The effect of independent audit quality on the relationship between ownership structure and tax avoidance on the listed companies in Tehran stock exchange

El efecto de la calidad de la auditoría independiente en la relación entre la estructura de propiedad y la evasión fiscal en las sociedades cotizadas en la bolsa de valores de Teherán

O efeito da qualidade da auditoria independente na relação entre estrutura de propriedade e evasão fiscal nas empresas listadas na bolsa de valores de Teerã

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Abstract

This research aims at the effect of ownership structure and also the interactive effect of the independent audit quality on tax avoidance of the listed companies in Tehran Stock Exchange. Therefore, this research tried to estimate the relationship between three variables of tax avoidance, ownership structure, and audit quality based on research model using varied concepts and theories about them. Statistical population of this research is the listed companies in Tehran Stock Exchange in 2011-2015. These samples include 100 companies with features of data accessibility, issuing financial statements in the mentioned years by stock exchange organization, etc. Findings of this research showed the negative and significant relationship between ownership structure in the listed companies in Tehran Stock Exchange, and audit quality also intensified the effect of ownership structure on tax avoidance.

Keywords: tax avoidance, ownership structure, audit quality.

Resumen

Esta investigación tiene como objetivo el studio del efecto de la estructura de propiedad y también el efecto interactivo de la calidad de la auditoría independiente sobre la evasión fiscal de las empresas cotizadas en la Bolsa de Teherán. Por lo tanto, esta investigación trató de estimar la relación entre tres variables de evitación de impuestos, estructura de propiedad y calidad de auditoría basada en el modelo de investigación utilizando conceptos variados y teorías sobre ellos. La población estadística de esta investigación es la lista de empresas en la Bolsa de Teherán en 2011-2015. Estas muestras incluyen 100 empresas con características de accesibilidad de datos, emitiendo estados financieros en los años mencionados por la organización bursátil, etc. Los hallazgos de esta investigación mostraron la relación negativa y significativa entre la estructura de propiedad en las compañías listadas en la Bolsa de Valores de Teherán y la calidad de auditoría también intensificó el efecto de la estructura de propiedad en la evasión fiscal.

Palabras clave: evasión de impuestos, estructura de propiedad, calidad de auditoría.

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Resumo

Esta pesquisa visa o efeito da estrutura de propriedade e também o efeito interativo da qualidade da auditoria independente sobre a evasão fiscal das empresas listadas na Bolsa de Teerã. Portanto, esta pesquisa tentou estimar a relação entre três variáveis de evasão fiscal, estrutura de propriedade e qualidade de auditoria com base no modelo de pesquisa, usando conceitos variados e teorias sobre eles. População estatística desta pesquisa é as empresas listadas na Bolsa de Valores de Teerã em 2011-2015. Essas amostras incluem 100 empresas com características de acessibilidade de dados, emitindo demonstrações financeiras nos anos mencionados pela organização da bolsa de valores, etc. Os resultados desta pesquisa mostraram a relação negativa e significativa entre a estrutura de propriedade nas empresas listadas na Bolsa de Valores de Teerã e a qualidade da auditoria. também intensificou o efeito da estrutura de propriedade sobre a evasão fiscal.

Palavras-chave: evasão fiscal, estrutura de propriedade, qualidade de auditoria.

Introduction

Tax is one of the effective factors on decision makings and strategies of companies and decision makers. The theoretical bases and experimental evidence show that companies try to select the strategies leading to saving in tax costs (Mehrani and Seyedi, 2013). In most countries, the significant part of the government income resources is supplied by the tax. Total public income share is different in different countries. Meanwhile, tax avoidance and fraud in countries have led countries tax incomes to be less than what is estimated. Therefore, one of the very important subjects mentioned in this research is tax avoidance, the effective factors on it, and the obtained results. Theoretically, tax avoidance is an attempt to reduce tax payments (Hanlon et al., 2010).

