



Tax Avoidance and the Auditor's Opinion: The Role Of Uncertainty and Government Ownership (Evidence from the Stock Market of Iran)

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Abstract

The study investigates how market uncertainty and government ownership are associated with tax avoidance and auditor's opinion. The Iranian market is highly volatile and dominated by government ownership, which holds implications on the shareholders' interests. Our research uses a comprehensive data set of 115 listed companies in Tehran Stock Exchange during 2012-2018, using logistic regression technique. We find out that market uncertainty intensifies the positive relationship between tax avoidance and the auditor's modified opinion. The findings indicate that the government presence in the ownership increases the tax avoidance, and hence changes the auditor's report.⁴

JEL classification: M14, M41

Keywords: Uncertainty, Government Ownership, Tax Avoidance, Auditor's Opinion, Iran

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1. Introduction

Integrated auditing is an evaluation process of a company's financial statements which ends with an opinion on the company's financial statements ([PCAOB, 2010](#)). The independent auditor's opinion is an external mechanism of corporate governance. It evaluates and confirms the honesty of prepared financial statements ([Cohen et al., 2011](#)), the effectiveness of internal control reduces the information asymmetry, and bridles the manager's incentive to avoid the tax. As a result, the auditor either approves the reports or submits a modified opinion.

Each manager has the opportunity to hold the private information from the shareholders to achieve personal interest ([Ayers et al., 2009](#)). The asymmetric information mentioned in the principle-agent theory signals the importance of the independent auditor's opinion for any company, as it leads to considerable warnings of uncertainty like probable bankruptcy. The lack of a well-timed reaction may lead to wrong decision-making, which may harm the shareholders' interests ([Cullinan, et al., 2013](#); [Ayers et al., 2009](#)). Such an opinion would eliminate the moral hazards which come from the conflict of interest between the management (agent) and the shareholders (principal) ([Griffin et al., 2013](#)).

The unstable economic and political conditions create market uncertainty with less transparency and asymmetric information. The information gap between inside and outside users calls the investors (outside users) to rely heavily on the independent auditor's report ([Choi, 2015](#)) to get valid information for their decision-making.

Tax avoidance is a hidden activity considered tax-saving procedure ([Chen et al., 2014](#)) which transfers the wealth resources from the government to the shareholders ([Desai & Darmapala, 2009](#)). It raises the firm's auditing risk represented by the modified opinion ([Simunic, 1980](#)). Such risk may damage the firm's validity and reputation and lead to a significant loss, mainly if the company is publicly traded. [Bond and Devereux \(2003\)](#) stated that the tax avoidance is more frequent during uncertainty conditions, where the firms are under the pressure of reduced cash inflows ([Badertscher et al., 2019](#)).

Recent studies reported that uncertainty leads to more tax avoidance/evasion ([Dyreg et al., 2019](#); [Edward et al., 2015](#)). Investors who are faced with uncertain government policies may use tax avoidance as risk premia to compensate for the higher financing cost in the equity markets ([Pástor & Veronesi, 2013](#); [Law & Mills, 2015](#)).

[Sudibyo and Jianfu \(2016\)](#) claim that government ownership creates a conflict of interests which affects tax reporting. The government wants to maximize tax revenues to fulfill social and political goals. However, the company's manager, who is hired by the government has the opportunity via his network/relations to avoid the taxes (corruption) for profitability goal which creates an unexpected implicit conflict of interest between the government and the manager ([Mafrolla, 2019](#)).

Iran is ranked 79 among 80 countries in Performance Ranking and Economic Conditions by the Global Bank in 2019. It indicates unstable economic conditions and limited access to information in the country. Private local firms have limited strategies to increase the future

value of their investments due to the lack of reliable information. The stock market in Iran is highly volatile which depends on macroeconomic variables with a shortage of foreign investors.

A significant number of private investors recently exited the market due to the market uncertainty and volatility caused by government decisions ([Campello et al., 2010](#)). Consequently, government investments have crowded out private investment. Iranian parliament reported 115⁵ out of 244 listed companies are either owned by the government or controlled by organizations with 50% of government shares. 66% of stock market capitalization belongs to firms where the government is their major shareholder. No previous study has looked at the impact of uncertainty and government ownership on the independent auditor's opinion in Iran. The current study fills this literature gap by answering two questions; Does market uncertainty increase the tax avoidance effect on the auditor's modified opinion? Does government ownership increase the tax avoidance effect on the auditor's modified opinion?

2. Literature review and hypotheses development

Tax avoidance is elusion from paying tax within the structure of tax regulations without violating the rules ([Agrawal, 2007](#)). Tax avoidance processes refer to the tax-saving tools which transfer the resources from the government to the shareholders ([Desai & Darmapala, 2009](#)). By providing a free cash flow, the corporates use the tax avoidance strategy to reduce tax, directly affecting their performance and value ([Lehn & Poulsen, 1989](#)). However, such strategies have some inevitable consequences too. It is stated by [Hanlon and Heitzman \(2010\)](#) that tax avoidance processes bring about the direct and indirect tax expenses for the corporates including the economically material fines, interest, and penalties that the internal revenue service can impose for under-reporting. Considering the ownership is separated from management within the structure of agency theory, tax avoidance fades the corporate's clarity which provides an opportunity for the managers to take personal benefits of free cash flow ([Chen et al, 2014](#)); also, it raises the conflict between the owners and the managers ([Bushman & Smith, 2001](#)).

