection and Measurement of Variables are discussed in Section 4, and the results of testing the hypotheses and discussion are discussed in Section 5. Section 6 contains the summary and conclusion that includes recommendations based on research findings.

2. Literature reviews and research background:

2.1. Earnings management:

Earnings management involves Targeted intervention in financial reporting process with regard to the restrictions of accepted accounting principles for getting expected earnings amount [5].

Bidleman defined smoothing income as a manager's attempt to decrease unusual changes in income to the allowed extend based on legal principles of accounting and management. Clug also defines two main incentives for earnings management: encouraging investors to buy the company’s share and increasing the company’s market value [10].

2.2. Audit quality:

DeAngelo defines audit quality as market assessment probability for (a) significant existing manipulations in financial reports which are not detected by the auditor and (b) reporting mentioned manipulations. The discovery of a misstatement measures the audit quality in terms of auditor’s knowledge and ability while reporting of the misstatement is dependent upon the auditor’s incentives to disclose [3].

The most important quantitative index for measuring audit quality is auditor size and there is a direct relationship between these two. In this study, by auditor size we mean the auditor’s good reputation (commercial name) [3, 4]. The other quantitative index for audit quality is the auditors’ professional protection duration and their monitoring ability i.e. the auditor tenure. The more auditor tenure is, the more his familiarity with the employer will be, his expertise in that particular industry will increase and the audit quality will improve [1, 8, 10].

2.3. Auditor expertise:

In the current research, market share has been used as an index for the auditor expertise assessment. Since the more auditors’ market share is, the more their industry expertise and experience will be when compared to their rivals. Enjoying high market share also implies that the audit firm has successfully made itself distinguished among its rivals in terms of audit quality [6, 1].

2.4. Background of the research:

A research has been carried out in America by Chambers &Payne about audit quality and accrual items credibility. In the research, independence, expertise in the industry, risk of credibility and legal claims for audit firms have been mentioned as the audit quality measurement indices. The conclusion of the research suggests that audit quality increase has a significant and positive relationship with credibility of accrual items of the studied companies’ financial reports [2].

By studying 4 big audit firms as high quality auditors and examining earnings management in companies audited by these 4 audit firms and comparing with the other companies audited by other audit firms, Tendeloo and Vanstraalen found out that high quality auditing in countries which pay tax causes a reduction in earnings management [9].

Zgarni examines the relationship between audit quality and earnings management in Tunisia Stock Exchange over the period of 2000-2010 in his research. In the research, discretionary accrual items have been used as a criterion for earnings management and auditor size, tenure and expertise as criteria for audit quality. The findings indicate that there is a significant negative relationship between earnings management and auditor size and expertise, while there is no significant relationship between earnings management and auditor tenure [10].

Karami & Bazrafshan have used auditor tenure as an index for audit quality and have examined its relationship with earnings management. The findings show that audit tenure increase has a significant negative relationship with management flexibility in utilizing discretionary accrual items. This point indicates that management uses flexibility in a negative way [5].

Pourkarim divides audit firms into two groups i.e. big audit firms (audit organization) and audit firms that are not big (firms which are members of Iranian Association of Certified Public Accountants) and studies the relationship between audit firms size and audit quality. The findings indicate that big audit firms at alpha level of 5% have been successful in detecting and reporting significant misstatements [8].

Alavi et al. found out that audit quality based on the auditor size and expertise has a relationship with more exact earnings predictions [1].
3. Hypothesis Development and Research methodology:

3.1. Hypothesis Development:

The present paper includes a major hypothesis and 3 minor hypotheses such as the following:

Major hypothesis: There is a significant relationship between the impact of audit quality and auditor expertise on earnings management in firms listed in Tehran Stock Exchange.

Minor hypotheses are as follows:

1. There is a significant relationship between auditor size and earnings management in firms listed in Tehran Stock Exchange.
2. There is a significant relationship between auditor tenure and earnings management in firms listed in Tehran Stock Exchange.
3. There is a significant relationship between auditor expertise and earnings management in firms listed in Tehran Stock Exchange.

