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# Advances in Mathematical Finance and Applications

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Research Paper

# Meta-analysis of auditor characteristics and profit quality(Considering auditor characteristics indicators)

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Abstract

The purpose of this study is to perform a meta-analysis of the relationship between auditor characteristics and profit quality. In order to integrate the results of different researches and identify the factors that modulate the relations between the auditor's characteristics and profit quality, in this research we will use meta-analysis methodology which is one of the quantitative statistical methods. In order to implement the during 2005-2020, the website of domestic scientific research journals (articles published during the years 2005-2020) were identified and collected as a statistical population of the research and collected, and by systematic removal method, finally 50 studies have analyzed; the results of the studies conducted in the mentioned period on this relationship, indicate that most of these studies are heterogeneous. In order to identify the cause of this heterogeneity, by dividing the researches based on different criteria for measuring auditor characteristics and calculating chi-square statistics, the results show that different criteria of auditor characteristics moderates the relationship between auditor characteristics and profit quality and there is a significant relationship between auditor independence and profit quality; there is a significant relationship between auditor rotation and profit quality, auditor size and profit quality, non-audit services provided by the auditor and profit quality, between fee paid to the auditor and profit quality and between auditor expertise in industry and profit quality.

## 1 Introduction

The role of auditing in validating corporate earnings information in the bankruptcy of large corporations has been significant. From the perspective of users, especially shareholders, auditing is useful when auditors review and evaluate the continuity of business, the absence of errors in the financial statements, misconduct, significant fraud, and illegal acts affecting the unit's operations and declare their agreement with the above [5]. Therefore, investors' influence on the value burden of auditor-approved information is important because increases of the predictive power of data

such as profits on which all aspects of the organization's performance are built on it can greatly divert investors' decisions from distortions and help them make the most appropriate predictions for the company's future and profits. On the other hand, managers have a lot of incentives to manipulate profits and reduce the quality of profits so that they can fulfill the predictions of financial analysts, and auditing can be one of the ways to prevent and reduce profit manipulation and reduce the quality of profits. Because it is believed that companies that provide audited financial statements have better quality information content and profits. This means that the higher the companies' profit manipulation, the lower their profit quality will be [13]and according to studies conducted so far, no research has examined meta-analysis of auditor characteristics and profit quality; therefore, this issue has a research gap. [30]showed that audit independence is associated with low accruals. Some researchers [27]showed a negative relationship between audit independence and earnings management. On the other hand, a positive relationship between audit independence and profit quality has been identified by other researchers. [21] show that there is a positive and significant relationship between auditor tenure and earnings management. [24] argues that non-audit services undermine the independence of auditors and thus reduce the quality of financial reporting and thus the quality of profits.

Based on the contradictory results of previous researches in this regard, this research will perform a meta-analysis of this part of the literature by identifying and collecting the relevant experimental studies in which through integrate the results and identify the causes of diversity in the results of studies make it possible to better understand the effect of auditor's characteristics on profit quality.

In the meantime, making the necessary decisions to achieve high quality profit content cannot be unrelated to audit fees. It seems that in companies whose level of profit quality is high, the costs paid for performing audit services in order to reveal various aspects that reflect the quality of profit will be higher. Audit has a supervisory role over the contract so that any breach of contract is brought to the attention of securities holders. Also, audit responsibility is not limited to overseeing the financial reporting process; rather, auditing serves as the ultimate gatekeeper of financial disclosure. A company with an accounting expert is more likely to drive management profits more accurately [15]

It is also less likely that large corporations will give in to a particular customer because they have multiple customers and offer a variety of services. However, a small company that earns a large portion of its revenue from a particular customer is more likely to surrender to that customer more easily. There are two different views on the tenure of auditors and the quality of financial reporting. The first view states that the shorter the auditor's tenure, the lower the quality of earnings. Proponents of auditor change believe that in the event of a forced rotation, auditors will be more able to withstand the pressures of client management and make more impartial judgments.

## 2 Theoretical Foundations and Research Background

According to profit quality theory, higher quality profit provides more information about different aspects of a company's financial performance. In addition, from the point of view of agency theory, independent auditing helps shareholders in controlling and supervising the management activities of the company. [15]stated that independent auditors are more effective in overseeing management and reducing the ability to report erroneously by minimizing management intervention [20] On the other hand, resource dependency theory states that the role of auditing in providing

resources in a professional and experienced way for companies to gain a competitive advantage, especially in the quality of financial reporting, is so effective. Based on agency theory and resource dependency theory, it can be thought that academic financial expertise reduces discretionary accruals and improves profit quality. Another feature that has been identified in previous researches as a factor affecting earnings quality is the size of the auditor. According to agency theory, internal and external oversight mechanisms are needed to reduce conflicts of interest between managers and stakeholders, and increasing the quality of oversight can also reduce information asymmetry [9]. Also, with the increase of the auditor permanence years in a company, his knowledge of that company increases and he knows what issues should be paid special attention to in order to audit it. However, there are other interpretations in this field. One interpretation is that auditors have less independence in the early years of auditing. There is a favorable view of the auditor's rotation in the face of evidences that an increase in the tenure of auditors leads to the reporting of low quality earnings [4]. [24]argues that, despite this legal restriction, evidences from academic researches show that non-audit services undermine the independence of auditors and thus reduce the quality of financial reporting and thus the quality of profits. Also, if the risk of manipulating the client's profit is greater, then auditors are required to reduce audit risk in general through additional testing methods or allocating additional resources to audit transactions, which is likely to lead to significant distortion of financial reporting. [11]In this regard, in the country, [19], in a study entitled Factors affecting the quality of profits of pharmaceutical companies found that there is a significant and direct relationship between profit quality and stock value and company size and there is a significant inverse relationship between the profit quality and gender diversity of members of the board.

Moradiin a study entitled The relationship between earnings quality and auditing fees with dividend policy showed that there is a direct and significant relationship between earnings quality and auditing fees with dividend policy and there is a significant inverse relationship between financial leverage and the ratio of accruals with dividend policy.[18]

Heydariin examining the effect of audit quality on earnings management show that there is a significant negative relationship between earnings quality and auditor's fee.[10]

Moradi Shahkooh, in examining the relationship between the characteristics of the audit committee and profit quality, show that the size of the audit committee and the financial expertise of the audit committee increase the quality of companies' profits.[17]

Piri, Parviz, in examining the relationship between tenure and change of auditor with the quality of earnings show that increasing the tenure of auditors increases the amount of accruals and as a result decreases the quality of earnings, while increasing the amount of auditor change reduces the amount of accruals and increases the quality of the profit.[23]

Goran, in examining the effect of audit quality on earnings quality showed that the size of the audit institute has a positive and significant effect on earnings quality. The auditor's tenure has a positive and significant effect on earnings quality.[7]

Francis, in examining the effect of auditor characteristics on profit quality and performance, show that the auditor's special characteristics limit the opportunistic and profiteering behavior of managers and thus will improve the quality of accounting profits and company performance and as a result, investors will have more trust in the capital market.[6]

Safarzadeh ,in his research entitled The role of auditor characteristics in improving earnings quality found that the index introduced to the auditor with the criteria of accrual quality, profit stability, profit smoothing and profit conservatism, has a significant inverse relationship and with the timeliness of profit has a direct and significant relationship, but does not have a significant relationship with predictable orofit and value indices.[26]

Mehrani et al, in examining the role of auditor characteristics in earnings quality, found that there is no significant relationship between auditor characteristics and the studied dimensions of earnings quality. In other words, the auditor's tenure has not had a significant effect on earnings quality.[16]

