

The effect of auditor characteristics on tax avoidance of Iranian companies

Tax avoidance
of Iranian
companies

119

Mahdi Salehi

*Faculty of Economics and Business Administration,
Ferdowsi University of Mashhad, Mashhad, Iran*

Hossein Tarighi

*Department of Accounting, Attar Institute of Higher Education,
Mashhad, Iran, and*

Tahereh Alidoust Shahri

Qaenat Branch, Islamic Azad University, Qaenat, Islamic Republic of Iran

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Abstract

Purpose – The purpose of this paper is to investigate the relationship between auditor characteristics and the level of tax avoidance in an emerging market.

Design/methodology/approach – In this regard, the effect of various factors such as auditor tenure, auditor industry specialization, audit reports and audit fees on tax avoidance was examined. The study sample includes listed companies in the Tehran Stock Exchange. The time period of study is six years from 2011 to 2016. Also in this study, firm size, leverage, firm age and auditor size were controlled.

Findings – The results of this research were determined in four hypotheses. First and second hypotheses that explore the relationship between auditor tenure and auditor industry specialization with tax avoidance were not confirmed. But the results showed a significant relationship between the type of audit opinions and audit fees with tax avoidance.

Originality/value – The current study investigates the auditor characteristics on tax avoidance in a developing nation of Iran and the results may help the developing countries.

Keywords Auditor tenure, Auditor industry specialization, Audit opinion

Paper type Research paper

1. Introduction

Tax is a kind of cost imposed by the government on revenue-generating business units. Because companies and legal entities are trying to obtain more profit, they can be expected to seek solutions to reduce their tax payments. Tax payments transfer the wealth from the company and its owners to the state; therefore, most companies design their own management arrangements to minimize their tax obligations (Wahab and Holland, 2012). In this regard, Watts (2003) argues that until companies are profitable and have taxable income and interest rates are also positive, they will have an incentive to delay recognition of revenues and rush to identify the cost in order to reduce the value of their current taxes. In the financial literature, the company's efforts to reduce tax expense have been investigated, which can be mentioned as examples of tax management (Huseynov and Klammm, 2012; Moore *et al.*, 2017), tax avoidance (Guenther *et al.*, 2016) tax aggressiveness (Chan *et al.*, 2013; Whait *et al.*, 2018) and tax planning (Bradshaw *et al.*, 2019; Chen *et al.*, 2019). In the broad definition, tax avoidance is a wide range of



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legal activities aimed at reducing the level of tax liabilities (Ariff and Hashim, 2014), which ultimately results in lowering tax payments to the government (Annuar *et al.*, 2014). Hence, tax avoidance has been the focus of attention in financial research because it includes many of the measures reducing tax liability. What is striking and challenging is that there is no universally accepted definition of tax avoidance, and terms used in this regard are different according to different conditions and communities. However, our inability to define and determine tax avoidance should not prevent us from conducting research in this area because there are several issues in accounting that no consensus has been reached about their nature and subject yet.

There are two perspectives on the impact of auditor's attributes toward tax avoidance. The first view is that if companies are seeking to avoid paying extra taxes while complying with tax laws, they will certainly seek advice from tax consultants. Cook and Omer (2013) concluded that about 65 percent of companies received part of their tax advice and other related services from their auditors. An auditor who has more expertise in the industry or more tenure in client companies can better advise clients on tax matters. Moreover, they will be more likely to ask for a higher fee from the employer. The second view is that tax avoidance may be a reflection of the agency theory which may lead to tax decisions that follow the manager's personal interests. So, one of the challenges facing stakeholders is to find ways and controlling incentives to minimize agency costs (Jensen and Meckling, 1976). With the help of their tax departments and agencies and spending more time, auditors may better assess sound tax items included in estimates to shareholders and analysts and detect tax avoidance.

The most important reason for carrying out research on the Iranian market is the disaster economic conditions it has faced. In these specific economic conditions of Iran, the structure of the Iranian audit market is such that it raises challenging questions for researchers, but finding the answer to these questions can be the turning point of this research. From the economic point of view, it can be highlighted that Iranian firms have been faced with many financial problems during recent years owing to economic sanctions (Salehi, Tarighi and Sahebkar, 2018). In such a catastrophic economic situation, most companies are looking for ways to pay fewer taxes to reduce their expenses. Now the question arises whether the structure of the audit market in Iran is strong enough to prevent such behavior of companies tending to tax avoidance. If we take a deeper look at the nature of the Iranian audit market, we will find that since there is a strong based-price competition in Iran's audit market and the level of revenue of auditors is relatively low, it is not rational to apply the most sophisticated audit techniques because of the high costs as well as employing experienced audit staff who get high salaries. Owing to the concentrated based-price competition, Iranian auditors are likely to adopt systems-based auditing strategies that are economical (Azizkhani *et al.*, 2018). Given the financial pressures of economic sanctions, managers have a great incentive to engage in tax avoidance to reduce their corporate costs, and also the adoption of predictable systems-based auditing approaches by auditors makes opportunistic managers achieve this goal. Thus, the initial purpose of this paper is to know whether, the length of the auditor-client relationship as well as the auditor industry specialization, can have a deterrent role for tax avoidance activities in an inflationary economy like Iran; or, because of the different characteristics of the Iranian audit market, may they have adverse consequences. In Iran's audit market, bigger audit firms usually hire an experienced and knowledgeable workforce and invest in advanced audit technologies to improve their working quality, which finally decreases the possibility of tax avoidance by firms. Hence, in the second step of this study, aside from other auditing variables, we are also going to investigate if audit fee will be influenced by the level of tax evasion.