Tax avoidance is not related to illegal activities that reduce the needed government incomes for the infrastructural affairs and welfare and public service. Since tax cost reduces the companies' profit, many companies use many activities for tax avoidance to reduce their taxable income (Richardson et al., 2016). Desay et al. (2007) believe that managers seeking for their personal profits makes the company's structure more sophisticated to reduce taxes and use the company's resources for personal benefits. They believe that the presence of strong tax officers increase supervision on managers work and reduce abusing the internal resources of the company. Another point proposed by Desay et al., is the governance manner and companies management that are effective on tax avoidance level. Graham (2006) believes that tax avoidance reduces the final profits of the interest tax shield and may be effective in the related decisions to the capital structure. On the other hand, if tax avoidance is recognized by tax authorities, the company has to pay the punishment and extra payment which reduces the input cash flows and stockholders wealth (Richardson et al., 2016). The previous studies in accounting show that tax avoidance is a challenging activity which companies may oblige to pay more taxes and financial punishments in the future by reducing tax payments in the current period (Guenther et al., 2013). Thus, tax avoidance activities are with uncertainties in the future payments of tax, punishments, and uncertainties about the total cash flows (Richardson et al., 2016, Keshtkar and Talebizadeh, 2018).

Institutional owners have a key role in companies' supervision on the kept stocks of shareholders. Owners (shareholders) of the company have different right such as selecting the board of directors as the representative to supervise on the performance of the company's managers. On the other hand, the significant shareholders have a salient role in information transferring to the other shareholders. They can find the private information about the management and transfer it to the others (Najjar and Taylor, 2008). Many studies have been conducted on this subject. Khajuy and Kiyamehr (2016) in a research under the title of "modeling tax avoidance using accounting information: evidence of Tehran Stock Exchange" show that the corporate governance influences on tax avoidance; as though, tax avoidance decreases by increasing the mechanisms of corporate governance (Keshtkar and Dadkhodazadeh, 2018). Moreover, corporate governance influences indirectly (by the moderating variable of financial reporting quality) on tax avoidance. The other results of the research show that audit quality influences on tax avoidance; as though, increasing audit quality decreases tax avoidance. Moreover, audit quality indirectly (by the

moderating variable of financial reporting quality) influences on tax avoidance. Forughi et al. (2016) in a research under the title of "the effect of managerial ability on tax avoidance" showed that managerial ability has a negative and significant effect on tax avoidance in the studied period. Mashayekhi and Seyedi (2015) in a research under the title of "corporate leadership and tax avoidance" concluded that there is not a significant relationship between corporate leadership and tax avoidance. Furthermore, there was a negative and significant relationship between the controlling variables of profitability and firm size and also positive and significant relationship between financial audit and tax avoidance was observed. Ghirbani and Katiri (2014) in a research under the title of "abnormal return on stock and its fluctuations chronically" showed the effect of time on abnormal return on stock and its fluctuations in the listed companies in Tehran Stock Exchange that the abnormal return on the stock has reduced vs. time chronically. In addition, abnormal return on stock also has a decremental procedure vs. time. These results show that investment risk in the stock market has gradually reduced in recent years (Keshtkar, 2018).

Richardson et al. (2017) also investigated whether the given granted incentives to managers reduce tax avoidance. Their results showed that financial situation of the corporate, tax specialty of managers, and granted incentives that are dependent on managers performance has significantly and positively influenced by tax avoidance. Fransis et al. (2017) conducted as research under the title of "managerial ability and tax avoidance" to study the relationship between management ability and tax avoidance whose results showed that managers have lower tax avoidance, and management ability has a negative relationship with tax avoidance.

Keshtkar (2017) in a research under the title of "institutional ownership and tax avoidance" studies the relationship between these two variables for the listed companies in Netherland Stock exchange and concluded that independent variable coefficient (ownership percentage of the institutional shareholders) was significant in 5% error level and has a positive and significant relationship with tax avoidance. Consequently, it can be claimed that increasing the ownership percentage of institution shareholders increases tax avoidance. Zahravi et al. (2016) concluded in their research that there is a positive and significant relationship between tax avoidance and tax difference between book-tax difference with stated tax, and definite tax with stated tax. This shows the government' intention to get more tax from companies with tax avoidance. It was previously clarified that there is no significant relationship between conservatism and tax difference. Findings of this research and the previous ones show conservatism is more efficient than tax avoidance to save taxes cost for companies.

According to the brief explanation about the main elements of research, this research studies the effect of ownership structure on tax avoidance of the listed companies in Tehran Stock Exchange using their data and the theoretical literature about tax avoidance and ownership structure.

