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Veröffentlichungsversion / Published Version

Zeitschriftenartikel / journal article

#### Empfohlene Zitierung / Suggested Citation:

Farhadi, Z. (2020). The Impact of Financial Information Comparability on Aggressive Tax Avoidance with Respect to the Information Environment. *Ekonomicheskaya Politika / Economic Policy*, 15(3), 134-151. <https://doi.org/10.18288/1994-5124-2020-3-134-151>

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**Экономика государственного сектора**

# THE IMPACT OF FINANCIAL INFORMATION COMPARABILITY ON AGGRESSIVE TAX AVOIDANCE WITH RESPECT TO THE INFORMATION ENVIRONMENT

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## **Abstract**

The overall tax avoidance perspective suggests that managers who seek opportunities to avoid paying taxes are pursuing financial abuse by creating a lack of transparency in the financial reporting environment. It seems that many companies are involved in tax avoidance. For this reason, it is crucial to determine the factors influencing the rate of tax avoidance. In this study, it is assumed that, in weak information environments, there is much incentive to avoid paying taxes. Thus, in this research, the effect of financial information comparability on aggressive tax avoidance with respect to the information environment has been investigated. To this end, 88 companies were examined during the period from 2011 to 2016. The required financial information was extracted by referring to the financial statements using Rahavard Novin software; summarized, classified and calculated in Excel software; and finally, analyzed through EViews software. By using the combined data and taking advantage of the generalized least squares regression test, it was established that the impact of financial statement comparability on aggressive tax avoidance in companies with a weaker information environment was more significant at a 90% confidence level. On the other hand, in a situation where there is a weak information environment, the ability to compare financial statements plays a significant role in reducing tax avoidance. Thus, it can reduce companies' involvement in avoiding daring taxes, especially in a weak information environment. Furthermore, no reliable evidence was found concerning the effectiveness of financial information comparability in aggressive tax avoidance at a 95% confidence level.

**Keywords:** financial information comparability, information environment, financial reporting, tax avoidance.

**JEL:** G14, G38, H26.

## Introduction

In most countries, a major part of government revenue sources are provided through taxes. The share of taxes from public incomes varies across countries [Hanlon, Heitzman, 2010]. One can expect that taxpayers, as they operate in a wealth-maximizing manner, look for solutions to reduce their tax costs. Legal efforts and solutions to this are known in financial literature under different names, such as tax management, tax avoidance and aggressive tax procedures [Dastourani, 2016; Desai, Dharmapala, 2006]. On the contrary, one of the important issues in enforcing tax laws is the issue of tax acceptance. Most countries have been looking for mechanisms to prevent tax avoidance (lack of tax acceptance) as much as possible. Destructive effects of tax avoidance include non-realization of government tax revenues and budget deficit. Another effect of tax avoidance can be reduced justice and contribution to unjust distribution of income in the economy [Abdoli et al., 2016].

It seems that many companies are involved in tax avoidance. For this reason, it is essential to identify the factors affecting the rate of the latter. In this study, it is assumed that, in weak information environments, there is much incentive to avoid tax payment since in such cases taxpayers will have suitable conditions for documentation in order to reduce tax expenses. Tax aggressiveness will result in information complexity in weak and non-transparent information environments and ultimately lead to increased tax avoidance [Balakrishnan et al., 2012].

Taxes have always been of interest to economic theorists due to allocative and distributive effects, and are considered as one of the most important factors in government policymaking and, in fact, as one of the most crucial tools for creating a change in national income [Saei, Sari, 2013]. Tax is one of the most important variables by which governments affect macroeconomic variables such as economic growth, inflation and unemployment as well as resource allocation. Theoretical foundations and empirical evidence suggest that companies try to adopt strategies that lead to economy in tax expenses [Zeraat Pisheh, 2016]. The issues of tax policies and tax aggressiveness are as old as the issue of tax itself; that is, this issue has always been raised since the tax issue was formed. Thus, it is of particular importance to all countries [Panahi, 2013]. In recent years, tax avoidance has attracted much attention among academics. Some results show that tax avoidance is affected by factors like corporate financial characteristics, corporate governance and remuneration of directors, ownership structure and external stakeholders such as labor unions [Huang et al., 2016].

The tendency for tax avoidance and evasion can be influenced by economic factors including tax rates, complexity of laws and inflation, or by economic policies of governments [Beheshti, Royae, 2018].

