

Effects of client firm characteristics on auditor switching: A meta-analysis approach

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Abstract

The aim of this study was to better understand the factors affecting auditor switching by emphasizing the features and characteristics of the client environment. In this study, a meta-analysis approach was used to investigate common predictors of auditor switching in order to determine whether previous research has provided a stable picture of audit switching determinants. The research method is meta-analysis using the CMA2 software. Egger's regression and Funnel plot were also used to assess the bias. By searching for articles published in high-quality international journals and reviewing 67 articles, the variables affecting auditor switching were extracted based on the firm characteristics, and considering their repetitions in other articles and their multiplicity, in this study only the variables with more than 4 repetitions were used. The results of this study showed that variables related to the firm characteristics, such as firm size, firm complexity, and discretionary accruals, lead to switching external auditors, but firm age and systematic risk have no impact on auditor switching. The results of this study provide useful insights into the influence direction and related factors for researchers seeking to model the factors affecting auditor switching. Thus, these variables can be chosen as control variables in research with more confidence and a comprehensive summary of the theoretical foundations of the relationship between these variables can be provided.

Keywords: Auditor Switching, Meta-Analysis, Factors Affecting Auditor Switching, Firm Complexity, Auditor Selection

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1 Introduction

One of the ways to increase the quality of auditing in organizations is to switch the auditor, on which previous studies have presented contradictory results [24, 28]. Wang et al. [42] suggests that auditor switching process increases investor confidence in the auditors' reports, and as a result, the auditors' motivation to detect and report important misstatements resulting from investor confidence increases. Client firms switch auditors for various reasons. The most common reasons include an increased level of auditor's fees, dissatisfaction with audit quality, senior manager

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switching, and firm growth [34]. The Securities and Exchange Commission states that auditor switching is somehow a signal from the firm to the market that occurs as a result of disagreement and lack of coordination between the firm and its auditors, which is caused by managers' opportunism [34].

Previous research has shown that auditor switching occurs as a result of a very complex set of relationships between the client and auditors [40]. The reasons mainly include some characteristics of the firm and auditors such as performance and financial position, risk, internal control quality, auditing firm tenure, the type of auditor's report and other related factors [13]. In separate studies, Durand [17], Benjamin et al. [23] and Eshagniya and Salehi [18] developed the determinants of auditor switching and concluded that the client firm's characteristics play a vital role in reducing the likelihood of auditor switching. In this regard, identifying and examining the factors affecting auditor switching using a meta-analysis approach significantly helps researchers and scholars seeking to use this variable in their research.

In general, according to empirical research, several factors such as the firm's characteristics, the auditing firm's characteristics, features of the political and economic environment of the country, the characteristics of corporate governance and internal control system, ownership structure, etc. influence auditor switching and the evidence that these factors affect auditor switching is often contradictory. Numerous studies have been conducted inside and outside the country in order to identify and evaluate the determinants of auditor switching, but due to various reasons such as differences in sampling methods, statistical population selection, and data analysis methods, these studies have achieved conflicting results. Considering the fact that one of the main and important factors in switching auditors is the client firm characteristics, in this research, for the first time, the factors related to the environment of the client firm are examined, specifically using previous studies that are related to the research subject. The most effective and repetitive factors in the research that have been recognized as influencing the auditor switching include the firm size, the firm complexity, and the firm age, going concern uncertainties, the level of discretionary accruals, and the firm risk [1, 12, 17]. Therefore, this study can help experimental researchers summarize the client's characteristics affecting on the rotation of auditors in a comprehensive and complete way in order to provide integrated and comprehensive models.

The aim of this study is to analyze the primary factors by meta-analyzing 67 articles published separately in high quality journals in Iran and the world, exclude those that cause bias in the research results, and confirm the remained factors using valid statistical methods. Also, we answer the question of "What are the factors and corporate characteristics affecting auditor switching in previous research?"

2 Research Background and Hypotheses Development

2.1 Firm Size

Previous research [3, 4, 12, 38] have concluded that firms with larger size, greater complexity, and lower profitability are more likely to switch auditors from large auditing firms to small ones. This is because firms with slow growth or with poor financial performance are more likely to engage in earnings management act and therefore tend to avoid hiring high-quality auditors. Identifying the factors affecting auditor switching in Iran, Rezazadeh and Zarei Moravaj [37] showed that the manager switching, firm size, and the rate of return on equity have a positive effect on auditor switching by firms. Woo and Koh (2001) found that as the firm size increases, the number of agency relationships increases and it becomes more difficult and complex for external managers (such as debtors) to monitor agents' (such as owners and managers) behavior. This gap is potentially adjusted by switching to a more independent auditor [27]. Therefore, the boards of larger firms have incentives to monitor their auditors' expertise and to switch auditors as a means of reducing their monitoring costs. Liu and Lin [33] also showed that firms with more frequent auditor switching were larger in size and less inclined to use the BIG4 auditing firms. Bani Mahd et al. [6] also investigated the relationship between auditor switching and auditor's opinion change during the period 2010-2012 on 243 companies listed on the Tehran Stock Exchange. They found that firm size was directly related to auditor's opinion change.

Hypothesis 1: There is a significant relationship between firm size and auditor switching.

2.2 Firm Complexity and Age

Since according to life-cycle theory, firms have different characteristics, risks, and complexities in different stages of their life cycle, auditor selection and other related issues (such as audit fees a, bias in selection, and/or auditor switch) in the company's life cycle have significant differences [27]. The authors report that industry characteristics also affect auditor switching [25]. Another factor in the firm that has been mentioned in some research is complexity of

the business unit. Larger firms are usually more complex than smaller ones, and the literature has found a consistent relationship between client size and auditor switching [43].

