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**Research Article**

# Impact of Corporate Lobbying on Board Compensation and Audit Quality

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## Abstract

Corporate lobbying is one of the most important ways companies, society, and even citizens can directly and legally influence the development and implementation of new laws and regulations. Theoretically, lobbying can be a threat to auditor independence as well. This study investigates the impact of corporate lobbying on board compensation and audit quality. Using a sample of 150 companies listed on the Tehran Stock Exchange over period 2012-2018, the study shows that corporate lobbying has a significant impact on board compensation and audit quality. This is the first study investigating the impact of corporate lobbying on board compensation and audit quality of companies listed on the Tehran Stock Exchange.

**Keywords**: Audit quality, Corporate Lobbying, Board Compensation, Auditor tenure, Stock Exchange, Stock returns

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## 1. Introduction

Advocacy groups work to affect the process of socio-political decision-making and meet their interests. Meanwhile, what separates the advocacy groups from a party is the reluctance of these groups to nominate a candidate. In other words, while parties are trying to enter the authority structure through peaceful means of authority, the pressure groups only seek to influence statesmen and the process of decision-making. Corporate political activity, including campaign assistance, lobbying, participation in political operations committees, the office of public relations, and executive certificates, are critical factors for corporate performance (Lux et al., 2011). This relationship between political activity and corporate performance is within managing directors' power (Hadani et al., 2015). Lobbying is a type of corporate political activity that has been widely studied in the financial literature. The main purpose of corporate lobbying is to affect the favorable laws that provide competitive advantages for companies. Executive managers who are successful in political lobbying can receive greater compensation (Edwards, 2010). Previous studies show that lobbying is beneficial for companies because companies that lobby have far better performance than the market average and can increase corporate performance and stock value (Chen et al., 2010). In the American political term, lobbying means to affect the legislature via contacting and influencing the members of both chambers, through which we can implement our own opinions. Such groups, by influencing or contacting the Senate or House of Representatives' members in the halls or parts of the Congress that everyone can access, make their efforts to reject or approve the bills by various ways of bribery, threats, enticement. In a general definition, advocacy groups are those groups that work to influence the process of socio-political decision-making and to provide their interests. Meanwhile, what separates the advocacy groups from a party is the reluctance of these groups to nominate a candidate. In other words, while parties are trying to enter the authority structure through peaceful means of authority, the pressure groups only seek to influence statesmen and the process of decision-making (Bertrand et al., 2014). Corporates invest in the lobby because the executive managers are rather compensated in the lobbying companies. An increase in the companies' value participating in the lobby is more probable (Ozer, 2010). In an interview with lobbyists, Drutman (2010) found that the executive managers who had been politically active in the past would decide that their company need to participate in political efforts. Hence, executive managers might affect their lobbying efforts and actively monitor and receive private information from their corporate lobbyists. This is shown in the case of investment fund managers who use private lobbyists' information to participate in informed business activities (Gao & Huang, 2016). Ungson and Steers (1984) stated that the managing director could participate directly or indirectly in the political lobby. Brown et al. (2017) showed that executive managers who visit Congress have more information that leads to political uncertainty, and they can use such information in their private stock trading. Mindock (2017) showed how lobbying activities could build relationships and gather information. Jacolinser et al. (2016) found that political communications can provide access to internal political information, which managers can use to participate in the business. Unsal et al. (2016) stated that managers of companies that lobby are more likely to receive higher compensation packages than their counterparts in the companies that do not lobby. Excessive compensation might be given by the executive managers related to politicians active in the domestic trade (Jenter, 2005). Lawmakers and lobbyists have access to internal information. Companies that use lobbyists' main purpose is for their political connections (Bertrand et al., 2014). Bazerman and Moore (2011) declared that independent auditing could help the profitability of this process and return of capital markets by improving the reliability and increasing the financial reporting process's

credibility. Audit quality depends on many factors, especially the independence of the auditor. Thus, less independence of the auditor can directly affect the audit quality and auditor opinion. Also, the political activities of accounting firms are a serious obstacle to their independence. Audit lobbying for audit clients can pose a threat to auditor independence, reducing the audit quality. Shaub (2005) said that lobbying for legislators supports clients' political interests, leading to a threat of support. According to Grey (2018), observers' concern reveals that official lobbies will not be disclosed, while accounting firms have strong incentives to lobby for clients. Despite the complexity of the process, companies can receive significant advantages from lobbying. Corporate lobbying is one of the most important ways the companies, associations, and even private citizens can directly and legally affect the development and implementation of new laws and regulations. Lobbying is distinct from other forms of political participation because it is not based on the final company commitment for winning the election to create the desirable policies, but can use lobbyist's political capital to achieve these goals (Reid et al., 2015). Therefore, the present research seeks to answer the question of whether corporate lobbying affects board compensation and audit quality or not.

