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Article

Impact of ownership concentration on the auditor switching with modified audit opinion as mediation variable

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Abstract: Motivated by recent studies that show that ownership characteristics have an effect on auditor opinion and auditor change, this research examines the effect of ownership concentration on the auditor switching with modified audit opinion as a mediation variable. The explanatory variable is ownership concentration, and the explained variable is auditor change and modified audit opinion as mediating variables. The method used for analysis is called logistic regression. The data is related to manufacturing companies listed on the Tehran Stock Exchange from 2013 to 2022. Research findings show that ownership concentration has a positive and significant effect on auditor change. Ownership concentration has a significant negative effect on the modified audit opinion. Modified audit opinion mediates between ownership concentration and auditor change. Empirical findings show that high ownership concentration may increase the probability of auditor change and decrease the probability of modified audit opinions.

Keywords: auditor switching; modified audit opinion; ownership concentration; Tehran stock exchange

1. Introduction

One of the important mechanisms of corporate governance is external audit, which has a significant impact on the quality of accounting information of companies listed on the stock exchange. Auditors complete the audit process and then comment on the companies' financial statements. Auditors' comments reduce the quality of accounting information. One of the effective external control mechanisms for corporate governance, which is increasingly important globally, is the emergence of the ownership concentration phenomenon. In terms of concentration, ownership can be dispersed (numerous small shareholders) or concentrated (a few major shareholders). Ownership concentration can be measured through the level of common stock held by majority shareholders [1]. Ownership concentration creates the authority to exercise control over the entire set of assets and objectives of the company [2]. A centralized control system is created when the ownership of the company is in the hands of major shareholders, and a decentralized system is when the ownership of the company is distributed. Ownership concentration in a company occurs when a major percentage of the shares is owned by a specific person, group, or institution. These shareholders have the potential to influence the activities of managers directly through ownership and indirectly by exchanging their shares. Auditors play a vital role in determining the validity of information, and this person should not be influenced or influenced by others under any circumstances. By studying agency theory, you can logically understand the concept of auditor change. According to Eisenhart [3], the agency theory states that

human actions are based on their own interests (personal interests). In order to minimize the conflict between the agents and principals and to strengthen their trust in each other, the auditor transfer mechanism can be used. Because it is possible that by not changing the auditor, a dependency is created between the auditor and the managers, and the auditors act according to the opinion of the managers, and in this case, the interests of the shareholders are neglected. According to the signal theory, the change of auditor by clients is a signal of the quality and reliability of financial statements [4]. Lennox [5] states that companies change auditors to get rid of the current auditor's opinion and hire a new auditor with a new opinion, which is called opinion shopping. Opinion shopping is conducted by companies to avoid going-concern audit opinions. Companies can change auditors (auditor switching) to avoid receiving a going-concern audit opinion. According to the research of Chen et al. [6] and Dodgson et al. [7], it was found that opinion shopping leads to changing the auditor, and opinion shopping has a positive and significant effect on changing the auditor. Pereira [8] found out that there is a significant relationship between the existence of a board of directors with financial expertise and institutional owners with the provision of an acceptable opinion by external auditors. Hu et al. [9] suggest that in listed companies with a concentrated ownership structure, there is a positive and significant relationship between the level of earnings management and the willingness to issue modified audit opinions by auditors. However, in this situation, the issuance of revised audit opinions does not lead to a change of auditor. This is because in companies with concentrated ownership, the majority or large shareholders can control the selection of accounting firms, as the large shareholders have a greater influence on the management of the company. Therefore, auditors are more likely to issue modified opinions based on actual accounting information to meet the expectations of the majority or large shareholders. Conversely, for listed companies with a dispersed ownership structure, there is no significant relationship between profitable management and the willingness to issue a modified audit opinion. Moreover, issuing a modified audit opinion may increase the likelihood of auditor change. Carey et al. [10] conclude that a revision of the auditor's opinion on going concern may lead to a change in business policy. Chow and Rice [11], Croswell [12], Citron and Toffler [13], in their research, concluded that there is a positive relationship between an auditor's modified opinion and auditor change. However, the research of Schwartz and Menon [14], Hoskins and Williams [15] shows that there is no significant relationship between the auditor's modified opinion and auditor change. D'Angelo [16] argues that this relationship can be bidirectional, so it is possible that "qualified opinions lead to auditor changes, or auditor changes lead to qualified opinions." However, the auditor's opinion can help attract investors to invest in the tire company. If the company's expectations are not met through the auditor's opinion, the company's concern about the auditor's opinion will lead to the opinion shopping. The study of Newton et al. [17] states that opinion shopping has a negative and significant effect on changing auditors. Chen et al. [6] argue that there is a positive and significant relationship between opinion purchase and auditor change. As can be seen, there is still no consensus between the results of previous studies regarding the subject of this research, including the research of Fauziyyah et al. [18], Faradilla and Yahya [19], and Putra and Suryanava [20], that the audit