This implies that firms in their life stages such as the maturity stage place more emphasis on reducing agency problems. In these conditions, auditing is an effective tool to achieve this purpose. Auditing reduces agency problems between investors and managers [34]. In this regard, the client management resorts to switching their auditor to a high-quality auditor in order to improve the quality of their auditing, increase their shareholders' and investors' satisfaction, and reduce agency costs.

Complexity is affected by the number of business and industrial sectors in which the client operates [5], and it affects the audit risk and therefore the scope of work to be performed. Hay et al. [22] considered client firm complexity as positively correlated with audit costs. Investigating the "role of management capability in voluntary and mandatory auditor switching", Rezaei et al. [36] also concluded that at the industry level, management capability does not affect voluntary and mandatory auditor switching, but at the level of an individual industry, it was observed that in the metal industries with higher complexity, there is a significant negative relationship between management capability and voluntary auditor switching.

Hypothesis 2: There is a significant relationship between firm complexity and auditor switching.

Hypothesis 3: There is a significant relationship between firm age and auditor switching

2.3 Risk

Auditors carefully protect their professional reputation [29]. Good reputation brings several benefits to the auditor, including the ability to attract new clients, retain existing clients, attract the best employees, and gain reputation insurance fee premiums [10]. Reputation development can be crucial for auditors, as it is difficult to objectively evaluate their performance [15]. Audit efforts are often invisible, and the customer or user of audit services is likely to have to use a visible reputation-related signal as an indicator of an invisible skill level [15]. There is usually the hypothesis that the litigation risk leads to a decreased reputation. Several studies have shown that litigation affects the auditor's quality [39]. If reputation is an important factor when selecting an auditor, a litigation that diminishes the reputation should reduce the likelihood of hiring an auditor for auditing. However, Mark and Zhang [34] found that litigation against an auditing firm is not significantly correlated to the auditor selection. Given the contradictory statements on the relationship between litigation and the auditor's reputation and the auditor selection, one of the factors affecting auditor switching is the litigation risks introduced in the client environment for the auditor. Shu [38] argues that in recent years, the frequency and the litigation cost for auditor both has increased significantly.

Unfavorable financial conditions are associated with disagreements, ultimately leading to auditor switching [16]. Financial distress and poor financial conditions increase the probability of the litigation risk. This results in a situation that incumbent auditors to put the management under pressure in order to adopt conservative accounting choices, which can lead to dismissing the auditors [34]. Clients who experience financial difficulties are likely to resort to a more adaptable auditor in order to increase their chances of a more favorable audit report [14]. On the other hand, financial problems and the possibility of litigation increase the likelihood of disagreement between the client and the auditor, as well as the risk associated with the auditing. In such circumstances, the auditing becomes less attractive and can lead to the auditor's resignation [34].

Also, auditing those client firms that are managed by the Securities and Exchange Organization is inherently more difficult and riskier than auditing other firms without Securities and Exchange Organization surveillance. Auditors who are willing to accept the risks of audit non-listed firms have incentives to make appropriate strategic decisions to address such risks. The auditor can avoid the risks associated with auditing these firms by withdrawing from the auditing obligations of the listed firms.

Hypothesis 4: There is a significant relationship between firm risk and auditor switching.

2.4 Discretionary Accruals

The regulators of the relationship between the client firm and the auditing firms are concerned about auditor switching because it is likely that it will be motivated by management opportunism. For example, the Securities and Exchange Commission (SEC) states that they are concerned about auditor switching: It can be for switching the auditor who seeks to support a proposed accounting approach that helps the firm to achieve its own reporting objectives, but can lead to a modified audit report [34]. Despite this concern, academic research has little evidence of opportunist-motivated auditor switching. In particular, the implications of the theory demonstrate that auditor switching can be done due to auditors' preferences for conservative accounting choices.

An analytical study by Hay et al. [22] concluded that auditor switching occurs when managers and auditors have different beliefs about the proper use of the Generally Accepted Accounting Principles (GAAP). Such disagreements are more likely to occur when the former auditor believes that the proper use of the GAAP will result in less profit than management's preferred use will. However, the auditor's tendency to reduce the reported profits is not necessarily a response to management efforts to opportunistically increase these profits. Instead, the auditor's conflict can be a result of the auditor's motives for reporting conservatively. This view acknowledges that auditors also have accounting choices that are motivated by the incentives [15] and that reported accounting choices are a shared result of client's and auditor's preferences.

A possible incentive that persuades auditors to prefer conservative accounting choices is the risk of the client litigation. This is because conservative accounting choices are expected to protect the auditor from future litigation and its possible damages. However, the degree of conservatism among auditors is expected to vary based on the factors such as individual assessment of client risk and tendency for relative risk. If management believes that the incumbent auditor's accounting preferences are more conservative than what is expected of an auditor, management has an incentive to discharge the incumbent auditor in the hope of finding a more adaptable successor [45].

Three empirical implications are resulted from the above discussion. First, if the former auditor prefers conservative accounting choices, the discretionary accruals of the previous year are expected to decrease with the former auditor. Second, if litigation risk affects the auditor's accounting choice preferences, discretionary accruals that reduce incomes will be more prominent among firms that are likely to pose the greatest litigation risk to the auditor. Finally, if the manager believes that the incumbent auditor is more conservative, it is expected that the discretionary accruals with the successor auditor in the first year be lower than in the last year. Kashanipour et al. [26] also investigated the relationship between auditor tenure and discretionary accruals, and the results of their research using the modified Jones model showed that there is a positive and significant relationship between discretionary accruals and auditor tenure in all firms studied.

Hypothesis 5: There is a significant relationship between discretionary accruals and auditor switching.