This paper contributes to the lobbying corporate lobbying by studying how corporate lobbying influences board compensation and audit quality.

## 2. Literature Review and Hypothesis Development

### 2.1. Corporate Lobbying and Board Compensation

Brodmann et al. (2019) showed that lobbying has a significant impact on board compensation and government contracts' value and achievement. Khondkar et al. (2017) showed that corporate social responsibility has a significantly negative relationship with cash-based compensation ratio, while it has a significantly positive relationship with stock value-based compensation ratio. Unsal et al. (2016) represented that lobbying companies show better performance. Political communications can provide access to internal political information, which managers can use to participate in private trading. Political lobbying is a means of establishing political communications. The managers of lobbying corporates are more likely to receive higher compensation packages than their counterparts in the companies that do not lobby. Chen et al. (2015) stated a significantly positive relationship between corporate lobbying activities and corporate financial performance. Corporate lobbying and political costs are likely to cause organizational problems because these costs can consider managers' political interests and the interests of shareholders/corporations; thus, corporates' political costs attract the attention of the media and large corporations (Bebchuk, Jackson, 2013). Ming Tee (2017) concluded a significantly positive relationship between corporate political connections and stock price synchronization. Institutional owners moderate the relationship between corporate political connections and stock price synchronization. Lin et al. (2015) showed that higher political connections in companies provide the possibility of access to long-term and lower-cost resources; consequently, in companies with higher political connections, the ratio of long-term debts is increased. Boubakri et al. (2012) investigated the impact of political connections on firm performance and financing decisions. They found that, first, companies improve their performance and increase their debt after establishing political connections; second, political connections are strongly correlated with varied leverage and operational performance; and third, companies with political connections have easier access to credit resources. Datta (2012) demonstrated that political connections affect a company's value and lead to volatility in companies with higher political connections than anything that market movement can explain. They say that

companies' return with political connections is considerably different from their counterparts without political connections. They concluded that such relations in any country would lead to the global corruption index's growth and increase the probability of rent-seeking and the emergence of relational capitalism. Managers might use political communications to transfer wealth or profit from the company to their interests, violating shareholder rights. They showed that the expropriation activities in companies with political connections are higher than other companies. Beneficial activities of politicians, information asymmetry problems, and potential expropriation of shareholders could affect the systemic risk and cost of capital of companies with political connections. Therefore, shareholders demand a higher return for investment in these companies (Francis et al., 2005). Martin et al. (2016) showed that companies choose conditional conservatism to reduce information asymmetry. Therefore, if companies with higher lobbying intensity are associated with information asymmetry, a significantly positive relationship is anticipated between accounting conservatism and lobbying intensity, given the opposite side's demand reasoning.

**Hypothesis 1**: Corporate lobbying has a significant impact on board compensation.

### 2.2. Lobbying and Audit Quality

Grey (2018) stated that, in many cases, the polluting firms lobby against environmental protection. Political support of corporations can take a step for governments trying to protect the environment. A polluting firm invests in green and clean technology and then succeeds in environmental protection because it changes its competitor's market share with no clean investment. Lobbying increases the return of the company to being green. Burnett et al. (2016) found that the perceived audit quality (measured using the earnings response coefficient) has a significantly negative relationship with lobbying. Lobbying investors believe auditors are detrimental to the political benefits of clients for audit quality. Evidence suggests that reputation and litigation risk concerns provide sufficient incentives for auditors to maintain their independence in threat of auditor independence support. Reid et al. (2015) found that although audit fees are increased after recent changes, this increase is not significantly different from the previous year's increases. Therefore, recent changes in reporting have not increased the audit fee. They also found no evidence for the negative impact of recent changes on late audit reporting. Finally, they found that recent changes have increased the audit quality and failed to impose additional costs on companies. Watts and Zimmerman (1978) believe that companies use conservatism to prevent public oversight caused by lobbying, highlighting the importance of examining public oversight in political spending hypotheses. American companies spent a great deal of above $ 3.3 billion in 2012 on lobbying of the Congress and various federal agencies in Washington, DC (Chen et al., 2015). The political cost hypothesis shows that companies are lobbying to reduce the regulatory uncertainty and the lobbying companies under public oversight are likely to adopt the accounting conservatism (Watts, 1977). Guedhami et al. (2014) showed that companies with political connections are more likely to choose more reliable auditors, indicating that policy-dependent companies are likely to have better financial reporting quality. Prior research shows that corporate lobbying activities lead companies to achieve a variety of economic benefits. In particular, lobbying helps companies achieve favorable laws (Dean et al., 1998). Recent studies indicate a significant positive relationship between corporate lobbying activities and financial performance (Hill et al., 2013). One of the common features involving lobbying's economic benefits is that companies can produce and maintain exclusive rentals. In the political science literature, corporate lobbying is an activity for strong companies' benefit (Brasher & Lowery, 2006).

