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Firm Value and Tax Planning: Examination of the Moderating Effect of the Board of Directors

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Abstract

Firm value depends on several factors, including board and tax planning. In general, the characteristics of the board of directors and the audit committee may affect the relationship between tax planning and firm value. Accordingly, this study aimed to examine the moderating role of the board of directors in the relationship between firm value and tax planning. The study's statistical population was companies listed on the Tehran stock exchange during the 6 years from 2017 to 2022, with 113 companies studied. According to the results, the size of the board of directors and the size of the audit committee affects the relationship between tax planning and firm value. However, board independence and gender diversity affect the relationship between tax planning and firm value. The existence of a conflict between some of the board of directors' characteristics when examining the relationship between tax planning and company value indicates the need to take a comprehensive view of the issue and avoid merely analyzing linear relationships between the variables above.

Keywords: Board of directors, Tax planning, Business value.

1 | Introduction

Tax is one of the most important business costs imposed on companies, directly impacting profitability and shareholder wealth. Since the existence of corporate income tax reduces the income of the business unit, one of the measures that can be taken to maximize the value of the company and shareholder wealth is the use of strategies that reduce the taxes paid [1]. One of the things that can have a significant impact on the amount of reported profit is the corporate tax rate. One of the stakeholders that sees itself as a shareholder in companies' earnings is the government, which demands that share through taxes. Since that demand for a share of the profits appears in the income statement, it is one of the things that has received serious attention. In addition, some expenses included in the income statement to calculate profit and loss according to

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accounting standards are not considered allowable expenses from a tax perspective. Due to the differences above, another tax rate is created, called the effective tax rate [2]. Many researchers have examined the effects of changes in the tax burden on firm characteristics. Understanding the underlying motivations for these changes and the potential consequences for the value of equity has recently attracted the attention of many researchers [3]. Tax planning is one of the tools that motivate these changes. Management can reduce taxable income through tax planning activities. Although this type of tax reduction follows an increase in after-tax earnings, tax planning has significant costs to the company and its shareholders. Maximizing after-tax profits through tax planning prevents potential and actual costs to the firm [4].

In the meantime, other factors can also affect the company's value, such as the company's value, which can be a decreasing function of the size of the board of directors. Therefore, the characteristics of the board of directors and the audit committee can affect the relationship between tax planning and firm value. In particular, internal management considers the board of directors as the primary means of substantial control over the management; therefore, the board of directors becomes the primary mechanism and can affect the relationship between tax planning and the company's value [5]. However, among the existing characteristics, size, independence, gender diversity, and size of the audit committee are essential. Research shows that if the board of directors is large, there will not be enough discipline, so it cannot support the interests of shareholders.

On the other hand, a small board will be more effective. Also, if the number of independent directors is large, the incentive effect of tax planning will be reduced [6]. Board diversity combines different members' characteristics, attributes, and expertise in decision-making and other board processes. Research shows that diversity increases board effectiveness. The increase in female board members shows that shareholders and managers are aware of the importance of diversity. Diversity in companies brings benefits and additional knowledge and provides new ideas for solving problems, improving strategic planning, and new experiences. Finally, suppose investors perceive the tax planning services provided by the audit committee as legitimate and do not undermine the company's transparency (on the one hand, facilitating tax planning and, on the other hand, reducing aggressive tax planning). The company's value may increase [7].

In general, and based on some research, the effect of tax planning on the value of a company is direct; that is, tax planning increases the company's value. The reason for this in Iran could be investors' confidence in managers who carry out tax planning, which will increase the price of the company's shares. Tax planning that reduces the tax payable increases the profit after tax, increasing the benefits for managers and shareholders. Tax planning has a positive effect on firm value, and this tax planning reduces the tax payable and consequently increases the profit after tax, increasing the benefits of managers and shareholders [8]. However, some researchers do not consider the relationship between tax planning and firm value to be direct [3].

In light of the above issues, the present study attempts to examine the relationship between tax planning and firm value by considering the role of the board of directors as one of the most important pillars of corporate governance structures. To advance the research objective and gather information for the upcoming research, a case study on this issue is evaluated, and the main research question is posed as follows: What is the moderating effect of the board of directors on the relationship between firm value and tax planning?

