The Impact of Company’s Entrance into Article 141 of the Iranian Trade Act on Audit Fees: Evidence from Tehran Stock Exchange

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Abstract

According to Article 141 of the Iranian Trade Act, if half and more of the company's capital is destroyed due to the losses, the corporate board of directors is obliged to typically call for an extraordinary general meeting of shareholders to decide on the dissolution or survival of the company. Whenever they do not vote to dissolve, in accordance with provisions of Article 6 in this law, the company must sufficiently reduce its capital to a tangible extent. Hence, along with the entrance of the company into Article 141 of the Iranian Trade Act, the continuity assumption of the company may confront with ambiguity. Such a specific situation enhances audit risk since auditors are in a state of ambiguity in which they are naturally supposed to be more diligent, particularly to properly examine the continuity assumption. The current paper aims to examine whether under these circumstances auditors demand higher fees in Tehran Stock Exchange (TSE), thus all companies subject to Article 141 for at least one fiscal year during 2012-2017 are surveyed as the statistical population and the direct impact of this specific subject on audit fees is carefully investigated by panel data. Empirical findings reveal that our sample experiences a significant increase in audit fees during periods they have been involved in Article 141 of the Iranian Trade Act, comparing to years they have been uncovered by this Article. This paper enthusiastically fulfills an identified need to typically discover one possible reason for enhancing audit fees in TSE and also expands the academic literature in this arena in the developing country of Iran.

Keywords: Article 141 of the Iranian Trade Act, Audit Fees, Continuity Assumption, Tehran Stock Exchange-Iran.

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1. Introduction

The pricing of audit services is of great interest to auditors and scholars in this arena, hence numerous studies have been performed on this subject. The aim of the relevant studies is to identify issues affecting audit fees. Being aware of such issues is beneficial to both auditor-client parties. The cost of auditing is a major concern to many investors which is worth paying attention (Nikbakht and Tanani, 2010). Auditors can also value their professional services by knowing the emerging issues that could impact audits (Gost, 1992, Judd, et al., 2017). Among critical issues that affect audit fees is audit risk. In accordance with paragraph 2 of Audit Standard No. 570, titled continuity of activity, the auditor has to consider the appropriateness of continuity assumption in preparing financial statements by management in the course of planning and implementing audit procedures, then evaluates the results thereof. Paragraph 7 of the same standard, subdivides issues that may cast major doubt on the continuity assumption, into three categories of financial indications, operational signs, and other indications. In the case of companies covered by Article 141 of the Iranian Trade Act, one can assume that due to the inadequacy of the main financial ratios in companies that occasionally equity is negative, leads to the excess of total debt over total assets, thereby continuity assumption is questioned. Indeed, Duellman et al. (2015) express that the losses of previous years enhance audit risk. Hence, such a condition increases audit risk by taking into account auditor's responsibility for assessing the continuity assumption. Therefore, auditors are expected to be more diligent and evaluate such cases precisely. Increasing the audit risk of companies motivates auditors to moderate and raise the cost of their professional services. Previous papers admit that auditors are more committed to higher risk-taking individuals to attain a certain level of assurance which mitigates litigation risk (Johnston, 2000, Bronson, et al., 2017). Therefore, audit fees of commercial units should be higher at the stage of decline than other stages of life cycle (Rahimian, et al., 2010). Therefore, the current paper seeks to answer whether auditors demand higher fees from companies under Article 141 of the Iranian Trade Act. Literally, current paper attempts to recognize a particular reason for enhancing audit fees in TSE and to expand the literature in this arena in a developing country- Iran.

The remainder of the paper is structured as follows. Section 2 outlines theoretical underpinnings and hypothesis development. Section 3 presents the empirical approach and describes the data, variable measurements, and testing models. Section 4 discusses model estimation and hypothesis testing, and Section 5 concludes the paper.