3.2. Research methodology:

The current research is type of quasi experimental research in the field of proof accounting researches which is practical in terms of purpose. Since in this survey we seek to determine the relationship between audit qualities, auditor expertise and earnings management variables, the research method is of correlative type.

4. Sample selection and Measurement of Variables:

4.1. Statistical population and firms’ selection:

The studied statistical population consisted in the listed firms in Tehran Stock Exchange. The research sampling was done according to systematic deletion method. The firms which had the following conditions have been used as samples:

1. In order to increase comparability, the fiscal year is finished at the end of’Esfand’ month, the Iranian calendar year.
2. The firms must have no stop in their activity and no change in their fiscal period during 2008 to 2012.
3. In order to standardize all the data financing and financial firms and banks have been deleted from statistical population.

After implementing mentioned above restrictions, 77 firms over the period of 2008 - 2012 were finally selected as the statistical sample of this paper. Therefore, the number of the whole observations amounts to 385 years-firms.

4.2. Data gathering method:

Library method has been used to gather data and information. In library method, theoretical principles of the research have been collected from Persian and English specialized books and journals. The research data of financial reports and explanatory notes related to the companies have been gathered and studied by utilizing software, Tehran Stock Exchange website and publishers’ comprehensive database.

4.3. Data analysis method:

Multivariable regression method has been used for data analysis. Since the research variables were of distance type, the research method is considered to be a correlative method.

4.4. Research variables:

4.4.1. Dependent variable: earnings management:

According to conducted researches, Jones modified model is the most powerful model for describing and predicting earnings management. Accordingly, in the present research the mentioned model has been used for discretionary accrual items [2, 5, 9, 10]. According to Jones modified model, the total accrual items are calculated such as the following:

$$TA_{it} = DCA_{it} - DCL_{it} - \Delta CASH_{it} + \Delta STD_{it} - DEP_{it}$$

(1)

$TA$: total accrual items of firm “i” in year“t”

$DCA_{it}$: changes in current as sets of firm “i” between the years “t” to “t-1”

$DCL_{it}$: changes in the current debts of firm “i” between the years “t” to “t-1”

$\Delta CASH_{it}$: changes in the firm “i” cash between the years “t” to “t-1”

$\Delta STD_{it}$: changes in current portion of long term debts of firm “i” between the years “t” to “t-1”

$DEP_{it}$: depreciation cost of the firm “i” in year “t”

After the total accrual items are calculated, in order to determine non-discretionary accrual items, parameters of $\alpha_3, \alpha_2, \alpha_1$ are estimated according to the following formula.
\[ TA_{i,t} / A_{i,t-1} = \alpha_1 (1 / A_{i,t-1}) + \alpha_2 (\Delta REV_{i,t} / A_{i,t-1}) + \alpha_3 (PPE_{i,t} / A_{i,t-1}) + \epsilon_{it} \] (2)

\[ \Delta REV_{i,t} \]: changes in sales revenue of firm “i” between the years “t” to “t-1”

\[ PPE_{i,t} \]: gross property, plant and equipment of firm “i” in year “t”

\[ A_{i,t-1} \]: total book value of firm “i” assets in year “t-1”

\[ \epsilon_{it} \]: unclear effects of accidental factors

\[ \alpha_3, \alpha_2, \alpha_1 \]: estimated parameters of firm “i”

After parameters of \( \alpha_3, \alpha_2, \alpha_1 \) are calculated, non-discretionary accrual items are determined according to the following formula:

\[ NDA_{i,t} = \alpha_1 (1 / A_{i,t-1}) + \alpha_2 (\Delta REV_{i,t} - \Delta REC_{i,t}) / A_{i,t-1}) + \alpha_3 (PPE_{i,t} / A_{i,t-1}) \] (3)

\[ NDA_{i,t} \]: Non-discretionary accrual items of firm “i” in year “t”

\[ \Delta REC_{i,t} \]: Changes in the accounts receivable of firm “i” between the years “t” to “t-1”

And finally discretionary accrual items (DA) is calculated after the of determination of NDA such as the following:

\[ DA_{i,t} = (TA_{i,t} / A_{i,t-1}) - NDA_{i,t} \] (4)

4.4.2. Independent variable: audit quality:

4.4.2.1. Auditor size:

Audit firms have been divided into two groups of Auditing Organization of Iran (as a major audit firm with high audit quality) and audit firms which are members of Iranian Association of Certified Public Accountants (small audit firms). Earnings management implemented in companies audited by these two groups has been examined.