[Balakrishnan et al. \(2019\)](#) reported that the firm's aggressive tax behavior reduces information transparency and causes asymmetric information, leading to errors in investors' forecasting and decision-making. Auditing is a tool to certify the quality of financial statements ([Chen et al., 2010](#)), and the independent audit report helps the financial statement users make the appropriate decisions. It means that via an unmodified audit report, the audit claims that all accounting standards were followed. Hence, the validity of financial statements is raised in this way ([Abad et al., 2017](#)). The theoretical foundations show that there is an endogenous relationship between tax avoidance and audit report.

Opinions issued by the external auditor will have an impact on stakeholders, including company management so that the higher the quality of audit process, the management will think a lot about carrying out transactions or activities which will harm the company including tax avoidance which has a chance of incurring tax fines in the future ([Tarmidi et al., 2020](#)). On

⁵ Petrochemicals, Metals & Metallic Goods, Automobile, petroleum products.

the other hand, tax avoidance makes the information different from the reality which was published by the manager via the financial statements; hence, it increases the risk of financial information manipulation. Under such circumstances, the audit would have more likely to detect the distortions and to identify the wrong information. In the absence of empirical evidence, the article tries to evaluate the relationship via the following hypothesis:

H1: tax avoidance has a positive effect on the auditor's opinion.

The frequent and unexpected changes in the macroeconomic policies create market fluctuations and uncertainty in the business environment. Consequently, it affects the investors' behavior (Borio & Zhu, 2012) and the economic growth levels (Baker et al., 2016). Investors are usually worried about uncertainty which are affected by the auditor's opinion (Ianniello & Galloppo, 2015) and make their decisions accordingly.

Some studies reported that market uncertainty could be a reason for tax avoidance which reduces the company's effective tax rate and lowers their tax payment (Duong et al., 2017; Dang et al., 2019). Iran is ranked 79 among 80 countries in Performance Ranking and Economic Conditions by the Global Bank in 2019. During the last forty years, Iran has experienced several waves of economic pressure. The current situation is unique; the recent government political actions in the region caused the deactivation of Nuclear Agreement. Iranians are now blaming their government for the intense economic pressure from the US. Consequently, uncertainty has dominated the Iranian economy, and the stock market has been profoundly affected. All firms became under financial distress and bankruptcy risk. With the pressure of cash exits, many shareholders sold their shares to prevent their losses ([Campello et al., 2010](#)).

According to [Edwards et al. \(2015\)](#), the cost of capital increases during financial pressure conditions; hence the managers may adopt tax avoidance behavior. However, tax avoidance implies a cost that offsets any benefit of cash savings ([Lau & Tong, 2008](#)). One of the most significant expenses of tax avoidance is the agency cost of incorrect/ambiguous firm's valuation which misleads the shareholders and other investors' actions ([Chen et al., 2014](#)). If the published information does not show the real financial situation of firm and false information is given to the financial statement users, a modified opinion⁶ would be expected from the auditor. Furthermore, we test the below hypothesis:

H2: Uncertainty stimulate/intensifies the impact of tax avoidance on the auditor's opinion

Government presence in the firm's ownership structure plays a role in its financial situation and performance. [Gompers et al. \(2003\)](#) found that firms with influential shareholders have higher profits, sales growth, and lower capital expenditures. [Borisova et al. \(2012\)](#) claimed that government ownership leads to higher monitoring and improved governance because of governments' monopoly on using coercive power. Such firms may have the privilege of more market and policy information which positively affects their investment decisions,

⁶ Modified opinions are the types of audit opinions that issue to entity's financial statements when auditors found that those statements are not prepared and present fairly in all material respect in accordance with the accounting framework that they are using ([Yang et al., 2001](#); [Vichitsarawong & Pornupatham, 2015](#)).

performance and accordingly reduces the risk related to the economic and political conditions (Li & Liang, 2012). Shleifer and Vishny (1997) observed; however, concentrated ownership can be useful to solve the agency problem, it may also inefficiently redistribute wealth from other investors to themselves. Public choice theory suggests that government-owned firms might pursue vote-gaining goals instead of performance goals because of the politicians' pressures (Brouthers et al., 2007).