opinion has an effect on the change of auditors, while the research findings of Hartono and Roman [21], Vinata and Anisikorlila [22], Pavitri and Yadnyana [23] show that there is no significant relationship between the audit opinion and the change of auditors [21]. In addition, in Iran, if a company or shareholder submits a proposal to change the external auditors and statutory auditors before the expiration of the maximum term of the external auditors and auditors, it must be submitted with the reasons. The opinion of the audit committee must be notified to the Tehran Stock Exchange Organization at least 10 days before the meeting. The organization will consider the reasons for the change and publish its opinion for or against it at least 5 days before the general meeting. If not approved, changes to external and statutory auditors should be avoided.

In this research, auditors changed literature, and some concepts from agency theory or other considerations of corporate governance have been used. The added value in this study is the increase of the modified auditor's opinion variable as a mediating variable, which is expected to influence the independent variable through the mediating variable on the dependent variable. This research was done for two reasons. First, centralized and decentralized ownership can influence the auditor's opinion and consequently the auditor's change. The issue of "auditor switching" has implications for the credibility of financial reporting and monitoring costs [24]. Although there have been extensive studies on the auditor's role, due to the conflicting results of previous studies, this study re-identifies the relationship between ownership concentration and auditor change with regard to the mediating role of the auditor's modified opinion to strengthen the results of previous studies. Secondly, the reasons for the auditor's decision are not announced in the annual report, nor are the stakeholders informed, and the facts are hidden by the companies [25]. Based on this phenomenon, it is necessary and exciting to investigate the relationship between the auditor's opinions that mainly leads to discretionary change.

This research expands the theoretical literature related to auditor change and also confirms the role of agency theory in the phenomenon of voluntary auditor change. This study can also provide stakeholders with information about auditor change.

The remainder of this paper is structured as follows. Section 2 will be background, literature review, and hypotheses development, while section 3 will describe the research methods. Section 4 will report the results, and finally, section 5, discussion and conclusions, will discuss the paper.

2. Background, literature review, and hypotheses development

Agency theory expresses the agreed and achieved working relationship between principal and agent [26]. This relationship includes a conflict of interest, and this conflict of interest is mentioned as one of the reasons for changing auditors. On one side of this relationship, there is management. The management observes and is aware of the company's conditions, and most of the time, the interests and goals of the management are not in line with the interests and goals of the shareholders [27]. Therefore, the problems between company owners and managers should be solved by a third party. An independent auditor can mediate representation problems