**Hypothesis 2:** Corporate lobbying has a significant impact on audit quality.

# 3. Research Methodology

## 3.1. Research Sample

The statistical population of this research included all companies listed on the Tehran Stock Exchange. In this research, the systematic elimination method was used to select the statistical sample. Hence, the following criteria were considered and, if a company had met all the criteria, it was selected as the research sample, and the rest were removed.

1. Corporate was listed on the stock exchange before 2012 and was active on the stock exchange until 2018.
2. Due to the specific nature of the holding corporations' activities, insurance firms, leasing companies, banks, financial and investment institutions, and their considerable differences from the manufacturing and trading companies, the selected firm was not among the listed companies.
3. Corporate financial information was available.

After meeting all the above criteria, a number of 150 companies remained as a screening population, all of which were selected as samples. Hence, our observations over the period 2012-2018 reached 1050 year-company (7 years ×150 companies). In this research, the regression method and Eviews were employed for data analysis and hypothesis testing.

## 3.2. Research Variables and Models

In this research, the multivariate and logistic regression models were used for hypothesis testing to estimate the independent variable's impact on the dependent and set of control variables.

Hypothesis Test Model 1:

$$COMP_{i,t} = \beta_0 + \beta_1 LOBBY_{i,t} + \beta_2 LI_{i,t} + \beta_3 spread_{i,t} + \beta_4 Return_{i,t} + \beta_5 duality_{i,t} + \beta_6 AO_{i,t} + \beta_7 CFO_{i,t} + \beta_8 SIZE_{i,t} + \beta_9 LEV_{i,t} + \beta_{10} GROWTH_{i,t} + \beta_{11} LOSS_{i,t} + \beta_{12} REST_{i,t} + \beta_{13} MTB_{i,t} + \beta_{14} Tenure_{i,t} + \beta_{15} Duvol_{i,t} + \varepsilon_{i,t}$$

Hypothesis Test Model 2:

$$Quality_{i,t} = \beta_0 + \beta_1 LOBBY_{i,t} + \beta_2 LI_{i,t} + \beta_3 spread_{i,t} + \beta_4 Return_{i,t} + \beta_5 duality_{i,t} + \beta_6 AO_{i,t} + \beta_7 CFO_{i,t} + \beta_8 SIZE_{i,t} + \beta_9 LEV_{i,t} + \beta_{10} GROWTH_{i,t} + \beta_{11} LOSS_{i,t} + \beta_{12} REST_{i,t} + \beta_{13} MTB_{i,t} + \beta_{14} Tenure_{i,t} + \beta_{15} Duvol_{i,t} + \varepsilon_{i,t}$$

The definition of all the variables in the above 12 models is presented in Table 1.

**Table 1.** Definition of research variables

| Variable name | Symbol | Type | Definition |
|---|---|---|---|
| Lobbying | *LOBBY* | Independent | Lobbying signs are as follows: Presence of board members affiliated to government, parliament, and such political institutions or existence of a major state and quasi-state shareholder (owning at least 10% of voting shares). This variable was made through careful examination of notes and financial statements and board reporting to the General Assembly by identifying managing director, board members, major shareholders, affiliates, and those in interaction with sample companies in various ways. If the company has a political manager or owner and, in general, political connections, it is equal to 1; otherwise, 0 is considered in the model. |

