

CHAPTER 2

THE ASSOCIATION BETWEEN TAX AVOIDANCE AND CORPORATE GOVERNANCE: AN EMPIRICAL ANALYSIS

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INTRODUCTION

Tax avoidance has become an important issue for policymakers, managers and society over the last two decades. Firms try to design their tax planning that enables them to minimize tax burden. Taxes are the primary source of governments' revenue. Tax avoidance is believed to be wealth transfer from government to firms and has positive impacts on firm value (Chen et al., 2014). Tax avoidance is not costless. When engaging in tax avoidance, firms incur implementation cost and face risk of punishment. In some situations, firms that fail to properly design tax avoidance strategies may even lose their reputation and investor confidence.

Managers are responsible for operational activities and prominent strategic decision-making processes throughout the firm (Park et al., 2016). Tax avoidance is one of the managerial decisions. Rationally, managers strive to minimize tax burden of the firms as possible as they can. That is why managers pay close attention to tax avoidance strategies that influence taxable income. It is worth mentioning that tax avoidance strategies vary according to industry, organizational structure, human capital and tax law.

Most of the studies focus on the developed economies, evidence on the relationship between tax avoidance and corporate governance variables in developing economies is limited. The main objective of the present study is to shed light on how corporate governance mechanisms influence tax avoidance efforts of firms operating in the developing economy. Using a sample consisting of 72 firms listed on Borsa Istanbul in the period between 2017 and 2021, the empirical analysis revealed that board size, audit firm, firm size, and leverage have statistically significant impacts on sample firms' tax avoidance policies. Institutional ownership,

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board independency, CEO duality and return on equity were not found to be significantly related to tax avoidance. The results of empirical analysis provide vital implications for firm management, policymakers and investors.

The present chapter is organized as follows. The literature review is presented in the second section. Research design and sample data are discussed in third section. Fourth section clarifies the results of empirical analysis. Conclusions and recommendations for the further studies are found in the last section.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Prior studies are presented in this part of the study. Narrowly, tax avoidance can be considered a legal way that enables firms to mitigate tax burden. Institutional investors that hold a large amount of fund have vital impacts in the financing of firms especially operating in emerging economies. Graham and Tucker (2006) stated that institutional ownership is one of the important corporate governance tools which provide effective monitoring of managerial decisions associated with tax planning, human resources activities and production processes. The presence of institutional investors can significantly contribute to the tax planning activities of firms. Prior studies have examined the association between ownership structures and tax planning activities. Zemzem and Ftouhi (2013) claimed that firms with a high ownership concentration are likely to adopt less tax avoidance policy. Chen et al. (2019), Annuar et al. (2014) and Bird and Karolyi (2017) have purported that increases in institutional ownership incline firms to employ tax avoidance policies. This discussion leads to following hypothesis;

H1: There is an association between institutional ownership and tax avoidance.

In today's business climate, outside board members are included into board of management in order to reinforce the effectiveness of corporate governance mechanisms. This is because outside board members who are not affiliated with firm management can act independently for the benefit of firm. It is believed that outside board members can bring new perspectives to the firm management. Prior studies have found conflicting results. Lanis and Richardson (2011) and Yeung (2010) suggest that outside board members can negatively influence tax avoidance efforts. Outside board members may have no sufficient accounting and finance expertise to influence the firm's tax policy. Richardson et al. (2015) claimed that outside board members have positive impact on firms' tax aggressiveness during the periods of financial distress. Following from the above discussion, the present study develops the following hypothesis;

H2: There is an association between outside board members and tax avoidance.

As the firms' operations become more complex, board of directors play a central role in dealing with uncertainty problems. Board of directors are tasked with choosing, monitoring, assessing and replacing executives of the firm. Board size of firms is an important corporate governance variable. Board size has positive impacts on board's capacity for controlling and monitoring operational activities. On the other hand, firms with a large board size may suffer from coordination problems and slower decision-making process. Rationally, firms should constitute board size with an optimal level. A large-sized board gathers a variety of resources and skills that can provide benefit to the firms in reducing tax burden. Hoseini et al. (2018) and Salhi et al. (2020) stated that board size increases the tax avoidance efforts. Based on above argument, the present study proposes the following hypothesis;

H3: There is an association between board size and tax avoidance.