Torabi Nejad , in a study entitled The effect of tenure and auditor size on earnings quality shows that there is a positive and significant relationship between auditor tenure and profit quality. Also, the auditor's short tenure does not have a significant effect on profit quality and there is no significant relationship between auditor size and earnings quality.[29]

Abroad as well; Al-Badal et al., in a study entitled "Characteristics and quality of the audit committee" showed that some of the characteristics of the audit committee affect the quality of profits.[2]

Sai Lim and Kitisik, in a study entitled Audit Committee and Profit Quality show that the audit committee reduces profit management activities in companies. Profit management was usually found where the majority of the audit committee was composed of non-independent managers. The audit committee should be independent and have an impartial role in the development of the firm.[26]

Khalilov et alin a study examining accounting conservatism and corporate profitability, show that conditional (unconditional) conservatism is associated with lower (higher) sales profitability, and conservatism affects the profitability of purchases. [13]

Song et alshowed the relationship between the expertise of the audit committee members and the quality of earnings according to the meta-analysis method that the expertise of the audit committee has a positive relationship with profit quality and of course the accounting expertise shows a stronger relationship.[28]

El-Rasas and Camardin in a study entitled - Profit quality and auditing characteristics in the high market of centralized ownership showed that the independence of the audit committee and investment in internal audit has a positive relationship with profit quality and concentration of ownership is along with lower profit quality.[6]

Inailo and Manag found that the auditor's independence in providing non-audit services appeared to have a positive relationship with the abnormal working capital of accruals, which is an indicator of lower quality of profit.[12]

Suleiman and Raqab in a study entitled Audit Committee Effectiveness, Audit Quality and Profit Manipulation, showed that the independence of the audit committee; experience of members of the audit committee; audit committee meetings and audit quality have a negative and significant relationship with discretionary accruals and there was a significant relationship between the size of the audit committee and the level of discretionary accruals.[27]

Hamilton et alin a study entitled "Does the auditor's rotation affect profit quality?" found that the auditor change was associated with lower accruals (higher profit quality). This relationship is more intense for larger institutions.[9]

Barva in examining the criteria for measuring the quality of profits, showed that companies with relevance and high profit reliability compared to companies with low relevance and profit reliability, have higher profit response coefficient and explanatory power of profit/cost regression.[3]

## 3 Hypotheses

According to the proposed theoretical framework, the research hypothesis is presented as follows:

Main Hypothesis: Different criteria of auditor characteristics moderate the relationship between auditor characteristics and profit quality.

Sub-hypothesis 1- There is a significant relationship between auditor independence and profit quality.

Sub-hypothesis 2 - There is a significant relationship between auditor rotation (auditor tenure) and profit quality.

Sub-Hypothesis 3 - There is a significant relationship between auditor size and profit quality.

Sub-hypothesis 4- There is a significant relationship between the providing the auditor non-audit services and profit quality.

Sub-Hypothesis 5- There is a significant relationship between the fee paid to the auditor and the quality of the profit.

Sub-Hypothesis 6- There is a significant relationship between auditor expertise in the industry and profit quality.

## 4 Research methodology

Differences in applications, measurement tools, research methods and situations make it difficult to compare research. Therefore, applying contradictory researches results, publishing, interpreting, evaluating and recognizing their weaknesses requires a solution that is based on proper review and analysis of the research, using evidences and using a combined method. The meta-analysis provides an estimate that will not be affected by the size of the sample groups. For data collection, the library method has been used and the statistics used in the meta-analysis include Z, P-Value, Chi-square, F and t statistics, and these statistics should convert to a common scale that is called effect size. The purpose of using the effect size is to formulate various statistical findings of studies in a common numerical index and measurement to allow comparison and combination of statistical results of studies.

### 4-1 Statistical population and sample selection

The study population in this study are articles (from experimental studies done) related to the impact of auditor characteristics on earnings quality worldwide and from the website of foreign journals (articles published during 2005-2020) and the websites of domestic scientific research journals (articles published during 2005-2020) were identified and collected. Finally, out of a total of 277 collected studies, 50 studies were analyzed according to the applied limitations and using the systematic removal method.

## 4-2 research models and variables
### 4-2-1 dependent variable

A- The dependent variable is the profit quality, the indicators of which are described below:

1- Quality of accruals: Measured by Decho and Dechio (2002) in model (1):

$$WC\_ACC_{i,t} = a + f_1 CF_{i,t-1} + f_2\, CF_{i,t} + f_3\, \overline{CF}_{i,t+1} + e_{i,t}. \tag{1}$$

CF: Operating cash distributed over the previous year's total assets for homogenization; WCACC: The sum of working accruals obtained in Model (2):

$$WC\_ACC_{i,t} = (\Delta CA_{i,t} - \Delta CL_{i,t} - \Delta Cash_{i,t} + \Delta STD_{i,t})/A_{i,t-1}, \tag{2}$$

CCA: aaaeees in rrr rnnt asstt ;; CC:: hheeees in uurrttt dttt ; CCssh: aahh hhassss ; SSDD: changes in short-term received facilities; A: Total assets.

2- Profit stability: which is examined based on the regression model (3):

$$PTBI_{t+1} = \gamma_0 + \gamma_1 PTBI_t + \varepsilon_{t+1} \tag{3}$$

PTBIt + 1: Profit before tax deduction on total assets in period t + 1

PTBIt: Profit before tax deduction on total assets in period t

3- Profit predictability: Based on the Francis et al work, using the square root of variance, the error estimated from the profit stability equation is measured as described in model (4) [26]

$$Pred_{j,t} = \sqrt{\sigma^2(\hat{v}_{j,t})} \tag{4}$$

On this scale, $\sigma^2(\hat{v}_{j,t})$ shows the variance of the remnants of the profit stability model, larger values for Pred indicate lower predictability of profit and, consequently, lower quality of profit.

4. Profit smoothing: is examined through model (5):

Profit smoothing: Standard deviation of operating profit to first total assets

Standard deviation of the operating cash flow ratio to total assets    (5)

A lower ratio means more profit smoothing and therefore lower profit quality, which means a higher probability of profit smoothing.

5. Timeliness of profit: Using the Roanidek model as described in model (6):

$$EY = b_1 + b_2 * R_{i,t} + e_{i,t} \tag{6}$$

In this model, b2 is the profit timeliness index.

6. Profit conservatism: Khan and Watts (2009) criteria are used as described in model (7):

$$NI_{jt} = \beta_{1t} + \beta_{2t}D_{jt} + (\mu_{1t} + \mu_2 MKV_{jt} + \mu_{3t}MTB_{jt} + \mu_{4t}LEV_{jt})*R_{jt} + (\lambda_{1t} + \lambda_2 MKV_{jt} + \lambda_{6t}MTB_{jt} + \lambda_{4t}LEV_{jt})*D_{jt}*R_{jt} + (\delta_{1t}MKV_{jt} + \delta_{2t}MTB_{jt} + \delta_{3t}LEV_{jt} + \delta_{4t}D_{jt}MKV_{jt} + \delta_{5t}D_{jt}MTB_{jt} + \delta_{6t}D_{jt}LEV_{jt}) + \varepsilon_{jt} \tag{7}$$

: NIjt : Net profit before contingent items to market value of equity j at the end of the year t.

: Rjt : Return on stocks of company j during fiscal year t.

Djt: virtual change. If R <0 is equal to 0, otherwise is equal to zero.

: MKVjt : Natural logarithm of market value of company equity j during fiscal year t.