3 Research Methods

In this research, considering the title and nature of the research, a meta-analysis approach is used. Meta-analysis is considered as the art of combining research and analysis, and is in fact a quantitative method for integrating the results of independent and similar research and combining their findings to evaluate effectiveness. Meta-analysis is a research approach that helps the researcher to achieve a good combination of the quantitative results of previous contradictory and non-contradictory studies, to explain the contradictions, and to identify the moderating structural variables in the results of previous studies [7].

To perform the meta-analysis, available research on the factors affecting auditor switching was first reviewed. Thus, considering the fact that if the results of initial research in a field are wrong, the same wrong results will be undoubtedly reflected in the meta-analysis, the studies published in journals of high quality foreign databases such as Science Direct, Emerald, American Accounting Association, etc. and containing the keywords of "Auditor Switching", "Auditor Tenure", "Auditor Rotation", "Adopting New Auditor", "Client Retention", "Auditor Dismissal", And "Auditor Replacement" were identified. The selection of journals was based on their ranking in at least one of the Scopus, the Web of Science, the Australian Business Dean Council (ABDC) and the British Chartered Association of Business Schools (CABS) Databases. The time scope of considered by the present study based on the time interval of the domestic articles studied include the articles studied during the years 2001 to 2022, and for foreign articles in English studied during the years 1996 to 2021.

3.1 Variables

67 available studies have been tested in this meta-analysis. There are many variables used in a large number of studies. The variables that were used in less than four analyses excluded because they are found in a single study with multiple analyses. Very few results in which the same basic data was used more than once in a study for a given variable were excluded as well. For example, some studies include both the natural logarithm of total assets and the quadratic effect of this variable as a measure of the firm size in their study, which leads to the use of a set of data twice when analyzing the firm size. Therefore, only the term non-quadratic is included, as it is consistent with all other published studies. The variables extracted from the studies include: firm size (53 repetitions), firm complexity (17 repetitions), systematic risk (14 repetitions), and discretionary accruals (10 repetitions).

In the second step, the correlation statistics (z-, t-, F-, and p-values, as well as chi-square) in different studies should be converted into the effect size. In this regard, following Lipsey and Wilson's [32] approach, we use the following formulas.

$$ES_r = \frac{t}{\sqrt{t^2 + df}} \quad (3.1)$$

$$ES_r = \sqrt{\frac{Z}{N}} \quad (3.2)$$

$$|ES_r| = \frac{\sqrt{F}}{\sqrt{F + n_1 + n_2 - 2}} \quad (3.3)$$

$$ES_r = \sqrt{\frac{N^2}{N}} \quad (3.4)$$

To convert the p-value statistic to the effect size, first convert this statistic to a t-value and then convert the t-value to the effect size using the first formula. After examining the effect size formulas, the manual calculations for measuring the effect size are performed by the use of the CMA2 meta-analysis software. In this study, we analyzed all the articles based on software and provided the discussion and conclusion in the findings section.

3.2 Publication Bias

One of the problems that can affect the validity of the results of a meta-analysis research and make it invalid is the publication bias. This implies that a meta-analysis does not include studies on the subject under study; some studies may not have been published for various reasons, or at least may have been published in non-indexed journals. When there is a publication bias, the final results of the meta-analysis will be affected and the resulting final estimates will have an error bias. In order to obtain valid results, it is necessary to identify and correct the publication bias in the initial steps of a meta-analysis. One of the statistical methods for assessing the publication bias in Funnel plots is Egger's regression approach.

4 Research Findings

4.1 Description of Research Conducted by Year of Publication

Table 1 presents the researches based on the year of publication, frequency, and frequency percentage. The studies reviewed in this research include researches from 14 different countries, including Iran, USA, Canada, Australia, England, etc.

Table 1: Studies by the year of publication

| Year of publication | 2016-2021 | 2011-2015 | 2006-2010 | 2001-2005 | 1996-2000 | Total |
|----------------------|-----------|-----------|-----------|-----------|-----------|-------|
| Number of articles | 21 | 16 | 12 | 8 | 10 | 67 |
| Frequency percentage | 31 | 24 | 18 | 12 | 15 | 100 |

As the table shows, the highest frequency is associated to the period 2016 to 2021 with 21 articles, which consist of 31% of the total reviewed articles. The periods 2011-2015 as well as 2006-2010, with 16 articles and 12 articles, respectively, represent the periods with the highest number of articles published. The research period includes the period 1996-2021 in which the articles have been studied, as in the table above.

4.2 Description of the Studied Research Based on the Publishing Journal

The information extracted from research is described in Table 2 based on the name of the Journal. Their rankings are based on the above criteria and the number of articles used from each Journal.

According to Table 2, the International Journal of Auditing and Managerial Auditing Journal, both with 8 articles, include the highest number of articles reviewed in this research. In terms of domestic articles published in Iranian journals, 15 domestic articles have been used, the journals of Accounting and Auditing Reviews and Accounting Knowledge, with 3 and 4 articles, respectively, have had the highest publication in this field.

Table 2: Journals reviewed based on frequency of articles

| Domestic journal name | Frequency | International journal name | Frequency |
|--|-----------|---|-----------|
| Financial Accounting and Auditing Research | 3 | International Journal of Auditing | 8 |
| Accounting and Auditing Reviews | 2 | Managerial Auditing Journal | 8 |
| Audit Research | 1 | Accounting and Business Research | 3 |
| Accounting Knowledge | 4 | Auditing: A Journal of Practice and Theory | 5 |
| Auditing Knowledge | 2 | Asian Review of Accounting | 5 |
| Accounting Advances | 1 | Contemporary Accounting Research | 5 |
| Management Accounting and Auditing Knowledge | 1 | Asian Journal of Accounting and Governance | 4 |
| Applied Research in Financial Accounting | 1 | British Accounting Review | 2 |
| | | Eurasian Business Review | 2 |
| | | International Journal of Accounting and Information | 4 |
| | | Journal of Accounting and Economics | 3 |
| | | Journal of Accounting in Emerging Economies | 3 |

5 Inferential Analysis

5.1 Meta-Analysis on Factors Affecting Auditor Switching

The results of the meta-analysis on studies that have used the variables of firm size, firm complexity, firm age, firm systematic risk and discretionary accruals as factors affecting auditor switching are presented in Table 3. The regression models for the fixed effects and random effects have been applied to these variables and the results of the heterogeneity test are presented in Table 3.