The rest of the aforementioned research is organized as follows: the second part frames the study into a theoretical framework, hypotheses development and literature. Section 3 presents the research design and outlines where data is obtained and the sample selection procedure. Section 4 then indicates the main results and implications drawn from statistical analyses and. Lastly, Section 5 presents the concluding remarks.

2. Theoretical framework, literature and hypotheses development

Hanlon and Heitzman (2010) hold that tax avoidance is like a spectrum of tax planning strategies with legal tax avoidance such as investment in bonds at one end and tax noncompliance, tax evasion, tax aggressiveness and more generally illegal tax avoidance at the other end. However, in the narrower definition, tax avoidance is a legal measure to reduce tax liabilities. Based on this definition, tax avoidance is done within the framework of tax laws and taxpayers would not worry about the potential exploration of their actions (Annuar *et al.*, 2014), while tax evasion is a misdemeanor. For instance, Khan *et al.* (2016) define investment in tax-exempt assets as tax avoidance and Agrawal (2007) recognizes tax avoidance as tax evasion without breaking the rules. In general, the difference between tax avoidance and aggressive tax planning is definitely vague; still, from the point of view of Organization for Economic Co-operation and Development (OECD), and EU Commission is that what is not okay is tax planners misusing the legal arbitrage opportunities and the limitations of acceptable tax planning (Bulbuc, 2016). The impact of these two approaches on investor behavior is slightly different so that corporate tax evasion creates a negative mentality among investors and then reduces corporate stock prices, while there is no general effect for tax avoidance news because they are considered as legal activities (Blaufus *et al.*, 2019).

By law, discounts and tax exemptions are considered for some industries, regions, and individuals in Iran. For example, under Article 133 of the Direct Taxation Act, agricultural activities are exempt from tax. Or pursuant to Article 145 of this law, income on bank deposits interest, dividends and bonds are tax-free. Or in accordance with Article 6 of the Law for Development of New Financial Instruments and Institutions, companies that have 20 percent of free-floating shares benefit from double tax deduction (20 percent). Although the Act aims to develop and enhance the floating shares and stock liquidity, it should be noted that the law and shortcomings in surveillance, as well as other laws, make it possible for companies to provide the appearance of legitimacy to the stock exchanges so the percentage of the company's floating shares reaches a quorum and they are subject to the exemption in Article 6 of the Law for Development of New Financial Instruments and Institutions and tax rate of 20 percent is calculated and paid instead of 22.5 percent. Multiple items can be itemized for tax avoidance. These are only some of the hundreds of cases in which companies can reduce their taxes by it in Iran. As another example, a company that is engaged in producing the product which is both sold inside the country and exported has provided an opportunity to reduce taxes. Because under Article 141 of the Iranian Direct Tax Act, income from exports is not taxed. Now, in an inflationary economy, the basic question arises as to whether auditors can provide appropriate tax policies to the clients so that they have savings tax. To find this answer, one should look more closely at the literature of research.

For example, Dhaliwal *et al.* (2004) showed that auditors, with the help of their tax agencies, may better assess sound tax items included in estimates to shareholders and analysts because tax-specialist auditors have enough knowledge and information about how companies make use of tax expense for tax avoidance. Thus, they proved that the auditor's expertise can be considered an important factor in determining the level of tax avoidance. Hogan and Noga (2012) also concluded that there is a significant negative relationship between auditor tax services reduction and the tax paid by the company over the long-term. In general, companies that receive tax services from auditors show more tax savings than those that do not use the tax services of an auditor. After the implementation of IFRSs in Taiwan, Lee and Kao (2018) realized that firms have more motivations for tax avoidance activities, furthermore, auditor industry specialization has a deterrent role in clients' tax avoidance. Another interesting point is that, after the IFRSs, the quality of supervising tax avoidance by auditors has been deteriorated if there are more important audit clients, which means that the tax avoidance behavior of companies and auditors may be changed by the implementation of IFRSs.