2 | Literature and Development of Hypotheses

Tax planning increases the value of a firm through tax savings; however, if the planning is too reckless, it can lead to the destruction of the firm; therefore, managers have a strong incentive to conceal reckless tax planning activities. Of course, no academically accepted definition or measure of tax recklessness exists. This is typically defined in legal terms as a company's attempt to minimize its tax liability. It is similar to tax planning, tax management, and tax avoidance, which tax regulators have accepted in legal and ethical circles. In this regard, one of the ways to obscure tax planning activities is for managers to reduce the readability of financial reports and, from this perspective, make it difficult for users to interpret their bold tax planning activities [9].

Some studies have examined tax planning from two perspectives. First, from the perspective of traditional theory, tax planning (or tax avoidance) is viewed as increasing after-tax profits and thus in the interest of shareholders, which is typically embedded in the valuation or value model of the firm. Tax planning activities that reduce the resources transferred from shareholders to the government generally increase shareholder wealth or firm value. Second, from an agency theory perspective, tax planning can be complex and ambiguous and is likely to lead to opportunistic behavior by managers. When managers have both an opportunity to understate reported accounting profits and an incentive to reduce corporate taxes by understating taxable income or being less transparent, tax planning can reduce firm value [4]. If tax avoidance is a valuable activity, owners may be highly motivated to engage in it. Suppose the phenomenon of tax avoidance is valuable, and owners can create the necessary motivational grounds for managers to make effective tax decisions through correct tax planning.

In that case, the company's value will increase, and consequently, the shareholders' wealth will increase [10]. Tax avoidance can raise the cost of capital. This occurs when investors perceive tax planning activities as complex transactions that increase the uncertainty of the firm's information environment, thereby increasing the cost of capital. It also increases the cost of capital for tax-avoiding firms when investors believe that tax planning activities allow managers to divert profits to themselves [11]. Top managers act to influence the market's perception of their capabilities by increasing income through discretionary accruals and generating additional cash flow through asset sales and divestitures. Top managers may also use earnings management and changes in the firm's operations to achieve additional income and cash flow during their tenure [12].

A high level of institutional ownership as a measure of external monitoring is expected to reduce managers' likelihood of opportunistic behavior in tax planning, further reducing the cost of capital in these circumstances [11]. Although the CEO does not directly influence the tax performance of the firm, there are several reasons for his motivations for tax planning and income tax reporting during his tenure. The research literature shows that top managers respond to explicit and implicit expectations for tax planning in the firm and play an important role in shaping the firm's tax policy and influencing the board of directors. Therefore, if tenure-related incentives pressure the CEO to perform well, the CEO's perspective on the board may affect the company's tax planning. In addition, income taxes are often one of a company's most significant recurring expenses after the cost of goods sold. Therefore, taxes represent an important economic opportunity for CEOs to increase cash flow and net income through tax planning [12].

Based on the above, this research addresses the following hypotheses:

- I. Board size affects the relationship between tax planning and firm value.
- II. Board independence affects the relationship between tax planning and firm value.
- III. Gender diversity affects the relationship between tax planning and firm value.
- IV. Audit committee size affects the relationship between tax planning and firm value.

3 | Research Method

The present study is applied in terms of research type and descriptive-correlational inference method. It is also post hoc in terms of research design.

3.1 | Statistical Population and Sample

The statistical population of this study is the companies listed in the Tehran Stock Exchange that have been active in the stock exchange from 2017 to 2022 (for 6 years). Thus, all companies that are members of the statistical population and meet the following conditions were included as a statistical sample using the systematic exclusion method:

- I. They are not inactive and unproductive companies.
- II. They are listed on the stock exchange before 2017.

- III. Their fiscal year ends at the end of 29/12 each year.
- IV. They do not have a trading break of more than six months.
- V. The information needed to calculate the research variables is available in the years under study.
- VI. The statistical population available for this study is 113 companies.