The government which is considered one of the firm's stakeholders⁷, pays taxes and shares the profit in the form of dividends and rewards (Mafrolla, 2019). Hasan et al. (2017) reported that tax payments by government-owned companies are considered a sign of government ownership effectiveness which improves the firm's image in the public domain. Thus, government presence in the ownership structure could be seen as a disincentive of tax avoidance. However, some studies pointed at managerial opportunism (Martinez & Motta, 2020) and the preferred treatment of government-owned firms, which motivates their managers to utilize an aggressive tax strategy (Mahenthrian & Kasipillai, 2012). When the government is the primary owner, and the government supports the manager or a subordinate organization regulates the monitoring rules; hence, there is a higher chance for tax avoidance compared to private firms (Krivogorsky & Grudnitski, 2010).

The Iranian government plays a vital role in the economic environment. It dominates the big companies by ownership and management support. 47% of listed companies⁸ are either owned or controlled by the government. 66% of the stock market capitalization belongs to firms where the government is their major shareholder.

Most of the government-owned firms' managers are on a limited tenure contract. Hence, they focus showing their excellent performance in the short run, without any incentive for long-run performance goals. This may induce the managers to utilize any possible method including tax avoidance. Such managers tend to avoid the tax with less fear of consequences since they are allowed to report different levels of income to the tax assessors⁹, and the shareholders. The tax avoidance by such companies would be treated as inaccuracy in the tax-saving account which results only in a fine and not in a prosecution like a case for any other private company (Iranian National Tax Administration, 2015). According to a report by the Iran parliament research committee, government-owned companies share only 10% of the total corporate taxes in the 2018 government budget.

Furthermore, we expect that government ownership intensifies tax avoidance and modifies the auditor's opinion. Moreover, we investigate the following hypothesis:

H3: Government ownership stimulates/intensifies the impact of tax avoidance on the auditor's opinion

⁷ Based on the Stakeholder theory

⁸ Petrochemicals, Basic metals, Automotive, petroleum products.

⁹ An assessor is a local government official who determines tax payable amount

In the following section, we fill in the existing gap in the literature by quantitatively analyzing the tax avoidance and modified opinion for the government-owned companies in Iran.

3. Methodology

3.1 Data and Variables

We used CODAL¹⁰ for a comprehensive data set of 115 listed companies¹¹ in the Tehran Stock Exchange (TSE) during 2012-2018. Companies sectoral distribution is presented in Appendix 1. We have two types of firms in our data set; firms with unmodified auditor's opinion (435 observations) and firms with modified auditor's opinion (377 observations), with 812 observations¹². The independent variable included tax avoidance. We control for corporate governance mechanism and firm characteristics, including the board independence, CEO duality, firm size, return on assets, leverage, firm's chance for growth, distress risk, intangible assets and auditor's reputation. We describe the variables which used in our study¹³.

Uncertainty

Volatility Index (VIX) provides a measure of market risk and investors' sentiments (Chicago Board Options Exchange). We could not use VIX for the Iran case since only a few big companies are allowed to use options. Hence, we adapted [Kim et al. \(2010\)](#) who introduced the twelve months standard deviation of market return as a tool to measure uncertainty. In this method, we obtain the monthly market return by the difference in the dividend and price index at the beginning and the end of every month, divided by the dividend and price index at the beginning of every month:

$$\begin{aligned} MU_t \\ = \sigma_t^{R_m} \end{aligned} \quad (1)$$

Where;

MU_t : Uncertainty in time t.

σ_t : Standard deviation of market return in time t

R_{mt} (market return) is calculated as the following:

$$\begin{aligned} R_{mt} \\ = \frac{Im_t - Im_{t-1}}{Im_{t-1}} \end{aligned} \quad (2)$$

Im : Stock market return measured by the dividend and price index at the end of the month (t) and (t-1)

¹⁰ CODAL= Comprehensive DataBase Of All Listed Companies. Codal is a database of Iranian companies.

¹¹ financial institutions companies were excluded from the sample.

¹² In Iran, few companies have fiscal year reporting; they are excluded from our sample.

¹³ The details about variables and measures are presented in Appendix 2.

Tax Avoidance

We use the effective tax rate to indicate the firm's tax avoidance. [Gouveia and Strauss \(1994\)](#) who estimate an effective tax function which relates the actual tax burden to economic income. [Dyreg et al. \(2008\)](#) said the lower the effective tax rate, the higher the tax avoidance. The effective tax rate is calculated as the average ratio of tax cost to the average pre-tax earnings during the last three years ([Badertscher et al., 2013](#); [Dyreg et al., 2019](#)).

Auditor's Opinion

In Iran, the auditor's opinion is given in two formats; unmodified and modified based on the obtained auditing evidence. The unmodified opinion is given when all financial statements are correct and accurate without any misstatements. While, the modified opinion is given if the auditor concludes any misstatements in the financial statements. The modified opinion takes any of three formats; conditional, rejected, and without any opinion. We consider the auditor's opinion as a dummy variable; 0 for the unmodified opinion and 1 for the modified ([Chen et al., 2013](#); [Cano-Rodríguez et al., 2016](#)).

Government Ownership

Government ownership is defined as the firm's share range belongs to the government or its subordinate organizations ([Delios et al., 2008](#); [Liu & Subramaniam, 2013](#); [Huang et al., 2018](#)). We collect shareholders' structure and composition of big companies from the firm's annual reports published in CODAL¹⁴.