It is observed that the confidence level in the heterogeneity test for the variables of firm size, firm complexity, firm age, firm risk and discretionary accruals is less than 5%, so the information on random effects is used to conclude about the first to fifth hypotheses.

Table 3: Meta-analysis results of the studies reviewed

| Effective factor | Effect type | Effect size (r) | Confidence interval | | Null hypothesis test | | Heterogeneity test | | | Results |
|------------------------|----------------|-----------------|---------------------|-------------|----------------------|---------|--------------------|----------------|---------|-------------------------------------|
| | | | Lower limit | Upper limit | Z-Value | P-Value | Q | I ² | P-Value | |
| Firm size | Fixed effects | 0.046 | -0.027 | 0.062 | 17.726 | 0.004 | 310.58 | 74.32 | 0.000 | The first hypothesis was confirmed |
| | Random effects | -0.052 | -0.023 | 0.715 | 4.928 | 0.000 | | | | |
| Firm complexity | Fixed effects | 0.046 | -0.019 | 0.038 | 14.848 | 0.002 | 294.32 | 68.29 | 0.002 | The second hypothesis was confirmed |
| | Random effects | 0.034 | -0.039 | 0.611 | 4.620 | 0.013 | | | | |
| Firm age | Fixed effects | | -0.049 | 0.041 | 0.078 | 3.833 | 168.56 | 74.41 | 0.000 | The third hypothesis was rejected |
| | Random effects | | 0.008 | -0.081 | 0.099 | 5.642 | | | | |
| Firm systematic risk | Fixed effects | | -0.006 | -0.009 | 0.028 | 1.264 | 160.77 | 82.95 | 0.001 | The fourth hypothesis was rejected |
| | Random effects | | 0.008 | -0.042 | 0.077 | 1.291 | | | | |
| Discretionary accruals | Fixed effects | | -0.018 | -0.004 | 0.017 | 3.833 | 492.121 | 93.44 | 0.000 | The fifth hypothesis was confirmed |
| | Random effects | | 0.043 | -0.027 | 0.062 | 5.642 | | | | |

The weighted average effect size for the variables of firm size, firm complexity, firm age, firm risk, and discretionary accruals are -0.055, 0.034, 0.008, 0.008 and 0.043, respectively. The confidence intervals for the effect sizes of the

studied variables lie between the upper and lower limits. Given that the significance level of testing the research hypotheses using random effects is equal to 0.000 and is less than 5%, the first, second and fifth hypotheses were confirmed. In other words, at a confidence level of 95%, it can be said that firm size, firm complexity, and discretionary accruals influence auditor switching, indicating that in larger client firms, the probability of auditor switching decreases, the firm complexity leads to auditor switching, and as the level of the company's accruals increases, the probability of auditor switching in client firms increases as well. Also, the research results show that the factors of firm age and firm systematic risk at the confidence level of 95% are not significantly correlated with auditor switching, and thus the third and fourth hypotheses of the study were not confirmed.

5.2 Funnel Plot for Firm Size

One of the simplest ways for identifying the publication bias is the use of a two-dimensional dispersion diagram called the Funnel plot, in which the estimated intervention in each study is plotted versus the sample size of that study. If there is no publication bias, it is expected that the Funnel plot be symmetric and the dispersion rate decreases around the effect size of the intervention as the sample size increases [30].

In the Funnel plots, the studies with lower standard errors and are accumulated above the funnel have no publication bias. But the more the studies are drawn down the funnel, the more their standard error increases and the more their publication bias increases as well.

According to the above explanations, Figures 1–5 are related to the Funnel plot of the variables of firm size, firm complexity, firm systematic risk, discretionary accruals, and firm age. The fact that the diagrams are symmetric is considered as the reason for the lack of publication bias in reviewing the related studies. The Funnel plot for the firm size is not symmetric, indicating the presence of the publication bias, as Figure 3 shows.