Companies apply different methods to reduce tax payments, and for this purpose they attempt to decrease profit before tax in various ways in order to reduce the tax payable. Among these methods, we can refer to misusing—or going to extremes in the use of—accounting standards (accounting fraud) in financial reporting so that these methods are not inconsistent with the direct tax law (tax avoidance) [Rezaei, Jafariniaraki, 2015].

One of the important issues is financial information comparability. It allows users (especially the National Tax Administration Organization of Iran) to compare the financial statements of different business units to assess their financial status, financial performance, and financial flexibility<sup>1</sup>. When common economic factors have the greatest similarity of companies in an industry, income from such companies should be easily comparable. While common economic factors influence the similarity of companies in an industry and thus increase their comparability, firm-specific factors such as financial or operational characteristics and disclosure systems can reduce the comparability of companies.

In its conceptual framework, the Financial Accounting Standards Board states that comparability makes information more useful for decision-making. Specifically, Conceptual Statement No. 8 of the Financial Accounting Standards Board points out that firm-specific information can be more useful for investors when similar information can be compared with other companies. This is particularly relevant in the stock market, in which an investment decision essentially involves evaluating alternative opportunities or projects and these decisions cannot be made without comparable information [Habib et al., 2017]. Information comparability reduces the cost of collecting and processing information. Besides this, financial statement comparability leads to the allocation of capital efficiency [Suk, Zhao, 2017]. Other benefits of comparability are as follows: increased quality of available information and thus an increase in the analysts' coverage and the precision of their prediction as well as a reduction in the dispersion of their prediction; increased liquidity and volume of stock transactions and further reflection of firm-specific information in current period returns; and a decrease in benefits resulting from the use of confidential information [Brochet et al., 2011]. More financial information comparability leads to less aggressive tax avoidance behavior. This shows that financial statement comparability facilitates the detection of tax evasion for Tax Administration and, this way, prevents managers' involvement in aggressive tax avoidance. Financial statement comparability has a sig-

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<sup>1</sup> Audit Organization, Iranian Accounting Standards. Tehran, Centre for Professional Accounting and Auditing Studies of Audit Organization, 2011. <https://audit.org.ir/>.

nificant impact on aggressive tax avoidance in companies with weaker information environments [Suk, Zhao, 2017]. Accordingly, in this research, the impact of financial information comparability on aggressive tax avoidance with respect to the information environment is investigated.

## 1. Theoretical Foundations and Literature Review

Evidence shows that, considering the sufficiency of Iranian tax laws and assuming the observance of tax laws by companies and organizations, the quality of the information environment plays an important role in corporate tax avoidance outcomes. Moreover, it seems that companies tend to know how the quality of their internal information contributes to their decision-making. The government also tends to know the correct tax process and the reasons for its avoidance because of the priority that it attaches to tax revenues [Alizadeh Tahbazi, 2017]. The importance of financial information comparability in tax avoidance is that users can gain a good understanding of information, especially earnings, through financial information comparability since comparison as a qualitative feature of financial information has the ability to assist information users in grasping the similarities and differences between items. On the one hand, tax is a healthy source of providing the state governance costs to meet the needs of the nation. On the other hand, it is an important motivating factor in the company's decision-making. However, it should be noted that corporate attitudes toward the tax law are not the same and are placed in a wide range of compliance to non-compliance. In case of tax compliance, the company pays their fair share of real taxes to the government for financing public goods and social services [Freedman, 2003; Friese et al., 2008].

In this way, the realization of government tax revenue as a result of corporate tax compliance in all developed and developing countries has boosted the country's economic system and will lead to increased social services and generally improved status of society in addition to government investment in economic infrastructure [Bame-Aldred et al., 2013]. In consequence, it is expected that the results of this study could be beneficial to the users (especially Tax Administration Organization and Government) in an optimal application of information reported by stock exchange companies in relation to tax and information environment of companies.

Although the importance of comparability has long been recognized by accounting standards setters and is discussed in the academic literature at conceptual and normative levels, there have been few empirical studies on this issue so far [Francis et al., 2014]. However, accounting information comparability through a strong information environment

can prevent tax information from being hidden, which may reduce tax avoidance motivation. As stated, financial information environments play a significant role in the corporate tax system, and tax laws are an important factor in choosing accounting practices and procedures. In fact, in the presence of a weak information environment, financial statement comparability reduces tax avoidance [Suk, Zhao, 2017].