The board independence

Board independence indicates the corporate governance mechanism. The inside directors are beholden to CEO, and a greater proportion of inside directors on the board indicates greater CEO power and board control ([Hermalin & Weisbach, 1998](#)). The board's independence is calculated as the ratio of non-executive directors to all members. To ensure that objective financial information is conveyed to shareholders, the company board should be composed of a sufficient number of independent non-executive directors who are more likely to be free from the management's influence ([Karamanou & Vafeas, 2005](#)) and the auditor's opinion.

CEO duality

Agency theory argues that CEOs have conflicting interests and pursue their own benefits which depart from the stockholder interests of firms. Duality occurs when the CEO holds the chairman position which, in turn, increases his power and negatively influences the firms performance efficiency ([Garas & ElMassah, 2018](#)). [Forker \(1992\)](#) asserted that a dominant personality in both roles poses a threat to monitoring quality. There is a tendency to avoid the tax in the case of CEO duality ([Chen et al., 2013](#)). Our model deals with duality as a dummy variable that takes (1) if the CEO and the board director are the same person and (0) otherwise.

¹⁴ CODAL is stock companies database: <https://codal.ir/>

Firm size

Firm size is considered one of the important factors for tax avoidance. [Salamon and Siegfried \(1977\)](#) stated that the economic and political power of a bigger firm outperforms the smaller ones. Therefore, the size tends to influence the rules, investments, and plans associated with reducing the tax. We use the logarithm of total assets to indicate the firm size.

Return on assets

[Oktaviyani and Munandar \(2017\)](#) examined the companies with high profitability level will surely prefer not to do tax avoidance to maintain positive legitimacy from stakeholders so that the company can maintain the reputation which was built so far and improve profitability in the future so as to maintain the continuity and existence of its business for long period of time. Return on assets is the ratio of net income to total assets.

The financial leverage

A company which relies more on debt financing than equity to operations would have a lower effective tax rate ([Richardson & Lanis, 2007](#)). The large lever firms might be motivated to use tax avoidance as a tool to save cash to pay their debts ([Badertscher et al., 2013](#)). The variable is calculated by the ratio of total debt to total assets.

Firm's chance for growth

We calculate this variable by the ratio of market value to book value. The firm's chance for growth can positively affect the tax avoidance level ([Richardson et al., 2015](#)). Management may have more tax planning opportunities due to the changing environment and increased access to international markets and products. Hence, managers would identify more tax avoidance opportunities ([Koester et al., 2013](#)).

Distress risk

Distress risk is obtained via Z-score that measures a firm's default risk. A high Z-score represents low default risk, meaning that a firm is in excellent financial condition. A firm in financial distress is more motivated to avoid tax ([Richardson et al., 2015](#)). The chances of modified auditor opinion are higher when the firm's distress risk increases ([Hudaib & Cooke, 2005](#)).

Intangible assets

We calculate this variable by the ratio of intangible assets to total assets. The intangible assets do not have a well-established market and subjective valuation which can be exploited in different jurisdictions. Therefore, there is a strong possibility of tax avoidance on the intangible assets' transfer when there is a difference in the effective tax rate among different jurisdictions ([Tsipouridou & Spathis, 2014](#)).

Auditor's reputation

This variable takes (1) if the firm uses 'Audit Organization' as their own independent auditor and (0) otherwise. 'Audit Organization' is the biggest and the most experienced and famous auditing entity in Iran because it has a larger number of audit partners, audit staff and clients, proper quality control systems, and greater diversity in audit services ([Fakhroddin et al., 2018](#)).

3.2 Methods

We use the logistic regression technique¹⁵ to test our three hypotheses since our dependent variable is dichotomous ([Miller, Hui & Tierney, 1991](#)), and the dependent variable is not continuous. Logistic regression is used with data which has two possible criteria and the relationship between the criteria and the predictors. We use Jarque-Bera test to examine the data normality. We apply Pearson correlation test to confirm no correlation among the independent variables. Otherwise, the logistic regression model results would not be reliable because the calculated beta coefficient would contain diagonal.

The functional model formulated to test the first H1 is expressed as:

$$AO_{it} = \alpha_1 + \beta_1 CTA_{it} + \beta_2 IND_{it} + \beta_3 Duality_{it} + \beta_4 Size_{it} + \beta_5 ROA_{it} + \beta_6 LEV_{it} + \beta_7 MTB_{it} + \beta_8 FDISTER_{it} + \beta_9 Intan_{it} + \beta_{10} BIG_{it} + \varepsilon \quad (3)$$

The model in equation (3) has the dependant AO as the auditor's opinion and ten independent variables. Company's tax avoidance (CTA). IND reports board independence. Duality is for CEO duality. Size is the logarithm of the firm's total assets. ROA is the return on assets. LEV is financial leverage. MTB is the ratio of market value to book value. FDISTER is the distress risk. Intan is the size of the firm's intangible assets. BIG is a dummy variable for the auditor's reputation. We test the positive β_2 ; to find out if higher tax avoidance will affect the modified auditor's opinion.