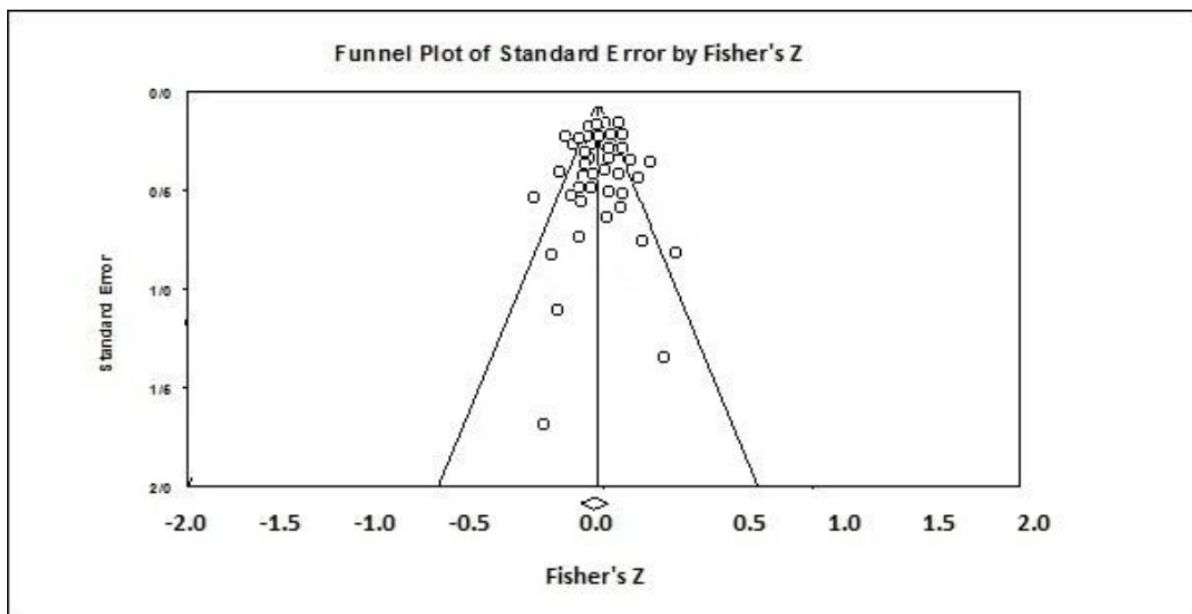


Figure 1: Funnel plot for the factor of firm size

According to the above discussion, the following figure, which shows the funnel diagram of the variable of firm age, is not symmetric, indicating the presence of the publication bias in reviewing the related studies. They also have a high standard error, as they are drawn down the plot.

The following figure, which presents the Funnel plot for the discretionary accruals, is symmetric, indicating the lack of publication bias in reviewing the related studies.

5.3 Eager Linear Regression

In the Eager's regression method, a regression model is fitted considering the standardized estimation of the intervention effect $z_i = \frac{t_i}{\sqrt{V_i}}$ as a dependent variable and the accuracy $\left(\frac{1}{\sqrt{V_i}}\right)$ as an independent variable.

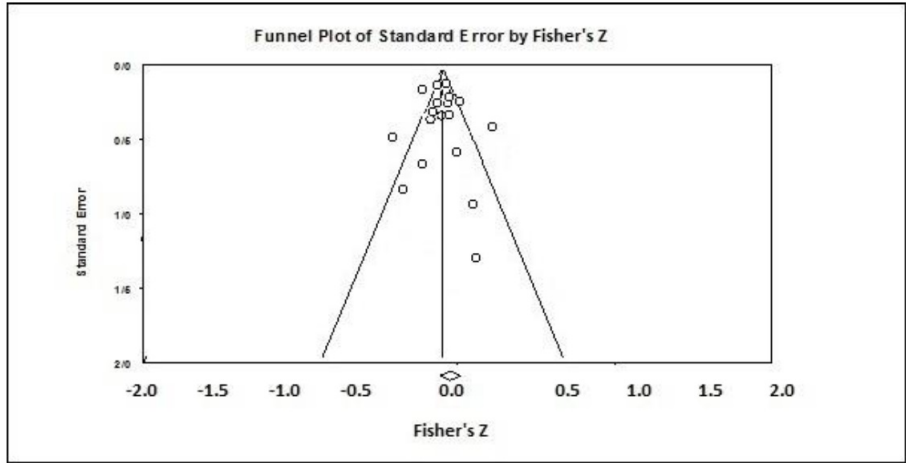


Figure 2: Funnel plot for the factor of firm complexity

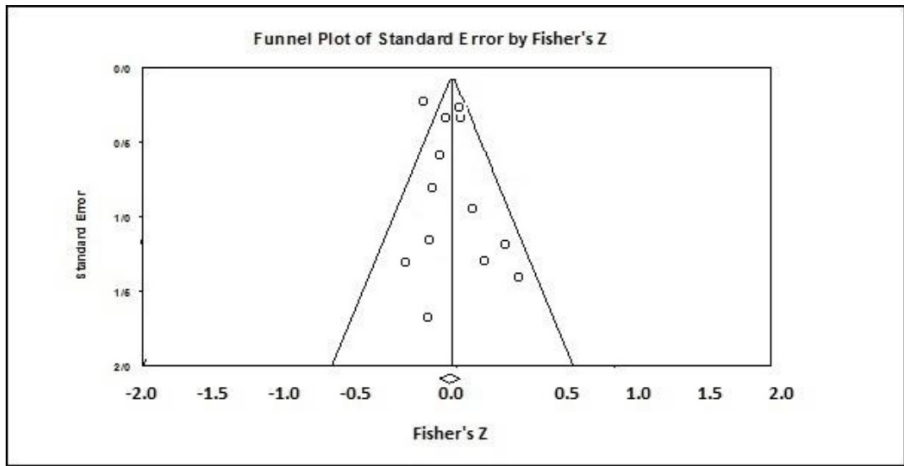


Figure 3: Funnel plot for the factor of firm age

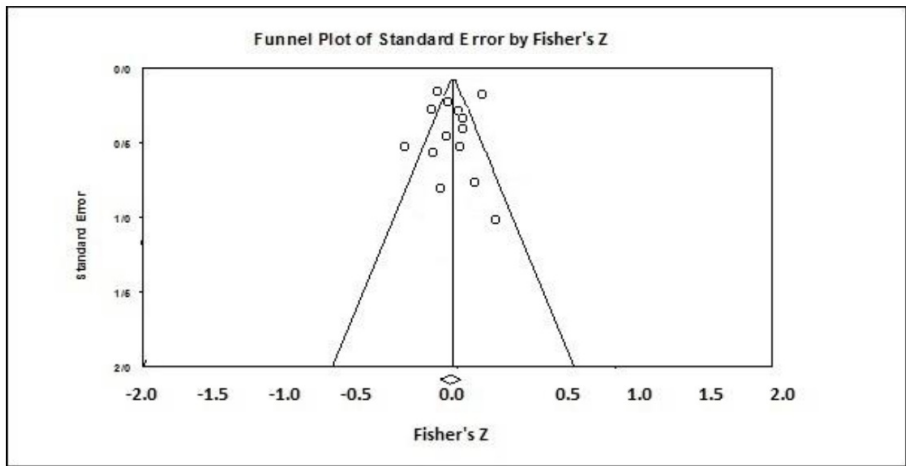


Figure 4: Funnel plot for the factor of firm systematic risk

After performing the meta-analysis, determining the effect size, and obtaining the percentage of homogeneity, if the random effects model is used, the moderator variables should enter into the second stage of the meta-analysis in order to determine the variance effect of the studies.