2. Theoretical Underpinnings and Literature Review

In auditing literature, the subject of determining audit fees is of particular importance. While professional ethics do not concede that auditors claim for high fees, the interests of audit firms arise contradiction (Castro, et al., 2015). Audit fees include any payments to the auditor or the audit firm for providing audit services based on the agreements or contracts. Of the major controversies in audit profession is the determination of minimum audit fees. Literally, the cost of a service or commodity is the price that consumer tends to pay, but in practice, this formula is useless in countries that suffer from the absence of a competitive economy, where prices are set through restriction or minimum subsistence wage. The Economic Council determines audit fees on the proposal of the Ministry of Economic Affairs and Finance in Iran. As a pioneer, Simunic (1980) clarifies a model that appropriately determines audit fees, interestingly this model fits the situation in Iran, where fees are a function of auditing cost, operating hours multiplied by the cost of the service, and auditor's risk-taking due to litigation risk as well as possible client’s further loss (Nikbakht and Tanani, 2010).

Based on auditing standards, auditors are supposed to control the environment,
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including attitude and management practice when assessing audit risk. To recognize the audit risk, a proper appraisement of the company's overall situation is of particular importance (COSO, 2013). Previous studies confirm a positive relationship between the concept of risk and audit fees. Therefore, auditors take into account risk issues of their client and compensate the corresponding risk through higher fees (Allen et al., 2006). The literature of audit risk proves a positive and significant relationship between risk issues and audit fees and declares that risk issues lead to longer working hours of auditing, thus result in higher audit fees (Koh and Tong, 2013).

Duellman, et al. (2015) state that the loss of client under investigation is of the employer's characteristics which result in higher risk and cause to moderate audit fees by auditing firms. Contrary to Sandra and Patrick (1996) and Joshi and AL-Bastaki (2000) that reveal a positive correlation between earnings and audit fees, Hassan and Nasser (2013) on Abu Dhabi Stock Exchange data (ADX) show no significant relationship between corporate earnings and audit fees. Indeed, Koh and Tong (2013) provide evidence that audit firms request additional fees when dealing with higher business risk and while expecting higher corporate loss. Besides, Krishnan and Wang (2015) provide evidence that high managerial ability lowers audit fees, due to lower audit risks of better financial reporting quality.

Relevant studies acknowledge that there is no paper on intended subject in Iran. However, several studies have been conducted to identify issues that affect audit fees. Here are papers which are more relevant to the subject as follows:

Many studies have been conducted on the issues affecting audit fees in which every single study examines certain aspects of audit fees. Based on theoretical foundations, the most important study in this field, which is also the groundwork of other papers is Simunic (1980). Simunic argues that audit fees depend upon the rate and hours of auditing workloads and turn to auditor's attitude varies based on the prediction risk of errors and mistakes in financial statements. Strong internal controls, reputation management, company size, and the number of subsidiaries affect the auditor's risk forecast and required hours for auditing. After all, the auditor conducts a risk assessment that draws attention to management focus, severity of agent problem and other issues, then plans auditing work and determines audit fees regarding the mentioned issues (Ben Ali and Lesage, 2012).