between company owners and company managers. The auditor provides a statement regarding the evaluation of the accuracy of the financial statements, and it is called an audit statement. The main objective of an external audit is to improve the quality of a company's accounting information. If the auditor's opinion is not according to the client's expectations, it often leads to a change of auditor. According to the signal theory, by changing the auditor, companies send a signal about the quality and reliability of their financial statements to the public [4]. Generally, the clients of the company like the audit opinion that shows the absence of deviation in the accounting standards and shows the fairness of the financial statements. Therefore, when the auditor issues an opinion on the financial statements that does not meet the expectations of the client, there is often an incentive for management to change the auditor. It should be noted that usually the stock price and credit of financial reports of a company that receives audit opinions contrary to management's expectations are usually reduced [28]. Ho et al. [9] found that in listed companies where the level of ownership is concentrated, there is a positive and significant relationship between the level of profit management and the willingness to issue modified audit opinions by auditors. However, there is no significant relationship between issuing modified audit opinions and auditor change. In contrast, for listed companies with a dispersed ownership structure, there is no significant relationship between high levels of earnings management and the willingness to issue modified audit opinions. In addition, there is a positive and significant relationship between the issuance of modified audit opinions and the probability of changing the auditor. Meckling and Jensen [26] stated that information asymmetry is usually higher in firms with concentrated ownership, which increases agency problems between managers and owners. Therefore, solving this situation requires an independent and high-quality audit of the company's financial statements, and this is only possible with an independent audit. An external or independent audit assures shareholders that all financial activities are based on fair duties. Lin and Liu [29] found that in companies where the chairman of the board and the CEO are the same person or where the concentration of ownership is high, they tend to change their auditor to a smaller auditor rather than a larger auditor. The findings of many researches confirm that there is a significant relationship between corporate governance (including ownership concentration) and auditor characteristics (including auditor opinion and change) [30–33].

According to the background of the research and in order to achieve the goals of the research and answer the research questions, the following hypothesis is formulated:

Hypothesis 1 (H1): There is an association between ownership concentration and auditor switching.

Hypothesis 2 (H2): There is an association between ownership concentration and modified audit opinion.

Hypothesis 3 (H3): There is an association between modified audit opinion and auditor switching.

Hypothesis 4 (H4): Modified audit opinion mediates the association between ownership concentration and auditor switching.

3. Methodology

3.1. Data and sample selection

This study's initial sample consists of all firms listed on the Tehran stock exchange from 2013 to 2022. After previous checks and to ensure the accuracy of the research data, (1) financial firms were excluded from the sample due to different investment choices, (2) firms with missing accounting data were excluded, and (3) firms whose financial year does not end at the end of March were excluded. After the exclusions and data matching, the final sample consisted of 1410 firm-year observations, representing 141 firms on the Tehran Stock Exchange for the period 2013–2022. In this paper, data on ownership concentration, modified audit opinions, and changes in auditor characteristics were collected manually from annual reports, and financial and other data were collected from the Tehran Stock Exchange database. In order to mitigate the effects of outliers, all continuous variables are winsorized at the 1st and 99th percentiles.

3.2. Variables measurement

Dependent variable—Change of auditor ($\boldsymbol{AuditorSwitch_{i,t}}$): Auditor switch is a dummy variable. If there is a change of auditor in listed companies, the auditor change (switch) is equal to 1; otherwise, the change is 0.

Independent variables—Ownership concentration ($OC_{i,t}$): The Herfindahl-Hirschman Index (HHI) has been used to measure ownership concentration. This index is calculated using the ratio of shares of the largest shareholders. HHI is constructed as a variable by summing the square of the fraction of equity held by each shareholder with at least a 5% ownership stake. In this study, a shareholder who owns at least 5% of the company's shares is considered as a large owner. The following equation shows how to measure HHI:

$$HHI_{i,t}=\sum_{i=1}^{nj}(Share)_{i,j}{}^{2} \quad (1)$$

where, $Share_{i,j}$ indicates the percentage of ownership equal to and greater than 5% is meant. The higher this index is, the greater the concentration in the company's ownership structure.

Mediation Variable—Modified audit opinion ($\boldsymbol{MAO_{i,t}}$): where MAO is a dummy variable. If the auditor issues a modified opinion, MAO equals one; otherwise, MAO equals zero. The auditor's report in the company's annual report specifies the type of audit opinion. This information is collected from the TSE library.