The research [Xia et al., 2017] investigated the effect of the social trust environment on corporate tax avoidance and the moderating role of corporate governance and state ownership. The study's results demonstrated that social trust could reduce corporate tax avoidance. Furthermore, the relationship between social trust and corporate tax avoidance for companies with weak corporate governance and government ownership is more significant. [Suk, Zhao, 2017] revealed that greater financial information comparability led to less aggressive tax avoidance behavior. This suggests that financial statement comparability facilitates tax evasion detection for Tax Administration, thus preventing managers' involvement in aggressive tax avoidance. Additionally, the results displayed that the inhibitory effect of financial statement comparability on aggressive tax avoidance behavior of companies with a weak and less transparent information environment was more significant.

[Sohn, 2016] examined a large sample of American companies. The research results uncovered that managers' real earnings management increased with the degree of companies' accounting comparability with other companies, while accrual-based earnings management decreased with the rate of companies' accounting comparability with other companies. Besides the above, the findings indicated that higher accounting comparability, when information content and audit quality were better, caused a reduction in opportunistic behaviors in order to escape accrual-based earnings management to real earnings management of directors. [Choi et al., 2019] concluded that, in companies with greater comparability with their counterparts, awareness of stock prices was higher. Also, financial statement comparability accelerates the reflection of firm-specific information and future profit information at current stock prices. [Zemzem, Ftouhi, 2013] proved that the amount and percentage of women's presence in the board of directors influenced the aggressive tax strategy. Moreover, the research findings disclosed that corporate size and return on assets had a significant positive effect on the aggressive tax strategy. [De Franco et al., 2011] conducted a study on earnings comparability of companies within an industry. They found that earnings comparability within an industry was positively related to analyst precision and negatively related to optimism and dispersion of analyses on earnings forecasts.

[Alizadeh Tahbazi, 2017] maintained that there was a significant negative relationship between the speed of earnings announcement

and the effective tax rate. In addition, he revealed that overall there was an inverse relationship between the quality of internal information environments and tax avoidance. However, considering the four parameters proposed for the quality of the internal information environment and the prevailing conditions in Iran, this relationship is stronger in some cases. In the end, based on the research findings, suggestions and guidelines are provided to deal with tax avoidance and improve the quality of the internal information environment.

[Sahebi, 2016] argued that there was a significant negative relationship between the speed of earnings announcement and the effective tax rate. Further, he demonstrated that there was a significant negative relationship between the accuracy of management earnings forecast and the effective tax rate. He observed that restatement or non-restatement was not raised as a tool for tax avoidance in companies listed on Tehran Stock Exchange. One of his most important results is that, in companies with a higher-quality internal information environment, the tax risk is probably lower. [Dastourani, 2016] revealed a significant negative relationship between the speed of earnings announcement and the effective tax rate. He also proved that, when the measurement criterion for the internal information environment quality was the management of prediction accuracy and the measurement criteria for tax avoidance were effective tax expense rate and effective cash tax rate, high-quality internal information environment reduced tax avoidance. Moreover, when the measurement criterion for tax avoidance is the effective tax expense rate, tax avoidance goes up with increased operational complexity in companies, and when the measurement criterion for tax avoidance is the standard deviation of the effective cash tax expense rate, tax avoidance also grows with increased uncertainty in sales.

[Foroghi, Ghasemzad, 2015] indicated that financial statement comparability increased the future earnings response coefficient. According to the results, comparability makes it possible to reflect a greater amount of firm-specific information in current stock prices. [Khajavi, Kiamehr, 2015] showed that auditor quality (audit firm size) made a significant and direct impact on tax avoidance of stock exchange companies on the basis of effective tax rates and book-tax differences, while audit quality (auditor tenure) had a significant and direct effect on tax avoidance of stock exchange companies only based on the effective tax expense. [Nasrollahi Azar, 2014] demonstrated that, among firm-specific characteristics, the relationship of firm size, firm growth, the level of corporate intangible assets and firm profitability with tax avoidance was significant and positive. Moreover, a significant negative relationship was observed for the ownership of

directors and the level of financial leverage with corporate tax avoidance. [Mansouri, 2013] announced that financial independence and knowledge and the duality of the role of the CEO and the board of directors chairman as well as government influence on the board of directors had no effect on tax planning. According to the obtained findings, institutional investors have a significant negative relationship with tax planning because of a strong information environment for institutional shareholders.

## 2. Research Hypotheses and Models

Considering the abovementioned theoretical foundations and based on similar studies, the research hypotheses are as follows.