| | | | |
|---|---|---|---|
| Board compensation | *comp* | Dependent | According to Article 134 of the Commercial Code of Iran, approved in 1968, as per the articles of association, the General Assembly could allocate a certain proportion of the company's annual net profit as compensation to the board members per Article 241 of this law, provided that the amount of compensation considered for managers in public and private corporations should not exceed 5% and 10% of the profits paid to shareholders in the same year, respectively. The board's non-obliged members should not continuously or non-continuously receive a fee from the company, except as provided for in this article and for their managerial position as salaries or compensation. |
| Audit quality | *Quality* | Independent | The variable is a dummy. If the audit is from an audit organization, it is 1; otherwise, it is 0. |
| Stock returns | *Return* | Control | To calculate a company's return, three factors of rial difference in stock prices at the end of the period compared to the first period, amount of profit split over the period, increased capital of companies in time limit are used, which are as follows:<br>Stock returns = $(\frac{Right\ of\ priority+Stock\ award+Dividend\ (day\ price+base\ price)}{Percentage\ of\ capital\ increase\ from\ profit*1000+base\ price})$ |
| Liquidity | *LI* | Control | It is equal to the ratio of current assets to current liabilities. |
| Down to up volatility | *DUVOL* | Control | We divide a particular weekly return into one of two samples for each company of the year: "low" weeks with weekly returns lower than the company's annual returns and "high" weeks with weekly returns higher than the company's annual average. Then, we calculate the weekly yield deviations for each of the two samples separately and use the natural logarithm of the ratio of deviations for the low weeks to the deviations for the high weeks. Algebraically, DUVOL for each company-year is calculated as follows:<br>$DUVOL_{it} = log[\frac{(n_u-1)\ \sum_{Down} R_{it}}{(n_d-1)\ \sum_{up} R_{it}}]$<br>Ri,t is the companies' weekly stock returns above, and nd (nu) is the number of weeks with weekly returns lower (higher) than the company's annual returns. |
| Auditor tenure | *Tenure* | Control | It is equal to the number of consecutive years that the company has retained its auditor. |
| Auditor change | *Change* | Control | If the firm audit is changed in year t, it is 1; otherwise, it is 0. |
| Information asymmetry | *Spread* | Control | In this study, to measure information asymmetry, the bid-ask spread of stocks is used.<br>$SPREAD_{i,t} = \frac{1}{D_{i,t}} \sum_{d=1}^{D_{i,t}} \frac{(ASK_{i,d} - BID_{i,d})}{(ASK_{i,d} - BID_{i,d})/2}$<br>SPREADi,t: The bid-ask spread of stocks of the company i per year t; the larger the bid-ask spread of stocks, the greater the information asymmetry would be.<br>ASKi,d: Best (lowest) ask price of the stock for the company i;<br>BIDi,d: Best (highest) bid price of the stock for the company i;<br>The calculation process of bid-ask spread refers to extracting data of bid-ask prices of stocks for each of the companies during each year and, then, for the year that the following criteria are met, the "maximum bid price" is determined as "best bid price of stock" and the "minimum ask price" is determined as the "best ask price of stock" per year. |

| | | | |
|---|---|---|---|
| Auditor opinion | *AO* | Control | If the auditor gives a favorable opinion on the company's financial statements, it is 1; otherwise, it is 0. |
| Company size | *SIZE* | Control | Company size is measured using the natural logarithm of total sales of the corporation. |
| Financial leverage | *LEV* | Control | The Debt-to-asset ratio represents the company's financial leverage. |
| Sales growth | *GROWTH* | Control | Percentage change in total sales |
| Loss | *LOSS* | Control | The variable is virtual. If it is a loss firm, it is 1; otherwise, it is 0. |
| Restatement | *REST* | Control | The above variable is a 0-1 virtual variable. If financial statements are restated, it is 1; otherwise, it is 0. |
| Market to book value ratio | *MTB* | Control | The market to book value ratio is obtained from dividing the multiplication of the final share price by the number of shares issued or in the hands of shareholders by the book value of corporate stock owners' total salaries. |
| Managing director duality | *Duality* | Control | If the managing director is the board's chairperson, it is 1; otherwise, it is 0. |
| Operating cash flow | *CFO* | Control | This variable is derived from the following equation: Net Profit + Non-Cash Expenses + Working Capital |

# 4. Results

## 4.1. Descriptive Statistics

Descriptive statistics is the arrangement and classification of data, graphical representation, and calculation of values such as facade, mean, median, etc., indicating the characteristics of members of the discussed population. In Tables 2 and 3, information on central indicators (mean, median, maximum, and minimum) and data scattering (standard deviation, skewness, and elongation) are provided. The degree of asymmetry of the frequency curve is called skewness. If the skewness coefficient is zero, the population is quite symmetrical; if the coefficient is positive, it is skewed right, and if it is negative, it is skewed left. The positive elongation coefficients indicate that the distribution of variables is longer than the normal distribution, and data are centered about the mean.

