



## Factors Affecting Auditor Switching with an Emphasis on Auditor Characteristics: A Meta-Analysis Approach

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### ABSTRACT

The aim of this study is to provide an understanding of the factors affecting auditor switching with an emphasis on auditor characteristics. For this end, a meta-analysis method is used to investigate the common predictors of auditor switching in order to determine whether previous research provides a consistent picture of audit switching drivers using auditor characteristics. By searching for articles published within the period from 2001 to 2021 to find Persian articles and from 1996 to 2021 to find English articles in top international journals indexed in the Scopus database, 67 articles were selected and the variables affecting auditor switching based on auditor characteristics were extracted. Egger regression and Funnel chart have also been used to evaluate the bias. The results of this study showed that variables such as auditor industry expertise, auditor tenure, audit fees, auditor opinions, audit firm size, audit quality, and financial restatements lead to auditor switching. These results contribute to research on the key factors affecting the auditor switching in terms of client characteristics and are useful for regression modeling of the factors affecting auditor switching.

**Keywords:** Auditor Switching, Meta-Analysis, Auditing Firm Characteristics, Auditor Industry Expertise, Auditor Selection.

## 1. Introduction

One of the most enduring issues in the field of auditing is auditor switching, to which a significant part of accounting and auditing studies has been devoted in recent decades, following a variety of reasons (Bilal, 2018). According to the representation theory, the task of attestation is the main reason for the existence and expansion of the audit profession. This attestation provides the basis for external trust and reliance on audited management reports, and the information provided with extra confidence can be the basis for stakeholders' decisions. In the meantime, the abuses and bankruptcies of large firms in recent years have attracted public attention to the issues of auditor independence and audit quality, and have led to changes in several laws in this field. Among these changes was the issue of continued long-term cooperation between the auditing and the client firm, which seems to undermine the auditor independence (Durand, 2018; Bilal, 2018). In order to address this

type of undermining of auditor independence, some countries have limited auditor switch to a few years, as it can be seen in Table 1 (Harber et al., 2020).

Auditor switching covers complex issues in the relationship between a client firm and its auditors (Stefaniak et al., 2009). These issues mainly include some characteristics of auditor and audit firm, such as the auditing firm tenure, type of auditor opinion, auditing firm size, auditor expertise in a particular industry, and other related factors (Bilal, 2018). In separate studies, Ishaqnia and Salehi (2017) and Durand (2018) developed the determinants of auditor switching and showed that audit firm characteristics are one of the important factors in the probability of auditor switching. In this regard, identifying and examining the factors of "auditing firm characteristics" affecting on auditor switching using a meta-analysis approach are useful for researchers who decide to use this variable in their research.

**Table 1. Mandatory auditor rotation laws in the world's largest countries.**

Country	Is the mandatory rotation of auditing firms underway?	GDP/Billion dollars	Partner rotation
America	No	21,430	5 years
China	Yes (limited) - Five years for financial institutions and government firms that require a tender every three years.	14,220	5 years
Japan	No	5,180	5 years
Germany	No (this is subject to an EU ruling in 2014)	3,960	7 years
India	Yes - ten years for listed companies and some non-listed companies, with a five-year break. Four or five years for public sector units; four years for banks and two years for insurance firms.	2,970	-
United Kingdom	Yes, it depends on the EU decision on MAFR and the outcome of the country's withdrawal from the EU	2,830	Prior to the 2014 ruling, implementing partner rotation every 5 years with a five-year break
France	No (this is subject to an EU ruling in 2014)	2,760	6 years
Italy	Yes - nine years for listed companies and public interest institutions, with a three-year break (this now depends on the EU ruling in 2014)	2,030	6 years
Brazil	Yes - five years for listed non-banking companies; ten years for companies with a statutory audit committee	1,960	-
Canada	No	1,740	7 years
Korea	No, but based on a six-year rotation, it was effective between 2006 and 2010.	1,660	-
Russia	Yes, the five-year rotations for banks and rotations in other cases are limited.	1,610	-
Spain	No, rotation during the period from 1988 to 1995 was on a nine-year rotation, but this law was never enforced (this is not subject to an EU ruling in 2014).	1,430	7 years
Australia	No	1,420	5 years
Iran	Yes - in accordance with the approval of the instructions of the Stock Exchange Organization 2010	454	4 years

Experimental research on auditor switching introduce several factors affecting this issue, including client firm characteristics, auditor characteristics, audit firm characteristics, characteristics of the political and economic environment of the country, characteristics of corporate governance and internal control system, ownership structure, etc. Also, the evidence obtained regarding the factors influencing audit switching is in most cases contradictory. Studies on identification and evaluation of the determinants of auditor switching have achieved conflicting results for various reasons such as differences in sampling methods, statistical population selection and data analysis methods. Given that one of the main and important factors in auditor switching is the characteristics of auditor and audit firm, in this study, using studies related to the research subject, factors related to the independent auditor have been examined.

Among the effective and frequent factors regarding auditor switching in previous studies are auditor industry expertise, auditor tenure, audit fees, auditor opinion, auditing firm size, audit quality, and financial restatements (Alikhani et al., 2017; Durand, 2018; Ishaqnia and Salehi, 2017), each of which is examined in this study. Therefore, the main aim of this study is to investigate the effects of auditor characteristics on auditor switching with a meta-analysis approach in order to reach a favorable conclusion about the direction and size of the effect of each of these features.

On the subject of auditor switching from the perspective of characteristics of auditor and auditing firm in various studies, alternative reasons and justifications were raised, some of which are mentioned below. Hoffman et al. (2016) showed that client firms are more likely to switch their auditors when they believe that their independent auditor is more inclined to publish a modified audit opinion. Matsumura et al. (1997) developed a model that shows that client firms switch their auditors because of incentives to improve audit quality. Knapp and Eliakai (1988) summarized their research on auditor switching and showed that client firms do not switching their auditors in order to adjust audit opinions. Similarly, DeFond and Zhang (2014) found that client firms who make auditor switching in response to modified audit opinions are usually unable to attract new audit firms that historically publish fewer modified audit opinions than the previous auditor did. Previous research has

investigated the relationship between audit fees and auditor switching in two areas. First, several studies show that high levels of audit fees encourage client firms to make auditor switching (Etridge et al., 2007; Kallunki et al., 2007). Hence, clients' tendency to control costs encourages them to switch their auditor. Second, some research has examined the relationship between a new auditor's low fee and auditor switching. Kanodia and Mukherji (1994) developed an economic model of the client-auditor relationship, which shows that auditing fees increase over time after the auditor of the first firm is hired because the increase in audit fees occurs due to the time consuming nature of the initial audit and the decrease in the market share of large auditing firms (Harris, 2012). Following the factors affecting auditor switching, Stefaniak et al. (2009) further stated that two auditor characteristics (industry expertise and audit tenure) affect the auditor switching because client firms are more likely to discharge auditing firms without industry expertise. In addition, Williams (1988) found that client firms are more likely to switch auditing firms with shorter tenure. Many research literatures support the idea that large auditing firms are associated with higher audit quality, higher earnings quality, and lower earnings management. Auditor reputation seems to be an important factor for the superiority of auditing firms (Leo and Lane, 2019).