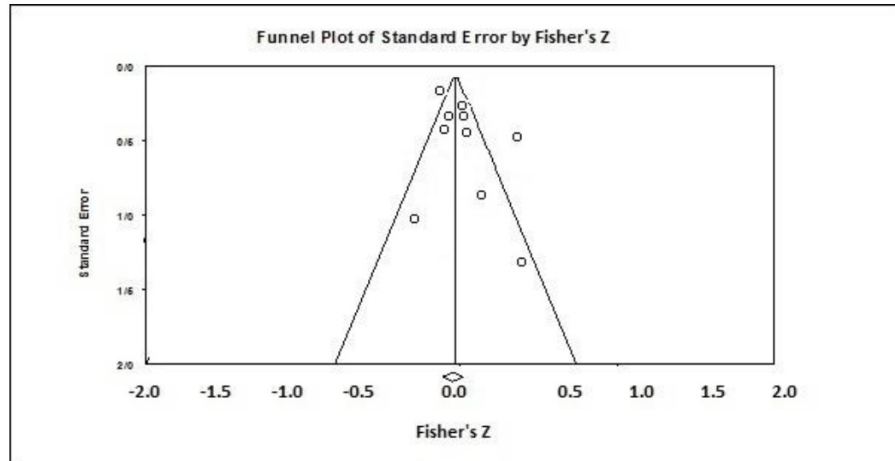


Figure 5: Funnel plot for the factor of discretionary accruals

The results of assessing the Egger linear regression method in order to investigate the propagation bias are presented in the following table:

Table 4: Egger linear regression

| Statistical index | Cut (B) | Standard Error (SE) | t-Value | (P-Value) Significance level | |
|------------------------|---------|---------------------|---------|------------------------------|------------|
| | | | | One-tailed | Two-tailed |
| Firm size | -0.618 | 0.388 | 0.634 | 0.155 | 0.335 |
| Firm complexity | -0.523 | 0.322 | 0.402 | 0.132 | 0.418 |
| Firm age | -0.519 | 2.481 | 0.274 | 0.399 | 0.537 |
| Firm systematic risk | -0.312 | 2.648 | 0.118 | 0.448 | 0.934 |
| Discretionary accruals | -0.417 | 2.221 | 0.161 | 0.281 | 0.419 |

According to the results of the Egger linear regression, including the factors of firm size, firm complexity, firm age, systematic risk, and discretionary accruals, since the one-tailed and two-tailed p-values fall in their limits, the null hypothesis that the Funnel plot is symmetric and there is no publication bias is confirmed.

6 Discussion and Conclusion

According to the results of the above tests, firm size affects auditor switching, i.e., in larger client firms the likelihood of auditor switching decreases. Also, according to the Funnel plot, the firm size diagram is symmetric, indicating that there is no publication bias in reviewing the firm size-related studies. The results of the Egger linear regression also illustrated that the null hypothesis that the Funnel plot is symmetric and there is no publication bias is confirmed. In line with the results of this hypothesis, the studies conducted by [8, 13, 18, 19, 23, 25, 31, 33] showed that large client firms with high complexities choose big auditors for their auditing services. Thus, in large client firms, the possibility of auditor switching is lower due to the possibility of reducing the quality of auditing and lots of costs involved. [33] showed that firms that had auditor switching were larger in size and less inclined to engage with the BIG4 auditing firms. Also, as the firm size increases, the number of agency relationships increases and it becomes more difficult and complicated for external managers (e.g., debtors) to surveil the agents' (e.g., owners and managers) actions. This distance is potentially adjusted by switching to a more independent auditor.

According to the results of the tests performed, as the firm complexity increases, the probability of auditor switching increases, i.e., in client firms with more complexity, the auditor switching occurs more frequently. Also, according to the Funnel plot, the firm complexity diagram is symmetric, indicating that there is no publication bias in reviewing the complexity-related studies. The results of the Egger linear regression also showed that the null hypothesis that the Funnel plot is symmetric and there is no publication bias is confirmed. The results of this hypothesis are consistent with [5, 9, 20, 22, 25, 35, 36, 44]. Complexity is affected by the number of business and industrial sectors in which the client operates. Larger client firms are usually more complex than smaller business units, and the research literature has found a positive relationship between client firm complexity and auditor switching.

According to the results of the tests performed, the firm systematic risk does not affect auditor switching. The results of this hypothesis show that the firm systematic risk is not correlated with auditor switching, which is consistent with researches conducted in this field. [5, 11, 41] did not find any correlation between risk and auditor switching, which is consistent with the results of this study. They argued that as the risk of a business increases, the new auditor hardly accepts the auditing service, and the firm renews the existing auditor's contract by changing circumstances in his/her favor (e.g., by increasing internal controls).