Scholars found no evidence of a relationship between non-audit fees and auditor reporting on stressed companies (DeFond et al., 2002; Geiger and Rama, 2003). Chung et al. (2005) conclude that enhancing audit risk which results in higher efforts lead to more audit fees. Nikkinen and Petri (2005) prove that audit fees have a direct association with risk dimensions (financial risk, operational risk and business risk). Their findings also indicate that business risk or facing ambiguity affects the nature, timing, and audit procedure. Consequently, determinants that reflect client risk profile have a direct correlation with audit fees. Hay et al. (2006) conclude that the company's profitability status affects audit risk. This issue also affects audit fees through the impact of auditor's exposure to probable and risky legal claims. In summary, when the company's profitability decreases and results in losses, audit risk increases and subsequently raises the audit fees. Callaghan, et al. (2009) provide evidence that there is no relationship between auditor fees and continuity assumption in American bankrupt firms. Paul et al. (2010) reveal that high auditor fees are related to auditor's efforts, not audit risk. They also express that increasing debt in companies with free cash flow reduces audit fees. Krishnan, et al. (2012) argue that to the extent audit fees reflect the auditor's efforts, there is a direct relationship between audit fees and risk issues at client level, which indicates auditors have more efforts in response to increasing client risk. The results of Donohoe and Knechel (2014) discuss that higher leverage leads to more
fees, because certain conditions are included in debt contracts. For instance, one condition is that the debt ratio does not exceed a certain limit, otherwise, all debts coming to maturity. Thus, by increasing financial leverage, company's risk goes up and audit risk increases consequently. Although actual audit efforts are not directly visible to public data, studies suggest that audit fees reflect auditor’s efforts (Doogar, et al., 2015). William (2015) investigates the relationship between auditor fees and the report of continuity assumption in bankrupt companies. The results of his study show there is no meaningful relationship between audit fees and making decision on continuity assumption. Johnson (2015) argue whether auditors overestimate the risk of financial reporting, they could request more fees. Zaman Groff and Salihović (2016) examine and compare audit fees during the European financial crisis of Slovenia in 2008. The results of their research, contrary to expectations, prove that auditing fees had a decreasing trend at this time. This decrease seems to be the result of reducing demand and increasing competition, which has led to lower fees for audit services. Bryan and Mason (2016) investigate whether sudden and severe reductions in total CEO compensation affect auditor perceptions of risk. They argue that extreme CEO pay cuts can incentivize the CEO to manipulate the financial reports or make risky operational decisions in a desperate attempt to improve firm performance. This incentive, in turn, is likely to impact auditor assessments of audit risk and auditor business risk, leading to higher audit fees. They find evidence of a positive and highly significant association between extreme CEO pay cuts and audit fees. Li, et al. (2017) examine whether auditors’ pricing decisions on managerial ability are affected by auditor litigation risk. They reveal auditors offer a larger fee discount to more able client management teams when auditors face lower litigation risks or are more familiar with the client. Furthermore, managerial ability has a more pronounced effect on audit fees in the post-SOX era when managers are mandated to play more active roles in financial reporting.

Taken all together, based on theoretical arguments and literature review, a single major hypothesis is presented in the alternative form as following:

**Hypothesis:** The Company’s entrance into Article 141 of Iranian Trade Act will lead to higher audit fees.

3. **Empirical Approach**

Given the fact that data of current research belongs to financial information of real companies and the results lead to better decisions of capital market participants, the aim of the paper is functional and in terms of method, it is descriptive through correlation, thus data analysis is performed using the multivariate regression model. The statistical population of the paper is accepted companies in TSE. The reason for choosing TSE is to monitor major organizations such as the Ministry of Finance and the Central Bank over TSE. Indeed, since financial statements of TSE are subject to confirmation by trusted auditors, thereby have more reliability. On the other hand, since listed companies on TSE are required to submit their financial statements uniformly, there will be more comparability. Therefore, TSE is the best place for extracting financial information of companies and can lead the research to reliable results. In this study, using the direct observation method, financial statements of companies are utilized in text analysis approach particularly for explanatory notes. Also, to collect theoretical foundations and literature review, library sources are used. Financial data are extracted from databases such as Rahavard Novin Software which hold financial data of Iranian companies listed on TSE. Then collected data are classified by Microsoft Excel and final analysis is performed with Eviews as an econometric software.
3.1 Sample

The statistical population includes all listed companies on TSE during 2012-2017. In this study, sampling is carried out through a systematic elimination method and sample volume is equal to those companies that meet the following conditions:

- The company is subject to Article 141 of the Iranian Trade Act for at least one fiscal year.
- Companies should be listed before 2012 on TSE and should be active until the end of fiscal year of 2017.
- In terms of increasing comparability, their fiscal year should be terminated in March and remains unchanged during 2012-2017 fiscal year.
- Listed companies, including banks, financial institutions, investment firms, financial intermediaries and holdings which have separate reporting structures are removed from the current study.
- The required financial and audit fees (in particular, the information of Article 141 of the Iranian Trade Act for intended sample) should be available.
- During 2012-2017, except for a regular period of holding general assembly, trading stock is not stopped or the company does not change main activity and fiscal year.