With the advent of globalization, CEO duality has become a major concern for firms. In today's business world, CEOs may have two tasks, they may be the head of board of directors and serve as an executive manager (Elsayed, 2007). In some firms, CEO duality can mitigate the board independency, thereby making corporate governance mechanisms ineffective. CEO duality has a considerable power influencing the firms' policy, including tax avoidance strategies (Purba, 2018). Lanis and Richardson (2011) purported that financial performance has considerable impacts on the management compensation, thus there is a strong incentive for management board to falsify financial statements so as to maximize compensation. Based on the above discussion, the present chapter hypothesizes as follows;

H4: There is an association between CEO duality and tax avoidance.

Taking into account previous studies, the following hypothesis are established as follows;

H5: There is an association between type of audit firm and tax avoidance.

H6: There is an association between firm size and tax avoidance.

H7: There is an association between profitability and tax avoidance.

H8: There is an association between leverage and tax avoidance.

EMPIRICAL MODEL AND VARIABLES

Empirical model and variables are discussed in this section of the present study. The sample used in the empirical analysis is selected among the population of

non-financial firms listed on Borsa Istanbul over the period between 2017 and 2021. Financial firms are not included in the sample, since these firms are obliged to comply with different reporting requirements. Firm characteristics such as leverage, firm size, financial performance and liquidity are included into the empirical model.

$$ETR = \beta_0 + \beta_1 INSTOWN_{it} + \beta_2 BIND_{it} + \beta_3 BSIZE_{it} + \beta_4 CEODUAL_{it} + \beta_5 AUDFIRM_{it} + \beta_6 ROE_{it} + \beta_7 LEV_{it} + \beta_8 SIZE_{it} + \epsilon_{it}$$

ETR (effective tax rate) is used as a dependent variable. Frey (2018) stated that ETR enables us to comprehensively analyze the relationship between total tax expense including deferred taxes and pre-tax income. To analyze the relationship among dependent, independent and control variables, the present study developed the following empirical model.

In which: *ETR* is effective tax rate of each sample firm, measured by the ratio of total tax expense to the pre-tax income; *INSTOWN* is the institutional ownership measured by the percentage of shares controlled by institutional investors; *BSIZE* is the board independency measured by the number of independent members on the board; *CEODUAL* is CEO duality, a dummy variable that takes value 1 if the CEO occupy the head of the board of directors and 0 otherwise; *AUDFIRM* is the audit firm type, a dummy variable that takes value 1 if the sample firm's financial statements are audited by one of the Big-4 audit firms and 0 otherwise; *ROE* is the return on equity; *LEV* is the leverage measured by the ratio of total liabilities to total assets; *SIZE* is the firm size measured by the natural logarithm of the total assets.

RESULTS

Sample and Descriptive Statistics

Table 1 presents the industry classifications of sample firms. The final sample includes 72 firms. For the empirical analysis, research data are collected from sample firms' financial statements and public disclosure platform. The empirical analysis covers research data for the years 2017 to 2021. According to Table 1, firms operating in basic metal industry account for about 28% of sample firms. 25 percent of sample firms operate in chemical industry. Sample firms operate in six different industries. As can be seen from Table 1, the industries in which sample firms operate are the broad representative of Turkish economy.

Table 1. Industry Classification of Sample Firms

Firms	Number	Percentage
Basic Metal	20	28
Chemical	18	25
Food, Beverage and Tobacco	14	19
Technology	9	12
Real Estate	8	11
Mining	3	4
Total	72	100

Table 2 presents the descriptive statistics of variables employed in the present study. According to Table 2, there is a high divergence ETR levels across the sample firms as the minimum is -2.787, and the maximum is 68.452. Sample firms have an average INSTOWN score of 0.671 and the standard deviation is 0.191. This results are in line with Laguir et al. (2015) and Dakhli (2021). Over the period between 2017- 2021, the average BIND variable is 0.342 and the standard deviation is 0.084. Board of directors, on average, consisted of 7.888, with a minimum 4 members and a maximum 13 members. It is observed that the mean of CEODUAL variable is 0.380, this result is similar to Chytis et al. (2020).

As far as control variables are concerned, on average, sample firms' size is 9.717, with a standard deviation of 0.749. Table 2 indicates that 77.7 % of the firm-year observations of the sample was audited by one of the big-four auditors. The variable of ROE yields an average 0.194, has a standard deviation of 1.118. The average LEV of sample firms is 0.551 and ranges between 0.001 and 1.837, indicating that some of sample firms use debt financing rather than equity financing.