Methodology

This research is descriptive and applied form. Statistical population of this research includes all the listed companies in Tehran Stock Exchange in 2011-215. Purposeful and systematic elimination sampling methods were used. In this regard, sampling was conducted from the listed companies of in Tehran Stock Exchange with the following criterions:

1- The end of their financial years must be the last day of the last month of the year with no change in this period to compare the information.
2- They mustn't be banks, financial institutions, investment, holding, and leasing.
3- The companies' financial information must be accessible in the studied period.
4- Don't stop more than 3 months in Tehran Stock Exchange in their stock transactions.

Some companies were selected as a sample based on the mentioned criterions. In this regard, 100 companies participated in the moderated statistical population (Brunner and Ganga-Contreras, 2017). The needed data was collected from Persian and Latin specialized journals. The related data to the sample resources were extracted from resources like Denasahm, Rah Avard-e-Novin, Burs site, etc. and then analyzed by Eviews, then hypotheses were tested. The following regression model was used to test the hypothesis based on the research hypothesis as following:

First hypothesis model: Tax Avoidit$_{i,t}$ = β$_0$ + β$_1$ OWST$_{i,t}$ + β$_2$ GRO$_{it}$ + β$_3$ ROA$_{it}$ + β$_4$ MB$_{it}$ + β$_5$ SIZE$_{it}$ +ε$_{it}$ equation I

Second hypothesis model: Tax Avoidit$_{i,t}$ = β$_0$ + β$_1$ OWST$_{i,t}$ + β$_2$ IAQ$_{it}$ + β$_3$ (OWST*IAQ)$_{it}$ + β$_4$ GRO$_{it}$ + β$_5$ ROA$_{it}$ + β$_6$ MB$_{it}$ + β$_7$ SIZE$_{it}$ +ε$_{it}$ equation 2.

Variables, Dependent variable. The dependent variable in this research is tax avoidance. The introduced model by Mehrani and Seyedi (2013) in as following to functionalize tax avoidance:

Real tax rate- legal tax rate= tax avoidance
Independent variable
$$ownership\ strcure = \frac{long-term\ debts}{(long-term\ debts+equity)}$$

IAQ: it shows independent audit quality as if the company is audited by the auditing organization, it gets 1; otherwise, it gets 0.

Control variable:
ROA: it shows assets that are obtained by division of the net profit to the book value of equites.
$$Return\ on\ assets\ = \frac{net\ profit}{book\ value\ of\ equites}$$
MB is obtained by division of market value of assets on book value of assets.

$$Market\ value\ to\ book\ value\ ratio = \frac{market\ value\ of\ assets}{book\ value\ of\ assets}$$

GRO shows sale income change than the past year which is calculated as following:

$$sale\ growth = \frac{sale\ of\ current - sale\ of\ previous\ period}{sale\ of\ previous\ period}$$

Size shows the size of the company that is obtained from the natural logarithm of all assets.

FINDINGS:

Testing the first hypothesis: there is a significant relationship between ownership structure and tax avoidance.

First, Limmer F-value has been used to determine the application of combined data and cognition of homogeneous or heterogeneous data.

Table 1: Limmer F-value of the first hypothesis

Conclusion	F-value	F	Result of Chow test
Individual units are not homogeneous (FE fixed effect method)	0.00	18.33	H$_0$ is rejected

Since f-value is nearly big (18.33) and more than the critical quantity (and also p-value is less than 5%), H$_0$ hypothesis is rejected which confirmed the opposite hypothesis that says FE method is proper.

This test was conducted to select between fixed effects and random effects model. Hausman test was used to select one of these two methods to estimate the accumulated data.

Table 2. Hausman test to determine fixed effect or random method

Conclusion	p-value	Chi-Sq. d.f	Chi-Sq. Statistic	Test result
Using random effects model	0.13	5	8.36	H0 is rejected
Reference: researcher estimation				

Since p-value of Hausman test is bigger than 0.05, H_1 of this test is rejected and random effects model using Eviews9 software must be used to estimate the parameters of multivariate regression equation of this research. The results of research model estimation are stated in table 3.