As mentioned, various studies have been sporadically conducted on the factors affecting auditor switching. Although these studies have contributed to the development of research literature on auditor switching, their abundance and repetition leads to a waste of time and research costs in the country. Using meta-analysis can integrate the results of researches in a field and, by achieving consensus, can make several contributions on other topics. On the other hand, the results of this research can suggest new ideas for further studies on the research subject. In the following, by expressing the theoretical structures of the research, the research hypotheses are developed. Then, a research review is presented and by the use of inferential analysis and meta-analysis methods, the previous researches are examined. Finally, discussion and conclusion is provided.

## 2. Theoretical Structures and Hypotheses Development

The representation theory arises from the separation between asset management and business units, which leads to differences in representation information and conflicts between clients and managers. Thus this theory strengthens the auditor's role for the reliability and credibility provided to the community since its emergence. Slowly on the other hand, the auditor is an arbitrator who, considering the model of accounting rules, defines the desirability of the representative's financial activities and approves other measures in the area of cost minimization. Also, the audit is related to decision theory and its information value is used to make better decisions (Azizkhani et al., 2012). In the following, frequent indicators that have been analyzed by previous studies and are related to the auditor characteristics are presented.

### Auditor Industry Expertise

The auditor expertise hypothesis states that the auditor's ability to detect incorrect presentation of items in the financial statements prepared by the client's management is influenced by the auditor's specific knowledge of the client and this knowledge is gradually developed for the auditor during the early years of auditing. Clients are more likely to discharge auditing firms that lack industry expertise (Battacharya, 2020; Bi, 2020). This hypothesis is based on information asymmetry between the auditor and the client in the first years of the tenure, which is addressed over time as the auditor's understanding of the business unit environment increases. As a result of this gradual understanding process, a competitive advantage in detecting deficiencies in the client's financial statements is gained by the auditor. Lack of this knowledge in the early years of auditing for the auditor has a negative impact on the audit quality, and finally over time and as auditor's knowledge of the risks of the business unit and its environment increases, he/she will less rely on management estimates and gain more independence, resulting in an increase in the audit quality (Azizkhani and Safarvandi, 2012). Abbott and Parker (2000) investigated the auditor industry expertise as a criterion for hiring new auditors. They found that as the audit committee's effectiveness increases, the client is more likely to hire a new auditor who is an

industry expert. Other studies have examined auditor selection and investment during the Initial Public Offering (IPO) process. These studies have found an inverse relationship between the initial returns of IPOs and the auditor reputation, and that IPO customers and bankers involved in investing in IPOs both choose auditors with a stronger reputation in order to minimize IPO prices (Beatty, 1989).

**Hypothesis 1.** There is a significant relationship between auditor industry expertise and auditor switching.

### Auditor Tenure

Auditor tenure is defined as the number of years that a client firms retains the auditor, and auditor switching after several auditing periods in a client firms is called *auditor rotation*. Also limiting auditor tenure is referred to as *mandatory auditor rotation* (Mehrani, 2013; Krishnan, 2003). Mandatory auditor rotation is performed at two levels: switch in the audit team, especially in the category of partners and managers, and switch at the level of the audit firm. Countries such as the United States and the United Kingdom have only legalized rotation in auditing partners, and Italy, Brazil, Korea, India, and Singapore have legalized audit firm switching over a period of time, and some countries, such as Austria, Spain, and Canada, have become inactive in enforcement of rotation laws due to their failure. In Iran, according to the instructions of the trusted auditing firms of the Tehran Stock Exchange Organization dated July 20, 2007 and the amendment dated February 6, 2012 approved by the Supreme Council of the Stock Exchange Organization, auditing firms are not allowed for rotation. After 4 consecutive years, auditors have to leave the auditor position and legal inspection of a single client firms. Auditing acceptance of the listed companies after the expiration of at least 2 years from the end of the mentioned 4-year period is allowed. In addition, in case of departure of the partners from the previous auditing firms, the engagement partner in the previous 4-year period cannot accept this position for up to 2 years while having presence as a partner in another audit firm. With these descriptions, enforcement of auditor rotation has become mandatory in our country since 2011. Audit literature and research have widely discussed how the duration of the audit tenure affects auditor rotation and completely different results have been provided in the form of two

theories: A) the hypothesis of "auditor expertise", and B) the hypothesis of "auditor independence". The auditor expertise hypothesis believes that audit quality increases along with duration of audit tenure. Conversely, the auditor independence hypothesis believes that audit quality decreases, as duration of audit tenure increases. In the early years of the audit tenure, the accuracy of management's predicted earnings increases (less prediction error) and then decreases (increased prediction error), i.e., earnings quality is high at first and then decreases. Also, the "auditor expertise" hypothesis indicates an increase in audit quality in the early years of the tenure due to increased auditor knowledge of the client, and the "auditor independence" hypothesis indicates a decrease in audit quality in subsequent years of the tenure (Azizkhani and Safarvandi, 2012).

In addition, Williams (1988) found that clients are more likely to switch auditing firms with shorter tenure. What other characteristics of auditing firm influence auditor switching? For example, are clients more likely to switch the auditing firm following the relocation of labor audit staff, like what has led to a mandatory partner rotation? Turnover can adversely affect the auditor-client relationship, especially if the client has a good working relationship with former members of the audit team. In such cases, the client is likely to be less loyal to the audit firm and more likely to switch their auditor.

**Hypothesis 2.** There is a significant relationship between auditor tenure and of auditor switching.

### Audit Fees

One of the reasons for auditor switching is to reduce audit fees (DiAngelo, 1981; Gregory and Collier, 1996). For example, if the current auditor of the acquired entity has received a fee that is considered as too high, then the auditor of the acquiring firm is more likely to replace the auditor of the new subsidiary. Conversely, if a competitive fee is considered, there is less reason for auditor switching. Companies that are dissatisfied with high audit fees have incentives to seek audits with similar quality but lower cost. Sankaraguruswamy and Whisenant (2004) observed that early studies of client-auditor separation show that clients do auditor switching in order to pay lower audit fees and receive better audit services. On the other hand, auditors who are unable to claim and receive an audit fee are more motivated to leave the client.

Gregory and Collier (1996) investigated the relationship between auditor switching and audit fees in the UK. They concluded that firms' behavior with increasing audit fees has led to switches in the existing audit firms in the UK. Hackenbrack and Hogan (2005) concluded that pricing pressure is more than a separate event and that the current auditor's inability to use labor is related to the discontinuation of the client's relationship with the auditor.

However, the customer can be somewhat hesitant to disclose that the switching was made for fee-related reasons, since such disclosure is likely to be interpreted by the market as a signal of management's willingness to sacrifice service quality to reduce costs. On the other hand, the shift from a small auditing firm to a large auditing firm can be seen as a signal of management's interest in service quality (Sankaraguruswamy and Whisenant, 2004).