**Table 2.** Descriptive statistics of variables

| | *COMP* | *QUALITY* | *LOBBY* | *LI* | *SPREAD* | *RETURN* | *DUALITY* | *AO* |
|---|---|---|---|---|---|---|---|---|
| Mean | 1267.620 | 0.234286 | 0.729524 | 1.362176 | 0.026751 | 44.39977 | 0.256190 | 0.467619 |
| Median | 840.0000 | 0.000000 | 1.000000 | 1.236474 | 0.028266 | 12.25305 | 0.000000 | 0.000000 |
| Maximum | 17486.00 | 1.000000 | 1.000000 | 6.138485 | 0.052546 | 859.4925 | 1.000000 | 1.000000 |
| Minimum | 0.000000 | 0.000000 | 0.000000 | 0.164266 | 0.000000 | -65.80506 | 0.000000 | 0.000000 |
| Std. Dev. | 1594.240 | 0.423753 | 0.444418 | 0.666593 | 0.011761 | 98.76169 | 0.436736 | 0.499188 |
| Skewness | 2.768876 | 1.254696 | -1.033412 | 2.109409 | -0.384958 | 3.060652 | 1.117039 | 0.129796 |
| Kurtosis | 17.77403 | 2.574263 | 2.067940 | 10.35148 | 2.312855 | 17.31671 | 2.247776 | 1.016847 |
| Observations | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 |

**Table 3.** Continued descriptive statistics

| | *CFO* | *SIZE* | *LEV* | *GROWTH* | *LOSS* | *REST* | *MTB* | *TENURE* | *DUVOL* |
|---|---|---|---|---|---|---|---|---|---|
| Mean | 0.116159 | 13.91586 | 0.630144 | 0.195224 | 0.120952 | 0.710476 | 2.443886 | 4.217143 | -0.084437 |
| Median | 0.103037 | 13.77544 | 0.617672 | 0.146558 | 0.000000 | 1.000000 | 2.036009 | 3.000000 | -0.071140 |
| Maximum | 0.642210 | 19.72257 | 4.002704 | 3.579455 | 1.000000 | 1.000000 | 121.5096 | 16.00000 | 1.220855 |
| Minimum | -0.460088 | 8.899731 | 0.108494 | -0.739613 | 0.000000 | 0.000000 | -53.21793 | 1.000000 | -1.220105 |
| Std. Dev. | 0.126717 | 1.490523 | 0.255054 | 0.379882 | 0.326227 | 0.453757 | 6.139267 | 4.100558 | 0.357400 |
| Skewness | 0.272236 | 0.788515 | 3.446115 | 2.457554 | 2.324933 | -0.928146 | 8.266898 | 1.479157 | 0.066282 |
| Kurtosis | 4.716726 | 4.859551 | 36.99769 | 17.32864 | 6.405311 | 1.861454 | 187.4198 | 3.912600 | 3.235513 |
| Observations | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 |

## 4.2. Correlation of variables

In order to investigate the presence or absence of collinearity among the research variables, Pearson's correlation analysis is used. Table 4 shows the results between the variables.

**Table 4.** Correlation coefficients of variables

| | *COMP* | *QUALITY* | *LOBBY* | *LI* | *SPREAD* | *RETURN* | *DUALITY* | *AO* |
|---|---|---|---|---|---|---|---|---|
| COMP | 1 | 0.088 | 0.006 | 0.256 | -0.126 | 0.047 | -0.082 | 0.108 |
| QUALITY | | 1 | 0.240 | -0.152 | 0.050 | 0.038 | 0.077 | 0.004 |
| LOBBY | | | 1 | -0.170 | 0.045 | -0.017 | 0.018 | 0.149 |
| LI | | | | 1 | 0.005 | 0.103 | -0.139 | 0.098 |
| SPREAD | | | | | 1 | -0.035 | 0.122 | -0.095 |
| RETURN | | | | | | 1 | -0.015 | -0.019 |
| DUALITY | | | | | | | 1 | 0.009 |
| AO | | | | | | | | 1 |

According to the results of Table 4, it is found that there are no values of too high or too low correlation (close to +1 and -1) that affect the results of the regression analysis. As a result, there is no collinearity between the independent variables of the study.



### 4.3. F-Limer test for model 1 study

The F-Limer test is first used to select from among the panel and integrated data methods in the multivariate regression. If the p-value calculated is greater than the 0.05 error level, the integrated data will be used. Otherwise, panel data will be used. Table (5) shows the results of the F-Limer test.

**Table 5.** F-Limer test

| Hypothesis | Test type | Prob | Result |
|---|---|---|---|
| 1 | F- limer | 0.3236 | Pooled |
| | Hausman | - | - |

According to Table 5, according to the significance level (Prob) obtained from the F-Limer test, the first hypothesis's testing methods are specified. The logistic regression method is also employed to estimate model 2.