In addition, McGuire *et al.* (2012) show that when audit firms are tax specialists, clients who receive tax services from these institutions are more involved in tax avoidance. Further, the results showed that companies that benefit from audit firms that are general industry experts have a higher level of tax avoidance than other companies. In other words, by combining the tax and financial expertise to improve and develop tax strategies, general experts help with the benefit of their customers from both financial and tax perspective, although Bauer *et al.* (2012) indicated that auditor's industry specialization does not affect the level of tax evasion. In Iran setting, Mehrabanpour *et al.* (2017) found that auditor specialization had a positive effect on tax avoidance. As a matter of fact, auditors were able to provide legal solutions to Iranian companies, which had many financial problems, to reduce their tax costs. It should be noted that the majority of Iranian firms had financial stress between 2012 and 2017 due to severe economic sanctions. In such an economic situation, Iranian companies are expected to use auditor industry specialization to reduce their own tax costs. Therefore, the following research hypothesis is as follows:

H1. There is a positive relationship between auditor industry specialization and tax avoidance.

There are many studies that have shown that audit tenure can affect the effective tax rate (ETR). For instance, using 2,588 firm-year observations from KOSPI in the period 2001–2010, Jeong and Bae (2013) found that corporate tax avoidance increased with auditor tenure, reflecting the client-beneficial tax arrangement, which reduces tax payments that could be more offered when the auditor tenure increased. Furthermore, Bae (2017) concluded that auditor tenure is positively connected with tax avoidance. Besides, according to the data obtained from all non-financial firms that were listed on the German CDAX, Frey (2018) realized that the number of years the firm has been audited by the same audit firm can increase the ETR. The result of research conducted in the Iran market is similar to prior studies. For example, Serafat and Barzegar (2015) concluded that there is a positive significant relationship between tax avoidance and auditor tenure in the Iran context. Similarly, Khajavi and Kiamehr (2015) with use of data from 103 firms listed on TSE over a decade from 2002 to 2012 concluded that auditor tenure has a positive influence on corporate tax avoidance. Taking together, auditors are expected to gain a better understanding of the client's activities and also have more experience over time (Salehi, Tarighi and Rezanezhad, 2018). As before we mentioned that since Iranian firms have quite a bit of financial problems due to economic turmoil, it is predictable that these companies tend to use a long-term working relationship with auditors so as to get rid of the financial crisis. To put it another way, we envisage that if the auditor–client working relationship increases for a long time, the quality of the audit consultancy service will be improved to reduce tax expenses. In addition to the stated argument, this fact cannot be overlooked that because of the low level of revenue of Iranian audit firms, many of them are forced to ignoring the investment in audit technologies and experienced senior workforce (Azizkhani *et al.*, 2018). Actually, due to the intense based-price competition among Iranian auditors, they prefer to adopt systems-based auditing approaches, which are totally predictable for opportunistic managers (Azizkhani *et al.*, 2018). Clearly, a manager tending to tax avoidance is likely to identify the auditor's foreseeable methods if the duration of working relationship with auditors is more and more. Regarding the current economic situation in Iran, it is reasonably expected that with the increase in the audit firm's tenure, the amount of tax avoidance by companies will increase. Thus, the next hypothesis of this paper is as follows:

H2. There is a positive relationship between auditor tenure and tax avoidance.

The auditor's report is the final product of the audit process, which in fact adds credibility to the financial statements because it reflects the auditor's independent attitude toward

the financial statements. According to Iran Auditing Standards, No. 700, an unqualified opinion is issued in some cases by the auditors that they conclude that financial statements have been prepared in all material respects in accordance with accounting standards; otherwise, the auditor may issue the qualified opinion. Apparently, by looking at the literature of research, it turns out that when firms want to take part in tax avoidance activities, the quality of financial reporting transparency will decrease. For example, Pourheidari *et al.* (2014) surveyed the impact of tax avoidance on the transparency of financial reporting of firms listed on TSE. They suggested that tax planning activities have caused complex transactions, and this has a negative impact on the information environment of the companies and reduces financial reporting transparency. Using a large sample of US firms from 1995 to 2016, Li *et al.* (2018) also investigated the association between tax avoidance and corporate transparency. The outcomes supposed that if a company's tax avoidance is low, an increase in tax avoidance improves transparency; however, providing that a firm's tax avoidance is high, a surge of tax avoidance declines transparency. In fact, the effect of tax avoidance on financial reporting' transparency depends on the aggressiveness of firms' tax avoidance behavior. Moreover, Kim *et al.* (2011) showed a positive relationship between tax avoidance and stock price falling risk in the USA market. The researchers believe that tax avoidance gives the management a tool to hide bad news and opportunistic behavior which is a sort of hoarding. However, this unpleasant information speculation will be disclosed in the future and cause a sudden fall in the stock price. Balakrishnan *et al.* (2012) showed that aggressive tax strategies reduce corporate transparency. In addition, managers at companies that have taken aggressive tax policies are trying to reduce the transparency issue by increasing the level of tax disclosure. Finally, Guenther *et al.* (2016) showed a positive significant relationship between the standard deviation of the cash ETR and stock return volatility. However, there is no relationship between low cash ETR or high unrecognized tax benefits with stock returns volatility. Their results suggest that cash ETR fluctuations better show the risk of the company tax situation compared to the cash ETR. Based on previous studies, it can be said that tax avoidance can affect the auditor's opinion. Hence, the third hypothesis is claimed to be this way:

H3. There is a significant relationship between the type of audit opinion and tax avoidance.