MTBjt: ratio of market value to book value of company equity j at the end of fiscal year t; LEVjt: the debt-to-qqii tr r tt io of cmmnnj j tt tee ooo oo ficcal aaar t; $\xi$jt: Reii uull or mllll rssiuue

Model (7) is estimated using annual cross-sectional regression and relation (8) is calculated using conditional conservatism:

$$C\text{-}SCORE = \lambda_{1t} + \lambda_{2t}MKVjt + \lambda_{3t}MTB_{jt} + \lambda_{4t}LEV_{jt} \tag{8}$$

### 4-2-2independent variable

The independent variable is the characteristics of the auditor, the indicators of which will be described:

1. Auditor independence: which the model (9) is used:

$$RI = 1-(HC/I)*100 \tag{9}$$

RI: Auditor Independence Ratio, HC : Audit Fee in the Target Year, I: Total Audit Firm Revenue in the Target Year. In this model, it is assumed that the smaller the amount of the auditor's receipts from emll eeer loaati,,, thnn tee ddditor will ee more lll e to rssitt tee mnplyyrr's oooortiii tt ic behaviors.

2. Auditor rotation (tenure): The number of years that the auditor audits in a company.

3. The size of the auditing firm: Mofid Rahbar Auditing organization and auditing firm as a large firm with a high reputation and credit (grade 1) and in contrast to other auditing firms (auditing firms that are members of the Society of Certified Public Accountants), whose size compared to the auditing organization is smaller, considered as an institution with low reputation and credit (grade 2).

4. Provision of non-audit services: If the auditor has performed non-audit services is equal to one and otherwise is equal to zero.

5. Fee paid to the auditor: The natural logarithm of the audit fee has been used to calculate it. Audit fee information is extracted from the accompanying notes to the financial statements of the administrative, public and definite expenditure sector of other expenses.

6. Expertise of the auditor in the industry: Using two approaches, the market share and the portfolio share of the auditing firm is calculated which in this research, the market share approach is used. Auditors' market share is also calculated as described in Model (10):

$$\left(\frac{1}{(IF)}\right) * \left(\frac{1}{2}\right) < \left(\frac{EA}{(EAT)}\right) \tag{10}$$

The total assets of all the owners of a particular auditing firm in a particular industry (EA) are divided by the total assets of the total owners in the industry (EAT). Institutions in this research are considered as industry experts whose market share (i.e. the phrase to the right of the equation) more than the phrase one on the number of companies in an industry (IF) multiplied by one divided by two (i.e. the expression to the left of the equation) (Hajiha and Sobhani).

## 5Analysis of research data

In the present study, articles published in domestic and foreign journals have been used and in the present study, an attempt has been made to observe all four mentioned steps.

A- Information coding: In the following, in the form of Tables (1) and (2), we will examine the research variables in the collected studies separately:

**Table (1)** List of domestic articles used for meta-analysis

| Statistic value | Statistic type | result | Independent variable | Dependent variable | sample | Research country | Publish year | researcher | row |
|---|---|---|---|---|---|---|---|---|---|
| -١.٤٤ and ١.٠٩ ٢.٠٧ -٠.٦٠ | t | Lack of significant relationship | Auditor tenure | Quality of benefit (inclusive of): The value of propulsion And caution ((conservatism | ٢١٧ | Iran | 2013 | Mehrani et al. | ١ |
| | | Lack of significant relationship | Auditor size | | | | | | |
| ٥.٩٤ | z | Positive and significant relationship | Auditor tenure | Profit quality (accruals) | ٨٣ | Iran | 2016 | Piri & Sedqiani | ٢ |
| ٢.١٥٥ | t | Positive and significant relationship | Auditor tenure duration | Profit conservatism | ١٠٢ | Iran | 2013 | Jahanshah & Lavasani | ٣ |
| -٠.٥١٠ | | Lack of significant relationship | Auditor type (auditor size) | | | | | | |
| ٢.٥٣.٧ | t | Positive and significant relationship | Auditor tenure | Profit quality ((accruals | ١٢٨ | Iran | 2019 | Khoramabadi et al. | ٤ |
| -٠.٠٤٩ | t | Lack of significant effect | Auditor tenure | Profit conservatism | ٧٢ | Iran | 2012 | Khalilzadeh vet al. | ٥ |
| -٠.٩١٣ | | Lack of significant effect | | profit stability | | | | | |
| -١.٠٨٨ | t | Lack of significant relationship | Auditor tenure | Profit conservatism | ٦٩ | Iran | 2014 | Khajavi & Hosseininia | ٦ |
| -٦.٨٧ | t | Negative and significant relationship | Audit fee | financial reporting quality Quality of . optional laccruals | ١١٩ | Iran | 2019 | Khoshkar et al. | ٧ |
| ٠.١٤٩ | t | Lack of significant relationship | Audit fee | financial reporting quality Quality of ) optional (accruals | ٧٠ | Iran | 2015 | Rajabi et al. | ٨ |
| ١.٥٣٧٤٥٨ | t | Positive and significant relationship with profit quality | Audit fee | financial reporting quality Quality of . optional (accruals | ١٠٥ | Iran | 2019 | Ramezani | ٩ |
| ٤.٧٢١٣ | t | Existence of a positive and meaningful relationship | Audit institute size | profit stability | ١٨٤ | Iran | 2016 | Salehi et al. | ١٠ |
| ٤.٧٢١٣ | | Existence of a positive and meaningful relationship | Audit expertise in industry | | | | | | |
| ١.٧٧٨١ | | Lack of significant relationship | Auditor tenure | | | | | | |
| -٠.٥٠١ | t | Lack of significant relationship | Auditor rotation | Accruals quality | ٢١٢ | Iran | 2014 | Safarzadeh | ١١ |
| -٢.١٦٢ | | Negative and significant relationship | | profit stability | | | | | |
| -٤.٣٩٠ | | Negative and significant | | Profit smoothing | | | | | |

| Value | Test | Relationship | Independent variable | Profit quality measure | Sample | Country | Year | Author | No. |
|---|---|---|---|---|---|---|---|---|---|
| | | relationship | | | | | | | |
| -٢.٦٤٨ | | Negative and significant relationship | | Profit conservatism | | | | | |
| ٣.٦٢٨ | | Positive and significant relationship | | Profit timeliness | | | | | |
| ١.٢٤٦ | | Lack of significant relationship | | Profit Predictability | | | | | |
| -٠.٤٢٠ | | Lack of significant relationship | Audit institute size | Accruals quality | | | | | |
| ٠.٧٠٦ | | Lack of significant relationship | | profit stability | | | | | |
| ٠.١٧٨ | | Lack of significant relationship | | Profit smoothing | | | | | |
| ٠.٦٢٠ | | Lack of significant relationship | | Profit conservatism | | | | | |
| ١.٦٧٠ | | Lack of significant relationship | | Profit timeliness | | | | | |
| -٠.١٤٩ | | Lack of significant relationship | | Profit Predictability | | | | | |
| -٢.٤٩٥ | | Negative and significant relationship | Auditor expertise in industry | Accruals quality | | | | | |
| -٢.٢٩٨ | | Negative and significant relationship | | profit stability | | | | | |
| -١.٢٨٦ | | Lack of significant relationship | | Profit smoothing | | | | | |
| -٠.٤٩١ | | Lack of significant relationship | | Profit conservatism | | | | | |
| ٣.٢٧٣ | | Positive and significant relationship | | Profit timeliness | | | | | |
| ٠.٧٦١ | | Lack of significant relationship | | Profit Predictability | | | | | |
| ٠.٠٤٩ | significance | Positive and significant relationship | Rotation (rotation / tenure) of the partners of the auditing institute | Profit conservatism | ١٢٧ | Iran | 2018 | Kashanipoor et al. | ١٢ |
| -٥.٧١٣ | t | Negative and significant relationship | Auditor tenure | Profit conservatism | ٥٨ | Iran | 2010 | Karami & Bazr afshan | ١٣ |
| -٢.٩٢ | t | Negative and significant relationship | Audit institute size | Optional accruals | ١٠٢ | Iran | 2014 | Marfoo & Amiri | ١٤ |
| -٤.٣٨ | | Negative and significant relationship | Auditor expertise in industry | | | | | | |
| ٣.٠٠٦ | t | Positive and significant relationship | Profit conservatism | Audit institute change | ٦٣ | Iran | 2014 | Malekian & Abdi poor | ١٥ |
| ٢.٣٥٠ | t | Positive and significant relationship | Audit committee independence | Profit conservatism | ١٣٧ | Iran | 2017 | Nasir zadeh et al. | ١٦ |
| ٤.٧٤٦ | | Positive and significant relationship | Audit committee size | | | | | | |
| ٣.٠٧٨ | t | Positive and significant relationship | Auditor tenure | Profit conservatism | ٤٩ | Iran | 2014 | Vakili Fard & Maranjoori | ١٧ |
| -١.٥٠٤ | t | Lack of | Audit institute | accruals | 342 | Iran | 2014 | Vakili Fard et | ١٨ |