Auditor switching imposes costs on the auditor and the audited firm. The costs of auditor switching includes: costs incurred by the client to train the auditor about the client's operations, systems, financial reporting methods, and accounting issues; costs incurred by the client to select a new auditor (time spent reviewing recommendations); and the risk of auditor failure in the initial year of auditing (Blouin et al., 2007).

Previous research has investigated the relationship between audit fees and auditor switching by client in two areas. First, several studies show that relatively high levels of audit fees force clients to switch their auditors (Ettredg et al., 2007; Kallunki et al., 2007). Therefore, client motivation to control costs seems to be a driver of some of auditor switches.

Second, other studies investigate the relationship between the auditor's low payment of the initial fee and the switching by the client. Kanodia and Mukherji (1994) developed an economic model of the auditor-client relationship, which shows that audit fees generally increase too much. Empirical evidence supports this theory, as numerous studies provide evidence that auditors reduce the cost of an initial audit to attract public clients (Chan et al., 2016). Lennox et al. (2014) found that in similar audit fees, clients tend to larger auditing firms, and auditing firms generally receive less auditing fees during the first year of tenure. Generally, literature on auditor switching shows that audit firms often reduce initial audit costs in order to attract clients.

In a study entitled "Audit quality, audit firm switching policy and auditor fees: structural equation modeling approach", Azinfar et al. (2019) concluded that audit quality has a significant relationship with auditor switching policy. Their results also showed that audit quality will lead to an increase in auditor fee.

Harber et al. (2020) also investigated mandatory rotation of auditing firms by applying pragmatism in emerging economies and showed that for various reasons, such as "costs of auditor switching", especially rotational loss of client-specific knowledge and expertise, the potential effects of mandatory audit firm rotation (MAFR) on audit quality are significant. In addition, costs and disruption to the client and the audit are considered as significant and unnecessary compared to the audit partner rotation. The auditing firm is also likely to suffer from decreased flexibility and increased pressure on the partners, reducing the firm's attractiveness for collaboration. This is likely to have negative consequences for the diversity goals of the auditing industry.

**Hypothesis 3.** There is a significant relationship between auditor fees and auditor switching.

### Auditor Opinion

The reasons for the auditor switching stem from the fact that auditor is responsible for alerting management about weaknesses, ambiguities or irregularities, and illegal acts discovered in the client's environment, which are often significantly relevant and should therefore be included in auditor's report and lead to modified audit report. Thus, modified audit report can have certain consequences. In this case, the company's management is likely to pressure the auditor to issue an unmodified audit report, as the value of the stock as well as management costs can be affected (Lennox et al., 2014).

Meanwhile, company's management try to eliminate the possibility of issuing a modified report by the auditor because these reports can have a negative impact on the stakeholders' perception towards the management. Auditing, as part of the company's governance system, can play a key role in accrediting and ensuring the quality of information provided by the management to the capital market. Specifically, high-quality auditing increases the reliability of financial statements by reducing the level of error (inadvertent and intentional) in accounting information. High quality auditing reduces earnings

management (intentional manipulation of earnings by management) and also leads to a decrease management's inadvertent error in earnings measuring (Azizkhani, 2016).

The audit task is to provide a basis for the auditor to comment on the use of the GAAP by the management. This process is anchored in both mental and professional judgment. Auditors and management cannot necessarily have the same opinion on a particular GAAP program, but they participate in negotiations that ultimately lead to acceptable agreements. When the two parties fail to reach an acceptable compromise, conflict is likely to arise (Hudaib and Cook, 2005). The auditor, who is concerned about potential litigation and other risks, has incentives to withdraw from the audit instead of accepting the management demands. On the other hand, management who is concerned about the adverse impact of the auditor opinion, has incentives to replace the auditor having an opinion with a greater understanding of the firm status. Therefore, depending on the nature of concerns related to auditor opinion, either party can be the source of switching. Therefore, modified audit reports are associated with auditor switching.

In answer to the first question of whether clients are trying to switch auditors for modified opinions, most empirical research supports the theory developed by Matsumura et al. (1997). These studies show that clients make auditor switching in response to modified audit opinions (Krishnan and Francis, 2002).

However, some research provides evidence that clients do not switch auditors in response to modified (Williams, 1988). Opinion's shopping can be a relatively new phenomenon, as Knapp and Eliakai (1988) summarized research at the time that showed that clients do not make switching in order to buy opinions. Similarly, Chao and Rice (1982) found that clients who make auditor switching in response to modified opinions are generally not able to attract successor audit firms. Other studies show that successor auditors tend to issue modified opinions to clients who have received a modified opinion from a previous auditor (Krishnan and Francis, 2002). Wang et al. (2008) look at buying opinions from a different perspective. They found that auditor switching increases when the client has discretionary accruals or a sharp increase (decrease) in revenue. They concluded that client firms who wish to exercise control over

account balances in the audited financial statements are more likely to switch auditors.

DeFond et al. (2000) concluded that, with stricter auditing standards, firms tend to opt for smaller auditing firms in order to avoid receiving modified audit opinions. Chan et al. (2016) found that local auditors are more likely than non-local auditors to provide a favorable audit opinion for a state-owned local company. They also found that firms with modified audit opinions are more likely to switch non-local auditors to local ones than companies with unmodified audit opinions do.

**Hypothesis 4.** There is a significant relationship between the auditor opinion and auditor switching.

### Audit Firm Size

According to the audit firm size hypothesis, the quality of audited information in large audit firms is higher than in small audit firms. The recent hypothesis emphasizes that since large audit firms have experienced and specialized manpower, as well as sufficient funding to purchase auditing programs and staff training, they audit accounting information with a higher quality (Azizkhani et al., 2012).

A large number of studies have argued that there are qualitative differences between audit firms, and that quality is a positive function of auditor size (Chen et al., 2016). For example, eight (six or four) large accounting firms are considered as high-quality auditors in many empirical studies, and other firms are considered as low or medium quality auditors; e.g., in the case of merged firms, an adopting firm (and its auditor) is concerned about the quality of the auditor of the newly purchased subsidiary. If the auditor of the purchased company is of "high" quality (where quality is determined by size), he/she is more likely to be retained.

Client firms that opt for large audit firms are usually large themselves, have more complex operations, and are less likely to fire their auditors (Hennes et al., 2013). Alavi and Bashirimanesh (2013) showed that auditor quality and switching to larger audit firms have a positive effect on the earnings response coefficient, i.e., as audit quality increases, investors are more likely respond to positive earnings changes.

**Hypothesis 5.** There is a significant relationship between audit firm size and auditor switching.

### Audit Quality

Audit quality is not explicitly defined in technical standards, nor there is an evolving consensus definition (Schroeder et al., 1996). Two definitions are often used for audit quality. Lennox et al. (2014) extracted their definition from SAS 47 and concluded that audit quality reduces the risk of identifying significant misstatement to an appropriate level. DeAngelo (1981) defines audit quality as having two components: the ability to detect misstatements and the tendency to report misstatements.