4.4.2.2. Auditor tenure:

In the present survey, auditor tenure is once less than 4 years and once 4 years and more. The number “1” is used for companies which are audited for 4 years and more by the auditor otherwise the number “0” is used.

4.4.2.3. Auditor expertise:

In this study, market share has been used as an index for the auditor expertise in the industry. Market share is calculated such as the following: “square root of sum of assets book value of audit firm’s customers in the industry divided by square root of sum of assets book value of all the customers of that audit firm”. (Mayhew & Wilkins, 2002)

4.5. Regression model:

\[ DA_u = \beta_0 + \beta_1 Auditsize_u + \beta_2 DUM_i + \beta_3 ISPEC_u + \epsilon_u \]

DA: discretionary accrual items (using Jones modified model)

Auditsize: auditor size / DUMi: auditor tenure / ISPEC: auditor expertise

RESULTS AND DISCUSSION

5.1. Descriptive statistics for all variables:

Descriptive statistics related to the research variables are shown separately in table 1. Since the mean and median values of the variables are approximately equal, distribution of variables is symmetric.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Standard deviation</th>
<th>median</th>
<th>mean</th>
<th>observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>discretionary accrual items</td>
<td>0.15</td>
<td>0.01</td>
<td>0.01</td>
<td>385</td>
</tr>
<tr>
<td>auditor size</td>
<td>0.46</td>
<td>0.00</td>
<td>0.29</td>
<td>385</td>
</tr>
<tr>
<td>auditor tenure</td>
<td>0.48</td>
<td>0.01</td>
<td>0.66</td>
<td>385</td>
</tr>
<tr>
<td>auditor expertise</td>
<td>0.37</td>
<td>0.86</td>
<td>0.65</td>
<td>385</td>
</tr>
</tbody>
</table>

5.2. Hypotheses testing:

5.2.1. First hypothesis testing result:

First hypothesis: There is a significant relationship between auditor size and earnings management in firms listed in Tehran Stock Exchange.
In the above hypothesis testing, significance probability value of F is equal to 0.009 which is less than 0.05. Therefore, null hypothesis is rejected at confidence level of 95% i.e. there is a significant model. Coefficient of determination rate is equal to 0.27 i.e. about 27% of dependent variable changes are expressed by the independent variable. The value of t statistic for auditor size is equal to 6.34 (significant and positive) which indicates that there is a positive and significant relationship between auditor size and earnings management.

The above positive relationship suggests that audit organization as a reputable and credible audit firm has a positive impact on the firms’ earnings management. It can be concluded that big audit firms (audit organization) are along the same line with earnings management. Furthermore, the firms which are audited by high quality audit firms (bigger ones) implement earnings management in order to get expected earnings predictions.

5.2.2. Second hypothesis testing result:

Second hypothesis: There is a significant relationship between audit tenure and earnings management in firms listed in Tehran Stock Exchange.

In the above hypothesis testing, significance probability value of F equals to 0.040 which is less than 0.05 i.e. there is a significant model at confidence level of 95%. Coefficient of determination equals to 0.17 i.e. about 17% of dependent variable changes is expressed by the independent variable. Considering that the t statistic value for the auditor tenure equals to -2.06 (significant and negative), the opposite hypothesis can be accepted. Therefore, there is a negative and significant relationship between earnings management and auditor tenure.

According to the results of this hypothesis testing it can be concluded that as the auditor tenure increases, earnings management decreases. This result suggests that audit firms in Iran have been successful in detecting and controlling earnings management through the increase of cooperation period with the employer, being familiar with the employer’s work and acquiring expertise in the employer’s professional industry.

5.2.3. Third hypothesis testing result:

Third hypothesis: There is no significant relationship between auditor expertise and earnings management in firms listed in Tehran Stock Exchange.