| Statistic value | Statistic type | result | Independent variable | Dependent variable | sample | Research country | Publish year | researcher | row |
|---|---|---|---|---|---|---|---|---|---|
|  |  | significant relationship | size |  | auditor's change observation |  |  | al. |  |
| -٢.٤٥٩ | t | Negative and significant relationship | Auditor tenure | accruals | ٦٨ | Iran | 2013 | Alavi Tabari & Bazrafshan | ١٩ |
| -١.٤٥٢ | t | Lack of significant relationship | Auditor expertise in industry | accruals | ١١٧ | Iran | 2009 | Etemadi et al. | ٢٠ |
| -٠.١٣٩ | t | Lack of significant relationship | Auditor expertise in industry | accruals | ١١٧ | Iran | 2012 | Aqayi & Nazemi | ٢١ |
| -١.٢٣٧ | t | Lack of significant relationship | Audit institute size | Optional accruals | ٧٢ | Iran | 2011 | Jabarzadeh et al. | ٢٢ |
| ٠.٣٨٨ |  | Lack of significant relationship | Auditor tenure |  |  |  |  |  |  |
| -0.٢١١ | t | Negative and significant relationship | Audit fee | Profit stability | ٨٢ | Iran | ٥٥٥٥ | Khodadadi et al. | ٢٣ |
| -٢.15 | t | Negative and significant relationship | Auditor tenure | Profit Predictability | 1626 year-company | Iran | ١١١١ | Azizkhani & Safarvandi | ٢٤ |
| ٠.٠٤٠٩ | p-value | Positive and significant relationship | Audit institute size | Profit conservatism | ١٥٥ | Iran | 2013 | Hassani | ٢٥ |
| ١.٣٠٧ | t | Lack of significant relationship | Auditor tenure | Profit stability | 819-year-company | Iran | 2017 | Shams Al-dini et al. | ٢٦ |
| -٠.٨١٠ |  | Lack of significant relationship |  | Accruals quality |  |  |  |  |  |
| ١.٢٩٥ |  | Lack of significant relationship | Audit institute size | Profit stability |  |  |  |  |  |
| -١.٩٨٢ |  | Negative and significant relationship |  | Accruals quality |  |  |  |  |  |
| -٤.١٤٣ | t | Negative and significant relationship | Auditor tenure | Accruals quality | ١٠٠ | Iran | 2013 | Taghizadeh Khanqah | ٢٧ |
| ٣.٨٤ | t | Positive and significant relationship | Auditor comment | Report timeliness | ١٠٠ | Iran | 2014 | Khodadadi et al. | ٢٨ |

**Table (2)** List of foreign articles used for meta-analysis

| Statistic value | Statistic type | result | Independent variable | Dependent variable | sample | Research country | Publish year | researcher | row |
|---|---|---|---|---|---|---|---|---|---|
| ٠.٠٠١ | p-value | Positive and significant relationship | Audit institute size | Profit predictability | ٤٤١٧ | England | ٢٠٠٩ | Husseini | ١ |
| -٠.٢٩٤ |  | Lack of significant relationship | Audit institute size | Combined variable with factor analysis of (quality of accruals, profit stability, profit predictability and auditor expertise in (the industry | ١١٦ | Indone-sia | ٢٠١٨ | Suparsoto et al. | ٢ |
| -٢.٦٦١ | t | Negative and significant relationship | Auditor tenure |  |  |  |  |  |  |
| ١.٥٦٣ |  | Lack of significant relationship | Auditor expertise in industry |  |  |  |  |  |  |
| ٩.٢١٠ | t | Positive and significant relationship | Audit rotation | discretionary accruals | ١٨٧ | Brazil | ٢٠١٨ | Silvester et al. | ٣ |

| ٠.٦٨٢ | t | Lack of significant relationship | Non-audit services | discretionary accruals | ٣٢٥ | Australia | ٢٠١٠ | Rasmin | ٤ |
|---|---|---|---|---|---|---|---|---|---|
| -٠.٩٤١ | | Lack of significant relationship | Auditor expertise | | | | | | |
| -٢.٩٧ | | Negative and significant relationship | Auditor tenure | discretionary accruals | ٧٢ | Jordan | ٢٠١٧ | Al-Zui | ٥ |
| -٢.٥٦ | t | Negative and significant relationship | Audit institute size | | | | | | |
| -١.٨٧ | | Lack of significant relationship | Auditor expertise in industry | | | | | | |
| -٤.٩٨ | | Negative and significant relationship | Auditor independence | | | | | | |
| ٠.٠٠٠ | p-value | Negative and significant relationship | Audit institute size | discretionary accruals | ٤٧٢٣ | Portugal | ٢٠١٨ | Ata Paula | ٦ |
| -٣.١٦٤ | | Negative and significant relationship | Audit institute size | Profit conservatism | ٣٩ | Oman | ٢٠١٢ | Hamdan et al. | ٧ |
| -٠.٨٣٠ | t | Lack of relationship | Auditor fee | | | | | | |
| -١.٩٠٦ | | Lack of relationship | Industry expertise | | | | | | |
| ٥.٢٢٤ | | Positive and significant relationship | Auditor independence | Profit conservatism | ٥٩ | Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates | ٢٠٢٠ | Hamdan | ٨ |
| ٢.٤٨٠ | t | Positive and significant relationship | Audit institute size | | | | | | |
| -٢.٣٠ | t | Negative and significant relationship | Auditor ten-ure | accruals | ٧٣٩ | China | ٢٠١٧ | Leong et al. | ٩ |
| ٠.٠٠٠ | p-value | Positive and significant relationship | Auditor rotation | Profit conservatism | ١١٦٤٣ | U.S.A | ٢٠١١ | Kramer et al. | ١٠ |
| ٠.٠٣٩ | t | Positive and | Auditor independenc | Accruals and timeliness | ٢٠٧ | U.S.A | ٢٠٠٢ | Day et al. | ١١ |