Control variables—based on previous research, corporate governance variables that influence the change of auditors of companies have been used as control variables [34]. The financial and corporate governance features are: Discretionary accruals ($DAcc_{i,t}$), Following the existing earnings management literature [35,36], discretionary accruals (DAcc) are used in this study to measure earnings management. Total accrual items can be divided into discretionary accruals and

nondiscretionary accruals items, and it is obtained by deducting cash flows from operating activities (CFO) from net income (NI).

$$Acc_{i,t}=\left(NI_{i,t}-CFO_{i,t}\right)/\overline{TA}_{i,t} \quad (2)$$

By studying previous studies, it can be seen that the modified Jones model has been used by researchers more than other models. In this study, we also use the modified Jones model [37] to break down company-level accruals (whole) into normal accruals and discretionary accruals:

$$Acc_{i,t}/\overline{TA}_{i,t}=\alpha_1/\overline{TA}_{i,t}+\alpha_2\Delta Rev_{i,t}/\overline{TA}_{i,t}+\alpha_3 PPE_{i,t}/\overline{TA}_{i,t}+\varepsilon_{i,t} \quad (3)$$

where, $\Delta Rev_{i,t}$ is the change in sales revenues in year *t* for firm *i*, and $PPE_{i,t}$ is gross property, plant, and equipment in year *t* for firm *i*. The ordinary least square (OLS) method is used to estimate Equation (3) in cross-section for each industry and year combination. We denote the predicted values of the Jones model as normal accruals and the residuals as discretionary accruals (DAcc). In other words, the development of the Jones model started with decomposing total accruals (TA) into current accruals (CA) and noncurrent accruals (NCA). In the second step, they derive a statistical model. In the third step, the statistical model is standardized by beginning total assets (At-1). The final step of the modeling is to select proxy variables for current accruals and noncurrent accruals, respectively. The Jones model uses ΔREV as a proxy for current accruals and PPE as a proxy for noncurrent accruals. The modified Jones model slightly modifies the Jones model by replacing ΔREV with ΔCREV as a proxy for current accruals. Below are the stages in the development of the Jones model:

The first step (Decomposition of total accruals):

$$TA=CA+NCA \quad (4)$$

The second step (Transformation into a statistical model):

$$TA=\beta_0+\beta_1 CA+\beta_2 NCA+\varepsilon \quad (5)$$

The third step (Standardization by At-1 to control for size effect):

$$TA/A_{t-1}=\beta_0(1/A_{t-1})+\beta_1 CA/A_{t-1}+\beta_2 NCA/A_{t-1}+\varepsilon \quad (6)$$

The final step (Selection of proxy variables for current and noncurrent accruals):

$$TA/A_{t-1}=\beta_0(1/A_{t-1})+\beta_1\Delta REV/A_{t-1}+\beta_2 PPE/A_{t-1}+\varepsilon \quad (7)$$

Board size ($BoardSize_{i,t}$) represents the size of the board of directors. Meeting ($Meeting_{i,t}$) is the number of times the board meeting per year. Dual ($Dual_{i,t}$) is a dummy variable. If a member of the board of directors is also the CEO, Dual equals 1; otherwise, Dual equals 0. We also consider industry and year fixed effects to control for the regression results.

3.3. Regression model

The analysis of the logistic regression model was used to examine the relationship between ownership concentrations and auditor switches with modified

audit opinions as mediating variables (based on the variables described below). The functional form of the logistic regression model is as follows:

$$AuditorSwitch_{i,t}=\alpha+\beta_1 OC_{i,t}+\sum_{i=1}^{4}\gamma_i control\ variables_{i,t}+\varepsilon_{i,t} \quad (8)$$

$$MAO_{i,t}=\alpha+\beta_1 OC_{i,t}+\sum_{i=1}^{4}\gamma_i control\ variables_{i,t}+\varepsilon_{i,t} \quad (9)$$

$$AuditorSwitch_{i,t}=\alpha+\beta_1 MAO_{i,t}+\sum_{i=1}^{4}\gamma_i control\ variables_{i,t}+\varepsilon_{i,t} \quad (10)$$

$$AuditorSwitch_{i,t}=\alpha+\beta_1 OC_{i,t}+\beta_1 MAO_{i,t}+\sum_{i=1}^{4}\gamma_i control\ variables_{i,t}+\varepsilon_{i,t} \quad (11)$$

where, $AuditorSwitch_{i,t}$ is the change of auditor in year t for firm i, $MAO_{i,t}$ is the modified audit opinion in year t for firm i, $OC_{i,t}$ is the ownership concentration in year t for firm i. $DAcc_{i,t}$ is the discretionary accruals in year t for firm i, $BoardSize_{i,t}$ is the size of the board of directors in year t for firm i. $Meeting_{i,t}$ is the number of times the board meeting in year t for firm i. $Dual_{i,t}$ is the board of directors is also the CEO, We also consider industry and year fixed effects to control for the regression results.