1. Financial statement comparability prevents the involvement in aggressive tax avoidance.
2. The impact of financial statement comparability on aggressive tax avoidance in companies with a weaker information environment is more significant.

Explanations for the operational definition and ways to calculate all the variables (dependent, independent, mediator and control variables) are given below the relevant models.

Model (1) related to the first hypothesis is as follows:

$$\begin{aligned}
 ATA_{i,t} = & \alpha + \beta_1 FSC_{i,t-1} + \beta_2 \Delta TLCF_{i,t-1} + \beta_3 NOL_{i,t-1} + \\
 & + \beta_4 ROA_{i,t-1} + \beta_5 Lev_{i,t-1} + \beta_6 PPE_{i,t-1} + \beta_7 INTAN_{i,t-1} + \\
 & + \beta_8 R\&D_{i,t-1} + \beta_9 PIFO_{i,t-1} + \beta_{10} MB_{i,t-1} + \beta_{11} \Delta SALE_{i,t-1} + \\
 & + \beta_{12} SIZE_{i,t-1} + \beta_{13} MEP_{i,t-1} + \beta_{14} CASH_{i,t-1} + \varepsilon_{it}.
 \end{aligned} \tag{1}$$

Model (2) related to the second hypothesis is:

$$\begin{aligned}
 ATA_{i,t} = & \alpha + \beta_1 FSC_{i,t-1} + \beta_2 IA_{i,t-1} + \beta_3 FSC \times IA_{i,t-1} + \\
 & + \sum \beta_i Controls_{i,t-1} + \varepsilon_{it}.
 \end{aligned} \tag{2}$$

### *Dependent Variable*

$ATA_{i,t}$  represents aggressive tax avoidance of company  $i$  in period  $t$ . To measure aggressive tax avoidance, the difference between declared tax (declared earnings) of taxpayers and diagnostic tax (taxable income) is used by Taxation Affairs Organization [Abdoli et al., 2016].

### *Independent Variables*

$FSC_{i,t-1}$  stands for financial statement comparability of company  $i$  in period  $t-1$ . In line with [De Franco et al., 2011; Najafian, Safari Geraye-



li, 2017; Suk, Zhao, 2017], it is measured as follows. The first conceptual definition of comparability was that two companies had comparable accounting systems if they prepared similar financial statements for a given set of economic events. To apply this definition, a simple empirical model for the company's accounting system is presented below, in which accounting earnings are used as indicators and are representative of financial statements because earnings are regarded as an important summary of measurements in financial statements. In addition, return on equity is used as an indicator for the net effects of economic events. Specifically for each company, we must first estimate the following equation using the seasonal data over the past 16 periods.

Model (3) is:

$$Earnings_{i,t} = \alpha_i + \beta_i Return_{i,t} + \varepsilon_{it}, \quad (3)$$

where  $Earnings_{i,t}$  refers to the ratio of net seasonal earning before unexpected items to market value at the beginning of the period of company  $i$  in time  $t$ ;  $Return_{i,t}$  stands for seasonal stock returns of company  $i$  in time  $t$ ;  $\alpha_i$  implies constant coefficients of the model;  $\beta_i$  stands for constant coefficients of the variable; and  $\varepsilon_{it}$  is model error.

By defining the returns using a data window for a time frame longer than 15 seasonal periods, it is argued that these returns are similar to smoothed results. Based on model (1),  $\beta_i$  and  $\alpha_i$  are representative of the accounting function  $f\theta$  for company  $i$  and, in the same vein, the accounting function for company  $j$  is determined by  $\beta_j$  and  $\alpha_j$  (estimated based on the profits and returns of company  $i$ ). Closer functions between two companies show greater comparability between them. To estimate the distance between functions, one of the concepts associated with accounting comparability can be employed. If two companies have similar economic events and accounting comparability, their financial statements will be similar. The estimated accounting functions of company  $i$  and company  $j$  are used to predict the accounting profits that will exist if their returns are similar. Specifically, the two estimated accounting functions for each company are used separately with the economic events related to that company. These functions are as follows:

$$Earnings_{i,j,t} = \hat{\alpha}_i + \hat{\beta}_i Return_{i,t} + \varepsilon_{it}, \quad (4)$$

$$Earnings_{i,j,t} = \hat{\alpha}_j + \hat{\beta}_j Return_{i,t} + \varepsilon_{it}, \quad (5)$$

where  $Earnings_{i,j,t}$  is forecasted earnings of company  $i$  with regard to the function of company  $i$  and returns of company  $i$  in period  $t$ ; and  $Earnings_{i,j,t}$  represents forecasted earnings of company  $i$  with regard to the function of company  $j$  and returns of company  $i$  in period  $t$ . Through

the use of returns of company  $i$  in both prediction models, the fixed assumption of economic events is clearly considered.