| Value | Statistic | Result | Independent variable | Dependent variable | Sample | Country | Year | Author | No. |
|---|---|---|---|---|---|---|---|---|---|
| | | significant relationship | e ( non-audit services) | | | | | | |
| .٩٧٤ | | Lack of significant relationship | Auditor independence | discretionary accruals | ٣١ | Bahrain | ٢٠١٧ | Jahmani | ١٢ |
| -٢.١١١ | t | Negative and significant relationship | Audit institute size | | | | | | |
| .٩٤٨ | | Lack of significant relationship | Auditor independence | discretionary accruals | ٣٤٢ | Nigeria | ٢٠١٤ | Aqustin | ١٣ |
| .٢٣٥ | p-value | Lack of significant relationship | Auditor tenure | | | | | | |
| -٥.٩ | t | Negative and significant relationship | Audit tenure | discretionary accruals | ٣٢٧٧٧ | China | ٢٠٠٩ | Goul et al. | ١٤ |
| -٠.٨١٥ | t | Lack of significant relationship | Audit institute size | discretionary accruals | ١٠٠٢ | Malaysia | ٢٠١٥ | Tour et al. | ١٥ |
| -٢.٣٨ | t | Negative and significant relationship | Auditor independence | discretionary accruals | ٥٠٨ | Malaysia | ٢٠١٥ | Al-Rassas | ١٦ |
| ٣.٤٩ | t | Positive and significant relationship | Auditor independence (Non-audit services) | Unusual accruals | ١٤٧ | Italy | ٢٠١٣ | Iyanlu | ١٧ |
| .٤٠٠ | | Lack of significant relationship | Audit institute size | discretionary accruals | ٥٤٨ | Malaysia | ٢٠٠٧ | Tourman | ١٨ |
| -٢.٠٩٤ | t | Negative and significant relationship | Auditor independence | | | | | | |
| .٩٥٨ | | Lack of significant relationship | Audit institute size | discretionary accruals | ١٥٣ | Malaysia | ٢٠١٣ | Chandrasgram et al. | ١٩ |
| .٧٧٨ | p-value | Lack of significant relationship | Auditor independence | | | | | | |
| ١.٣٨ | t | Lack of significant relationship | Audit institute size | Profit smoothing | ٣٤٧ | Africa | ٢٠١٧ | Peterson | ٢٠ |
| -٤.١٠ | t | Negative and significant relationship | Audit institute size | smoothing | ٧٣٠٨ | India | ٢٠١٥ | Hog et al. | ٢١ |
| ٠.٠٧ | Significance level | Lack of significant relationship | Non-audit services | Profit management | ٣٠٧٤ | U.S.A | ٢٠٠٢ | Frankel et al. | ٢٢ |

| | | p | | | | | | | |
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## 5-1 statistical description of variables:

The average effect size calculated for different studies in this study is 0.166, which is considered as a relatively average effect size; also, to investigate the publication bias, a funnel sample was drawn by the comprehensive meta-analysis software; in this study, it can be said that the publication bias has been minimized, so the statistical results are significant and reliable.

## 5-2 Results of research findings

The results of performing meta-analysis on the whole statistical sample, including internal and external studies, are reflected in separate tables. In the meta-analysis approach to test the research hypotheses, first the effect size heterogeneity test is justified in order to determine the type of meta-analysis model used to test the considered hypothesis. If the data is homogeneous, the fixed effects pattern is used, and if it is heterogeneous, the random effects pattern is used, the results of which are presented in Table (3):

**Table (3)** Effect size heterogeneity test

| Test result | Effect size heterogeneity test | | | relationship between independent and dependent variables | hypothesis |
|---|---|---|---|---|---|
| | I2 value | Significance level | Q statistic | | |
| Random effects | 80.58 | 0.000 | 41.19 | Auditor independence and profit quality | Sub. 1 |
| Random effects | 89.01 | 0.000 | 191.08 | Auditor rotation (auditor tenure) and profit quality | Sub. 2 |
| Random effects | 82.26 | 0.000 | 95.83 | Auditor size and profit quality | Sub. 3 |
| Random effects | 79.19 | 0.008 | 9.61 | Provide non-audit services by the auditor and profit quality | Sub. 4 |
| Random effects | 82.26 | 0.000 | 22.55 | fee paid to the auditor and profit quality | Sub. 5 |
| Random effects | 78.53 | 0.000 | 27.95 | Auditor expertise in industry and profit quality | Sub. 6 |

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In Table (3), the Q statistic value for all variables is larger than the value of the table and the significance level of Q test is less than the significance level of 0.05. However, since this index is sensitive to increasing the number of effect size, and with increasing the number of effect sizes, the power of this test to reject homogeneity increases, so I square is another index that is used for this

purpose; a I2 value for the considered variables is greater than 75%, indicating that the effect size heterogeneity is relatively high; Therefore, hypothesis zero is rejected and hypothesis one on the effect size heterogeneity of the mentioned variables is confirmed; therefore, due to the heterogeneity, a random effects model is used to estimate the effect size of these variables; considering that after reviewing the meta-analysis assumptions, it was concluded that the random effect model should be used to combine the results to report the effect size, so in Table (4), the effect size report of the studies performed in the random model is presented:

**Table (4)** research sub-hypotheses test based on fixed or random effects pattern

| result | significance | Z statistic | Effective size confidence interval | Average weight size of effect | Relationship between variables | hypothesis |
|---|---|---|---|---|---|---|
| confirm | ٠.٠٠٠ | ٣.٥٥ | and ٠.٣٢٦) (٠.٠٩٧ | ٠.٢١٤ | Auditor independence and profit quality | 1 |
| confirm | ٠.٠٠٠ | -٨.٣٥ | -٠.٢٥٤ - ٠.١٦٠) and( | -٠.٢٠٨ | Auditor rotation (auditor tenure) and profit quality | 2 |
| confirm | ٠.٠٠٠ | -٦.١٢ | and- ٠.١١٨) (-٠.٢٢٥ | -٠.١٧٢ | Auditor size and profit quality | 3 |
| reject | ٠.٢١٣ | ١.٢٤ | (-0.551 and 0.226) | ٠.٠٨٩ | Providing non-audit services by the auditor and profit quality | 4 |
| confirm | ٠.٠٠٣ | -٢.٩٧ | -0.123 and -0.538) | -٠.٣٤٧ | fee paid to the auditor and profit quality | 5 |
| confirm | ٠.٠٠١ | -٣.٣٩ | (-0.099 and -0.356) | -٠.٢٣٢ | Auditor expertise in industry and profit quality | 6 |

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In the following, the results obtained from the use of meta-analysis models including point estimation (average based on sample size weighting) and interval estimation (confidence interval), effect size of studies along with test statistics and significance level in Table (5) are presented:

**Table (5)** Frequency distribution of effect size classes of variables

| Frequency percentage | frequency | Amplitude of effect intensity change |
|---|---|---|
| ٠.٠٦ | ٣ | (Low effect intensity (less than 0.1 or greater than -0.1 |
| ٠.٨٤ | ٤٢ | Moderate effect intensity (between 0.1 to 0.3 or between -0.1 to -(0.3 |
| ٠.١٠ | ٥ | (High impact intensity (greater than 0.3 or less than -0.3 |
| ١.٠ | ٥٠ | Sum. |

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In Table (5), out of 50 articles, 3 cases equal to 6% was in the lower class, 42 cases equal to 84% in the middle class and finally 5 cases equal to 10% in the upper class; therefore, the size of the effect obtained in the first interval (i.e. less than 0.1) is small and the study hypothesis is not strong enough. Also, when the value of r is in the second interval (i.e. between 0.1 and 0.3), the effect size is moderate, and finally, when the value of r is in the third interval, the intensity of the effect is evaluated as high. According to this classification, 84% of the size of the effects is

evaluated in the middle group; therefore, it can be said that based on the results of meta-analysis, the auditor's characteristics and profit quality had a moderate relationship.