4. Experimental results

4.1. Descriptive statistics

Table 1 presents the descriptive statistics of all the variables. The results show that 40% of the total sample indicated the presence of a modified audit opinion and 41.2% of the total sample indicated the presence of a change of auditor. In other words, almost 40% of the firm-year (564 units) had modified audit opinions, and also approximately 41.2% (581 units) of the firm-year had change of auditor. Further, the average ownership concentration is 53%, which shows that the ownership concentration in the sample companies is neither high nor low and is within the normal range. The average discretionary accruals are 21.7%.

Table 1. Descriptive statistics.

	Variable	Obs	Mean	Median	Max	Min	S.D
1	Switch	1410	0.412	0.000	1.000	0.000	0.492
2	MAO	1410	0.400	0.000	1.000	0.000	0.490
3	OC	1410	0.530	0.620	0.884	0.140	0.257
4	DAcc	1410	0.217	0.225	0.276	0.164	0.032
5	BoardSize	1410	5.082	5.000	7.000	5.000	0.397
6	Meeting	1410	5.700	5.500	7.000	5.000	0.781
7	Dual	1410	0.800	1.000	1.000	0.000	0.400

4.2. Correlation

With the results of the correlation test, we examined the basic relationship between the variables (univariate analysis), and, according to the results of **Table 2**, we can say that there is a relationship between the variables, and we can investigate these relationships more closely. In order to calculate the correlation coefficient of research variables, the Pearson correlation coefficient is used. There is a negative correlation of 0.266 between the Modified Audit Opinion and Change of Auditor of the company, with a significance of less than 1%, which shows that the modified opinion auditor did not change the auditor. There is a positive correlation of 0.134 between the ownership concentration and change of the auditor of the company, with a significance of less than 1%, which shows that the concentration of ownership at a high level in companies has been effective in changing auditors. There is a negative correlation of 0.380 between the Modified Audit Opinion and the ownership concentration of the company, with a significance of less than 1%, which shows that the ownership concentration at a high level in companies has not been effective in the auditor's modified opinion. The correlation coefficients between all independent variables are small (with a maximum of 0.489), which indicates the absence of a collinearity problem. Also, the variance inflation factor (VIF) of independent and control variables is within the permissible limit (less than 10), and therefore there is no collinearity. All research variables (based on the generalized Dickey-Fuller test) are at the significance level.

Table 2. Pearson correlation matrix.

	1	**2**	**3**	**4**	**5**	**6**	**7**
1	1.000						
2	−0.266***	1.000					
3	0.134***	−0.380***	1.000				
4	−0.123***	−0.325***	0.057**	1.000			
5	0.008	−0.016	−0.029	0.031	1.000		
6	0.292***	0.314***	0.076***	−0.177***	0.002	1.000	
7	−0.093***	−0.102***	0.152***	−0.489***	−0.004	0.448***	1.000

Note: *, **, and*** denote 10%, 5%, and 1% significance levels, respectively.

4.3. Multivariate analysis

In order to test the hypothesis, the estimation results of the model presented in **Table 3** have been used with the panel data approach. The logistic regression method is used to estimate the model. The logistic regression results are present in **Table 3**. The model consists of independent variables (ownership concentration), dependent variables (auditor switching), control variables (DAcc, BoardSize, Meeting, Dual) with modified audit opinion as mediation variables.

Table 3. Results of regression analyses.