Table 3. Estimation of testing the first hypothesis

	variables	Coefficient	t-value	Prob	SIF
C	Constant No.	-0.15	-2.9	0.0038	-
OWST	Ownership structure	-0.08	-2.16	0.031	1.05
ROA	Return is assets	-0.007	-2.03	0.0428	1.62
MB	Ratio of book-value to stock value	-0.001	-2.24	0.0252	1.026
GRO	Sale income growth	0.0008	1.48	0.1599	1.027
SIZE	Company size	0.003	3.33	0.0009	1.3
Diagnostic tests		F-statistic 3.02		Prob (F-statistic) 0.000	
		Durdin Watson 1.98	R-squared 0.24	Adjusted R-squared: 0.21	

Regression model coefficients show the negative relationships between tax avoidance and ownership structure of the listed companies in Tehran Stock Exchange. In other words, the related coefficient to the ownership structure shows -0.08 indicating that one unit increase in the ownership structure reduces 0.08% of tax avoidance in listed companies in Tehran Stock Exchange. Moreover, since sig. the level is less than 5%, this relationship is significant and reliable and the first hypothesis is rejected. Thus, there is a significant relationship between tax avoidance and ownership structure.

As it is observed in table 3, determination coefficient of 0.24, and moderated determination coefficient is 0.21. It means the power of explanation and fit of the model are low. The moderated determination coefficient means that 21% of the dependent variable is explained by the control and independent variables of research. Durbin-Watson statistics is 1.98. Since 1.5-2.5 interval shows the lack of the first-order autocorrelation, there is not the first-order autocorrelation in model error element. Variance inflation factor (VIF) shows the collinearity among research variable and the permitted $VIF < 10$ and values in the table (4-9) are less than 10, consequently there is no collinearity among research variable. Finally, F-value is 3.02 and its p-value is 0.00. Since its p-value is less than 5%, the model significance is confirmed.

The model can be estimated by removal of sale income growth variable because of the extra variables in research model. The optimum model estimation is as table 4.

Table 4. Optimum model estimation of testing the first hypothesis

	Variables	Coefficient	t-value	Sig level
C	Constant no	-0.13	-2.58	0.0101
OWST	Ownership structure	-0.09	-2.17	0.0306
ROA	Return is assets	-0.007	-2.03	0.0421
MB	Ratio of book value to stock value	-0.001	-2.16	0.0314
SIZE	Company size	0.01	2.97	0.0031
	F-statistic 3.77	Prob (F-statistic) 0.000		
	0.31 Adjusted R-squared	R-squared 0.33	Durdin Watson 1.77	

Reference: research estimation

Testing the second hypothesis: independent audit quality influences on the relationship between ownership structure and tax avoidance.

First, Limmer F-value has been used to determine the application of combined data and cognition of homogeneous or heterogeneous data.

Table 5: Limmer F-value of the second hypothesis

Conclusion	F-value	F	Result of Chow test
Individual units are not homogeneous (FE fixed effect method)	0.00	16.32	H_0 is rejected

Since f-value is nearly big (16.32) and more than the critical quantity (and also p-value is less than 5%), H_0 hypothesis is rejected which confirmed the opposite hypothesis that says FE method is proper.

This test was conducted to select between fixed effects and random effects model. Hausman test was used to select one of these two methods to estimate the accumulated data.

Table 6. Hausman test to determine fixed effect or random method

Conclusion	p-value	Chi-Sq. d.f	Chi-Sq. Statistic	Test result
Using random effects model	0.11	7	11.578.36	H_0 is rejected

Reference: researcher estimation

Since p-value of Hausman test is bigger than 0.05, H_1 of this test is rejected and random effects model using Eviews9 software must be used to estimate the parameters of multivariate regression equation of this research. The results of research model estimation are stated in table 6.