Other studies such as, [2, 22, 38] showed that as the risk of a business unit increases, the auditor is more likely to resign, because as the risk increases, the auditor's reputation is exposed to risk, which is one of the biggest damages implicitly realized by him/her. As a consequence of the diminished reputation, the decreased revenues of the audit firm make the audit firm withdraw from continuing the engagement immediately after dealing with important risks in the client environment [38].

According to the results of the tests performed, discretionary accruals affect auditor switching and as the discretionary accruals increase, the possibility of auditor switching in client firms increases. Considering that one of the criteria and indicators for measuring the auditing quality is accruals, increasing accruals implies a decrease in the auditing quality, and as a result, the decreased auditing quality leads to auditor switching. The results of this hypothesis are consistent with the findings reported by [11, 13, 18, 19, 21, 23, 26, 34]. They also showed that there is a positive and significant relationship between discretionary accruals and the auditor's tenure in all the firms studied. Many of the variables mentioned in this study are criteria used as proxies to measure auditing quality (e.g., the auditing firm size, restatements, etc.). The items mentioned have been stated in the auditor characteristics or auditing firm characteristics sections, while discretionary accruals are classified in the characteristics of the client's workplace and are another proxy for the auditing quality. The results of this study showed that as the level of discretionary accruals increases, the auditing quality decreases and the client manager takes action to dismiss the auditor in the hope that the new auditors will reduce the accruals, enhance the auditing quality, and increase shareholders' and investors' confidence in the financial statements.

The firm age does not affect the auditor switching. This result is consistent with [20, 22, 35, 43, 45]. Since according to the life cycle theory, client firms have different characteristics and risks at different stages of their life cycle, the auditor selection and other related issues (such as audit fees and selecting or switching auditor arbitrarily) in the life cycle of the client firm have significant differences and client firms with higher life cycles usually have high complexities, but these complexities in older companies do not lead to auditor switching.

In this research, previous academic research on auditor switching was reviewed. In particular, research on important historical events affecting auditor switching, whether those initiated by the auditor or those leading to the auditor switching or dismissal by the client firms, was examined. After meta-analysis of various studies, the following results can be noted: evidence suggests that clients seek to increase the auditing quality (decreasing the discretionary accruals) by searching for new audit firms. Also, the results showed that companies attempt to switch their auditor in order to facilitate their auditing engagements considering criteria of firm complexity and firm size.

One of the limitations of this research is the limitation in using special statistical methods and the lack of reviewing conference papers and academic theses. In fact, if the results of initial research in a field are wrong, undoubtedly, the same wrong results will be reflected in the meta-analysis. In this regard, it is suggested that research conducted in conferences and unpublished academic theses be collected in accordance with this research and their results be compared with the results of this research. It is also suggested that future studies on "auditor switching" use the variables of discretionary accruals, firm complexity, and firm size as variables affecting auditor switching.

References

- [1] R. Ali Khani, M. Maran Jori and J. Rezvani, *The effects of mandatory and voluntary auditor switching on the liquidity of stocks of companies listed on the Tehran Stock Exchange*, *Audit. Knowledge* **69** (2017), 193–216.
- [2] E.J. Allen, C.R. Larson and R.G. Sloan, *Accrual reversal, earnings and stock returns*, *J. Account. Econ.* **56** (2013), no. 1, 113–129.
- [3] M. Azizkhani, R. Daghani and M. Ahmadian, *The effects of the mandatory auditor switching policy on audit fees: Evidence from the Tehran Stock Exchange*, *Audit. Knowledge* **64** (2016), no. 64, 43–62.
- [4] M. Azizkhani, R. Daghani and G. Shailer, *Audit firm tenure and audit quality in a constrained market*, *Int. J. Account.* **53** (2012), no. 3, 167–182.