We use DeAngelo's (1981) definition because it implicitly includes the definition of Lennox et al. (2014), which focuses on the auditors' ability to detect misstatements, while containing another potentially important element in audit quality: tendency to report misstatements. While neither the ability to detect misstatements nor the tendency to report misstatements is visible.

**Hypothesis 6.** There is a significant relationship between audit quality and auditor switching.

### Financial Restatements

A restatement of a firm's previously published financial statements is an acknowledgment of a misstatement of that financial information. Considering the fact that investors generally perceive error statements as negative signals (Hay et al., 2006), firms prefer that their audited financial statements be evaluated as error-free in the first place. When this does not happen and the financial statements need to be submitted later, the company's trust in the auditor is likely to be undermined. Wallace (2005) provides evidence that auditor is not usually the one who identifies the source of the re-presentation. In this case, the company's trust in the auditor is under more pressure.

Thus, financial restatements reflect potentially costly efforts to recover losses resulting from the misuse of accounting procedures in previous periods. Financial managers who face restatements at an additional cost are likely to be frustrated by the auditor's inability to identify an accounting problem earlier. Depending on the severity of the restatement, their trust in the auditor can be shaken to the point where they attempt to switch the auditors. This leads to conflicts between the parties, and the more intense the

conflicts, the more motivated the client is to begin the separation (Krishnan, 2003).

The form of financial statements for various reasons, including changes in accounting policies, errors, revisions in estimates made by management and changes in the classification of figures presented, is not equal to the figures presented in the financial statements. Only changes in accounting methods and error correction are classified as annual adjustments and their effects can be seen after their implementation (Saei et al., 2013). The annual adjustment also adjusts the net balance (loss) accumulated at the beginning of the period. Mande and Son (2013) concluded that if severity of financial restatements increases, auditor switching will increase as well. Hennes' et al. (2013) results show that more auditors are fired after a severe financial restatement. They show that the severity of restatements is positively related to the rate of firing the auditors.

Although financial restatements lead to an increase in investors' concerns about the auditor's ability to oversee future financial reporting, the major restatements reflect the fact that the auditor did not notice any significant errors or misstatements in the financial statements in the year under review. Many studies use this criterion to measure the audit quality, so with this argument, the audit quality (financial restatements) is one of the factors affecting the auditor switching (Hennes et al., 2013).

Larger companies have to pay higher costs to switch their auditors after restatement, and smaller firms are often more likely to be fired than larger firms do (Hans et al., 2013). Hennes' et al. (2013) results showed that after a severe restatement, auditors are more likely to be fired and the severity of restatements is positively related to the rate of auditor dismissal. They also found that the rate of dismissal of non-major auditors (12.4%) was higher than the rate of dismissal of major ones.

In addition, Farber (2005) argued that corporate governance plays a critical role in restoring the credibility of financial reporting after financial restatements. Mande and Son (2013) showed that auditor switching is higher in firms with strong corporate governance, so if we consider financial restatement as an audit failure, firms with higher corporate rates are expected to take steps to restore investors' trust and audit quality after auditor switching.

**Hypothesis 7.** There is a significant relationship between financial restatements and auditor switching.

## Research Methodology

Considering its title and nature, in this research, a meta-analysis approach is used. Meta-analysis is a research approach that helps researchers to achieve a good combination of the quantitative results of previous conflicting and non-contradictory studies, to explain the contradictions, and to identify the moderating structural variables in the results of these studies (Bazrafshan, 2013).

To perform the meta-analysis, available studies on the factors affecting auditor switching were first reviewed. These studies have been published in the journals of top foreign publishers such as Elsevier, Emerald Insight, American Accounting Association, etc., and contain the keywords "auditor switching", "auditor tenure", "auditor rotation", "adoption of new auditor", and "client retention".

The time domain of the present study is based on the time period of the reviewed Persian articles, i.e., the articles studied during the period from 2001 to 2021, and the Latin articles studied within the period from 1996 to 2021.

## Research Variables

67 articles have been analyzed in this meta-analysis. There are many variables that have been used in a large number of studies. The variables that have been used in less than four analyses were excluded because they are found in a single study with multiple analyses. The variables extracted from the studies include: audit firm size (34 reps), auditor industry expertise (21 reps), auditor tenure (21 reps), audit fee (17 reps), auditor opinion (17 reps), audit quality (6 reps), financial restatement (9 reps).

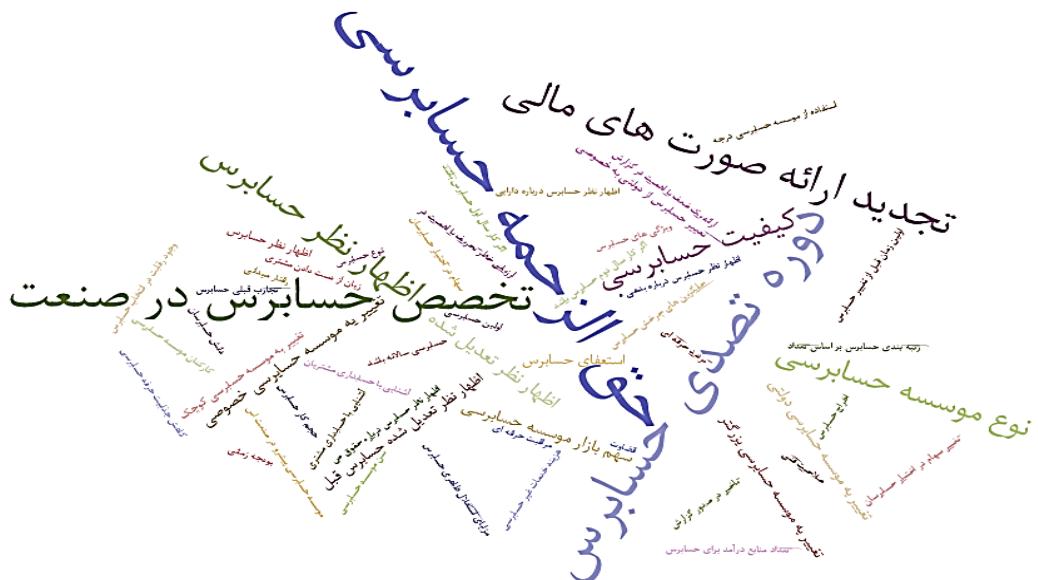
In the second step, the correlation statistics (p-, z-, t-, and F-values and chi-square) (different studies should be converted into the effect size). In this regard, following Lipsey and Wilson (2001), we will use the following formulas:

$$ES_r = \frac{t}{\sqrt{t^2 + df}} \quad (1)$$

$$ES_r = \frac{\bar{Z}}{\sqrt{N}} \quad (2)$$

$$|ES_r| = \frac{\sqrt{F}}{\sqrt{F + n_1 + n_2 - 2}} \quad (3)$$

$$ES_r = \frac{\sqrt{R^2}}{\sqrt{N}} \quad (4)$$



**Figure 1.** The most frequent keywords in the field of auditor characteristics.

To convert the p-value statistic to the effect size, first convert this statistic to the t-value and then convert the t-value to the effect size using the first formula. After assessing the effect size formulas of manual calculations that are available to measure the effect size, the CMA2 meta-analysis software was used. In this study, we have meta-analyzed all the articles based on software and discussed and concluded in the “Findings” section.