### 4.4. Research hypotheses testing

**Table 6.** Estimation results of model 1

| **Dependent Variable: COMP** | | | | |
|---|---|---|---|---|
| **Method: Panel EGLS (cross-section weights)** | | | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| *C* | -5406.866 | 655.1043 | -8.253443 | 0.0000 |
| *LOBBY* | 161.4073 | 68.37319 | 2.360681 | 0.0185 |
| *LI* | 161.0690 | 39.37019 | 4.091140 | 0.0000 |
| *SPREAD* | -2384.989 | 1492.998 | -1.597449 | 0.1105 |
| *RETURN* | 0.114569 | 0.075422 | 1.519038 | 0.1291 |
| *DUALITY* | -84.58111 | 40.09855 | -2.109331 | 0.0352 |
| *AO* | 135.3853 | 33.27370 | 4.068839 | 0.0001 |
| *CFO* | 105.2869 | 89.98189 | 1.170090 | 0.2423 |
| *SIZE* | 431.4686 | 45.28030 | 9.528836 | 0.0000 |
| *LEV* | -189.8763 | 87.34069 | -2.173973 | 0.0300 |
| *GROWTH* | -66.46790 | 27.33735 | -2.431395 | 0.0152 |
| *LOSS* | 41.24313 | 36.10286 | 1.142379 | 0.2536 |
| *REST* | -10.55897 | 26.02271 | -0.405760 | 0.6850 |
| *MTB* | 2.045803 | 1.756487 | 1.164713 | 0.2444 |
| *TENURE* | -19.67914 | 5.413981 | -3.634873 | 0.0003 |
| *DUVOL* | -8.854545 | 25.34597 | -0.349347 | 0.7269 |
| R-squared | 0.802863 | Mean dependent var | | 2057.225 |
| Adjusted R-squared | 0.799290 | S.D. dependent var | | 2020.907 |
| S.E. of regression | 949.2387 | Sum squared resid | | 7.96E+08 |
| F-statistic | 224.7569 | Durbin-Watson stat | | 2.076220 |
| Prob(F-statistic) | 0.000000 | | | |

Table 6 shows the results of model 1 estimation using EViews software. The results in Table 6 show that the F test's significance level is 0.0000, which is smaller than 0.05, and the F statistic indicates the overall reliability of the model. As a result, the model has a significant level of 95% and is very reliable. The adjusted coefficient of determination of this model is 0.799290. This figure indicates that the model explanatory variables can explain about 79% of the dependent variable changes. Since the Durbin–Watson statistic of the model is 2.076220 between 1.5 and 2.5, it can be said that there is no first-order in the autocorrelation model. Table 6 shows that the firm lobbying variable's significance level is 0.0185, which is smaller than 0.05. Therefore, the first hypothesis of the research is confirmed.

The results of the model testing using the logistic regression method are presented in Table 7. Since the LR statistic's significance level is less than 0.05, it can be claimed that this model is significant and highly reliable at a significance level of 95%. The results presented in Table 7 also show that the significance level calculated for the lobbying variable (0.0002) is smaller than 0.05. As a result, it can be said that lobbying has a significant impact on audit quality. Accordingly, hypothesis 2 is confirmed at a significance level of 95%. The results represented in Table 7 show that the coefficient of determination pseudo R2 (McFadden) is 0.642949. This figure indicates that explanatory variables explain 64.2% of the dependent variable changes.

**Table 7.** Estimation results of model 2

| **Dependent Variable: QUALITY** | | | | |
|---|---|---|---|---|
| **Method: ML - Binary Logit (Newton-Raphson / Marquardt steps)** | | | | |
| **Variable** | **Coefficient** | **Std. Error** | **z-Statistic** | **Prob.** |
| *C* | -10.75339 | 1.708959 | -6.292363 | 0.0000 |
| *LOBBY* | 1.565539 | 0.420110 | 3.726496 | 0.0002 |
| *LI* | -0.657246 | 0.318504 | -2.063538 | 0.0391 |
| *SPREAD* | -12.25594 | 13.48019 | -0.909181 | 0.3633 |
| *RETURN* | 0.005161 | 0.001171 | 4.406354 | 0.0000 |
| *DUALITY* | -0.739370 | 0.373839 | -1.977777 | 0.0480 |
| *AO* | -0.042445 | 0.271465 | -0.156355 | 0.8758 |
| *CFO* | 0.179892 | 1.128559 | 0.159399 | 0.8734 |
| *SIZE* | 0.502097 | 0.096678 | 5.193482 | 0.0000 |
| *LEV* | -1.190958 | 0.965235 | -1.233853 | 0.2173 |
| *GROWTH* | -0.490802 | 0.434710 | -1.129032 | 0.2589 |
| *LOSS* | -0.380319 | 0.568597 | -0.668872 | 0.5036 |
| *REST* | -0.388033 | 0.288392 | -1.345506 | 0.1785 |
| *MTB* | 0.017947 | 0.033706 | 0.532464 | 0.5944 |
| *TENURE* | 0.647643 | 0.045604 | 14.20138 | 0.0000 |
| *DUVOL* | -0.059444 | 0.386082 | -0.153967 | 0.8776 |
| McFadden R-squared | 0.642949 | Mean dependent var | | 0.234286 |
| S.D. dependent var | 0.423753 | S.E. of regression | | 0.233990 |
| Akaike info criterion | 0.419236 | Sum squared resid | | 56.61300 |
| Schwarz criterion | 0.494764 | Log-likelihood | | -204.0989 |
| Hannan-Quinn criter. | 0.447874 | Deviance | | 408.1978 |
| Restr. deviance | 1143.247 | Restr. log-likelihood | | -571.6233 |
| LR statistic | 735.0489 | Avg. log-likelihood | | -0.194380 |
| Prob(LR statistic) | 0.000000 | | | |
| Obs with Dep=0 | 804 | Total obs | | 1050 |
| Obs with Dep=1 | 246 | | | |