We test H2 and H3 by estimating the following equation:

$$AO_{it} = \alpha_1 + \beta_1 CTA_{it} + \beta_2 MU_t + \beta_3 GOV_{it} + \beta_4 MU * CTA_{it} + \beta_5 GOV * CTA_{it} + \beta_6 IND_{it} + \beta_7 Duality_{it} + \beta_8 Size_{it} + \beta_9 ROA_{it} + \beta_{10} LEV_{it} + \beta_{11} MTB_{it} + \beta_{12} FDISTER_{it} + \beta_{13} Intan_{it} + \beta_{14} BIG_{it} + \varepsilon \quad (4)$$

The model in equation (4) has the dependant AO as the auditor's opinion and fourteen independent variables. Ten variables are similar to equation (3), Market uncertainty (MU). MU*CTA indicates the effect of the modifier of the market uncertainty on tax avoidance. GOV is government ownership. GOV*CTA indicates the effect of the modifier of government ownership on tax avoidance. We test the positive β_4 and β_5 ; to find out if higher market uncertainty and more extensive government ownership will intensify the impact of tax avoidance on the auditor's opinion.

¹⁵ We use both SPSS26 and EVIEWS9 softwares for data analysis.

4. Results

4.1 Descriptive Statistics

The descriptive statistics are presented in Table (1) 46.2% of our observations (372 firms-years) had a modified audit opinion, while the rest of 53.8% observations were associated to unmodified opinion. Among the modified opinions observation, the average tax avoidance is 8%, and government ownership is 45.53%. The average tax avoidance and government ownership are 18.63% and 13.08% for the observations with unmodified opinions, respectively. The uncertainty average is 5.93% for the period of this study. The significance of the p-values of Jarque-Bera statistics infers normality except for MU, Duality, LEV, MTB, and BIG which are not normally distributed.

Table 1
Summary statistics

	All firms			J-B	Firms modified AO			Firms unmodified AO		
	Median	Mean	Std.Dev		Median	Mean	Std.Dev	Median	Mean	Std.Dev
AO	0	0.4621	0.4988	3.88(0.14)						
CTA	0.1082	0.1372	0.1394	3.65(0.16)	0.1026	0.0800	0.0674	0.1863	0.1248	0.0963
MU	0.0609	0.0593	0.0116	10.87(0.00)						
GOV	0.1823	0.2745	0.2679	1.29(0.46)	0.2856	0.4553	0.2598	0.0944	0.1616	0.1933
IND	0.4286	0.4753	0.1601	2.93(0.23)	0.4	0.3967	0.1384	0.1308	0.5428	0.1462
Duality	0	0.3055	0.4609	18.56(0.00)	0	0.4784	0.5002	0	0.1570	0.3642
Size	6.1393	6.2887	0.7285	1.70(0.42)	6.1341	6.2480	0.6608	6.1477	6.3235	0.7810
ROA	0.0932	0.1118	0.1379	2.81(0.24)	0.1138	0.1349	0.1327	0.0745	0.0920	0.1393
LEV	0.6249	0.6032	0.1850	9.73(0.00)	0.6068	0.6024	0.1794	0.6365	0.6039	0.1898
MTB	1.3893	1.4190	0.7414	17.88(0.00)	0.8399	1.0613	0.7601	1.6258	1.7264	0.5674
FDISTER	1.2937	1.4605	1.4889	4.11(0.12)	0.9570	1.0248	1.3980	1.5231	1.8349	1.4641
Intan	0.1100	0.1865	0.1058	3.74(0.15)	0.3186	0.2810	0.0837	0.1054	0.1053	0.0226
BIG	0	0.4298	0.4953	21.72(0.00)	1	0.5376	0.4992	0	0.3371	0.4732
Obs.		805				372			433	

Table 2 shows the correlation among the variables under investigation. We find a positive correlation between tax avoidance and uncertainty (0.171) and between tax avoidance and government ownership (0.346). Both correlation results are consistent to the first and second hypotheses of our study which predict that both market uncertainty and government ownership intensify tax avoidance in Iran. There is a negative correlation between tax avoidance and firm's internal features such as Size, ROA, LEV, and Intan, and a weaker negative correlation with the firm's corporate governance mechanisms (IND, Duality). A positive correlation is reported between tax avoidance and MTB and FDISTER.