### 5-3 Investigation of research hypotheses

To examine the main hypothesis of the research, we examine the related sub-hypotheses, the results of which are shown in Table (7):

### 5-3-1 the first sub-hypothesis of the research

The results of meta-analysis of the first sub-hypothesis of the research are presented in Tables (6) and (7):

**Table (6)** Effect size heterogeneity test

| Test result | Effect size heterogeneity test | | | relationship between independent and dependent variables | Hypothesis name |
|---|---|---|---|---|---|
| | I2 value | Significance level | Q statistic | | |
| Random effects | 80.58 | 0.000 | 41.19 | Auditor independence and profit quality | Sub.1 |

**Table (7)** effect size Average and confidence interval

| result | Significance level | Z statistic | effect size confidence interval | Weight average of effect size | Relationship between variables | hypothesis |
|---|---|---|---|---|---|---|
| con-firm | 0.000 | 3.55 | (0.097 and 0.326) | 0.214 | Auditor independence and profit quality | Sub. 1 |

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In Table (6), 9 studies selected the auditor's independence as a characteristic of the auditor and examined its relationship with profit quality, the results of their meta-analysis is shown in Tables (4-4 and 5-4). The positive confidence interval reported from this number of studies (0.326 and 0.097) as well as the positive number, mean Z indicates a significant positive relationship between auditor independence and profit quality. Homogeneity test between studies with a value of 41.19 shows a lot of heterogeneity.

### 5-3-2 the second sub-hypothesis of the research

The results of meta-analysis of the second sub-hypothesis of the research are presented in Tables (8) and (9):

**Table (8)** Effect size heterogeneity test

| Test result | Effect size heterogeneity test | | | relationship between independent and dependent variables | Hypothesis name |
|---|---|---|---|---|---|
| | I2 value | Significance level | Q statistic | | |
| Random ef-fects | 89.01 | 0.000 | 191.08 | Auditor rotation (auditor tenure) and profit quality | Sub. 2 |

**Table (9)** Average effect size and confidence interval

| Hypothesis result | Significance level | Z statistic | effect size confidence interval | Effect size weight average | relationship between variables | Hypothesis name |
|---|---|---|---|---|---|---|
| confirm | ۰/۰۰۰ | -8.35 | (-0.254 and -0.160) | -0.208 | Auditor rotation (audi-tor tenure) and profit quality | Sub. 2 |

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Also, 22 cases selected the auditor rotation (auditor tenure) as a feature of the auditor and examined its relationship with profit quality which the results of their meta-analysis are presented in Tables (4-4 and 5-4). The positive confidence interval reported from this number of studies (-0.160 and -0.254) as well as the negative number, mean Z indicates a significant negative relationship between auditor rotation (auditor tenure) and profit quality. The homogeneity test between studies with a value of 191.08 shows a large heterogeneity.

### 5-3-3 Third sub-hypothesis of research
The results of meta-analysis of the third sub-hypothesis of the research are presented in Tables (10) and (11):

**Table (10)** Effect size heterogeneity test

| result | Effect size heterogeneity test | | | Relationship between independent and dependent variables | hypothesis |
|---|---|---|---|---|---|
| | I2 value | Significance level | Q statistic | | |
| Random effects | 82.26 | 0.000 | 95.83 | Auditor size and profit quality | Sub. 3 |

**Table (11)** effect size Average and confidence interval

| result | Significance level | Z statistic | effect size Average confidence interval | Effect size weight average | Relationship between variables | Hypothesis name |
|---|---|---|---|---|---|---|
| confirm | 0.000 | -6.12 | (-0.118 and -0.225) | -0.172 | Auditor size and profit quality | Sub. 3 |

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18 studies selected the size of the auditor as a feature of the auditor and examined its relationship with profit quality, the results of their meta-analysis are presented in Tables (4-4 and 5-4). The positive confidence interval reported from this number of studies (-0.118 and -0.225) as well as the negative number, mean Z indicates a significant negative relationship between auditor size and profit quality. Homogeneity test between studies with a value of 95.83 shows a lot of heterogeneity.

### 5-3-4 the fourth sub-hypothesis of the research
The results of meta-analysis of the fourth sub-hypothesis of the research are presented in Tables (12) and (13):

**Table (12)** Effect size heterogeneity test

| Test result | Effect size heterogeneity test | | | relationship between independent and dependent variables | hypothesis |
|---|---|---|---|---|---|
| | I2 value | Significance level | Q statistic | | |
| Random effects | 79.19 | 0.008 | 9.61 | Providing non-audit services by the auditor and profit quality | Sub.4 |

**Table (13)** effect size Average and confidence interval

| result | Significance level | Z statistic | effect size Average confidence interval | Effect size weight average | relationship between variables | Hypothesis name |
|--------|--------|--------|--------|--------|--------|--------|
| reject | 0.213 | 1.24 | (-0.051 and 0.226) | 0.089 | Providing non-audit services by the auditor and profit quality | Sub. 4 |

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Three studies selected the non-audit services provided by the auditor as a characteristic of the auditor and examined its relationship with profit quality which the results of their meta-analysis are presented in the tables. The positive confidence interval reported from this number of studies (0.226 and -0.051) as well as the positive number, mean Z indicates a positive and non-significant relationship between non-audit services provided by the auditor and profit quality; therefore, this hypothesis is also rejected; the homogeneity test between studies with a value of 9.61 shows a large heterogeneity.

**5-3-5the fifth sub-hypothesis of the research**
The results of meta-analysis of the fifth sub-hypothesis of the research are presented in Tables (14) and (15):

**Table (14)** Effect size heterogeneity test

| Test result | Effect size heterogeneity test | | | relationship between independent and dependent variables | hypothesis |
|--------|--------|--------|--------|--------|--------|
| | I2 value | Significance level | Q statistic | | |
| Random effects | 82.26 | 0.000 | 22.55 | Fee paid to the auditor and profit quality | Sub.5 |

**Table (15)** effect size Average and confidence interval

| result | Significance level | Z statistic | effect size Average confidence interval | Effect size weight average | relationship between variables | Hypothesis name |
|--------|--------|--------|--------|--------|--------|--------|
| confirm | 0.003 | -2.97 | (-0.538 and -0.123) | -0.347 | Fee paid to the auditor and profit quality | Sub. 5 |

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5 studies selected the fee paid the auditor as a characteristic of the auditor. The positive confidence interval reported from this number of studies (-0.123 and -0.538) as well as the negative number, mean Z indicates a negative and significant relationship between fee paid to the auditor and profit quality; the homogeneity test between studies with a value of 22.55 shows a relatively large heterogeneity.