After introducing the above restrictions, since limited companies are covered by Article 141, our sample reduces to 32 companies; thus according to study period, there are 192 observations.

3.2 Variables and measurement method

The variables of current research are classified into three groups:

- **Responding variable**: Responding variable here is audit fees, which is derived from explanatory notes on the annual audited financial statements. Indeed, to improve the linear relationship between audit fees and to be consistent with prior audit fee studies, the unit of measurement (Rials) is converted using natural log of raw data (e.g. Gul and Goodwin 2010; Darogheh and Pahlavan, 2012; Donohoe and Knechel 2014; Gul et al., 2017).

- **Explanatory variable**: In the current paper, inclusion into Article 141 of Iranian Trade Act is considered as an explanatory variable; this artificial variable is equal to one, if the company is subject to Article 141 of Iranian Trade Act in the company i for the year t, otherwise, it would be to zero.

- **Control variables**: In order to test intended model more accurately, it is necessary to control a set of potential variables of relevant studies. In the present study, 5 control variables are utilized as follows:
  - **ROA**: Return on assets which is calculated of earnings divided by lagged total assets of the firm i for the year t (Dai Fei, et al., 2015).
  - **Financial Leverage**: Total debt scaled by total assets of the company i for the year t. It has been identified as an effective variable on audit fees (Dai Fei et al., 2015).
  - **Company Size**: The variable is calculated by the natural log of total book value of assets of the firm i for the year t. It has been identified in Chan et al. (1993) and Cameran (2005) as an influential variable on audit fees.
  - **Current ratio**: The Current ratio is derived from current assets divided by current liabilities. It has been introduced as an effective issue on audit fees (Dai Fei et al., 2015).
  - **Inherent risk**: The inherent risk is derived from total inventories and accounts receivable divided by total assets of the company i for the year t. It has been identified as an effective variable on audit fees by Simunic (1980) and Hay et al. (2006) as issues...
influencing audit fees. According to Simunic (1980), inventories and accounts receivable have the highest audit risk.

To examine the effect of entrance into Article 141 of the Iranian Trade Act on audit fees, variable of entrance into Article 141 and control variables are introduced through the following regression model. Hence, the main hypothesis is stated by the intended model which is referred to Dai Fei et al. (2015):

\[ \ln (\text{Audit Fees})_{i,t} = \alpha_0 + \alpha_1 \text{Article 141}_{i,t} + \alpha_2 \text{Size}_{i,t} + \alpha_3 \text{Leverage}_{i,t} + \alpha_4 \text{Current}_{i,t} + \alpha_5 \text{Inherent}_{i,t} + \alpha_6 \text{ROA}_{i,t} + \varepsilon \]

4. Model estimation and hypothesis testing

4.1. Descriptive statistics

To provide an overview of key features among research variables, the concepts of descriptive statistics of variables including the number of observations, mean, median, standard deviation, minimum and maximum are presented in Table (1). As Table 1 shows, company size and return on assets (ROA) have the highest and lowest average values. The average and median of audit fees for sample companies are 5.75, 5.42 which indicates that sample companies are subject to this variable at a relatively modest level. Since mean and median are almost close in most of the research variables, data is normal. Return on assets (ROA) and current ratio also have the highest and lowest standard deviations, respectively.