Table 2
Pearson correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12
All firms												
1 CTA	1											
2 MU	0.17	1										
3 GOV	0.34	-0.86	1									
4 IND	-0.01	0.13	0.04	1								
5 Duality	-0.05	0.09	-0.06	-0.02	1							
6 Size	-0.08	0.07	-0.04	-0.27	0.33	1						
7 ROA	-0.20	-0.01	0.08	0.08	0.02	0.07	1					
8 LEV	-0.07	0.01	0	-0.02	0.05	0.04	0.39	1				
9 MTB	0.08	-0.03	0.01	0.25	-0.17	-0.36	-0.05	-0.24	1			
10 FDISTER	0.06	0.07	-0.06	0.27	0.05	-0.21	0.16	0.14	0.31	1		
11 Intan	-0.11	0.01	-0.01	-0.40	0.19	0.58	0.05	0.10	-0.38	-0.21	1	
12 BIG	-0.01	0.10	-0.10	-0.21	0.08	0.32	-0.03	0.11	-0.30	-0.13	0.40	1

Table 3 assesses multicollinearity severity via Variance Inflation Factor (VIF). As indicated, the value of the mean VIF is lower than 10. The individual value of VIF for each independent variable is lower than 10, and 1/VIF is greater than 0.10. So, there is no evidence for the existence of a multicollinearity problem in the data set.

Table 3
Multicollinearity Test

Variable	VIF	1/VIF
CTA	1.02	0.9803
MU	1.59	0.6289
GOV	1.83	0.5464
IND	1.47	0.6802
Duality	1.14	0.8771
Size	1.32	0.7575
ROA	1.66	0.6024
LEV	1.24	0.8064
MTB	1.18	0.8474
FDISTER	1.07	0.9345
Intan	1.52	0.6578
BIG	1.31	0.7633
Mean VIF	1.36	

4.2 Regression results:

Table 4 presents the results for our first tested hypothesis. Based on the results, it can be concluded that tax avoidance positively affects the auditor's opinion. The tax avoidance coefficient is 7.783, and its sig is less than 0.05; therefore, we can accept hypothesis H1.

Among model-controlled variables, IND and MTB negatively affect the auditor's opinion with the coefficient of -9.363 and -2.026, respectively. The Duality, Size, Intan, and BIG variables

have the positive effects on the auditor's opinion, and the ROA, LEV, and FDISTER have no significant effects. R2 confirms that 83.4% of the auditor's opinion variability is explained by the independent and control variables in our model.

Table 5 presents the results for our second and third tested hypotheses. In table 5, it is known that a significant positive impact of tax avoidance on the auditor's opinions ($\beta_1=5.492$). Uncertainty affects the auditor's opinions with a coefficient of 2.847. Besides, market uncertainty intensifies the effect of tax avoidance on the auditor's opinions by the coefficient of 1.491. Thus, we can accept H2.

Government ownership has a significant positive effect on the auditor's opinion ($\beta_2=4.738$). The government's presence in the ownership structure increases the auditor's modified opinion. Government ownership with coefficient 2.405 affects the relationship between tax avoidance and auditor's modified opinion. Hence, we can accept H2.

The auditor's opinion is negatively affected by board independence ($\beta_6= -6.350$) and MTB ($\beta_{11}= -2.288$). All control variables significantly positively affect the modified opinion, except ROA, LEV, and FDISTER.. Duality with coefficient 1.397, Size with 2.562, Intan and BIG with coefficients 0.566 and 4.839 have positive impacts on auditor's opinion, respectively. R2 confirms that 73% of the auditor's opinion variability is explained by the independent, moderator, and control variables in the second model.

Table 4
Regression results of hypothesis H1

	B	S.E	Wald	Sig
CTA	7.783	1.773	10.030	0.002
IND	-9.363	3.222	8.445	0.004
Duality	1.860	0.876	4.505	0.034
Size	6.072	2.254	10.945	0.006
ROA	-5.163	3.003	2.956	0.086
LEV	-0.904	2.843	0.101	0.750
MTB	-2.026	2.113	8.845	0.003
FDISTER	1.271	0.753	2.850	0.091
Intan	1.012	0.410	6.100	0.014
BIG	2.949	1.376	4.593	0.032
C	-4.887	1.693	8.320	0.004
Chi-square		33.392		
df		10		
Sig		0.000		
Cox & Snell R Square		0.623		
NagelkerkeR Square		0.834		

Table 5
Regression results of hypotheses H2 and H3

	B	S.E	Wald	Sig
CTA	5.492	1.885	7.652	0.005
MU	2.847	0.828	11.818	0.001
GOV	4.738	1.066	6.925	0.008
MU*CTA	1.491	0.652	10.649	0.001
GOV*CTA	2.405	0.997	8.752	0.003
IND	-6.350	2.446	5.538	0.022
Duality	1.397	0.685	4.162	0.041
Size	2.562	0.493	9.240	0.002
ROA	-1.246	1.824	0.467	0.288
LEV	-2.835	6.501	0.197	0.657
MTB	-2.288	1.214	5.408	0.037
FDISTER	0.920	0.636	2.090	0.148
Intan	0.566	0.249	5.167	0.040
BIG	4.839	1.225	7.869	0.005
C	-7.939	2.486	10.197	0.001
Chi-square		31.573		
df		14		
Sig		0.000		
Cox & Snell R Square		0.546		
NagelkerkeR Square		0.730		

5. Discussion and Conclusion

The main objective of this study was to determine the effect of tax avoidance on the auditor's opinions by paying attention to the moderator role of uncertainty and government ownership in Iran. The results showed that tax avoidance had a positive effect on the auditor's opinions which can be resulted from the effect of tax avoidance on the information clarity as well as the quality reduction of the given accounting information. This finding is correlated with the study of [Kim and Park \(2014\)](#), which introduced tax avoidance as an opportunity for earnings management, leading to manipulating the published information. For this reason, auditors may issue modified opinions when the client engages in aggressive information manipulation. Furthermore, the absence of a modified report leaves auditors vulnerable to litigation.