Publication Bias

One of the problems that can affect the validity of the results of meta-analysis studies and make them invalid is the *publication bias*, i.e., a meta-analysis does not include studies on the research subject, 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. It is necessary to identify and correct the publication bias in the initial steps of a meta-analysis in order to make

the results valid. The Egger regression method is one of the statistical methods for evaluating the publication bias in Funnel plots.

### **Research Findings**

## Description of Studies Conducted Based on Year of Publication

In Table 1, the reviewed studies are expressed based on the year of publication, frequency and frequency percentage. The studies reviewed in this research include articles from 14 different countries, including Iran, USA, Canada, Australia and UK, etc.

As it can be seen, the highest frequency is related to the years 2016 to 2021 with 21 articles, which contains 31% of the total articles reviewed. 16 and 12 articles were published within the years 2011-2015 and 2006-2010, respectively. The research period covers articles published within the period from 1996 to 2021, which can also be seen in the table above.

**Table 1.** Studies reviewed based on the year of publication.

Table 1. Studies reviewed based on the year of publication						Total
Year of publication	2016-2021	2011-2015	2006-2010	2001-2005	1996-2000	67
Number of articles	21	16	12	8	10	67
Frequency percent	31	24	18	12	15	100

### Description of Research Studies Based on Published Journal

The data extracted from the studies reviewed is presented in details in Table 2 based on the name of the journal. They are ranked based on the above criteria and the number of articles used by each journal.

According to Table 2, the "International Journal of Auditing" and "Managerial Auditing Journal" with 8 articles have the highest number of articles reviewed in this study. In terms of domestic articles published in Iranian journals, 15 domestic articles were used, and journals of "Accounting and Auditing Review" and "Accounting knowledge" with 3 and 4 articles, respectively have the highest publication in this field.

**Table 2. Reviewed journals based on frequency of articles.**

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

### Inferential Analysis

#### Meta-Analysis of Factors Affecting Auditor Switching

The results of meta-analysis of studies that have used the variables of *auditor industry expertise*, *auditor tenure*, *audit fees*, *auditor opinion*, *audit firm size*, *audit quality*, and *financial restatements* as factors

influencing auditor switching are presented in Table 3. Regression models of fixed and random effects regression have been applied to these variables and the heterogeneity test is also presented in Table 3.

It is observed that the level of confidence in the heterogeneity test for all the variables is less than 5%, so information on random effects is used to make conclusion about the first to seventh hypotheses.

**Table 3. Meta-analysis results of the studies reviewed.**

Effective factor	Type of effect	Effect size (r)	Confidence interval		Null hypothesis test		Heterogeneity test			Result of hypothesis test
			Lower limit	Upper limit	z-Value	p-Value	Statistics Q	Statistics I <sup>2</sup>	P-Value	
Auditor industry expertise	Fixed effects	-0.238	-0.277	0.178	-9.722	0.000	908.55	75.32	0.00	Confirmation of the first hypothesis
	Random effects	-0.221	-0.435	0.026	-2.336	0.019				
Auditor tenure	Fixed effects	-0.072	-0.036	0.383	-7.847	0.000	217.91	88.84	0.00	Confirmation of the second hypothesis
	Random effects	0.062	-0.321	0.088	-2.336	0.031				
Audit fees	Fixed effects	-0.072	-0.048	0.287	-6.203	0.001	329.43	62.77	0.001	Confirmation of the third hypothesis
	Random effects	0.610	-0.451	0.727	-2.612	0.029				
Auditor opinion	Fixed effects	-0.087	-0.032	0.356	-5.837	0.002	126.38	83.23	0.001	Confirmation of the fourth hypothesis
	Random effects	0.033	-0.439	0.416	-2.904	0.041				
Audit firm size	Fixed effects	-0.057	-0.199	0.412	-5.522	0.001	217.42	93.29	0.002	Confirmation of the fifth hypothesis
	Random effects	-0.041	-0.271	0.519	-3.461	0.027				

Audit quality	Fixed effects	0.051	0.047	0.063	18.719	0.000	419.24	85.29	0.000	Confirmation of the sixth hypothesis
	Random effects	-0.063	-0.082	0.128	3.928	0.002				
Financial restatements	Fixed effects	0.021	0.031	0.047	14.219	0.000	310.58	63.32	0.000	Confirmation of the seventh hypothesis
	Random effects	0.003	-0.079	0.242	3.731	0.001				

Resource: Research findings.

The weighted means of the effect size for the variables of *auditor industry expertise*, *auditor tenure*, *audit fees*, *auditor opinion*, *audit firm size*, *audit quality*, and *financial restatements* are -0.221, 0.062, 0.61, 0.033, 0.041, 0.063 and 0.003, respectively. The confidence intervals of the effect size for the research variables are between the upper and lower limits, considering that the significance level of testing the research hypotheses using random effects is equal to 0.000 and is less than 5%. Therefore, there is no reason to reject the research hypotheses and they are accepted. In other words, at the confidence level of 95%, it can be said that the research variables affect the auditor switching. The results of the variables of *auditor industry expertise*, *audit firm size*, and *audit quality* show that due to the negative sign of the effect size, the effect interpreted to be inverse and significant, meaning that as the auditor industry expertise increases, auditor switching is less likely to be made. Also, in larger audit firms, the likelihood of auditor switching decreases as the audit quality increases.

On the other hand, according to the positive sign of the effect size in the variables of the *auditor tenure*, *audit fees*, *auditor opinion* and *financial restatements*, this effect is interpreted to be direct and significant, i.e., as the auditor tenure increases, the probability of the auditor dismissal and auditor switching increases

as well. Also, as audit costs (audit fees) and auditing restatements increase, auditor switching in companies increases. Regarding the *auditor opinion* variable, at the confidence level of 95%, it can be said that the auditor opinion affects auditor switching; i.e., as the modified audit opinions increase, the likelihood of auditor switching increases as well.

### Funnel Plot

One of the simplest ways to identify publication bias is to use a two-dimensional scatter plot called a *funnel plot* in which the estimated intervention from each study is plotted against the sample size of that study. In the absence of publication bias, the Funnel plot is expected to be symmetric and the scatter value around the effect size of the intervention to decrease as the sample size increases (Light and Pilmer, 1984).

In funnel plots, studies that have a low standard error and accumulate at the top of the funnel have no publication bias. But as studies move towards the bottom of the funnel, their standard error and publication bias increase.

Considering the above explanations, Figures 1 to 7 show the funnel plots of the research variables. Since they are symmetric, the lack of publication bias in the examination of the related studies is implied.