**5-3-6Sixth sub-hypothesis of research**
The results of meta-analysis of the sixth sub-hypothesis of the research are presented in Tables (16) and (17):

**Table (16)** Effect size heterogeneity test

| Test result | Effect size heterogeneity test | | | relationship between independent and dependent variables | hypothesis |
|---|---|---|---|---|---|
| | I2 value | Significance level | Q statistic | | |
| Random effects | 78.53 | 0.000 | 27.95 | Auditor expertise in industry and profit quality | Sub.6 |

**Table (17)** effect size Average and confidence interval

| result | Significance level | Z statistic | effect size Average confidence interval | Effect size weight average | relationship between variables | Hypothesis name |
|---|---|---|---|---|---|---|
| confirm | 0.001 | -3.39 | (-0.356 and -0.099) | -0.232 | Auditor expertise in industry and profit quality | Sub. 6 |

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Also 7 studies selected the auditor expertise in industry and profit quality as a characteristic of the auditor and examined its relationship with profit quality which the results of their meta-analysis are presented in the tables (4-4 and 5-4). The positive confidence interval reported from this number of studies (-0.099 and -0.356) as well as the negative number, mean Z indicates a negative and significant relationship between the auditor expertise in industry and profit quality; homogeneity test between studies with a value of 27.95 shows a lot of heterogeneity. In the following, in Tables (18) and (19), the research is grouped based on the criteria for calculating the characteristics of the auditor and the quality of profit:

**Table (18)** Research grouping based on criteria for calculating auditor characteristics

| Related researches | Auditor characteristic |
|---|---|
| Nasirzadeh; Al-Zawi; Hamdan; Day; Jahmani; Augustine; Al-Rassas; Ianloo and Chandrasgram | Auditor independence |
| Mehrani, Piri; Jahanshad; Khorramabadi; Khalilizadeh; Khajavi, Safarzadeh, Kashanipour; Karami; Vakili, Alavi; Jabarzadeh; Azizkhani; Shams al-Dini; Taghizadeh; Suparsono; Sylvester Al-Zawi; Leung; Kramer; Augustine and Goole | Auditor rotation |
| Mehrani; Salehi; Safarzadeh; Maroof; Vakili; Jabbarzadeh; Shams al-Dini; Hussaini ; Suparsono, Al-Zawi;, Anna Paula; Hamdan; Hamdan, Jahmani, Noor; Norman); Chandrasgram and Petersen | Auditor size |
| Day and Ianloo and Huak | Non-audit services |
| Khoshkar; Rajabi; Ramezani; Khodadadi and Hamdan | Auditor fee |
| Safarzadeh, Maroof; Etemadi; Aghaei, Suparsono; Rasim and Al-Zawi | Expertise in industry |

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**Table (19)** research grouping based on profit quality calculation criteria

| Related researches | Profit quality criteria |
|---|---|
| Piri Khoramabadi, Khoshkar, Rajabi,Ramezani, Safarzadeh, Maroof, Vakili, Alavi, Etemadi, Aqayi, Jabarzadeh, Shams Al-dini, Taqi zadeh, Soparsoto, Sylvester, Rasmin , Al-Zawi, Atapaula (), Leong), Dey, Jahmani , Agastin),Goul, Tour, Al-Rassas, Iyanlu, Tourman, Chandrasgram | Accruals quality |
| Khalilizadeh; Salehi; Safarzadeh; Khodadadi; Shams al-Dini; Suparsono | Profit stability |
| Mehrani Safarzadeh Azizkhani Hosseini Vesoparsono | Profit predictability |
| Safarzadeh and Peterson and Khodadadi et al | Profit smoothing |
| Safarzadeh and Dey and Faramkal et al | Profit timeliness |
| Mehrani Jahanshad; Khalilizadeh Khajavi,Safarzadeh), Kashanipour; Karami; Nasirzadeh; Vakili Fard; Hamdan; Hamdan and Kramer | conservatism |

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Regarding the main hypothesis of the research, the results of 50 studies on the relationship between auditor characteristics and profit quality indicate that these studies are heterogeneous. Therefore, by combining documented correlation statistics in this research, no specific conclusion can be reached about the existence and extent of such a relationship. Thus, in order to identify the cause of this heterogeneity, we can investigate this issue by dividing the researches based on different criteria of the auditor's characteristics and calculating the analysis of intergroup variance. Therefore, to test the main hypothesis of the research and examine whether this criterion of classification, i.e. different criteria for measuring the profit quality is a factor moderating the relationship between the two main variables of research (auditor characteristics and profit quality) or not; the statistical value obtained from the intragroup and intergroup homogeneity test is calculated and presented. The results of the homogeneity test of the main hypothesis subgroups are shown in Table (20):

**Table (20)** Results of the homogeneity test of the main hypothesis subgroups

| Significance level | F statistic value | sum of squares | index |
|---|---|---|---|
| 0.254 | 1.35 | 77.44 | intergroup |
| | | 662.2 | intragroup |

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As can be seen in Table (20), the value of the intragroup homogeneity test is non-significant; therefore, the different criteria used in the research have been one of the factors of contradiction in the research results; therefore, the studies within the classes are homogeneous and the researcher has done well in identifying key variables (i.e. auditor independence, auditor rotation (auditor tenure), auditor size, providing non-audit services; auditor paid fees and auditor expertise in the industry) and the second main hypothesis of the research is confirmed.

# 6 Discussion and conclusion

The present study seeks to meta-analyze the characteristics of the auditor and the profit quality. Finally, the results of the main hypothesis of the research showed that different criteria of auditor characteristics moderate the relationship between auditor characteristics and profit quality and there is a significant relationship between auditor independence and profit quality; there is also a significant relationship between auditor rotation and profit quality, auditor size and profit quality, non-audit services provided by the auditor and profit quality, between fee paid to auditor and profit quality and between auditor expertise in industry and profit quality and the main research hypothesis also confirmed. Research evidence generally suggests that the factors that measure the characteristics of the auditor have been able to play an important role in changing the quality of companies' profits. In this regard, Safarzadeh (2014) and Moradi and Arab (2017), using the information of 73 companies listed on the Tehran Stock Exchange during 2011-2015 showed that the auditor's characteristics are effective in improving profit quality which is in line with the results of the present study. The results are in accordance with the research of Reguera et al. and Aqayi and Nazemi Araaaa ni woo eeeee e tttt teere is nn ieee rse rll tt inniii p ttt ween tee dddrr 's eeee rtiee in i--dustry and the management of discretionary accruals. In addition, Song et al. showed that the expertise of audit committee has a significant relationship with profit quality which is in line with the results of the present study.

According to the research hypotheses, it is suggested to the stock exchange organization to adopt rules and regulations to determine the real value of companies, transparency of information and better understanding of performance, which as much as possible during the many years use existence of high-quality auditors to audit financial statements. In addition, one of the necessary measures is to more emphasize and control of the stock exchange organization and the auditing organization as a reference for compiling accounting standards on the phenomenon of accounting information quality and also profit quality. Investors and creditors, as external users, are also suggested to pay attention to the profit quality phenomenon when using financial statements to decide to invest in corporate stocks or sell stocks; in addition, investors can benefit from the reliable results of meta-analytic researches to assess the inherent risk of accounting information when making securities trading decisions. This research provides an integrated view for the audiences while providing a clear view of the reasons for the contradictions around the different criteria of auditor characteristics. Researchers are suggested to investigate the following topics in their future researches:

From a more comprehensive perspective, examine the role of items such as the history of the audit firm, the competitive environment of the audit services market, the nature of the audit firm's partners and the quality rating of the audit firms along with other common characteristics used in terms of profit quality.

Due to the role of changes in the economic and business environment and the activities of companies in various industries that are not focused on in the present study, it is recommended to researchers to consider additional organizational conditions, competitive environment and economic status, and conduct coherent additional researches.

Meta-analysis of the impact of audit committee features on profit management.

Conducting additional researches focusing on the effectiveness of the performance and characteristics of the audit committee along with the characteristics of the auditor to increase profit quality

and conducting additional researches focusing on the effectiveness of internal controls and attention to control weaknesses along with the characteristics of the auditor to increase the profit quality.

## Resources

[1] Alaaaal, Fttima & Hamda,, Allam & uureiaat, Qssim. "*Audit Committee Characteristics and Earnings Quality: Evidence From Bahrain Bourse.*. 2020, 10.4018/978-1-5225-9607-3.ch002.