The second hypothesis confirmed that the uncertainty variable intensifies this effect. This may be due to companies trying to save cash by tax avoidance in market uncertainty. This finding corroborates previous literature ([Barnes, 2007](#); [Blackburn et al., 2012](#); [Xu et al., 2011](#); [Pappa et al., 2015](#), [Schneider et al., 2015](#)) implying that uncertainty affects the auditor's opinion by creating a higher level of tax avoidance. Uncertainty in the stock market makes the investors and shareholders take more risk, and it is more probable to face loss. To prevent their loss, the shareholders sell their shares and exit their wealth from the firm. Tax avoidance is an approach which the manager uses to avoid reducing the available financial resources, which leads to

transfer funds from the government to shareholders. Moreover, managers do have opportunities to respond to uncertainty ([Ghosh & Olsen, 2009](#)). One of these opportunities is earnings management. The extent of opportunistic earnings management is likely to be higher when information asymmetry is high. Under this condition, the quality of financial statements of the firm is reduced ([Shin & Woo, 2017](#)), and the independent auditor's opinion which is influenced by this phenomenon, becomes valuable for the investors, in terms of information ([Chen & Zhang, 2018](#)).

Our results confirm that government ownership with a positive coefficient intensifies the tax avoidance effect on the auditor's opinions. This finding supports H2 and confirms the findings of a number of previous studies ([Sudibyo & Jianfu, 2016](#); [Mafrolla, 2019](#)), implying that Managers of government-owned firms focused on minimizing costs, even if this was to the detriment of national tax-revenue collection. The results of H2 are in disagreement with some literature ([Zeng, 2010](#), [Chan et al., 2013](#); [Bradshaw et al., 2016](#)). According to the agency theory, the existence of government as a major shareholder can protect the shareholders' interests. In the Iranian case, government presence eases the manipulation via the relationship power and intensifies the tax avoidance reflected on the modified auditor's opinion. Hence, government ownership increases the firm's risk and provides an opportunity for the managers to look for their short-term interests instead of the firm's interests. This result is in line with [Chen et al. \(2018\)](#) study that showed that government-owned firms have a stronger incentive to reduce their tax payment when the pre-tax earnings are considered as the valuation index, compared to the private firms.

The theoretical framework considered, the role of government in the ownership structure as a mechanism of corporate governance which can reduce the agency problems among shareholders (principal) and manager (agent) because government have experience and resources that enable it to effectively monitor management decisions. In reality, the manager of a governmental company has political connections because he/she considers himself/herself dependent on the government. Their political connections may also help reduce and limit the penalties imposed in the event that their firms are convicted of tax avoidance. Therefore, the presence of the government in the ownership structure gives him/her the opportunity to achieve personal interests.

Like many other accounting and auditing researchers, this study deals with some limitations. There is a difference between the firm tax declaration and the definite target tax for the tax authorities. Due to data availability, we used the declaration tax to measure tax avoidance, which may affect the results we obtained. Furthermore, the unavailability of potential measures to evaluate uncertainty may influence the results. Moreover, our results do not consider the government presence positive consequences, such as the protection for shareholders. The reason is that tax avoidance does not transfer the resources from the government to the people; it instead increases the agency cost.

Future research can estimate the uncertainty role in the investment process since we gained some evidence that uncertainty stimulates tax avoidance. Our study result evaluated the tax planning in the format of tax avoidance, but we recommend that the researchers study the effect

of tax evasion, which is another approach of tax strategies. The ownership structure is one of the corporate governance elements we used in our study; future research may examine other aspects of the ownership structure, such as the ownership concentration, the institutional and family ownership.