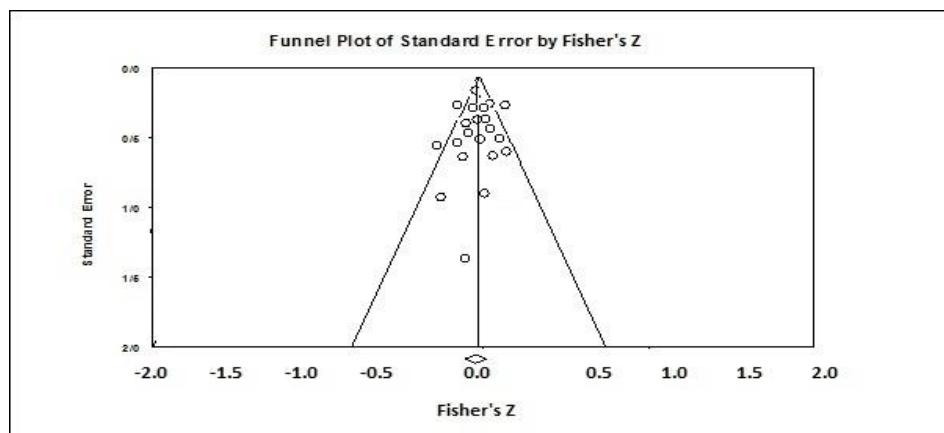


Figure 1. Funnel plot for auditor industry expertise.

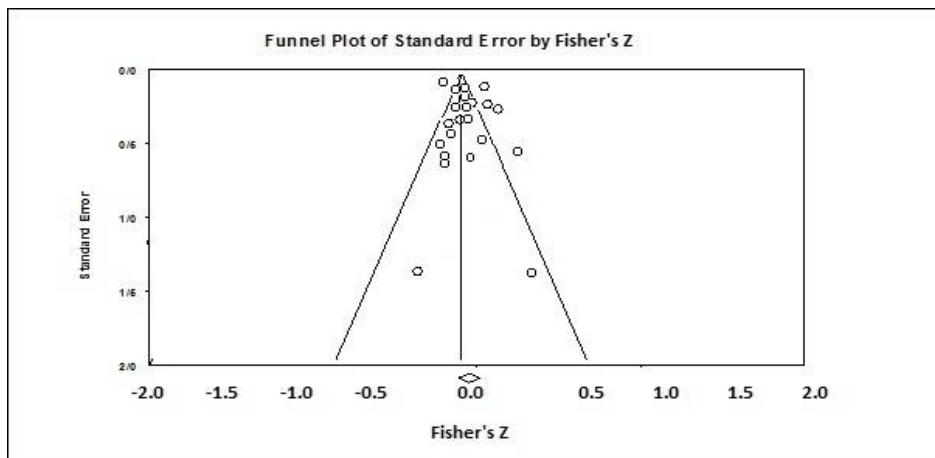


Figure 2. Funnel plot for auditor tenure.

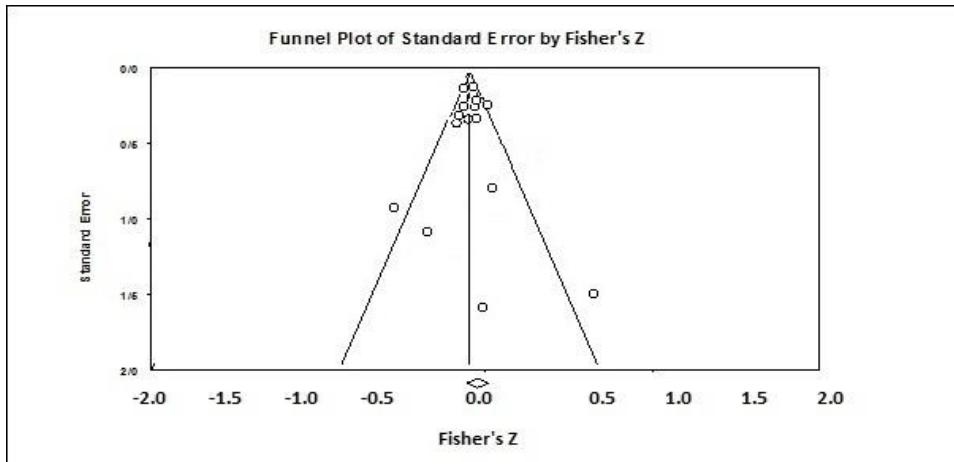


Figure 3. Funnel plot for auditor fees.

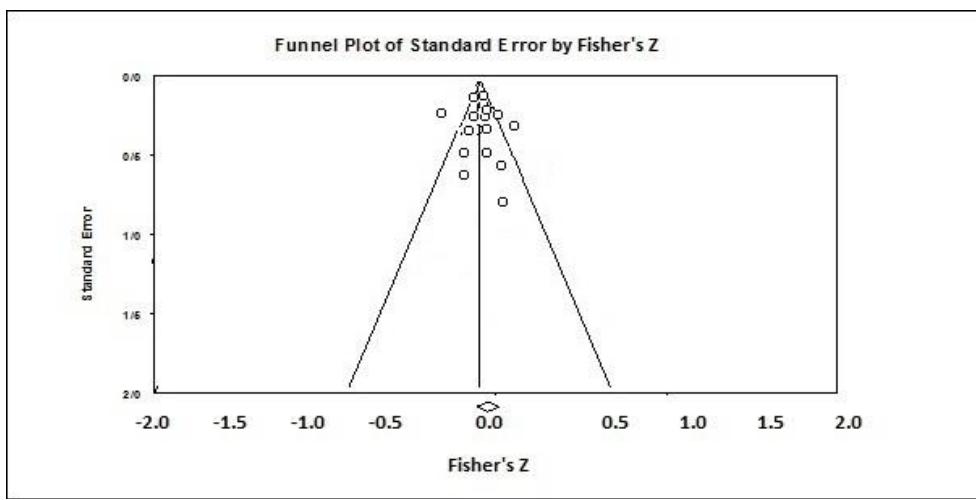


Figure 4. Funnel plot for auditor opinion.

The following figure, which shows the funnel plot of the *audit firm size* variable, is symmetric, which

indicates that there is no publication bias in reviewing the related studies.

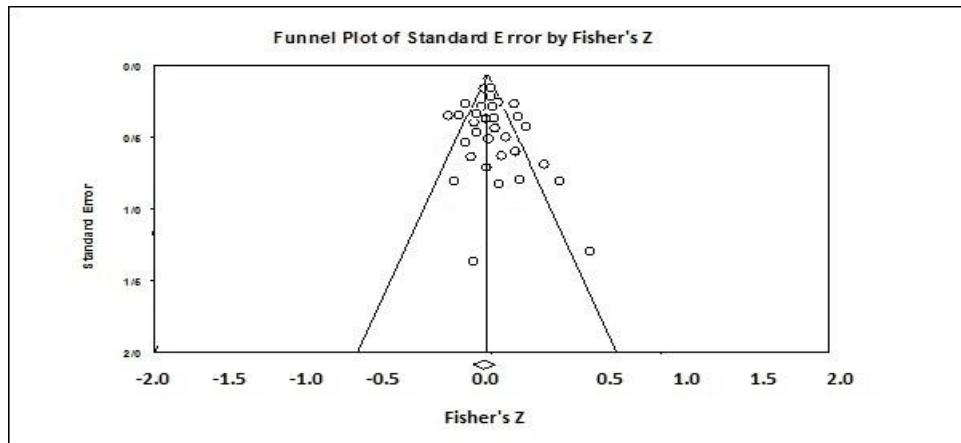


Figure 5. Funnel plot for audit firm size.