**Table 8.** Goodness-of-Fit Evaluation for Binary Specification
Andrews and Hosmer-Lemeshow Tests

| **Model** | **Test** | **Statistics value** | **Prob. Chi-Sq** | **prob** |
|---|---|---|---|---|
| 2 | H-L Statistic | 11.5276 | 8 | 0.1736 |

In order to investigate the fit of the estimated model, the Hosmer-Lemeshow test is employed. Since the Hosmer-Lemeshow test statistic's significance level in model 1 is 0.1736, which is greater than 0.05, the estimated model has a good fit. The explanatory variables of the model can explain the dependent variable.

## 5. Discussion and conclusion

This research investigates the impact of corporate lobbying on board compensation and audit quality for 150 Iranian stock companies from 2012 to 2018. The development level of financial markets, especially the stock market, and its impact on corporate financing have a significant impact on economic growth. Financial development's main determinants include the legal origin - institutions - open economic policies and political factors. In the meantime, political factors are important sources that originated from the implemented legal and institutional policies and frameworks and affect the financial system's development. The dynamic political economy framework shows that economic institutions and legal traditions affect economic growth and financial development. One of the most important characteristics of the capital market in any country is political issues. Political changes in the governing body have a tangible and rapid impact on the stock market because of the following perspectives. The influence of the wealth and power elements diverted lobbying from its mainstream. It necessitated its regulation, especially in countries that have adopted this problem as a part of policy-making and legislation. In developing countries, where the economic systems are often based on connections, one of the key factors affecting the management's motivations in financial reporting compared to other factors is the political factors of managers and owners of companies. The state-owned corporations and large industries affect the economy and the system's governing rule, the state-owned economy. In this method, social phenomena are caused by political and economic factors. According to political economy theory, most market-oriented economic societies are commercial units focusing on the economic, social, and political interactions between different groups. Therefore, introducing the connections between economic, social, and political groups is essential to perceive commercial units' varying characteristics. According to the above theory, accounting information is provided only for the support of influential groups in the social, political, and economic areas, information that can be used by the authorities for their benefit. Corporate lobbying activities let companies achieve a variety of economic benefits. In particular, lobbying helps companies obtain favorable laws. Lobbying also helps increase the relationship of companies with legislators. Accounting figures play an important role when the company is at risk of takeover. In particular, companies are reporting higher leverage and cash to limit local officials' potential authority so that corporate lobbies can cause public oversight. Corporate lobbying is probably the company's strategic actions for legal uncertainty management and corporate actions to establish political connections. Corporate lobbying and political costs are likely to cause organizational problems because these costs can consider managers' personal political interests and shareholders/companies. As a result, the political costs of companies attract the attention of the media and large corporations. It is suggested to pay attention to this issue that managing directors use political lobbying with internal political information to introduce and approve a financial support bill for their stock trading and profitability that increases their wealth and compensation. Results of the research hypotheses analysis show that corporate lobbying has a significant impact on board compensation. Managers of lobbying companies are more likely to receive higher compensation packages than their counterparts in the companies that do not lobby, which should be considered by investors. Excessive compensation might be given by the lobbying executive managers working in domestic trading.