Dependent variable	Switch	MOA	Switch	Switch
	(1)	(2)	(3)	(4)
C	−4.90*** (−4.42)	4.30*** (3.39)	−12.57*** (−4.50)	−14.92*** (−3.71)
OC	10.40*** (11.18)	−4.51*** (−10.79)	-	−13.94*** (−12.90)
MAO	-	-	−11.02*** (−17.66)	−19.56*** (−15.38)
DAcc	−99.04*** (−11.51)	−50.50*** (−15.45)	−120.62*** (−13.83)	−99.78*** (−8.23)
BoardSize	0.12 (0.71)	−0.13 (−0.62)	0.14 (48)	0.07 (0.20)
Meeting	4.83*** (12.28)	2.18*** (15.84)	9.46*** (16.83)	11.09*** (17.37)
Dual	−11.99*** (−11.85)	−4.06*** (−11.93)	−18.06*** (−17.18)	−18.54*** (−16.67)
Industry fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
McFadden R-squared	0.28	0.43	0.71	0.80
LR statistic	534.02***	818.03***	1354.45***	1537.52***

Note: *, **, and*** denote 10%, 5%, and 1% significance levels, respectively.

Model 1 shows that ownership concentration has a positive significant effect on auditor switching. This means that companies' ownership structures are highly concentrated and tend to do auditor switching before the specified time. Model 2 shows that ownership concentration has a significant negative effect on modified audit opinion. This means that companies' ownership structures are highly concentrated and tend not to receive the auditor's modified opinion. Model 3 shows that modified audit opinion has a significant negative effect on auditor switching. This means that companies have the ability to not replace an auditor before the specified time if they get a modified audit opinion. Model 4 shows that ownership concentration and modified audit opinion have a significant negative effect on auditor switching. This means that the modified auditor opinion variable mediates the effect of ownership concentration on auditor switching.

The second way to test the mediation hypothesis is to use the Sobel test. In statistics, the Sobel test is used to test the mediation hypothesis. This test is based on the work of Sobel [38,39] and the application of the delta method. In the absence of a mediator variable, the relationship between the independent variable and the dependent variable is a direct effect. In the presence of a mediator variable, the relationship between the independent variable and the dependent variable is considered an indirect effect (**Table 4**). The presence of a third variable has an influence. The mediator variable is a mediator. Therefore, when a mediator variable is added to a regression analysis model and placed next to an independent variable, the mediator variable absorbs part of the effect of the independent variable on the dependent variable, thereby reducing the effect of the independent variable and leaving a significant state—effect of the mediator variable. The Sobel test is a special

t-test that provides a way to determine whether the reduction in the effect of the independent variable after including the mediator in the model is significant and whether the mediation effect is statistically significant. According to the model (8) and the obtained coefficients, in this section, the absolute value of the number obtained from the Sobel test is compared with the number 1.96, and if the Z value is greater than 1.96, the significance of the effect of the mediator variable is confirmed. In this formula, the *Z* score is the Sobel test statistic, and a is the effect of the independent variable on the mediator (also called the "a path"), and b is the effect of the mediator on the dependent variable. Where control is the independent variable, S_a is the standard error of *a*, and S_b is the standard error of b. S_a and S_b are readily available from the statistics output. The Sobel test is calculated as follows:

Sobel test equation:

$$Z - Value = a \times b / SQRT\left(b^2 \times s_a^2 + a^2 \times s_b^2\right) \quad (12)$$

Aroian test equation:

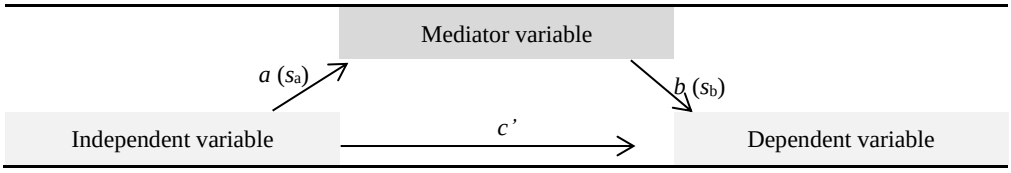
$$Z - Value = a \times b / SQRT\left(b^2 \times s_a^2 + a^2 \times s_b^2 + s_a^2 \times s_b^2\right) \quad (13)$$

Goodman test equation:

$$Z - Value = a \times b / SQRT\left(b^2 \times s_a^2 + a^2 \times s_b^2 - s_a^2 \times s_b^2\right) \quad (14)$$

$$Z - Value = -4.51 \times -19.56 / SQRT(-19.56^2 \times 0.42^2 + -4.51^2 \times 1.27^2) = 8.81 \quad (15)$$

Table 4. The role of the mediator.