Research model and variables

The current research model is as follows:

$$\begin{aligned} \text{LogTobinQ} = & \beta_0 + \beta_1 \text{ETR}_{i,t} + \beta_2 \text{BINDP}_{i,t} + \beta_3 \text{BDIVR}_{i,t} + \beta_4 \text{BSIZE}_{i,t} + \beta_5 \text{AC}_{i,t} + \\ & \beta_6 \text{ETR}_{i,t} \times \text{BINDP}_{i,t} + \beta_7 \text{ETR}_{i,t} \times \text{BDIVR}_{i,t} + \beta_8 \text{ETR}_{i,t} \times \text{BSIZE}_{i,t} + \beta_9 \text{ETR}_{i,t} \times \text{AC}_{i,t} + \\ & \beta_{10} \text{GROWTH}_{i,t} + \beta_{11} \text{LogDIV}_{i,t} + \beta_{12} \text{SIZE}_{i,t} + \beta_{13} \text{FL}_{i,t} + \beta_{14} \text{LogROA}_{i,t} + \epsilon_{i,t} \end{aligned}$$

Dependent variable

Firm value (LogTobinQ): it is measured by Tobin's Q ratio, which is the ratio of the market value of firms to the current replacement cost of their assets. Since the current replacement cost cannot be calculated in Iran, the ratio of the firm's market value to the book value of assets was used to calculate Tobin's Q in this study.

$$Q = \frac{\text{MV}(\text{CS}) + \text{MV}(\text{PS}) + \text{BV}(\text{LTD}) + \text{BV}(\text{SLD})}{\text{BV}(\text{TA})}$$

Independent variable

Tax planning (ETR): it is the optimal use of legal tools as well as incentives and exemptions provided by the government to reduce the amount of taxes paid or to be exempt from paying taxes. The measure of tax planning, tax savings, and the company's market performance is the Q-Tobin ratio. The tax savings proxy is used to measure tax planning. The tax rate is the difference between the statutory and effective tax rates. The country's tax authorities promulgated the statutory tax rate, which is a flat rate of 25 percent. This is also the effective tax rate:

$$\text{Effective tax rate} = (\text{Deferred taxes} + \text{Current year's taxes}) / \text{profit before tax}.$$

Moderator variables

Presence of Independent Directors (BINDP): the percentage of board independence is measured by the percentage of independent directors present on the board.

Gender diversity on the board (BDIVR): measured using the BLAU index. This index measures how evenly men and women are represented on the board. This study measures diversity by the percentage of female board members.

Board size (BSIZE): measured by the number of directors on the board, this metric indicates the control board members have over directors.

Size of the Audit Committee (AC): the size of the audit committee depends on the company's size and other factors related to the company. This study measures this variable by the number of audit committee members.

Audit Committee Size = Number of non-executive members / All Board Members.

It should be noted that all of the above variables are dummy variables. The numbers above the median are equal to 1; otherwise, they are equal to zero.

Control variables

Growth Opportunity (GROWTH): it is obtained from the ratio of market value to book value of equity [13].

Dividend (LOGDIV): it is introduced by the logarithm of the dividend-to-equity ratio [13].

Company size (SIZE): it is obtained by taking the natural logarithm of the book value of the company's assets.

Financial leverage (FL) is obtained by dividing total liabilities by assets.

Profitability (LOGROA): it is obtained by taking the logarithm of net income divided by total assets.

4 | Research Findings

4.1 | Descriptive Statistics

This section reports descriptive statistics and dummy variables in *Table 1* and *Table 2*.

Table 1. Statistical variables.

Variable	Symbol	Mean	Median	MAX	MIN	SD.
Company Value	LogTOBIN	0.253	0.218	1.437	0.013	0.176
Tax Planning	ETR	0.101	0.093	0.491	0.001	0.139
Company Growth	GROW	0.001	0.117	0.974	-0.869	1.112
Dividends	DIV	0.205	0.098	0.323	0.0000	0.015
Company Size	SIZE	14.236	14.163	19.377	10.532	1.411
Financial Leverage	FL	0.653	0.626	12.975	0.046	0.363
profitability	ROA	0.091	0.088	0.623	-0.807	0.178

Table 2. Frequency of dummy variables.

Variable	Symbol	Number	%
Gender diversity on the Board	BDIVR	(0) 640	94.4
		(1) 37	5.6
Audit committee size	AC	(0) 552	81.42
		(1) 126	18.58
Board Independence	BINDP	(0) 350	51.62
		(1) 328	48.38
Board Size	BSIZE	(0) 663	97.79
		(1) 15	2.21

It is the most important and most used central indicator. The mean is right at the data's equilibrium point and center of gravity. Variables are of good quality when there is little difference between their mean and median. For example, the average tax planning of the sample companies is 0.10, with the highest tax planning being 0.49 and the lowest being 0.001. The average financial leverage is 0.65, which means that the average debt of the sample companies is 65% of the total assets, with the highest financial leverage being related to the Farabi Petrochemical Company in 2017 at 3.97. The average growth rate of the sample companies is 0.001%, with the highest rate being associated with a Chinese-Iranian company in 2017. Also, in the case of the dummy variable of gender diversity of the board of directors, 5.6% of all board members are women.