Audit firms seek to optimize their fees so they do not lose the work in competitive conditions (Choi *et al.*, 2008). For audit firms, the determination of the price of services is important in two different parts. In the first part, they should declare the entity compensation commensurate with the services provided by them. In the second part, the bid should be able to compete with that of other audit firms. Research has been done on the relationship between audit fees and tax avoidance and extremely rewarding results have been gained. Sometimes, since auditors' fees depend on their clients, they will lessen resilience to the client's tax avoidance. For example, Shokrollahi *et al.* (2017) concluded that there is a significant and negative relationship between tax avoidance and audit fees. Some like Hanlon *et al.* (2012) inferred that much difference between accounting profits and taxable profits leads to higher audit fees. It could be used as a tangible measure for the profit quality that affects decisions and judgments made by auditors. Martinez and Lessa (2014) also concluded that companies that have more tax avoidance pay more fees to their auditors and corporate governance can be a factor to minimize the effect of increasing the audit fees. Kovermann and Velte (2019) also inferred that capital market monitoring, auditors' actions, enforcement, and government relations, and other stakeholders' pressure can reduce corporate tax avoidance. Moreover, Donohoe and Robert Knechel (2014) concluded that the company's tax status intricacies and its reporting requirements will lead to many applications for independent auditors' decisions.

Based on their findings, in situations where risky (uncertain) tax status is prevailing, additional audit fees are paid. In this regard, the results of their study showed that companies with a lower ETR (more tax avoidance) pay about 6 percent more fees on average. In addition, if the lack of tax transparency is not very high, tax services for units under consideration balance audit fee increase by creating awareness about the tax status. Also, auditing by a specialist requires more fees which has nothing to do with the company's tax status. Further, Kraft and Lopatta (2016) show that audit fees are affected only by the voluntary tax gap and tax expense influences tax avoidance. Totally, non-audit services reduce audit quality. Gul *et al.* (2018) indicated that the impact of acquisitiveness on tax avoidance is more dominant when audit quality is low. Hu (2018) inferred that corporate tax avoidance is positively linked to audit fees. They actually believed that Tax avoidance deteriorates the quality of financial information. In Iran context, auditors often should utilize additional auditing procedures to control audit risks that may arise from tax avoidance, thus charging higher audit costs. Not only do auditors have to spend more audit hours to decrease audit risk, but also bigger auditors try to employ more experienced staff and more modern auditing techniques to improve the soundness of financial information in order to maintain their professional credibility against the community, which, in turn, increases audit fees. Thus, it is anticipated that the last hypothesis of this study is as follows:

H4. There is a positive relationship between audit fees and tax avoidance.

3. Research methodology

From the perspective of the division of research in terms of objective, this is applied research. The total data needed to test the hypotheses in this study collected directly from the required information from the financial statements on the Tehran Stock Exchange (Tehran Stock Exchange) website. After collecting the required data from reliable and available resources, the data were analyzed using the Eviews software. The study population consists of 546 observations and 91 firms listed on the TSE during the years 2012–2017. In accounting research, when data about different companies is collected over a period of time, data changes both in the time dimension and in the dimension of the companies under study. In this situation, we encounter Pooled or Panel data (Longitudinal data). For example, when data for various variables of 91 companies from 2012 and 2017 are collected, the values of each of the variables in a particular year are different, as well as each variable varies from one year to the next year. Longitudinal data actually has the characteristics of Cross-sectional data and Time series data simultaneously. According to econometrics, providing that data is longitudinal, the type of estimation of a model must first be determined. Actually, in the first phase, it is essential to specify whether the model is fitted to the ordinary least squares (OLS) or panel data method. The F-Limer test is used for reaching this purpose. In this test, the non-acceptance of the null hypothesis means that the model must be estimated with a panel data pattern and pooled data model (OLS model) otherwise; furthermore, if the use of the panel data method in the previous section is confirmed, the Hausman test is used so as to determine whether a panel data with fixed effects should be used or a panel data with random effect (Salehi, Tarighi and Sahebkar, 2018).