Table 2. Descriptive Statistics of Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
ETR	360	0.434	3.717	-2.787	68.452
INSOWN	360	0.671	0.191	0.050	0.96
BIND	360	0.342	0.084	0	0.5
CEODUAL	360	0.380	0.486	0	1
BSIZE	360	7.888	2.217	4	13
AUDFIRM	360	0.777	0.416	0	1
SIZE	360	9.717	0.749	4.580	11.549
ROE	360	0.194	1.118	-12.072	12.728
LEV	360	0.551	0.252	0.001	1.837

Notes: The definition of variables are presented in third section.

Variance Inflation Factors

In this part of the present study, variance inflation factors of variables are presented. Variance inflation factor is an important measure that can be employed to analyze collinearity among variables (Yan and Su, 2009). A variance inflation factor greater than ten may indicate potential collinearity problems (Gentle, 2020). As can be seen from Table 3, none of variance inflation factors exceed ten, implying that there is no multicollinearity problem among dependent and independent variables used in the regression analysis.

Variable	VIF	1/VIF
INSOWN	1.31	0.765008
BIND	1.05	0.948825
CEODUAL	1.48	0.676016
BSIZE	8.96	0.111636
AUDFIRM	1.61	0.619548
SIZE	7.18	0.139275
ROE	1.02	0.981567
LEV	6.75	0.1481481
Mean VIF	3.67	

Notes: The definition of variables are presented in third section.

Table 4 presents Pearson correlation coefficients. There is a negative and significant correlation between ETR and SIZE, implying that large-sized firms are more likely to use tax avoidance strategies. According to Table 4, the variable of ETR is negatively significantly correlated with LEV, BSIZE and AUDFIRM, with correlation coefficients -0.196, -0.165,-0.188, respectively. It is also worth mentioning that ETR is not statistically significantly correlated with ROE, INSOWN, BIND and CEODUAL. As can be seen from Table 4, many correlation coefficients are statistically significant at 0.05 level.

The Results of Regression Analysis

Table 5 reveals the results of panel regression analysis with random effects model for the years 2017-2021. The present study employed Hausman (1978) test to select the estimation model if fixed and random effects provide reliable and accurate empirical results. Hausman specification test indicates that random effect estimates are more reliable than fixed effect estimates. As shown in Table 5, F-value

Table 4. Pearson Correlation Coefficients

	ETR	SIZE	ROE	LEV	INSOWN	BIND	CEODUAL	BSIZE	AUDFIRM
ETR	1.00								
SIZE	-0.442***	1.00							
ROE	-0.01	0.10*	1.00						
LEV	-0.196***	0.650***	0.11**	1.00					
INSOWN	-0.08	0.449***	0.09*	0.450***	1.00				
BIND	0.03	0.08	-0.03	0.12**	0.112	1.00			
CEODUAL	-0.08	0.501***	0.03	0.526***	0.256***	0.174***	1.00		
BSIZE	-0.165***	0.510***	0.12**	0.435***	0.472***	0.134**	0.550***	1.00	
AUDFIRM	-0.188***	0.571***	0.04	0.604***	0.216***	0.70	0.377***	0.540***	1.00

Notes: The definition of variables are presented in third section. *, **, ***Significant at 0.1, 0.05 and 0.01 levels, respectively.

reveals that the empirical model used in the regression analysis is statistically significant ($\text{Prob} > \chi^2 = 0.000$). Adjusted R-squared indicates that 70% of variation in ETR is clarified by independent variables used in the empirical model. Additionally, the result of Wooldridge test for autocorrelation put forward that there is no autocorrelation in the regression residuals.

The results of random effects model indicate that board size and leverage have a positive and statistically significant effects on the ETRs of sample firms listed on Borsa Istanbul, with a significance level at 0.01. On the contrary, type of audit firm and firm size have a negative and statistically significant effects on the sample firms' ETR, with a statistical significance level at 0.01. The rest of variables are not found to be statistically associated with ETRs.

Table 5 reveals that institutional ownership is not statistically significantly associated with ETRs of sample firms, confirming the findings of Chytis et al. (2020). This finding contradicts with Chen et al. (2019), Annuar et al. (2014) and Bird and Karolyi (2017). Institutional ownership does not have a prominent impacts on tax avoidance strategies of sample firms quoted in Borsa Istanbul 100. Based on this result, the hypothesis that there is an association between institutional ownership and tax avoidance is rejected.