4.2 | Research Model Estimation

One of the important assumptions in regression is that the variance of the error terms is equal. Given the important effect of variance heterogeneity on estimating the standard deviation of the coefficients and the issue of statistical inference, it is necessary to examine the presence or absence of variance heterogeneity before making any estimates. Results are shown in *Table 3*.

Table 3. Test of heterogeneity of variance.

	Test	T-Stat.	Prob.
Model	Breusch-Pagan LM	11203	0.0000
	Pesaran scaled LM	43.33	0.0000

Examination of the values of the Chi-square statistic of the tests performed shows that the null hypothesis of equality of variance is not confirmed; therefore, the model has a problem of variance heterogeneity. Thus, the GLS test is used to estimate the model.

The results obtained from *Table 3* indicate the absence of variance heterogeneity in the model. The GLS method is used to estimate the model, and the estimation results are presented in *Table 4*.

Table 4. Research model estimate.

Variable Symbol	Coeff.	Sd.	T-Stat.	Sig.
C	0.548	0.105	5.199	0.0000
ETR	0.002	0.01	0.224	0.8227
BINDP	-0.006	0.005	-1.075	0.2828
BDIVR	-0.016	0.015	-1.097	0.2731
BSIZE	-0.048	0.009	-5.105	0.0000
AC	-0.007	0.003	-2.277	0.0231
ETR*BINDP	-0.006	0.027	-0.235	0.8138
ETR*BDIVR	0.018	0.101	0.185	0.8532
ETR*BSIZE	0.089	0.029	3.021	0.0026
ETR*AC	0.204	0.019	2.071	0.0388
GROW	-0.006	0.002	-2.446	0.0147
DIV	-0.013	0.001	-9.87	0.0000
SIZE	-0.016	0.008	-2.04	0.0418
FL	-0.057	0.017	-3.376	0.0008
ROA	-0.123	0.024	-4.944	0.0000
0.935	R-squared		F	63.263
0.92	Adjusted R		Durbin-Watson	1.638

According to *Table 4*, the significance level between the two variables is 0.0026, which is lower than the significance level considered in this study (5%). Also, the absolute value of the t-statistic, which is 3.01, is more significant than 1.96, which corresponds to a standard normal distribution of 0.95; therefore, at a confidence level of 95%, the null hypothesis that the size of the board of directors does not affect the relationship between tax planning and firm value is not confirmed, and the main hypothesis is confirmed.

According to *Table 4*, the significance level between the two variables is 0.81, higher than the significance level considered in this study (5%). Also, the absolute value of the t-statistic, which is 0.23, is less than 1.96, which corresponds to a standard normal distribution of 0.95; therefore, at a 95% confidence level, the null hypothesis that H0 Board independence does not affect the relationship between tax planning and firm value is confirmed, and the main hypothesis is not confirmed.

According to *Table 4*, the significance level between the two variables is 0.85, higher than the significance level considered in this study (5%). Also, the absolute value of the t-statistic, which is 0.18, is less than 1.96, which corresponds to a standard normal distribution of 0.95; therefore, at the 95% confidence level, the null hypothesis that gender diversity does not affect the relationship between tax planning and firm value is confirmed, and the main hypothesis is not confirmed.

According to *Table 4*, the significance level between the two variables is 0.038, which is lower than the significance level considered in this study (5%). Also, the absolute value of the t-statistic, which is 2.07, is lower than 1.96, which corresponds to a standard normal distribution of 0.95; therefore, at the 95% confidence level, the null hypothesis that the size of the audit committee does not affect the relationship between tax planning and firm value is not confirmed, and the main hypothesis is confirmed.

5 | Conclusion

The statistical analysis used data from 113 companies active in the Tehran Stock Exchange. The estimation of the research model is shown in *Table 4*. According to the aforementioned table's results, the value of the F-statistic was 63.263, and the Durbin-Watson statistic was 1.638, which indicates the model's significance

and the acceptability of the results obtained from its estimation. The results obtained about the research hypotheses and the explanation of the results are presented below.