3.1 Statistical sample

The target population included all companies listed on the TSE during the period 2012 to 2017. In this paper, what is worth mentioning is that our main purpose is the auditors of the financial statements, not the tax auditors; besides, tax refers to income tax, not all taxes

which include income tax, VAT, excises, import duties, etc. In short, common features of the companies to determine the population are as follows:

Tax avoidance
of Iranian
companies

125

- (1) The type of business activity is productive; therefore, investment companies, leasing, credit, and financial institutions and banks are not included in the sample. The reason for this is the different nature of the operations of these companies, some laws, and different accounting standards developed for the companies which are active in the above industries.
- (2) The financial periods of companies should be finished at the end of the solar year in order to enhance the comparability and homogeneity of companies in terms of the time period.
- (3) The firms that do not have a trading halt for more than six months during the fiscal year.
- (4) According to the research time period (2012–2017), the company is listed on the TSE before the year 2012 and its name is not removed from the listed companies by the end of 2017 (Table I).

Taking account of the above conditions, a sample size of 91 firms on TSE has been selected (Table II).

Turning to the details, as for sample industry distribution, (Computer-related facilities and services) has the lowest number of observation in our statistical sample, and the highest once belong to firms which are active in the industry of automotive and the manufacture of automotive parts.

Limitations	Firms	
Listed companies on the Tehran Stock Exchange by the end of March 2017	518	
Investment companies, leasing, credit, and financial institutions and banks	(39)	
Companies that their fiscal year-end is not in March (the end of Persian/solar year)	(98)	
Companies that have more than six months trading halt or have changed fiscal year during the period under study	(148)	
Companies whose information is not available or have been removed from the stock exchange	(142)	
The remaining companies in the sample	91	Table I. Sampling-based on the above limitations

Industry name	Firm-year observation	% of the sample	
Agriculture and related services	18	3.30	
Automotive and the manufacture of automotive parts	96	17.59	
Basic metals	18	3.30	
Cement, lime and plaster	66	12.09	
Chemical products	30	5.50	
Computer-related facilities and services	6	1.09	
Food and beverage products except for sugar	54	9.89	
Machinery and appliances	36	6.59	
Other non-metallic mineral products	84	15.38	
Pharmacy	60	10.99	
Production of metal products	24	4.39	
Rubber and plastic	24	4.39	
Textiles	12	2.20	
Transportation, warehousing and communications	18	3.30	
Total	546	100	Table II. Firm-year observations distributed across the industry sectors

3.2 Research model

In this paper, the purpose of this research model is to examine the impact of various audit variables on tax avoidance. In fact, the multiple regression model below is used to evaluate the research hypotheses:

$$\begin{aligned} \text{Tax Avoidance} = & \beta_0 + \beta_1 \text{Specialist} + \beta_2 \text{Audit tenure} + \beta_3 \text{Audit opinion} \\ & + \beta_4 \text{Audit fee} + \beta_5 \text{Days to sign} + \beta_6 \text{Accruals} + \beta_7 \text{Firm size} \\ & + \beta_8 \text{ROA} + \beta_9 \text{Divide} + \beta_{10} \text{Firm age} + \beta_{11} \text{Leverage} \\ & + \beta_{12} \text{Loss} + \text{Industry Indicator} + \varepsilon. \end{aligned}$$

Measuring and defining tax avoidance is relatively complex and difficult (Hanlon and Heitzman, 2010). So far, various methods have been used to measure tax avoidance in research, each of which has its own characteristics. For instance, the ratio of ETR/ETR equals total tax expense divided by pre-tax income (earnings before tax) (Dyreng *et al.*, 2010). In fact, ETR shows how many percent of the earnings before interest and taxes (EBIT) have consisted of corporate tax because all company revenues may not be subject to tax, and this rate is affected by tax evasion activities. In addition, cash ETR is the ratio of the cash tax paid to the pre-tax income of the company (Chen *et al.*, 2010). Another proxy for evaluating tax avoidance is book-tax-difference (BTD) which is defined as the difference between pretax income according to the financial statement and the taxable income according to the tax return (Guenther, 2014). In an interesting study, Thomsen and Watrin (2018) used the difference between the statutory tax rates (STR) and the ETR as a measure of tax avoidance. In fact, they proved that higher values of $DIFF_{(STR-ETR)}$ show greater levels of tax avoidance. Using the concept of Thomsen and Watrin (2018) formula for tax avoidance, we used a new approach in this research to tax avoidance assessment, which in turn has innovation and initiative. In point of fact, from our research point of view, the ratio of ETR to STR can be considered another method for measuring tax avoidance. To put it another way, when this index is lower, the level of tax avoidance is greater. In this regard, what is worth mentioning is that STR or the legal rate of tax in Iran is determined by Article 6 of the Law for Development of New Financial Instruments and Institutions which were passed and approved in 2010. 22.5 percent tax rate (with 10 percent tax exemption for stock companies under Article 143 of Direct Tax Act) was in 2009, whereas in 2010 and beyond, 20 percent tax rate was for stock companies with free-floating shares above 20 and 22.5 percent tax rate for stock companies with free-floating shares below 20 percent. It should be noted that from β_1 to β_4 , all variables are defined as an independent variable, and the rest of them are control variables. In the following, a summary of the definitions of variables related to the research model is presented in Table III.