- [5] M.E. Bamber, L.S. Bamber and M.P. Schoderbek, *Audit structure and other determinants of audit report lag: An empirical analysis*, *Audit*. **12** (1993), no. 1.
- [6] B. Bani Mahd, M. Moradzadeh Fard and M. Zeinali, *The relationship between independent auditor switching and auditor opinion change*, *J. Account. Knowledge* **4** (2013), no. 14.
- [7] A. Bazrafshan, *A meta-analysis methodology in accounting: Introduction, necessities and applications*, 11th Nat. Account. Conf. Iran, Ferdowsi University of Mashhad, 2013.
- [8] X.G. Bi, J. Tang and R. Tharyan, *Switching due diligence auditor in Chinese mergers and acquisitions*, *Res. Int. Bus. Financ.* **54** (2020), 101244.
- [9] T.G. Calderon and E. Ofobike, *Determinants of client-initiated and auditor-initiated auditor changes*, *Manag. Audit. J.* **23** (2008), no. 1, 4–25.
- [10] J. Carcello and A. Nagy, *Audit firm tenure and fraudulent financial reporting*, *Audit*. **23** (2004.), no. 2, 55–69.
- [11] J.R. Casterella and D. Johnston, *Can the academic literature contribute to the debate over mandatory audit firm rotation?*, *Res. Account. Regul.* **25** (2013), no. 1, 108–116.
- [12] H. Chang, C.A. Cheng and K. Reichelt, *Market reaction to auditor switching from big 4 to third-tier small accounting firms*, *Audit*. **29** (2010), 83–114.
- [13] S. Chen and B. Komal, *Audit committee financial expertise and earnings quality: A meta-analysis*, *J. Bus. Res.* **84** (2018), 253–270.
- [14] F. Chen, S. Peng, S. Xue, Z. Yang and F. Ye, *Do audit clients successfully engage in opinion shopping? Partner-level evidence*, *J. Account. Res.* **54** (2016), 79–112.
- [15] L. DeAngelo, *Auditor size and audit quality*, *J. Account. Econ.* **3** (1981), 183–199.
- [16] D. Dhaliwal, J. Schatzberg and M. Trombley, *An analysis of the economic factors related to auditor client disagreements preceding auditor changes*, *Audit*. **12** (2003), no. 2.
- [17] G. Durand, *The determinants of audit report lag: A meta-analysis*, *Manag. Audit. J.* **34** (2019), no. 1, 44–75.
- [18] A. Eshagneriya and M. Salehi, *The impact of financial restatement on auditor changes: Iranian evidence*, *Asia Pacific J. Innov. Entrepreneur.* **11** (2017), no. 3, 366–390.
- [19] N.C. Feng, *Fiscal year-end and non-lateral auditor switches*, *J. Appl. Account. Res.* **14** (2013), no. 3, 268–292.
- [20] N.C. Feng and R.J. Elder, *Post-SOX downward auditor switches and their impacts on the nonprofit audit market*, *J. Account. Public Policy* **36** (2017), no. 5, 379–398.
- [21] J. Francis and D. Wang, *The joint effect of investor protection and big 4 audits on earnings quality around the world*, *Contemp. Account. Rev.* **25** (2008), 157–191.
- [22] D.C. Hay, W.R. Knechel and N. Wong, *Audit fees: A meta-analysis of the effect of supply and demand attributes*, *Contemp. Account. Res.* **23** (2006), no. 1, 141–191.
- [23] B.W. Hoffman and A.L. Nagy, *SOX 404(b) exemption effects on auditor changes*, *Manag. Audit. J.* **31** (2016).
- [24] R.W. Holthausen and R.L. Watts, *The relevance of the value relevance literature for financial accounting standard setting*, *J. Account. Econ.* **31** (2001), no. 1–3, 3–75.
- [25] H.W. Huang, K. Raghunandan, T.C. Huang and J.R. Chiou, *Fee discounting and audit quality following audit firm and audit partner changes: Chinese evidence*, *Account. Rev.* **9** (2015), no. 4, 33–39.
- [26] M. Kashanipour, M. Maran Jori and S.M. Moshashaei, *The relationship between auditor tenure and discretionary accruals in companies listed on the Tehran Stock Exchange*, *Empir. Account. Res.* **2** (2011), no. 3, 113–126.
- [27] B. Ke, C.S. Lennox and Q. Xin, *The effect of China's weak institutional environment on the quality of big four audits*, *Account. Rev.* **90** (2015), no. 4, 1591–1619.
- [28] S.P. Kothari, *Capital markets research in accounting*, *J. Account. Econ.* **31** (2001), 105–231.
- [29] G.V. Krishnan, *Audit quality and the pricing of discretionary accruals*, *Audit*. **22** (2003), no. 1, 107–126.

- [30] R.J. Light and D.B. Pillemer, *Summing up: The science of reviewing research*, Cambridge, MA: Harvard University Press, 1984.
- [31] Z.J. Lin and M. Liu, *The determinants of auditor switching from the perspective of corporate governance in China*, *Adv. Account.* **26** (2010), no. 1, 117–127.
- [32] M. Lipsey and D. Wilson, *Practical meta-analysis*, Thousand Oaks, CA: Sage, 2001.
- [33] Z. Liu and S. Lin, *Determinants and consequences of voluntary switches to Chinese auditors in Hong Kong*, *J. Contemp. Account. Econ.* **15** (2019), no. 3, p. 100158.
- [34] D. Mark and J. Zhang, *A review of archival auditing research*, *J. Account. Econ.* **58** (2014) no. 2–3, 275–326.
- [35] G. Matonti, J. Tucker and A. Tommasetti, *Auditor choice in Italian non-listed firms*, *Manag. Audit. J.* **31** (2016), no. 4/5.
- [36] H.R. Rezaei, I. Karimipour and M. Qannad, *The role of management ability in voluntary and mandatory auditor switching*, *Appl. Res. Financ. Report.* **4** (2015), no. 7, 145–170.
- [37] J. Rezazadeh and K. Zarei Maravaj, *Factors affecting auditor switching in Iranian companies*, *Empir. Stud. Financ. Account.* **5** (2007), no. 20, 89–105.
- [38] S.Z. Shu, *Auditor resignations: Clientele elects and legal liability*, *J. Account. Econ.* **29** (2000), no. 2, 173–205.
- [39] D.B. Smith, *An investigation of securities and exchange commission regulation of auditor change disclosures: The case of accounting series release no. 165*, *J. Account. Res.* **26** (1988), no. 1, 134–145.
- [40] C.M. Stefaniak, J.C. Robertson and R.W. Houston, *The causes and consequences of auditor switching: A review of the literature*, *J. Account. Liter.* **28** (2009), 47.
- [41] M.J. Turner and C. Guilding, *An investigation of the motivation of hotel owners and operators to engage in earnings management*, *Qual. Res. Account. Manage.* **8** (2011), no. 4, 358–381.
- [42] Q. Wang, T.J. Wong, L. Xia, *State ownership, the institutional environment, and auditor choice: Evidence from China*, *J. Account. Econ.* **46** (2008), no. 1.
- [43] J.S. Whisenant, S. Sankaraguruswamy and K. Raghunandan, *Market reactions to disclosure of reportable events*, *Audit.* **22** (2003), 181–194.
- [44] J.S. Whisenant, S. Sankaraguruswamy and K. Raghunandan, *An analysis of the information content of auditor change announcements*, *The Grant Thornton Commentary Series—Investor Perceptions of Audit Firm Parity*, **1** (2006), no. 1.
- [45] M.J. Zare Bahnemiri and F. Hasankhani, *Characteristics of the audit firm and the delay in submitting the audit report with a meta-analysis approach*, *J. Account. Audit. Rev.* **28** (2022), no. 4, 664–690.