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Appendix

Appendix 1: Sample (companies)

Name	Sector	Name	Sector
Abouraihan P.	Pharma	Khavar Spring	Automotive
Absal	Machinery & Equipment	Kowsar Pharm.	Pharma
Alborz Darou	Pharma	Loabiran	Chemicals
Alomrad	Basic metals	Loghman Pharm.	Pharma
Alvand Tile	Tiles and ceramics	Magsal Agri.	Agriculture
Ama	Manufacture of metal products	Mahram Mfg.	Food products
Amin Pharm.	Pharma	Mashad Wheel	Automotive
Inf. Services	Computers	Mobin Petr.	Chemicals
Bafgh Mining	Extraction of metallic minerals	N. I. L. Z.	Basic metals
Bahman Group	Automotive	Naghsh Jahan S.	Sugar

Bama	Extraction of metallic minerals	Negin Tabas L.	Extraction of coal
Behran Oil	Petroleum products	Neiriz Cement	Cement, lime and plaster
Boroujerd T.	textiles	Nori Petrochemical	Chemicals
Butane Group	Machinery & Equipment	Offset	Publication
Chadormalu	Extraction of metallic minerals	Oroumiyeh Cem.	Cement, lime and plaster
Charkheshgar	Automotive	Osvah Pharm.	Pharma
Darab Cement	Cement, lime and plaster	Pars Khazar	Machinery & Equipment
Daroupakhsh	Pharma	Pars Minoo	Food products
Kerman Cement	Cement, lime and plaster	Pars Oil	Petroleum products
Dasht Morghab	Food products	Pars Switch	Electronical Devices
Derakhshan Teh.	Rubber and plastic	Petr. Tran.	Transportation
Doode Sanati	Chemicals	Plascokar Saipa	Rubber and plastic
E. Kh. Shargh	Automotive	Qayen Cement	Cement, lime and plaster
Fanavaran Petr.	Chemicals	Razak Lab.	Pharma
Farabi Petro.	Chemicals	S*Azarab Ind.	Manufacture of metal products
Farabi Pharm.	Pharma	S*I. N. C. Ind.	Basic metals
Ghandi Cables.	Electronical Devices	S*Iran Aluminium	Basic metals
Ghazvin Sugar	Sugar	S*IRI Marine Co.	Transportation
Abadan Petr.	Chemicals	S*Metals & Min.	Extraction of metallic minerals
Glass and Gas	Non-metallic minerals	S*Mobarakeh Steel	Basic metals
Gol-E-Gohar.	Extraction of metallic minerals	S*North Drilling	Extraction of oil and gas
Gorji Biscuit	Food products	S*Pars Khodro	Automotive
I. Pegah Dairy	Food products	S*Saipa	Automotive
I. T. Foundry	Automotive	Saadi Tile	Tiles and ceramics
DADEI	Computers	Saipa Azin	Automotive
Iran China Clay	Non-metallic minerals	Saipa Diesel	Automotive
Iran Darou	Pharma	Saipa Glass	Non-metallic minerals
Iran Ferr.	Basic metals	Salemin Factory	Food products
Iran Glass Wool	Non-metallic minerals	Sarma Afarin	Machinery & Equipment
Iran Kh. A. M.	Automotive	S*Iran Transfo	Electronical Devices
Iran Khodro	Automotive	Shahdiran Inc.	Food products
Iran Mineral P.	Basic metals	Shahroud Cement	Cement, lime and plaster
Iran Mn. Mines	Extraction of metallic minerals	Shahroud Sugar	Sugar
Iran Mobil Tele	Telecommunications	Shazand Petr.	Chemicals
Iran Radiator	Automotive	Shiraz Petr.	Chemicals
Iran Refract.	Non-metallic minerals	Sina Chem. Ind.	Chemicals
Iran Tele. Co.	Telecommunications	Sina Lab	Pharma
Iran Tire	Rubber and plastic	Soufian Cement	Cement, lime and plaster
Iran Tractor	Machinery & Equipment	Tabriz.Oil.Refine	Petroleum products
Jam Petr.	Chemicals	Tamin Petro.	Chemicals
Iran Transfo	Electronical Devices	Technotar	Machinery & Equipment
Iran Yasa Tire	Rubber and plastic	Tehran Cement	Cement, lime and plaster
Iranmerinos	textiles	Tidewater	Transportation
Irka Part	Automotive	Tuka Trans.	Transportation
Isfahan Sugar	Sugar	W. Azar. Pegah	Food products
Jaam Darou	Manufacture of metal products	Zahravi Phar.	Pharma
Jaber Hayan P.	Pharma	Zamyad	Automotive
Kh. Pegah Dairy	Food products		

Appendix 2: Definition of the Variables

Variables	Definition
AO	auditor's opinion: 1 if firm receives a modified audit opinion, otherwise 0
CTA	Effective tax rate: the average ratio of the tax cost to the average pre-tax earnings during the last three years
MU	Market uncertainty: standard deviation of market return on twelve month of the financial year
GOV	Government: number of shares held by the government divided by the total number of shares
IND	Board independence: number of non-executive directors to the all board members
Duality	CEO duality: 1 if the CEO serves as board chair, otherwise 0
Size	Firm size: natural logarithm of total assets
ROA	Return on assets: ratio of net income to total assets
LEV	Leverage: ratio of total debts to total assets
MTB	Market-to-book ratio: market value of a listed firm divided by book value of the firm
FDISTER	Financial distress: The Altman Z Score is used to predict firm bankruptcy
Intan	Intangible assets: ratio of intangible assets to total assets
BIG	Big auditor: 1 if the firm auditor is audit organization, otherwise 0