[2] Al-Rssaa,, AHH ddd Kamrrii ,, H. "*Dieectrr'' ineeeeddccc,, intellll dddit fu---tion,ownership concentration and earnings quality in Malaysia,,* Aiian ooiial ccinnee,2015, **11**(15),pp. 244-256. 122980. 10.1016/j.physa.2015.122980

[3] Braaa, A. "*Using the FASB qualitative characteristics in earning quality measures,,* rr o Quest information and learning company, UMI number.2006,pp.320-8143. 10.1016/j .jcle-pro.2006.118557

[4] Dff...... Dkkleeer. "*Earnings management:reconciling theviewsofaccountingacademics*"rrrcctitinnrrsrrrr uuultt rr cccccccccciHHHrissss .2000,pp.235-250.10.15722/JDS .17.9.201909.103

[5] Dehdar, Farhad , "*The Impact of the Audit Committee and Audit Quality on Profit Management Prevention, Quarterly Journal of New Researches in Management and Accounting*,2016,**16** (1), pp.1-11. 10.15722/JDS.17.9.201609.103

[6] aaacci,, ,,, Olssnn, ,,, & iiii pprr, K. "*Costs of equity and earnings attrib*utss.. hh*e* Accounting Review.2006,**79**(1), pp.967-1010. 10.1016/j .jclepro.2006.118557

[7] Goran, Fatemeh; Ghanbari, Mehrdad, "*Investigating the Impact of Audit Quality on Profit Quality, Fourth National Conference on Management, Economics and Accounting*, Tabriz: East Azerbaijan Industrial Management Organization, University of Tabriz.2016.

[8] Hjj ih,, rrrr hhhhhhhhhhh, Naaa. "*Investigating the effect of auditor expertise in industry on capital cost and interest rate of borrowing companies listed on Tehran Stock Exchange*, Accounting and Management Auditing Knowledge,2012,**1** (3), pp.35-46. 10.22103/jak.2012.523

[9] Hmmilt,,, ,,, Ru,,,,,, , ., eeeeeeD. & Tlll rr , .. "*Audit Partner Rotation, Earnings Quality and Earnings Conservatism*.. rrr ii gg ppprr , llllll of Acnnnnti,,, Unirrr sity of Nww South Wales, Australia.2011.

[10] Haaaa ri, uu aa; Nrr nnji, Maaa. "*The Effect of Audit Committee Effectiveness on Timeliness of Financial Reporting, M.Sc. Thesis*, Razi University, Faculty of Social Sciences.2016.

[11] Hogan, C. E., and M. S. Wilkins."*Evidence on the audit risk model: Do auditors increase audit fees in the presence of internal control deficiencies*"", Cttt mmrr rr y Acctttt igg R--search, 2008.**25** (1),pp. 219-242.

[12] Iiiii ll l,, G. J Maaag G... "*The effects of board and auditor independence on earnings quality: evidence from Italy*JJ Juuraal ff aa neeemnnt & Geee rnnnee,2015,**19**(1), pp. 229–253.

[13] Klll il,,, Arr mmAdd Grr cia Omm, Bett ri.. "*Accounting Conservatism And The Profitability Of Corporate Insiders*". Aiii lbble At SSRN: Http::://SrrCC6m/Attt ract22222222 Or Http://Dx.Doi.Org/10.2139/Ssrn.3362468.

[14] ,,,, ,,, ,, ,,, .... ddd Ynn,, .... "*The effect of audit committee performance on earningsquality*,, aa gggrr ial Aiii tigg rrrr lll ,2006,**21**(9), pp. 921-933.

[15] ,,,, ,,, C,, rrr ss, .. ,,, & ,,,,,,, ,, "*Audit committee accounting expertise, expectations management, and nonnegative earnings surprises*.. rrrr lll ff Acctttt igg nnd llll ic oolic,, 2014,**33**(2),pp. 145-166.

[16] ee rr iii , aa aan; rrr aii , Mmmmmmdd; Naaaa i, aa nuuur; oo tm'' e,, ssss ... "*The role of auditor characteristics in profit quality*, Financial Accounting Research,2013,**5** (2),pp. 93-108.

[17] Moradi Shahkooh, Zahra; Arab, Rhhll l... "*Investigating the relationship between the characteristics of the audit committee and profit quality in companies listed on the Tehran Stock*

*Exchange*, National Conference on New Accounting and Management Research in the Third Millennium, Karaj: Conference Secretariat.2017.

[18] Moradi, Majid; Safarpour, Maryam; Nik Toreh Monfared, Sogol. *Relationship between profit quality and auditing fee with dividend policy of companies listed on the Tehran Stock Exchange*, Accounting and Management Perspective,2019.**2** (12),pp. 1-16. 10.1016/j.iref. 2019.06.003.

[19] Mosalla, Mohammad; Pirayesh, Reza; Mozaffari, Saeed , "*Factors Affecting the Profit Quality of Pharmaceutical Companies Listed on the Tehran Stock Exchange*, Quarterly Journal of New Research Approaches in Management and Accounting,2020,**4** (29), pp.60-76.

[20] Mustafa, S.T. and Youssef, N.B. . "*Audit committee financial expertise and misappropriation ofassets*MMaaMagrr ill Auii tigg uuuraal,2010.**25**(3), pp. 208-225.

[21] Namazi, Mohammad; Bayazidi, Anwar; aabbrr zeeeh Kaaaarluui, See... "*Investigating the relationship between audit quality and profit management*, Journal of Accounting and Auditing Researches,2010.**9** (1),pp. 1-9.

[22] Phil Sarai, Mehdi; Rouhani, Samira . "*Investigating the Impact of Auditor Characteristics on Profit Quality and Company Performance,* 2nd International Conference on Management and Information and Communication Technology, Tehran: Bartar Services Company.2016.

[23] rrr i, aarii ;; Brrzaaari dddiii nni, Smnee.. " *Investigating the relationship between auditor tenure and change with the profits quality of companies listed on the Tehran Stock Exchange based on the Kasnik model*, accounting advances, 2 (consecutive 3.71).2016.

[24] Rmm,,, R. eeee aareeees-Oll yy Act add tee mkkigg ff uucck ooroortt eeeee eaaeee". Yale Law Journal,2005.**114** (7) , pp.1521–1612. 10.22034/AMFA.2019 .583911.1172.

[25] Sae-mmmPtt innn & Jrrmsittiaareert, Kittis... "*Audit Committee and Earnings Quality..* 2019,**6**(2).pp. 335-347.

[26] Safarzadeh, Mohammad Hussein . "*The role of auditor characteristics in improving profit quality*, financial accounting knowledge,2014,**1** (3),pp.85-106.

[27] iiii m,,, .. .. ddd Raaa,, AAA"*Audit committee effectiveness, audit quality and earningsmanagement: an empirical study of the listed companies in Egypt*,, Reeearhh rrrr aal ff ---nance andAccounting,2014,**5**(2), pp. 155-166. 101610. 10.1016/j.frl.20140. 101610.

[28] ,,,,, , . CC.. .. KKnmal, B. "*Audit committee financial expertiseand earnings quality: A meta-analysis*,, oorraal ff Bssieess Reeear::: 2018,**84** (c) ,pp. 253-270. 10.22034/ AMFA.2018.576127.1118.

[29] aaaa bi Njj ,,, hh aa.. " *Investigating the effect of auditor tenure and size on profit quality, Ministry of Science, Research and Technology*, Shahid Bahonar University of Kerman, Faculty of Management and Economics.2012.

[30] Y,,,,, , ... "*The effect of ownership concentration, board of directors, audit committee andethnicity on conservative accounting: Malaysian evidence*,, Doctoral dissertation, Edith CowanUniversity.2011.