Financial information comparability between company  $i$  and company  $j$  ( $CompAcct_{ijt}$ ) is defined in the form of the negative value of average absolute value of the difference between forecasted accounting earnings, using the function of company  $i$  and company  $j$ , as follows:

$$CompAcct_{ijt} = -(1/16) \times \sum_{t-15}^t |E(Earnings)_{iit} - E(Earnings)_{ijt}|. \quad (6)$$

Higher values show higher accounting comparability. Financial information comparability is estimated for each composition of company  $i$  and company  $j$  in a particular industry.

### Control Variables

$\Delta TLCF_{i,t}$  stands for change in profit and loss of company  $i$  in period  $t-1$  (to eliminate the effect of scale and standardize statistical calculations, it is divided by total assets in the previous period).

$NOL_{i,t-1}$  is loss-making of company  $i$  in period  $t-1$  (dummy variable; it equals 1 if the company makes losses in the current year; otherwise, it is zero).

$ROA_{i,t-1}$  is return of assets for company  $i$  in period  $t-1$  (this variable includes profit before tax divided by assets in the previous period).

$Lev_{i,t-1}$  represents financial leverage of company  $i$  in period  $t-1$  (long-term debt divided by assets in the previous period).

$PPE_{i,t-1}$  is tangible (fixed) assets for company  $i$  in period  $t-1$  (property, machinery and equipment divided by assets in the previous period).

$\varepsilon_{it}$  is the model error rate.

$INTAN_{i,t-1}$  implies intangible assets of company  $i$  in period  $t-1$  (intangible assets divided by assets in the previous period).

$R\&D_{i,t-1}$  is research and development expenditures of company  $i$  in period  $t-1$  (research and development expenditures divided by assets in the previous period).

$PIFO_{i,t-1}$  is export sales of company  $i$  in period  $t-1$  (export sales divided by assets in the previous period).

$MB_{i,t-1}$  refers to market value to book value ratio for company  $i$  in period  $t-1$  (market value to book value of shares in the previous period).

$\Delta SALE_{i,t-1}$  is sales changes of company  $i$  in period  $t-1$  (sales changes divided by sales of the previous period).

$SIZE_{i,t-1}$  is size of company  $i$  in period  $t-1$  (natural logarithm of the stock market value at the beginning of the period).

$EMP_{i,t-1}$  stands for number of employees of company  $i$  in period  $t-1$  (natural logarithm of the number of employees at the beginning of the period).

$CASH_{i,t-1}$  represents cash of company  $i$  in period  $t-1$  (cash and short-term investment divided by assets in the previous period).

### *Mediator Variables*

$IA_{i,t-1}$  stands for information environment of company  $i$  in period  $t$ .

To calculate the information environment, daily stock bid-ask price spread is used; [Suk, Zhao, 2017] also applied this criterion in their study. The calculation method is provided below:

$$IA_{i,t} = \frac{AP_{i,t} - BP_{i,t}}{AP_{i,t} + BP_{i,t}/2} \times 100,$$

where  $IA_{i,t}$  implies information environment of company  $i$  in period  $t$ ;  $AP_{i,t}$  stands for average stock ask price for company  $i$  in period  $t$ ; and  $BP_{i,t}$  is average bid price for company  $i$  in period  $t$ .

## **3. Research Methodology**

Since the results of this research are expected to be considered by financial managers, investors and other stakeholders in decision-making, this study is an applied research design in terms of purpose. Also, given that the present study investigates the relationship between several variables, it is considered as a descriptive correlational research in terms of nature and method.

Companies listed on Tehran Stock Exchange constitute the research statistical population, provided that they possess the following characteristics: (1) companies should have been present in the Stock Exchange from 2011 to 2016; (2) the intended companies should not be among banks, financial intermediary companies, leasing companies and other investment companies; and (3) their data should be complete. The temporal scope of this research is from the beginning of 2011 until the end of 2016. Given the above limitations, 88 companies were selected as the research sample.