4. Results

4.1 Descriptive statistics

Descriptive statistics provide simple summaries about the sample and about the observations that have been made. To analyze the data, the descriptive statistics containing minimum, maximum, mean, standard deviation and frequency are presented in Table IV.

Looking at the details, it is figured out that sample companies have more than 16 years of work experience on TSE. In addition, the results show that on average, the length of the working relationship between the auditor and the clients is well under four years. We also find that the highest amount of audit fees is 10.284, while the lowest is 7.643 indicating the difference between the audit fees received by the external auditors in Iran is very high. It was also seen that roughly half of the Iranian companies had a tendency to engage in tax avoidance as those firms had financial problems due to

Variable	Definition	Tax avoidance of Iranian companies
Tax avoidance Specialist	It is the ratio of ETR to STR It is an indicator variable that is equal to one if the ratio of the total fees collected by the auditor for the industry to the total fees collected is the highest and zero otherwise (Jha and Chen, 2014)	
Audit tenure	the number of consecutive years that an audit firm undertakes the responsibility of a company's auditing (Myers <i>et al.</i> , 2003)	
Audit opinion	It equals one if the auditor issues an unqualified opinion without any additional language and zero otherwise (Jha and Chen, 2014)	
Audit fee	It is the natural logarithm of the total audit fee of the external auditor (Jha and Chen, 2014)	
Days to sign	It is the logarithm of lag between the signature date of the audit opinion and the date of fiscal year-end (Jha and Chen, 2014)	
Accruals	It is defined as the absolute value of total accruals scaled by total assets (Bryan and Mason, 2016)	
Firm size	It is the natural logarithm of the total assets of a company (Salehi, Tarighi and Rezanezhad, 2018)	
ROA	Return on Assets is calculated by dividing a company's annual earnings by its total assets (Salehi, Tahervafaei and Tarighi, 2018)	
Dividend	It is the natural logarithm of a payment made by a corporation to its shareholders, usually as a distribution of profits	
Firm age	It is the logarithm of the number of years since the company has been listed on the Tehran Stock Exchange (Salehi, Tahervafaei and Tarighi, 2018)	
Leverage	It is calculated through long-term debt scaled by total assets (Salehi, Tahervafaei and Tarighi, 2018)	
Loss	It is an indicator variable which equals one if the net income is negative and, zero otherwise (Salehi, Tahervafaei and Tarighi, 2018)	
Industry indicator	It is based on the two-digit SIC code	

Table III.
Definition of variables

Variable	Minimum	Maximum	Mean	SD
Tax avoidance	0	1.4662	0.4739	0.4294
Audit fee	7.6434	10.284	8.7648	0.4076
Audit tenure	1	12	3.7238	2.4675
Days to sign	1.2787	2.2504	1.8462	0.1756
Accruals	0	3.1840	0.2142	0.5055
Firm size	5.7842	6.3344	6.0501	0.1957
ROA	-0.5087	0.812	0.1311	0.4087
Divide	-0.8121	1002.50	2.0643	44.160
Firm age	0.6989	1.6720	1.1730	0.1771
Leverage	0.657	3.0801	0.7261	0.3684
Qualitative variables				
Variable	Variable status	Frequency	Relative frequency (%)	
Type of audit opinion	The auditor's report is unqualified	237	43	
	The auditor's report is qualified	309	57	
Auditor industry specialization	The auditor is an industry specialist	229	42	
	The auditor is not an industry specialist	317	58	
Auditor size	Firms audited by the audit organization	132	24	
	Firms not audited by the audit organization	414	76	
Loss	Net income of firms is positive	267	49	
	Net income of firms is negative	279	51	

Table IV.
Descriptive statistics
of variables

economic sanctions and selected tax avoidance' strategy as a way to reduce the cost of their firms. Finally, the degree of financial leverage shows that just under three-quarters of the capital structure of Iranian companies is financed from debt, which is relatively high. Indeed, due to the financial conditions of the companies created by the economic

boycott, investors are reluctant to invest in Iranian companies, and most of these companies have to use debt to cover their capital requirements.

With respect to dummy variables, it can be also stressed that in 237 fiscal years, the auditor has issued an unqualified opinion without any additional language and the rest, which is 57 percent of the total financial years of the research, has provided a qualified audit report. Actually, the risk of Iran's audit market is relatively high as the overall statistics indicate that the majority of audit reports had substantial fraud that had forced the auditor to mention them. Meanwhile, in spite of the fact that 51 percent of Iranian firms are non-profitable, evidence suggests that approximately 58 percent of companies are audited by non-expert auditors; in addition, almost three-quarters of firms are audited by non-big audit firms.

4.2 Variation inflation factor

In statistics, the variance inflation factor (VIF) measures the severity of multicollinearity in an OLS regression analysis. It provides an index that measures how much the variance of an estimated regression coefficient is increased due to collinearity (Table V).