Here's a simple version of your text: "A picture showing how mediation works:"

a, *b*, and *c'* are numbers that show how things are related to each other. The numbers in parentheses show the standard errors of the path coefficients.

Description of needed numbers:

A = raw (unstandardized) regression coefficient shows how the independent variable is related to the mediator.

s_a = the usual error of *a*.

b = the measure of how the mediator and the dependent variable are related when the independent variable also affects the dependent variable.

s_b = standard error of *b* means s_b is a measure of how much b could vary if we took many samples.

To obtain numbers:

Sure. Please provide the text you would like me to rewrite in simple words. Do a regression analysis where the independent variable (IV) predicts the middle factor (mediator). This will provide a and s_a.

Sure. Please provide the text you would like me to rewrite in simple words. Do a regression analysis using the independent variable (IV) and the mediator to predict the dependent variable (DV).

This will give you b and s_b. Remember that s_a and s_b should always be positive.

To carry out the Sobel test:

You can find more information in the works by Baron and Kenny [40], Sobel [38], Goodman [41], and MacKinnon et al. [42]. Put the values for a, b, s_a, and s_b into the boxes below. This program will compute the critical ratio to check if the indirect effect of the independent variable (IV) on the dependent variable (DV) through the mediator is significantly different from zero. The results of the mediation tests are shown in **Figure 1**.

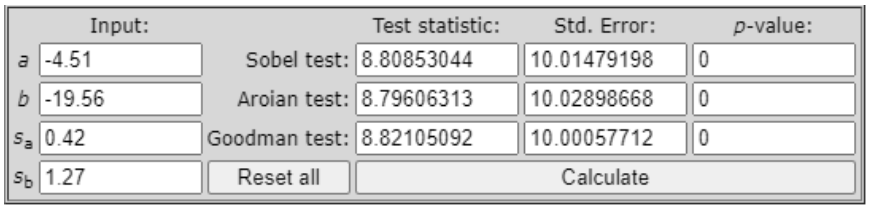


Figure 1. Mediation test results.

Since the number from the Sobel test (8.81) is greater than 1.96 and less than—1.96, it shows that the effect of the mediating variable is significant.

5. Discussion and conclusion

The research objective of this study is to investigate the impact of ownership concentration on auditor switch decisions with modified audit opinions as a mediating variable. Based on a sample size of 141 manufacturing firms (1410 firm-year observations) listed on the Tehran Stock Exchange from 2013–2022, the results suggest that there is a significant positive relationship between ownership concentration and auditor switching, and this relationship is mediated by the modified audit opinion. Hence, firms with larger controlling owners (high ownership concentration) are more likely to switch to auditors. The findings of this study show the effect of ownership concentration on auditor change decisions through the mediating variable of modified audit opinion, which may provide insights to help shareholders recognize the importance of a balanced ownership structure. Ownership concentration is the deciding factor for auditor change. The finding of this study supports the principal-agent theory that high ownership concentration affects modified audit opinion and auditor switching. Consistent with previous studies [9,29,43], this study concludes that there is a significant relationship between ownership concentration and auditor switching. This study contributes to the audit literature by investigating the relationship between ownership concentration and auditor change decisions with modified audit opinions of privatized companies in emerging markets as a mediating variable. This study provides important additional evidence on the importance of ownership concentration in auditor switch and modified audit opinion, complementing other studies on auditor switch. This extends the research on auditor turnover that has mainly focused on the principal-agent

theory issue and complements previous studies on the impact of ownership concentration on auditor change decisions with modified audit opinion as a mediating variable. The study recommends that future studies should consider additional ownership structure variables such as management and family ownership or use a combination of these ownership forms. Finally, they could also cover a longer period to provide a realistic picture of the topic.

Conflict of interest: The author declares no conflict of interest.

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