The results of random effects model explicate that board independency is negatively associated with tax avoidance policies of sample firms, but this association is not statistically significant. Accordingly, the percentage of outside board members does not have a prominent influence on sample firms' tax planning activities. This finding is inconsistent with empirical results in Richardson et al. (2015). As a result, the hypothesis that there is an association between outside board members and tax avoidance is rejected.

According to the results of random effects model, board size is statistically significantly related with ETRs of sample firms listed on Borsa Istanbul. This relation is positive and reveals that firms having a large board of directors have a higher ETR, hence firms having a large board size are not likely to adopt tax avoidance policies. Consequently, the hypothesis that there is an association between board size and tax avoidance is accepted.

As can be seen from Table 5, the estimated coefficient on CEODUAL is not statistically significant, meaning that CEODUAL has no impacts on sample firms' tax planning. This finding is consistent with Minnick and Noga (2010). Thus, the hypothesis that there is an association between CEO duality and tax avoidance is rejected.

Table 5 indicates that the coefficient on AUDFIRM is negative and statistically significant. This negative and significant relation reveals that firms whose financial reports are audited by one of Big-4 auditors have less ETR, hence engage more in tax avoidance policies. The overall expertise of independent audit firm is related with firms' tax avoidance policies, implying that Big-4 auditors can provide tax and audit expertise that a firm can get benefit in developing tax strategies. This finding supports McGuire et al. (2012). Consequently, the hypothesis that there is an association between type of audit firm and tax avoidance is accepted.

The results of random effects model demonstrate that SIZE has a negative and statistically significant sign with ETR, which means large-sized firms are much more inclined to use tax avoidance practices than small-sized firms. Accordingly, the hypothesis that there is an association between firm size and tax avoidance is accepted.

No statistically significant relationship was found between ROE and ETR, indicating that profitability has no considerable impacts on sample firms' tax planning, hence the hypothesis that there is an association between profitability and tax avoidance is rejected.

The positive and statistically significant coefficient on LEV suggests that firms with high leverage are less likely to use tax avoidance policies. On the basis of this evidence, the hypothesis that there is an association between leverage and tax avoidance is accepted.

Table 5. The Results of Regression Analysis				
Variable	Coef.	Std. Err.	z	P>z
INSOWN	0.915	0.582	1.57	0.116
BIND	-1.761	1.351	-1.3	0.193
CEODUAL	-0.108	0.260	-0.42	0.676
BSIZE	1.034	0.132	7.82	0.000
AUDFIRM	-0.899	0.295	-3.04	0.002
SIZE	-14.10	0.407	-34.57	0.000
ROE	-0.011	0.083	-0.13	0.895
LEV	29.196	1.499	19.48	0.000
CONSTANT	113.916	3.343	34.07	0.000
Number of observation	360			
R-squared	0.70			
Prob > chi2	0.000			

Wooldridge: Autocorrelation test	F(1, 71) = 0.318 , Prob > F = 0.574		
Hausman test	Prob>chi2 = 0.697		
sigma_u	0.57640979		
sigma_e	16.807.263		
rho	0.10523879	(fraction of variance due to u_i)	

Conclusion

This book chapter extends the existing literature by investigating the effects of corporate governance variables on tax avoidance policies of firms’ operating in an emerging market. The ultimate objective of the present book chapter is to establish an empirical model that enables us to identify corporate governance variables affecting firms’ tax avoidance strategies. For this objective, the ETRs of 72 non-financial firms listed on Borsa Istanbul for the years 2017 to 2021 were computed and regressed on corporate governance and control variables such as audit firm, firm size, profitability, and leverage.

The results of regression analysis demonstrate that firm-specific factors such as board size, audit firm, firm size, and leverage were shown to influence sample firms’ tax avoidance strategies. Institutional ownership, board independency, CEO duality and return on equity were not found to be significantly related to tax avoidance.

In the competitive economic environment, the management of firms makes great efforts in mitigating tax burdens so as to maximize shareholders’ wealth. Undoubtedly, the management of firms should outweigh the benefits and risks in designing tax avoidance policies. Tax avoidance policies vary according to the government regulations and industry in which firms operate.

The results of empirical analysis provide vital implications for firm management, policymakers and investors. Future studies can employ cross- country data to analyze factors that can influence firms’ tax avoidance policies and investigate whether tax avoidance policies can soar the firm value.

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