Regarding the VIF value, providing that the VIF of the estimated model coefficients is less than 10 there would be no linearity problem. Accordingly, this value is less than 10, which means that there is no serious multicollinearity amongst the independent and control variables under study.

4.3 The results of the research model

In this paper, we are going to know if there is a significant relationship between auditor characteristics and the level of tax avoidance in an emerging market called Iran. Hence, the results of all the hypotheses of this research are presented in Table VI.

What stands out from the results of F-Limer test is that since the probability value of H_0 is more than 0.05 in this research model, the preference of the OLS method is acceptable. It is worth bearing in mind that because the results of the F-Limer (Chow) test showed that the OLS regression is appropriate, there is no need to carry out the Hausman test. In addition, given all independent and control variables might be endogenous, 2SLS estimation method is used to check the endogeneity problem in this study. The outcomes show that the p -value of 2SLS test is more than five percent and insignificant, which means that the regressors have not the endogeneity problem. Accordingly, the OLS method must be employed. Further, as the p -value calculated for F -statistic is less than 0.05, the significance of the whole model can be confirmed. We also can say that 41 percent of the changes in the

Table V.
The linearity test of
model variables

Variable	Collinearity statistics	
	Tolerance	VIF
Audit fee	0.664	1.506
Audit opinion	0.795	1.298
Specialist	0.548	1.825
Audit tenure	0.812	1.228
Days to sign	0.793	1.261
Accruals	0.950	1.052
Firm size	0.785	1.273
ROA	0.891	1.122
Divide	0.974	1.028
Firm age	0.908	1.036
Leverage	0.827	1.209
Loss	0.903	1.108

				Tax avoidance of Iranian companies
Variable	Coefficient	<i>t</i> -statistic	<i>p</i> -value	
C	1.3649	3.1581	0.0017***	<div>129</div>
Specialist	0.0305	−0.7394	0.4583	
Audit tenure	0.0165	2.1885	0.0291*	
Audit opinion	−0.0848	2.2313	0.0261*	
Audit fee	0.0865	1.7067	0.0385*	
Days to sign	−0.0039	−6.0147	0.0001***	
Accruals	0.0001	0.0328	0.3738	
Firm size	1.11E-09	0.7304	0.4649	
ROA	−0.0004	−0.9187	0.3585	
Divide	0.0003	0.8485	0.3980	
Firm age	0.0156	4.4725	0.0000***	
Leverage	−0.0763	−1.4193	0.1564	
Loss	0.0948	2.6359	0.0086***	
Model summary				
F-Limer test (1.564)	Prob (0.168)	<i>F</i> -statistic: 8.1850/Prob <i>F</i> -statistic: 0.0000		
<i>R</i> ² : 0.41		Durbin–Watson state (1.77)		
Breusch–Godfrey (195.39)/Prob: 0.0001		Industry indicator: yes		
Endogeneity test (TSLS):	Value (59.6512)	Probability (0.0804)		
Notes: *, **, ***Significant at 10%, 5% and 1% levels, respectively				

Table VI.
The results of
the study

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The results of
the study

dependent variable are explained by independent variables. This implies that our research model relatively will fit better data. Another interesting point is that because the amount of Durbin–Watson state is 1.77 (between 1.5 and 2.5), this provides strong evidence of the lack of serial autocorrelation (first lag) in the residuals; besides, since *p*-value is less than 5 percent and the H_0 is rejected, it can be concluded that there is no serial correlation in the model residues.

The outcomes of this research indicate the tax avoidance behavior is different with different industries. We did not witness a significant connection between auditor industry specialization and the level of tax avoidance' actions of corporate managers, while the results saw a positive and meaningful linkage between audit tenure and tax avoidance' behavior. Its reason is that since auditors obtain a better understanding of the client's working environment over time, the long-term presence of auditors is a Launchpad to firms that want to engage in fraudulent financial reporting (Salehi, Tarighi and Rezanezhad, 2018). Insufficient attention to the investment in audit technologies and experienced senior workforce by Iranian audit firms because of their low level of revenues seems to have caused manipulated managers to easily predict auditors' work approaches (Azizkhani *et al.*, 2018). In auditing market whose audit firms tend to take systems-based auditing approaches owing to the strong based-price competition, a manager wishing to tax avoidance is expected to have more motivations for hiring an auditor with higher tenure. In addition, we found that firms with an unqualified audit opinion were less interested in tax avoidance than those companies receiving a qualified audit opinion from external auditors; accordingly, the third hypothesis of this study is accepted. Apparently, auditors will not issue their unqualified audit reports unless accounting information transparency of firms has been relatively guaranteed. We also find that there is a positive association between audit fees and tax avoidance. In a word, the amount of audit fees is often affected by audit firms' efforts and litigation risk (Simunic, 1980). In the Iranian audit market, larger audit firms generally receive more wages in comparison with others because of having more experienced human resources and also doing more advanced audit tests because they never like to lose their credibility among community's people. The likelihood of anticipating the audit approaches of well-known audit firms having advanced equipment and experienced staff is by no means easy. Therefore, those managers

who are not interested in tax avoidance generally prefer to cooperate with such audit firms so that they can attract investors' trust. There is evidence else that supports this argument if we look at the control variables; for instance, there is a negative relationship between the gap between the signature date of the audit opinion and the date of fiscal year-end and tax avoidance. Finally, we can realize that larger and more unprofitable companies are really interested in reducing their costs from tax channels.