Table 1: Descriptive statistics of research variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Observation</th>
<th>mean</th>
<th>median</th>
<th>standard deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit fees</td>
<td>192</td>
<td>5.75</td>
<td>5.42</td>
<td>0.86</td>
<td>4.66</td>
<td>8.76</td>
</tr>
<tr>
<td>Company size</td>
<td>192</td>
<td>12.2</td>
<td>12.65</td>
<td>2.35</td>
<td>11.19</td>
<td>14.22</td>
</tr>
<tr>
<td>Financial leverage</td>
<td>192</td>
<td>0.96</td>
<td>1.07</td>
<td>0.37</td>
<td>0.23</td>
<td>3.6</td>
</tr>
<tr>
<td>Current ratio</td>
<td>192</td>
<td>0.75</td>
<td>0.73</td>
<td>0.12</td>
<td>0.46</td>
<td>1.05</td>
</tr>
<tr>
<td>Inherent risk</td>
<td>192</td>
<td>0.55</td>
<td>0.56</td>
<td>0.18</td>
<td>0.09</td>
<td>0.76</td>
</tr>
<tr>
<td>ROA</td>
<td>192</td>
<td>-7.69</td>
<td>0.67</td>
<td>9.42</td>
<td>-24.78</td>
<td>33.33</td>
</tr>
</tbody>
</table>

Source: Research findings based on Eviews output

4.2. Inferential statistics

4.2.1. Multicollinearity

Multicollinearity is a phenomenon in which two or more predictor variables in a multiple regression model are highly correlated, meaning that one can be linearly predicted from the others with a substantial degree of accuracy. Here, the correlation means that there is a linear relationship between predictor variables. Collinearity exists in almost all linear regression models but the note is that the intensity is different between predictive variables. When intended data on predictive variables have collinearity problem, the regression results are not reliable and cannot be used (Davidson and MacKinnon, 2004). To consider the problem of multicollinearity in research data, variance inflation factor is used. If the variance inflation factor gets a value less than 5, lack of multicollinearity will be proved. Table 2 shows that variance inflation factor is less than 5 in all cases, so there is no problem of multicollinearity among the explanatory variables.

Table 2. Variance inflation factors

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclusion into Article 141</td>
<td>1.0654</td>
</tr>
<tr>
<td>Company size</td>
<td>1.1896</td>
</tr>
<tr>
<td>Financial leverage</td>
<td>1.8979</td>
</tr>
<tr>
<td>Current ratio</td>
<td>2.1869</td>
</tr>
<tr>
<td>Inherent risk</td>
<td>1.5620</td>
</tr>
<tr>
<td>ROA</td>
<td>1.4985</td>
</tr>
</tbody>
</table>
4.2.2. The homogeneity of variance

The homogeneity of variances assumption should be examined before performing the ultimate hypothesis testing. In this study, we prove the heterogeneity of variance using White test, thus generalized least squares (GLS) method is used to estimate the model.

<table>
<thead>
<tr>
<th>Table 3. White test result</th>
</tr>
</thead>
<tbody>
<tr>
<td>The main hypothesis F-Statistic</td>
</tr>
<tr>
<td>9.1830</td>
</tr>
<tr>
<td>Result</td>
</tr>
</tbody>
</table>

According to the econometric analysis of panel data, it is necessary to test data homogeneity using F-limer test, then test the panel data analysis. The Hausman test also is used to determine the appropriate estimation method and differentiate between fixed effects and random effects in panel data analysis. The results of F-limer and Hausman tests for the main hypothesis are presented in Table (3), proving that using panel data analysis instead of ordinary least squares (OLS) is significant. Indeed, the results of Hausman tests reveal that fixed effects model is significant comparing to the random effects model.

<table>
<thead>
<tr>
<th>Table 3. F-limer and Hausman test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test</td>
</tr>
<tr>
<td>Cross-section F</td>
</tr>
<tr>
<td>Cross-section random</td>
</tr>
<tr>
<td>Interpretation</td>
</tr>
<tr>
<td>Source: Research findings based on Eviews output</td>
</tr>
</tbody>
</table>

4.2.3. The main hypothesis testing

The results of main hypothesis testing model are presented in Table (4).