After the data needed for the research were collected, Excel software was employed to calculate and prepare the variables, and combined data were used to test the hypotheses. To determine the type of combined data, F-Limer test and Hausman test were applied. To test the overall significance of the fitted regression model, Fisher statistic (F-statistic) was then used at a 95% confidence level, and to test the significance of each independent variable Student's t-test was employed. In addition, Durbin-Watson test and modified Wald test were applied respectively for autocorrelation test between model errors and heterogeneity of variance test. EViews and Stata software were used to analyze the above tests, correlation between variables and multivariate linear regression and other tests.

#### 4. Research Findings

As can be seen in Table 1, descriptive statistics include mean, median, minimum, maximum, standard deviation, skewness and kurtosis (because some variables are dummy variables—0 and 1—and some variables are obtained by dividing two numbers by the same units, so the variables do not have a specific unit).

Table 1

Descriptive Statistics of Model Variables

Variables	Mean	Maximum	Minimum	SD
Aggressive Tax Avoidance (ATA)	0.0467	0.78	-0.40	0.10222
Financial Statement Comparability (FSC)	0.0239	0.34	0.00	0.02357
Information Environment	0.0227	0.07	0.00	0.01196
Change in Profit and Loss	0.0140	0.057	-0.54	0.09895
Loss-Making	0.0455	1.00	0.00	0.20850
Return on Assets (ROA)	0.1672	0.67	-0.24	0.14658
Financial Leverage	0.0726	0.66	0.00	0.08188
Tangible Assets	0.2586	0.86	0.02	0.17433
Intangible Assets	0.0051	0.07	0.00	0.00966
Research and Development Expenditures	0.0012	0.07	0.00	0.00472
Export Sales	0.0887	1.05	0.00	0.16076
Market Value to Book Value	2.4481	12.52	-20.22	2.08408
Sales Changes	0.1885	2.73	-0.63	0.32450
Firm Size	13.8486	18.86	9.94	1.66010
Number of Employees	6.1690	10.00	3.78	0.98901
Cash	0.0650	0.48	0.00	0.07422

The central index is the mean which represents the equilibrium point and center of gravity of distribution and is a good index for showing the centrality of data. For example, the mean value for firm size is 13.8486, suggesting that most data are centered around this point. Dispersion parameters are the criteria for determining the degree of dispersion from each other or their dispersion relative to the mean. One of the most important dispersion parameters is the standard deviation. Among the variables, real activities-based earnings management has the lowest amount of dispersion and the variable of firm size has the highest amount of dispersion.

Given that combined data (firm-year) are used in this study and combined data are presented in the form of panel and integrated data, F-Limer test has been applied to select between panel and integrated data in model estimation. Furthermore, to choose between random effect and fixed effect models, Hausman test has been employed. A summary of the results of F-Limer test and Hausman test is shown in Table 2.

Table 2

**F-Limer Test and Hausman Test Results**

Model	F-Limer Test		Hausman Test	
	Significance	Result	Significance	Result
1	0.0000	Panel Method	0.0007	Fixed Effect Method
2	0.0000	Panel Method	0.0002	Fixed Effect Method

The probability of the model statistic is less than 0.05. Consequently, panel data and fixed effect methods are accepted. When other classical assumptions are established and the volume of observations is high, the coefficients of the model are efficient and enjoy the minimum variance despite the non-establishment of the assumption of normal errors. Therefore, we can rely on the results of model estimation. To achieve many of the results in regression, there is no need for the establishment of the assumption of normal errors. Normality of errors is often considered as an additional supplement and possibly inappropriate for the regression model [Greene, 2002]. When combined data are used and the sample size is also large (i.e. more than 30 observations), the error term distribution becomes close to the normal distribution [Aflatooni, 2014]. Therefore, in this study, since the number of samples is more than 30 observations, it is assumed that the data are normal, and the normality test has not been performed. A summary of the results of the test for the analysis of homogeneity of variance and lack of autocorrelation is presented in Table 3.

Table 3

**Heterogeneity of Variance and Autocorrelation Tests**

Model	Heterogeneity of Variance Test		Durbin-Watson Test to Determine Autocorrelation	
	Significance	Result	Significance	Result
1	0.0056	Heterogeneity of Variance	1.9477	Lack of Autocorrelation
2	0.0071	Heterogeneity of Variance	1.9665	Lack of Autocorrelation

With regard to Table 3, the probability of the obtained statistic for the heterogeneity of variance test is lower than the error level of 0.05. Thus, the null hypothesis (existence of homogeneity of variance) is rejected, which suggests the existence of heterogeneity of variance. To eliminate the heterogeneity of variance, a generalized least squares (GLS) method has been applied. Additionally, the probability of the obtained statistic to test the lack of autocorrelation for the research models is between 1.5 and 2.5, so the problem of autocorrelation of the residuals is not present.