Political information is used for opportunities to obtain profit from private information. This strategy may occur prior to public disclosure of positive corporation information, which increases the firm's performance and profit through self-business. Companies do not disclose lobbying information; to discover this information, we have to investigate whether the auditor works in a company with political managers or owners and, in general, political connections or not. The results also show that corporate lobbying has a significant impact on audit quality. Attention to the concerns raised by the stock exchange and the general public about auditor lobbying for clients could affect the audit quality. It must be noted that companies use accounting flexibility to achieve political goals. They use earnings management to reduce reported earnings. Companies use politicians to manage profits by reducing profits while they are re-electing their politicians. However, reputation and litigation risk concerns provide incentives for auditors to maintain independence and provide a high audit quality, even in lobbying for an audit client. The investors are suggested to consider their companies' political activities during decision-making on investment. Therefore, when investors lobby through a client, they might ask about the auditor's objectivity and perceive the auditor as the lower audit quality.

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# Appendix 1:

## Stationary test of variables

Prior to using these variables, it is necessary to ensure that they are stationary or non-stationary. In order to ensure the results of the research and non-dummy relationships in the regression and significance of the variables, efforts are made to perform the stationary test and calculate the unit root of research variables in the models. The above test is performed using EViews software and Levin, Lin & Chu, IM test, Sons and Shin, Fisher-type unit-root test, Dickey-Fuller Fisher-Phillips unit root test. The null hypothesis indicates the unit root; if the table's probability is smaller than 0.05, the null hypothesis is not confirmed at a probability of 0.95. The results of the unit root test are described in Table 9.

According to the results of Table 9, the probability value of the tests for all the variables is smaller than 0.05; thus, the above variables are at the stationary level.

## Error homogeneity of variance test

One of the regression model hypotheses is the fixed error variance. Despite the homogeneity of variance in the model, an increase or decrease in the independent variable, the dependent variable variance equal to the residual variance is varied. In this research, in order to verify the results, Bartlett's method is used to investigate the homogeneity of variance in the combined data. In Bartlett's homogeneity of variance method, the null hypothesis is based on the homogeneity of variances, and the opposite hypothesis is considered the homogeneity of variances. Table 10 shows the results of the homogeneity test of the research models.

**Table 9:** Panel unit root test

| Variables | Levin, Lin & Chu | |
|---|---|---|
| | Prob | Statistic |
| *LOBBY* | 0.0001 | -3.69843 |
| *LI* | 0.0000 | -21.6333 |
| *SPREAD* | 0.0000 | -27.8770 |
| *RETURN* | 0.0000 | -44.5583 |
| *DUALITY* | 0.0000 | -9.18842 |
| *AO* | 0.0000 | -17.7048 |
| *CFO* | 0.0000 | -30.7207 |
| *SIZE* | 0.0000 | -32.6286 |
| *LEV* | 0.0000 | -18.7091 |
| *GROWTH* | 0.0000 | -33.1757 |
| *LOSS* | 0.0000 | -16.1436 |
| *REST* | 0.0000 | -25.0522 |
| *MTB* | 0.0000 | -82.2325 |
| *TENURE* | 0.0000 | -70.2945 |
| *DUVOL* | 0.0000 | -57.4473 |

**Table 10:** Model error homogeneity of variance test

| Test result | Significance level | Type of test | Model |
|---|---|---|---|
| Heterogeneity of variance | 0.000 | Bartlett | 1 |
| Heterogeneity of variance | 0.000 | Bartlett | 2 |

According to the results of Table 10, which indicates the probability of smaller than 0.05, it can be said that the variance of the errors is heterogeneous, and the null hypothesis based on the fixed variance of the model is rejected. Therefore, in order to resolve the heterogeneity of variance, the generalized least squares regression (GLS) is utilized.

## Cointegration testing of variables

When variables used in the regression are not stationary, a phenomenon known as false regression occurs. But if all the variables used in the regression model become stationary together, i.e., the residuals of the model are static, then the cointegration phenomenon is created. Hence, the term "cointegration" becomes gradually popular, and any stationary time series is called cointegrated. In general, if two variables (series) are integrated of the same order, for example (d)I, their linear combination can also be cointegrated. In such cases, the regression is significant on the two variables' values, meaning that the regression is not dummy anymore, and no long-term information would be lost. In short, if we found that the residuals of the regression are I(0) stationary, the traditional regression methodology, including t-test and F-test, can be used for data. The concepts of the unit root of the cointegration help identify the stationary of regression residuals. Kao test is used to examine the cointegration.

If the Kao test's significance level is less than 0.05, the H0 hypothesis based on the absence of a collinear relationship is rejected. As a result, the regression will not be false.

**Table 11:** Cointegration test using Kao test

| Test | Statistics | Significance level |
|---|---|---|
| Kao | 2.958044 | 0.0015 |
| Kao | -4.583685 | 0.0000 |