<table>
<thead>
<tr>
<th>Table 4. The results of model estimation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responding Var.</td>
</tr>
<tr>
<td>Explanatory Var.</td>
</tr>
<tr>
<td>Inclusion into Article 141</td>
</tr>
<tr>
<td>Company size</td>
</tr>
<tr>
<td>Financial leverage</td>
</tr>
<tr>
<td>Current ratio</td>
</tr>
<tr>
<td>Inherent risk</td>
</tr>
<tr>
<td>ROA</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>F-statistic</td>
</tr>
<tr>
<td>R2Adj</td>
</tr>
<tr>
<td>Source: Research findings based on Eviews output</td>
</tr>
</tbody>
</table>

As shown in table (4), inclusion into Article 141 of Iranian Trade Act as an explanatory variable of the main hypothesis has a significant relation with audit fees, which due to positive beta coefficient, direct relation is confirmed. Indeed, control variables of company size, current ratio and inherent risk, have a significant and direct relationship with audit fees at 95% confidence level. However, return on assets (ROA) have a significant relationship with audit fees at 95% confidence level which according to negative beta coefficient, reverse relation is confirmed. Only financial leverage has no meaningful relationship with audit fees.

Since the significance level of F statistics is less that 5% in the intended model and the fitted regression model is also generally significant, it is indicated that explanatory variables have a significant effect on responding variable. Regarding the relatively
The Durbin-Watson of fitted regression models proves no serious autocorrelation.

5. Conclusions and suggestions

The aim of the current study is to examine the effect of entrance into Article 141 of Iranian Trade Act on audit fees. The results of the statistical method, indicate a significant and direct relationship between inclusion into Article 141 of the Iranian Trade Act as explanatory variable and audit fees. Meaning that entrance into Article 141 of the Iranian Trade Act enhances the audit fees. The results of model estimation affirm that companies experience a significant increase in audit fees during periods in which they have been included in Article 141 of the Iranian Trade Act, comparing to years they have not been covered by this Article.

As noted in the literature review, heretofore no research has been conducted in the field of entrance into Article 141 of the Iranian Trade Act and audit fees in Iran as a developing country. The result of major research hypothesis is compatible with that of the Nikkinen and Petri (2005); Chung et al. (2005); Hay et al. (2006); Allen et al. (2006); Koh and Tong, (2013); Donohoe and Knechel (2014); Duellman et al. (2015), Bryan and Mason (2016) and Li et al. (2017). However, findings are in contradiction with that of the Sandra and Patrick (1996); Joshi and AL Bastaki (2000); DeFond et al. (2002); Geiger and Rama (2003); Hassan and Nasser (2013) and William (2015). This point is worth noting that every relevant study examines the impact of a particular dimension on audit fees. Generally, the present paper expands the literature on company’s audit fees in TSE and provides relevant evidence of entrance into Article 141 of the Iranian Trade Act consequences. In particular, findings emphasize that inclusion into Article 141 of Iranian Trade Act enhances audit fees of companies. Regarding the findings of the current paper, it is reminded to management that inclusion into Article 141 of the Iranian Trade Act results in higher audit risk of listed companies on TSE. Thereby, management is now aware that in such a situation, they are supposed to pay more audit fees.

5.1. Limitation of Research

Similar researches in developed countries have a huge sample (e.g. over 1000 firms), including more years, but we cannot follow such a trend due to data limitation, because there is no organized database in developing countries like Iran and we are supposed to spend considerable time for collecting data. For instance, lack of disclosure of annual auditing fees reduces the sample size in TSE.

Reference


Callaghan, J., M. Parkash, and R. Singhal. (2009). Going‐concern audit opinions and


Johnson, E. S. (2015). Does the PCAOB Inspection have an Effect on Audit Fees and Audit Quality? LSU Doctoral Dissertations.