Hypothesis 1. Board size affects the relationship between tax planning and firm value.

According to the results in *Table 4*, the significance level of the variables is 0.0026, which is lower than the significance level considered in this study (5%), and the absolute value of the t-statistic is 3.01 (greater than 1.96); therefore, at a 95% confidence level, the research hypothesis that the size of the board of directors affects the relationship between tax planning and company value is confirmed. This finding is consistent with the results of studies by Valipour et al. [5], Beshronten and Gerkez [8], and Khaoula and Moez [7]. Overall, these findings indicate that the size of the board of directors is one of the elements and factors that can influence the firm's value and affect the relationship between some financial indicators and the firm's value, including tax planning. Of course, given the positive t-statistic, increasing the size of the board of directors can increase the intensity of the relationship between tax planning and the company's value. Therefore, companies with larger board sizes will have a more excellent reflection of the company's value and a higher level of tax planning.

Hypothesis 2. Board independence affects the relationship between tax planning and firm value.

Based on the results in *Table 4*, the significance level obtained is 0.81, which is higher than the significance level considered in this study (5%), and the absolute value of the t-statistic is 0.23 (less than 1.96); therefore, at the 95% confidence level, the research hypothesis that board independence affects the relationship between tax planning and firm value is not confirmed. This result contrasts the findings of the studies of Khaoula and Moez [7] and Naciti [14]. The contradiction between the results of the present study and the previous studies may be due to various reasons, including the fact that the relevant studies mentioned were related to foreign countries and non-Iranian capital markets. In contrast, the sampling in this study was carried out within the Iranian capital market. Also, several variables related to the company's value make it impossible to analyze all of them in one study. Usually, it is not possible to seek direct linear relationships between the variables under study.

Hypothesis 3. Gender diversity affects the relationship between tax planning and firm value.

Based on the results in *Table 4*, the significance level obtained is 0.85, higher than the significance level considered in this study (5%). Also, the absolute value of the t-statistic is 0.18 (less than 1.96); therefore, at the 95% confidence level, the research hypothesis that gender diversity affects the relationship between tax planning and firm value is not confirmed. This finding is contrary to the results of the studies of Kazemi-Uloom et al. [15] and does not confirm them. In this regard, it can be noted that the second hypothesis of the statistical population is different; the need for a comprehensive approach is rejected, and the relationships between variables are also affected. Of course, it should be acknowledged that gender diversity, due to the role of female managers in increasing the level and degree of conservatism of companies (as a general rule according to the literature and study background), can be a kind of controlling factor in increasing the level of tax planning and company value. On the other hand, the rejection of this relationship can indicate the existence of other influential variables in this area.

Hypothesis 4. The size of the audit committee impacts the relationship between tax planning and the firm's value.

According to the results in *Table 4*, the significance level obtained is 0.038, which is lower than the significance level considered in this study (5%). Also, the absolute value of the t-statistic is 2.07 (greater than 1.96); therefore, at a 95% confidence level, the research hypothesis that the size of the audit committee affects the relationship between tax planning and firm value is confirmed. This result is consistent with the findings of previous studies, including Kazemi-Uloom et al. [15], Farbod et al. [16], Appiah and Chizema [17], Vaghfi and Niloofari [18], and Moradi Shahdadi et al. [19]. Therefore, there is a consensus among various researchers and scholars regarding the impact of audit committee size on the relationship between tax planning and firm value. The positive statistical values and impact coefficients indicate that increasing audit committee size can

strengthen the relationship between tax planning and firm value [20]. Therefore, with increasing the audit committee size, the sensitivity of tax planning changes and firm value in the company will increase, and the board of directors will behave actively toward the changes above.

Author Contributions

Shadi Sayadmanesh contributed to the study's conception and design. Zahra Sadeghi led the research framework and data analysis. Yasamin Salmani was involved in data collection and methodology and assisted with the literature review and manuscript writing. All authors reviewed and approved the final version of the manuscript.

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Data Availability Statement

The data used in this study were obtained from publicly available sources, including financial reports of companies listed on the Tehran Stock Exchange. Additional data supporting the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare no conflicts of interest.

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