In this section, the research hypotheses are tested. In the regression model, given the probability values, a decision was made about the rejection or approval of the null hypothesis. Considering Tables 4 and 5

in this research, an F-statistic was used to test the overall significance of the model and a t-statistic was applied to test the significance of regression coefficients. With respect to the regression models related to the first and second hypotheses, if the probability of t-statistic for the variables of  $FSC_{i,t}$  and  $FSC_{i,t} * IA_{i,t}$  is less than the error level of 0.05, the first and second hypotheses are confirmed. Results of testing the first hypothesis are provided in the table below.

Table 4

Results of Data Analysis to Test the First Hypothesis

Variables	Coefficients	Standard Error	T-Statistic	Significance
Y Intercept	0.044764	0.041194	1.086651	0.2778
Financial Statement Comparability	-0.000396	0.067517	-0.005871	0.9953
Change in Profit and Loss	0.028533	0.027173	1.050054	0.2943
Loss-Making	-0.020470	0.011881	-1.722932	0.0856
Return on Assets	-0.006920	0.023540	-0.293964	0.7689
Financial Leverage	-0.015902	0.028169	-0.564504	0.5727
Tangible Assets	-0.007482	0.017989	-0.415886	0.6777
Intangible Assets	0.007804	0.206892	0.037721	0.9699
Research and Development Expenditures	0.519939	0.336896	1.543320	0.1235
Export Sales	0.080116	0.024902	3.217234	0.0014
Market Value to Book Value	-0.002789	0.001132	-2.463323	0.0142
Sales Changes	0.013804	0.004376	3.154117	0.0017
Firm Size	-0.000646	0.001952	-0.330995	0.7408
Number of Employees	0.000843	0.006081	0.138578	0.8898
Cash	0.106615	0.247910	4.300583	0.0000
The Coefficient of Determination	0.747200	Adjusted Coefficient of Determination		0.6873
F-Statistic	12.469800	Significance of F-Statistic		0.0000

Given the probability value obtained for the F-statistic, which is less than 0.05, it is found that this model is significant at a 95% confidence level. The coefficient of determination of the model is equal to 0.7472, which shows that 74.72% of changes in the dependent variable (aggressive tax avoidance) are explained by the independent and control variables. Based on Table 4, the coefficient of the variable of financial statement comparability ( $FSC_{i,t}$ ) is equal to -0.000396 which is negative, and the probability of t-statistic for the variable of financial statement comparability ( $FSC_{i,t}$ ) is 0.9953. This probability value is greater than the error level of 0.05. Thus, the null hypothesis is accepted and financial statement comparability does not prevent the involvement in aggressive tax avoidance. As a result, the first research hypothesis is rejected at a 95% confidence level. It should be noted that, among con-

control variables, export sales ( $PIFO_{i,t}$ ), market value to book value ( $MB_{i,t}$ ), sales changes ( $SALE_{i,t}$ ) and cash ( $CASH_{i,t}$ ) have a significant impact on aggressive tax avoidance at a 95% confidence level since the probability value of t-statistic for the above variables is less than the error level of 0.05. Results of testing the second hypothesis are displayed in the following table.

Table 5

## Results of Data Analysis to Test the Second Hypothesis

Variables	Coefficients	Standard Error	T-Statistic	Significance
Y Intercept	0.023341	0.042783	0.545576	0.5856
Financial Statement Comparability	-0.224145	0.157838	-1.420091	0.1563
Information Environment	-0.394928	0.156829	-2.518216	0.0122
Financial Statement Comparability in the Information Environment	11.030950	6.131506	1.799060	0.0727
Change in Profit and Loss	0.032009	0.027921	1.146434	0.2523
Loss-Making	-0.019387	0.011304	-1.715060	0.0871
Return on Assets	-0.004971	0.024559	-0.202396	0.8397
Financial Leverage	-0.015672	0.028229	-0.555195	0.5791
Tangible Assets	-0.007088	0.017731	-0.399732	0.6896
Intangible Assets	-0.015576	0.228386	-0.068199	0.9457
Research and Development Expenditures	0.362349	0.327527	1.106319	0.2692
Export Sales	0.088302	0.024214	3.646718	0.0003
Market Value to Book Value	-0.002615	0.001139	-2.296043	0.0222
Sales Changes	0.012213	0.004423	2.761007	0.0060
Firm Size	0.000963	0.002420	0.398050	0.6908
Number of Employees	0.001859	0.006241	0.297829	0.7660
Cash	0.107961	0.025330	4.262162	0.0000
The Coefficient of Determination	0.727600	Adjusted Coefficient of Determination		0.6615
F-Statistic	10.997700	Significance of F-Statistic		0.0000