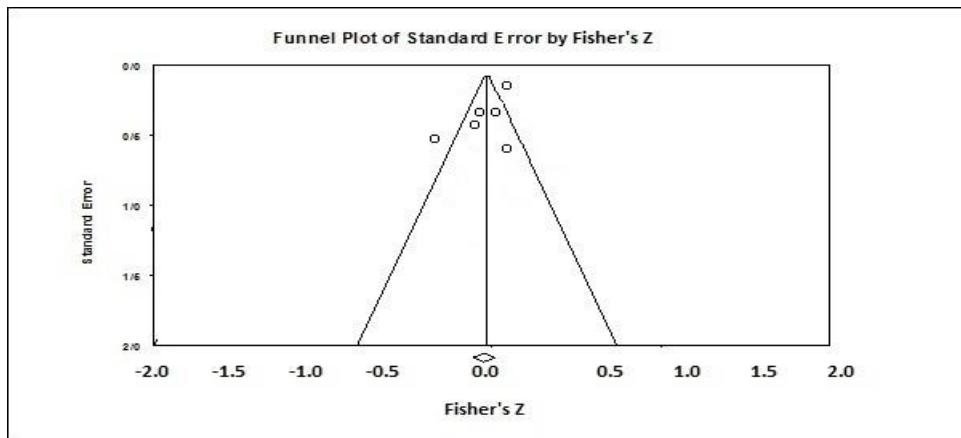


Figure 6. Funnel plot for audit quality.

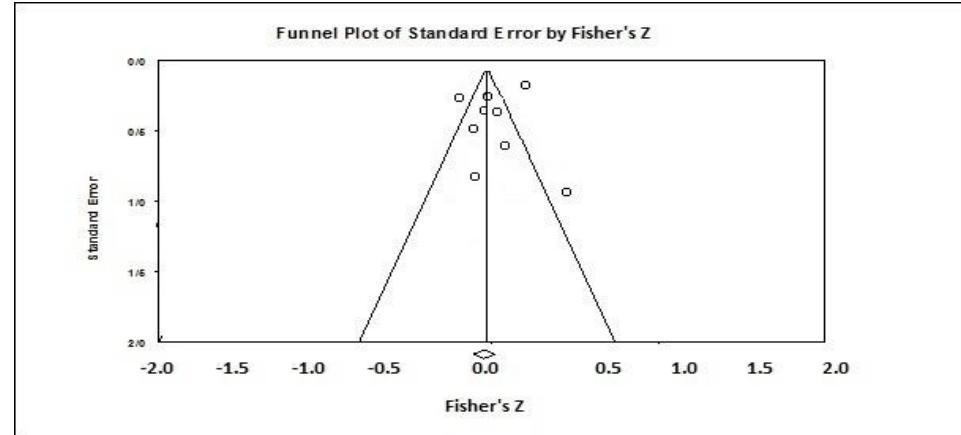


Figure 7. Funnel plot for financial restatements.

### Egger Linear Regression

In the Egger 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 accuracy  $\left( \frac{1}{\sqrt{v_i}} \right)$  as an independent variable.

After performing the meta-analysis, determining the effect size, and obtaining the percentage of homogeneity, if we use the random effects model, we

must enter the moderator variables into the second stage of the meta-analysis and determine the variance effect of the studies.

The results of examining the Egger linear regression method for assessment of the publication bias are presented in Table 4.

Table No. 4 If linear regression

According to the results of the Egger linear regression, since the p-value is one-tail and two-tail in its range, the null hypothesis, i.e., the symmetry of the Funnel plot and the lack of publication bias, is not confirmed.

**Table 4. Egger Linear Regression.**

<b>Statistical index</b>	<b>Cut (B)</b>	<b>Standard Error (SE)</b>	<b>t-value</b>	<b>Significance level (P-value)</b>	
				<b>One-tail</b>	<b>Two-tail</b>
Auditor industry expertise	-0.543	0.562	0.932	0.171	0.341
Auditor tenure	-0.328	0.439	0.812	0.189	0.312
Audit fee	-0.482	0.518	0.961	0.201	0.493
Auditor opinions	-0.512	0.559	0.827	0.183	0.319
Audit firm size	-0.417	0.430	0.712	0.221	0.387
Audit quality	-0.395	0.389	0.667	0.172	0.219
Financial restatements	-0.519	0.437	0.724	0.249	0.466

Resource: Research findings.

### Discussion and Conclusion

The aim of this study was to investigate the factors affecting auditor switching with an emphasize on auditor characteristics and using a meta-analysis approach to examine the common predictors in this field. Based on the results of the above tests, it is accepted that auditor industry expertise affects auditor switching. Due to the negative sign of the effect size, this effect is interpreted to be inverse and significant, and as the auditor industry expertise increases, it is less likely to switch the auditor.

Considering the fact that client firms are looking for auditing firms with expertise in that industry, one of the factors affecting auditor switching has been switching an auditor without industry expertise to an auditor with industry expertise, which has been confirmed in previous research. The results of this hypothesis are also consistent with research conducted by Battacharya (2020), Bi (2020), and Williams (1990). Williams (1990) also showed that clients are more likely to discharge auditing firms that lack industry expertise because boards of larger companies have incentives to monitor their auditors' expertise and

switch auditors in order to reduce monitoring costs. Other studies such as Weiss (2013) did not find a significant relationship between industry expertise and auditor switching.

Considering the results of the above tests, it can be said that auditor affects auditor switching. Due to the positive sign of the effect size, this effect is interpreted to be direct and significant, i.e., as the tenure increases, the probability of auditor dismissal or switching increases. Prolonged tenure can undermine auditor independence. The auditor rotation can help maintain the auditor independence and result in a new perspective in the auditor. In line with the results of the research, and since the increased auditor tenure causes the auditor to acquire a specific knowledge of the client over time, the auditor's professional competence and audit quality increase. On the other hand, increased auditor tenure causes the auditor to be too close to the client's management, which can have a negative effect on the auditor independence and audit quality (Kameran et al., 2005). In confirmation of the results of this hypothesis, Shockley (1982) also showed that increased auditor tenure can cause excessive self-confidence, lack of innovation, and

decreased use of accurate and meticulous methods among auditors. He also believes that the management and the staff of the client, as a result of long-term interaction with the auditor, are familiar with his/her personal and work characteristics and can use this familiarity to commit violations. Increasing the tenure of the auditor leads to a change of auditor. Also, the results of this hypothesis are in accordance with the research conducted by Kerini and Stewart (2019), Ishaqnia and Salehi (2017), Hoffman (2016) and Rezazadeh and Zarei (2007). Other studies such as Myers (2003) did not find a significant relationship between industry expertise and auditor switching.