5. Conclusion

In most countries, most of the government's revenue sources come from taxes. The tax share of total public income is completely different among the countries all around the world. In the meantime, avoiding tax has caused tax revenues to be lower than what has been estimated. Clearly, tax escaping is a kind of legal violation, but tax avoidance is actually the use of the legal vacuum in tax laws to reduce taxes. Therefore, since tax avoidance is seemingly a legal activity, it seems to be more exposed than tax evasion. In addition, because there is a little deterrent rule for tax avoidance, many companies are expected to engage in it, especially those firms which have severe financial problems. Hence, the main purpose of this study was to determine whether the audit characteristics have a significant impact on tax avoidance in an emerging market called Iran. Contrary to our expectations, the results of the first hypothesis show that there is not a meaningful connection between auditor industry specialization and tax avoidance. Our findings are consistent with Bauer *et al.* (2012), while it is inconsistent with the studies of Dhaliwal *et al.* (2004), Hogan and Noga (2012), McGuire *et al.* (2012) and Mehrabanpour *et al.* (2017).

We also found that the longer the auditor–client working relationship is, the more auditors can help clients to reduce tax expenditures. In fact, the outcomes of our second hypothesis are similar to Jeong and Bae (2013), Serafat and Barzegar (2015), Khajavi and Kiamehr (2015), Bae (2017), and Frey (2018). It seems that since most Iranian firms had financial stress due to pressures from economic sanctions between 2012 and 2017, they preferred to work with auditors for a long time so that auditors can provide appropriate mechanisms to reduce tax expenses because auditors have a better understanding of the client's working environment over time. One must also accept the fact that since the level of audit firms' earnings is not satisfactory, competition among these companies is price based. Therefore, Iranian audit firms cannot afford to spend a great deal on hiring experienced people, training the low-skilled workforce professionally, and investing in the latest technology related to the profession. Clearly, these fundamental weaknesses in the auditing market lead auditors to use system-based audit approaches that are more cost-effective. Given that it is very easy for management to anticipate such approaches, managers are more likely to have more motivation for avoiding tax if the auditor's working relationship with the client is greater. The findings of this study will have profound implications for the emerging audit markets like Iran. This paper explicitly warn Iran's tax authorities that the duration of the working relationship between the auditor and the client in Iran should be shorter in the current situation, or the government can support the audit market to increase the level of audit firms' income so that they can hire more experienced professionals and invest more in state-of-the-art audit strategies. Otherwise, we will see the opportunistic managers' abuse of national income, which certainly damages the country's economy.

Moreover, our evidence witnesses a positive association between audit opinion and tax avoidance. This means that when the firms less engage in tax avoidance' actions, the quality of accounting information transparency increases, which leads to an unqualified audit report by external auditors. Our finding is similar to the results of Balakrishnan *et al.* (2012) and Pourheidari *et al.* (2014). We also saw a positive linkage between audit fees and tax avoidance behavior, which is in line with Hanlon *et al.* (2012), Martinez and Lessa (2014) and Hu (2018), whereas it is not in accordance with the research of Shokrollahi *et al.* (2017).

This finding is consistent with our expectations because it is fully in line with the realities of the Iranian market. Famous audit firms, which obtain more revenue compared to others, spend a lot of money on training audit staff and applying advanced audit techniques to improve their working quality. Although larger audit firms demand more wages, managers who are keen to attract more funds from investors are seeking to hire larger auditors because they are more trustworthy in the community. Finally, it was found that once the gap between the signature date of the audit opinion and the date of fiscal year-end is high, the possibility of corporate tax avoidance by managers will be less. This implies that because of the ambiguities and complexity of financial statements of companies involving in tax avoidance, the duration of their audit work by independent auditor increases.

In general, the results of this paper will have practical implications for society and users of financial statements, for this research revealed more than ever the vital role of the auditor as an observer on the financial statements. It seems that this research will make aware investors and stakeholders of this fact that auditors' characteristics will be effective in the amount of corporate tax avoidance behavior in emerging markets, particularly those markets struggling with economic sanctions like Iran. By reading this research, investors actually can properly understand which companies have more reliable financial information in times of financial crisis. This investigation is also a serious warning to stock market executives in the financial markets having not good conditions so that they reconsider some of the supervised mechanisms such as the allowed duration of working relationship between auditor and employer.

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Corresponding author

Mahdi Salehi can be contacted at: mehdi.salehi@um.ac.ir