In the above hypothesis testing, significance probability value of F equals to 0.365 which is more than 0.05 i.e. there is no significant model at confidence level of 95%. Coefficient of determination equals to 0.03 i.e. about 3% of dependent variable changes is expressed by the independent variables. The t statistic value for y-intercept equals to 1.43 which at confidence level of 95% is located in non-rejecting null hypothesis area i.e. y-intercept is not significant. Considering that the t statistic value for ISPEC equals to -0.91 (non-significant), so the mentioned hypothesis cannot be accepted. The findings of the research suggest that auditor expertise has had no significant impact on earnings management in firms listed in Tehran Stock Exchange.

5.2.4. The major hypothesis testing result:

Major hypothesis: There is a significant relationship between the impact of audit quality and auditor expertise on earnings management in firms listed in Tehran Stock Exchange.
Table 5: (major hypothesis).

<table>
<thead>
<tr>
<th>result</th>
<th>probability value</th>
<th>t value</th>
<th>coefficients amount</th>
<th>parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>non-significant</td>
<td>0.496</td>
<td>-0.681</td>
<td>-0.023</td>
<td>C</td>
</tr>
<tr>
<td>significant and positive</td>
<td>0.000</td>
<td>5.676</td>
<td>0.211</td>
<td>Auditsize</td>
</tr>
<tr>
<td>significant and negative</td>
<td>0.047</td>
<td>-1.980</td>
<td>-0.032</td>
<td>DUMi</td>
</tr>
<tr>
<td>non-significant</td>
<td>0.756</td>
<td>-0.311</td>
<td>-0.012</td>
<td>ISPEC</td>
</tr>
<tr>
<td>0.008</td>
<td>probability value of F</td>
<td>1.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.39</td>
<td>Durbin-watson</td>
<td>0.38</td>
<td></td>
<td>coefficient of determination</td>
</tr>
</tbody>
</table>

In the above hypothesis testing, significance probability value of F equals to 0.008 which is less than 0.05 i.e. there isa significant modelat confidence level of 95%. Coefficient of determination equals to 0.38 i.e. about 38% of dependent variable changes is expressed by the independent variable. The t statistic value for the auditor size, auditor expertise and auditor tenure equal to 5.68 (significant and positive), 0.311 (non-significant) and -1.98 (significant and negative) respectively. Considering that auditor size and auditor tenure variables exist in the significant area, the major research hypothesis, i.e. existing a relationship between dependent variable of earnings management and the independent variables of audit quality and auditor expertise, is accepted and confirmed.

6. Conclusion:

The findings indicate that there is a significant relationship between the impact of audit quality and auditor expertise on earnings management in firms listed in Tehran Stock Exchange. Earnings management is one of popular topics among the investors, law makers, analysts and the general users of financial reports. According to Fisher, earnings management is the purposeful intervention of managers in the process of financial reporting out of the organization. One way to reduce earnings management is to improve audit quality as firms which manipulate and manage earnings are more subject to have modified audit report (not accepted). With regard to the mentioned findings, studies and topics, it can be concluded that audit quality causes a reduction in the discretionary accrual items rates as well as earnings management. The research findings indicate that there can be three reasons for those clients who have been audited by the auditors (including audit organization and other audit firms) for more than one year and are not willing to change their auditors:

A) Such firms (including audit organization and other audit firms) require longer audit tenures for performing a more careful and higher quality supervision in order to reduce managers’ use of accrual items and restrict earnings management (positive reason). B) The clients have to use audit firms services according to the rules and regulations and other requirements (positive reason). C) The clients are such firms’ accessories (negative reason).

6.1. Recommendations based on research findings:

1) With regard to the first hypothesis testing results, Stock Exchange is recommended to adopt rules and regulations which give access to firms listed in Stock Exchange to utilize different auditors for auditing their financial reports during the successive years. Obligatory formation of big firms or a network of firms by the audit organization. Therefore, users of financial reports should pay attention to the auditor tenure in their analysis. Furthermore, when determining these firms’ share values, Stock Exchange should consider this point.

2) With regard to the second hypothesis testing results, it can be concluded that in firms which have been audited by an auditor for several years, earnings management rate is lower if auditor tenure is determined by the audit organization. Therefore, users of financial reports should pay attention to the auditor tenure in their analysis.

REFERENCES