Considering the probability value obtained for F-statistic, which is lower than 0.05, this model is significant at a 95% confidence level. The coefficient of determination of the model is 0.7276, which shows that 72.76% of changes in the dependent variable (aggressive tax avoidance) are explained by the independent and control variables.

According to Table 5, the coefficient of the variable of financial statement comparability in the information environment ( $FSC_{i,t} * IA_{i,t}$ ) is equal to 11.03095 which is positive, and the probability of t-statistic for the variable of financial statement comparability in the information environment ( $FSC_{i,t} * IA_{i,t}$ ) is 0.0727. This value is greater than the error level of 0.05. Therefore, the null hypothesis is accepted, meaning that the effect of financial statement comparability on aggressive tax avoid-

ance in companies with a weaker information environment is not more significant. Thus, the second research hypothesis is rejected at a 95% confidence level. However, the second hypothesis is confirmed at a 90% confidence level. It should be mentioned that, among control variables, export sales ( $PIFO_{i,t}$ ), market value to book value ( $MB_{i,t}$ ), sales changes ( $SALE_{i,t}$ ) and cash ( $CASH_{i,t}$ ) have a significant impact on aggressive tax avoidance because the probability value of t-statistic for the above variables is less than the error level of 0.05.

### Conclusion and Suggestions

This study seeks to investigate the impact of financial information comparability on aggressive tax avoidance with respect to the information environment in companies listed on Tehran Stock Exchange. Tax avoidance which reduces cash outflow from the company to the state has, from the past, been considered as a value to shareholders. The overall tax avoidance perspective indicates that opportunistic managers who seek to avoid paying taxes are looking for financial abuse by creating non-transparency in the financial reporting environment. It should be noted that there is a difference between tax evasion and avoidance. The distinction between these two is related to the legality or illegality of the taxpayer's behavior. Tax evasion is a violation of the law, whereas tax avoidance results from legal gaps in the tax law and gaps existing in the organizational structure of companies. In fact, in this state, the individual is looking for ways to reduce the ability to pay taxes. Although the findings have shown that there is no statistically significant relationship between financial statement comparability and aggressive tax avoidance, the negativity of the independent variable (financial statement comparability) coefficient according to Table 4 suggests that financial statement comparability prevents the involvement in aggressive tax avoidance. This finding is consistent with the results obtained in the study [Suk, Zhao, 2017].

Moreover, the findings have demonstrated that, at a 90% confidence level, the impact of financial statement comparability on aggressive tax avoidance in companies with a weaker information environment is more significant. In other words, in situations where there is a weak information environment, financial statement comparability plays a significant role in reducing tax avoidance. This conclusion is congruent with the results achieved by [Suk, Zhao, 2017].

[Alizadeh Tahbazi, 2017; Dastourani, 2016; Mansouri, 2013; Sahebi, 2016] revealed that one of the key factors in reducing tax avoidance was a strong information environment.



The findings indicate the following:

1. Although financial statement comparability does not significantly reduce tax avoidance, it can decrease the involvement of companies in aggressive tax avoidance, especially in a weak information environment. In this connection, Tax Administration Organization is recommended to consider this issue.
2. In weak environments, financial information comparability has had a significant role in reducing tax avoidance. Therefore, Stock Exchange Organization is recommended to further monitor the corporate selection procedures in weak information environments and render necessary the selection of uniform methods if possible.

In this research, the following practical suggestions can be provided to guide the future studies by researchers in the field of accounting.

1. Since different owners have different perspectives and views, students are recommended to assess the relationship between financial statement comparability and aggressive tax avoidance with regard to various ownership structures.
2. It is also suggested that the effect of audit quality on the relationship between financial statement comparability and aggressive tax avoidance be investigated.
3. It is recommended to examine the impact of financial statement comparability and opinion paragraphs related to tax events.

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