According to the results of the above tests, at the level of 95% confidence, it can be said that audit fees affect auditor switching and according to the positive sign of the effect size, as audit fees increase, audit switching increases as well. The results of this study are in line with previous researches. DeAngelo (1981) and Gregory and Collier (1996) also declare audit fee reduction as one of the reasons for auditor switching. For example, client firms that are dissatisfied with high audit fees have incentives to contract with an audit firm with similar quality but lower prices. Also in merged firms, if the incumbent auditor of the acquired unit has received a fee that is considered as too high, then the auditor of the acquiring firm is more likely to replace the auditor of the new subsidiary. Conversely, if a competitive fee is considered, there is less reason for auditor switching. These results are consistent with the findings of the studies conducted by Sankaraguruswamy and Whisenant (2004), Gregory and Collier (1996), Hackenbrack and Hogan (2005), Blouin et al., (2007); Myers et al., (2003), Ettredge et al. (2007), Kallunki et al., (2007), Johnson and Liz (2011), Azinfar et al. (1398), Harber et al. (2020), Saleh and Jasmani (2015), and Fang (2013). On the other hand, auditors who are unable to claim and receive an audit fee are more motivated to leave the client. However, auditor switching imposes costs on the auditor and the audited firm. The costs of auditor switching includes: costs incurred by the client to train the auditor about the firm's operations, systems, financial reporting methods, and accounting issues; costs incurred by the client to select a new auditor (time spent reviewing recommendations); and the risk of auditor failure in the first year of auditing.

Most previous research shows that audit firms in initial audit year suggest low audit fees to attract

potential clients. Therefore, it seems that lack of attention is the main motivation for clients to start auditor switching. However, decreased audit fees seems to be a temporary advantage for the client after auditor switching, as the surrogate firms tend to gradually increase the audit fees over time. Most studies show that the costs of audit firm rotations outweigh their potential benefits.

Also, as auditor's modified opinions increase, auditor switching is more likely to be made. This is in line with the previous research, e.g., Zare Bahnemiri and Hassankhani (1400), Saleh and Jasmani (2015), DeFond et al. (2000), Chan et al. (2016), Matsumura et al. (1997), Krishnan and Francis (2002) showed that clients make auditor switching in response to the auditor's modified opinions. The results are also inconsistent with Knop and Elika (1988) and Williams (1988), whose independent research provided evidence that clients do not switch their auditors in response to modified opinions. Similarly, and in support of the views of Knop and Elika (1988), Chao and Rice (1982) showed that clients make auditor switching in response to modified opinions become generally unable to attract successor auditors (Krishnan and Francis, 2002). In line with the results of this study, Saleh and Jasmani (2015) showed that there is a significant relationship between the type of auditor opinion and auditor switching, while in developing countries, auditor opinion cannot be the only reason for auditor switching. Clients try to find new audit firms to correct modified financial statements. However, it is not possible to conclude conclusively that clients are looking to buy the right opinions. Most previous research shows that clients generally cannot effectively impose their views on new auditors because previous and surrogate auditors tend to agree on the type of opinion they issue.

According to the results of the above tests, at the confidence level of 95%, it can be said that audit firm size affects auditor switching, i.e., in larger audit firms, the probability of auditor switching decreases. According to the audit firm size hypothesis, the quality of audited information in large audit firms is higher than in small audit firms. The recent hypothesis emphasizes that since large audit firms have experienced and specialized manpower, as well as sufficient funding to purchase auditing programs and train their staff, they audit accounting information with higher quality (Azizkhani et al., 2012). Since

companies that opt for large auditing firms are usually large themselves and have more complex operations, they are less likely to fire auditors (Hans, Leon, and Miller, 2013). Also, audit firm size is considered as a criterion for high-quality audit, so clients are reluctant to switch their high-quality audit firm, and large firms are less likely to switch their auditors. The results of this study are in line with Zare Bahremiri and Hassankhani (1400), Stein (1987), Saleh and Jasmani (2015), Fang (2013), and Rezazadeh and Zarei (1386). Fang (2013) showed that small audit firms have limitations, due to which they cannot improve the audit quality, so client companies seek to increase the audit quality, and consequently contract with large audit firms.

According to the results of the above tests, at the confidence level of 95%, it can be said that audit quality affects auditor switching and as audit quality increases, the probability of auditor switching decreases. Also, according to the Funnel plot, the audit quality is symmetric and indicates that there is no publication bias in reviewing the 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 information quality hypothesis refers to how auditing can enhance the quality of information provided by the management of the firm in question. According to this hypothesis, the auditor's task is to enhance the quality of accounting information, which ultimately increases the usefulness of information for decision-making by investors, creditors, and other stakeholders. Based on this hypothesis, the higher the quality of information through the audit process, the lower the costs of capital, information asymmetry and agency costs, and as a result, managers are reluctant to replace auditors with higher quality work (higher audit quality) (Azizkhani and Et al., 2012). These results are consistent with Rezazadeh and Zarei (2007), Lennox et al. (2014), Alavi and Bashirimanesh (2013). Alavi and Bashirimanesh (2013) showed that the audit quality and switching to larger audit firms have a positive effect on the earnings response coefficient, i.e., as the audit quality increases, more investors respond to positive changes in earnings.

According to the results of the above tests, at the confidence level of 95%, it can be said that financial restatements affect auditor switching. The argument is that in response to capital market pressures, the firm

fires its auditors in cases where there is a severe restatement in order to increase the audit quality and to return the lost capital to all the investors upon restatements. Lazer et al. (2004), Kancheli et al. (2007), Wang et al. (2008) also confirmed the results of this study, arguing that clients who make auditor switching are more likely to submit quarterly financial restatements than those who do not make auditor switching. Mayer (2005) confirms that financial restatements can be associated with auditor switching. Stanley and Dezort (2007) also indicate a negative and significant relationship between auditor switching and the rate of financial restatement. Mande and Son (2013) investigated the relationship between financial restatement and auditor switching, showing that financial restatement is an important factor for auditor switching next year. On the other hand, Ishaqnia and Salehi (2017) showed that restatement does not lead to auditor switching and as the intensity of restatement increases, the auditor switching does not increase in the next year of restatement. In addition, in companies that have restatements, non-large audit firms are more likely to be switched than large ones are. Therefore, the results show that restatement is not an important factor in auditor switching next year.

One of the limitations of this research is the limitation in using special statistical methods and not reviewing conference articles and academic theses. In this regard, it is suggested to consider use studied performed on the subject of auditor switching considering other aspects of variables such as company characteristics and corporate governance, etc. and compare their results with the results of this study. Other studies on auditor switching are also recommended to use the variables of this study (according to their impact on the auditor switching) as their moderator or control variables according to the results of this study.

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