Table 7. Estimation of testing the second hypothesis

variables		Coefficient	t-value	Prob	VIF
C	Constant No.	-0.13	-2.61	0.0094	-
OWST	Ownership structure	-0.12	-2.89	0.004	1.18
IAQ	Independent audit quality	-0.01	-1.27	0.2025	1.35
OWST* IAQ	Interactive effect	-0.17	-2.06	0.0071	1.14
ROA	Return on assets	-0.001	-1.03	0.3019	1.52
MB	Ratio of book-value to stock value	-0.001	-2.75	0.0061	1.19
GRO	Sale income growth	0.0008	1.22	0.2213	1.51
SIZE	Company size	0.01	3.09	0.0021	1.39
Diagnostic tests		F-statistic 2.30		Prob (F-statistic) 0.000	
		Durdin Watson 1.88	R-squared 0.23	Adjusted R-squared: 0.21	

Regarding the second hypothesis about intensifying the relationship between tax avoidance and ownership structure in presence of audit quality, it can be observed that the interactive effect of ownership structure and audit quality has intensified the relationship between tax avoidance and institutional ownership. Since the sig, level of the interactive variable of ownership structure and audit quality is less than 5%, this relationship is significant. Therefore, independent audit quality influences on the relationship between ownership structure and tax avoidance.

As it is observed in table 7, determination coefficient of 0.23, and moderated determination coefficient is 0.21. It means the power of explanation and fit of the model are low. The moderated determination coefficient means that 21% of the dependent variable is explained by the control and independent variables of research. Durbin-Watson statistics is 1.88. Since 1.5-2.5 interval shows the lack of the first-order autocorrelation, there is not the first-order autocorrelation in model error element. Variance inflation factor (VIF) shows the collinearity among research variable and the permitted VIF<10 and values in a table (4-13) are less than 10, consequently there is no collinearity among research variable. Finally, F-value is 2.30. Since its p-value is less than 5%, the model significance is confirmed. The model can be estimated by removal of sale income growth variable because of the extra variables in research model. The optimum model estimation is as table 8.

Table 8. Optimum model estimation of testing the second hypothesis

Variables		Coefficient	t-value	Sig level
C	Constant no	-0.1	-2.41	0.0161
OWST	Ownership structure	-0.19	-3.65	0.0003
OWST* IAQ	Interactive effect	-0.197	-2.95	0.0001
MB	Ratio of book value to stock value	-0.001	-3.007	0.0028
SIZE	Company size	0.008	2.86	0.0044
F-statistic 3.77	Prob (F-statistic) 0.000			
0.21 Adjusted R-squared	R-squared 0.22 Durdin Watson 1.84			

Reference: research estimation

Conclusion

Results in analysis part show the negative relationship between tax avoidance and ownership structure of the listed companies in Tehran Stock Exchange. In other words, the related coefficients to the ownership structure show -0.08, it means 1 unit increase in ownership structure reduces 0.08% of tax avoidance in the listed companies in Tehran Stock Exchange. Moreover, since the sig. level < 5%, this relationship is significant and reliable, and the first hypothesis is rejected. Therefore, there is a significant relationship between tax avoidance and ownership structure. Regarding the second hypothesis about intensifying the relationship between tax avoidance and ownership structure in presence of audit quality, it can be observed that the interactive effect of ownership structure and audit quality has intensified the relationship between tax avoidance and institutional ownership. Since the sig, level of the interactive variable of ownership structure and audit quality is less than 5%, this relationship is significant. Since research hypothesis based on intensifying the relationship between tax avoidance and ownership structure in presence of audit quality is confirmed which is opposite the results of Guanther et al. (2014) research. There hasn't been a significant relationship between tax avoidance and ownership structure in some similar research, but many reasons can be argued about the results of this research based on the present theoretical bases and some empirical evidence such as the positive relationship between tax avoidance and book tax and stated tax difference and it can be claimed that government more like to get more tax from the companies with tax avoidance and book more tax for these companies. Consequently, tax avoidance may not be an efficient tact to reduce tax costs and companies intending to reduce their tax must search for other policies such as conservatism, earnings management, tax fraud,

etc. In addition, market or other groups show negative reactions to companies with tax avoidance, and these actions bring the negative reputation of the company. More individual studies are needed to examine the other effective cases on this issue and relationship (Pacheco et al., 2017). Results of this research are in agreement with the results of Golestani et al. (2014) and in agreement with Guanther et al. (2014) results. Although, it seems that companies with reduced tax payment involved with risky activities, tax regulations encompass tax studies operations for all transactions. Tax regulations are transparent in many cases and companies can reduce their present tax payment without risk of tax increases in future by punishment.

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