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## Agency Costs, Tax Planning with Emphasis on the Moderating Role of Government Ownership

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### Abstract

This research aims to study agency costs and tax planning, emphasizing the moderating role of government ownership. Taxation, as the primary means of raising revenue, can help governments achieve their macroeconomic objectives. Paying taxes is one of the most important tasks citizens can perform to provide financial resources for social welfare. In addition, politically connected companies have an opaque operating environment due to government support, resulting in more significant conflicts of interest and higher agency costs. To achieve this purpose, two hypotheses were formulated. To test these hypotheses, a sample of 142 companies was selected from the companies listed in the Tehran Stock Exchange during 2014-2023. A multivariate regression model was applied using the panel data method. The results of the research hypotheses indicate that agency costs and tax planning have a positive and significant relationship. The results also suggest that government ownership does not affect the relationship between agency costs and tax planning.

**Keywords:** Agency costs, Tax planning, Government ownership.

## 1 | Introduction

Paying taxes reduces the profits and cash left over for the company's other stakeholders, including shareholders. Therefore, there is a natural incentive for the company and its shareholders to take steps to avoid paying taxes. Effective tax avoidance strategies require a complex and opaque reporting system that allows managers to hide negative news within the company to protect their interests. Tax management refers to a manager's actions and ability to pay less tax in the long run. A company that seeks to manage taxes and

minimize tax costs is taking a bold approach to taxes. Because of its many economic consequences, tax avoidance can be linked to market factors such as stock prices.

Tax planning is the analysis of a business or organization's financial plan from a tax perspective. Proper tax planning is done when a business is formed by professional tax consulting firms or institutions worldwide. Based on accurate tax planning, all tax affairs of the organization will be handled correctly, and timely payment of minimum taxes will allow the organization to continue its activities. It will not subject the organization to tax penalties. One of the most important goals of tax planning is to ensure the organization's financial situation in the safest way possible. Accurate tax planning for a business unit includes planning for income, timing, purchasing, and other expenses [1]. An agency relationship refers to a contract under which one (Or more) owners select one (Or more) persons to act on their behalf and delegate decision-making authority to that person. Each party seeks to maximize their interests by entering into an agency relationship. Thus, the agency relationship leads to agency problems and issues, which, according to agency theory, have costs. According to agency theory, management may deviate from its position to enhance and improve its interests by engaging in activities contrary to the interests of shareholders and at their expense. As a result, owners must incur costs to align the interests of agents with their interests. Because these expenses are incurred by entering into the agency relationship, they are called agency costs [2].

In addition, state owners can pass on confidential information they receive from company managers to other shareholders. However, for such monitoring to be acceptable, large shareholders must maintain their investment relatively long and hold enough shares to offset the problem of other shareholders taking advantage of it for free. The above results suggest that, under certain conditions, the necessary rewards are created for large shareholders who monitor management performance, as well as rewards for managers who cooperate with these shareholders. Therefore, this type of monitoring, called investing in creating relationships, will be optimal for both management and the large investor. There are differences between institutional and large non-institutional shareholders' monitoring capabilities and incentives.

Another issue that arises simultaneously with the agency relationship is the service compensation contracts concluded between the agent and the principal. In many cases, the benefits associated with compensation are based on accounting numbers and company performance, which can create additional incentives for managers and executives to engage in aggressive tax reporting to reflect company performance better. Owners enter into such contracts with managers to reduce agency costs, but some of the criteria set in such agreements may indirectly lead to increased agency costs. However, the higher the agency costs incurred by the agent, the higher the performance-based payments (Uncertain compensation or risk-based payments) may be considered, and this uncertain and performance-based compensation may provide the manager with the necessary justification and incentive to avoid paying taxes and bear the associated risk. Armstrong et al.'s [3] empirical research on tax avoidance incentives supports this theory. Therefore, from this perspective, increased agency costs and agency problems are expected to increase brazen tax avoidance [4].

Agency theory examines the behavior of principals (Employers) and agents (Employees) in the context of corporate contracts. It views the firm as a network of contractual relationships and examines how parties involved in agency relationships attempt to maximize their utility. One of the most important agency relationships is between the management team and the company's owners. Managers are hired to run the business. However, the point is that the goals of the managers and the owners may not be aligned. The main assumption of agency theory is that there is a potential conflict of interest between the management group and the company's owners. This is not difficult to understand because the utility functions of managers and owners are not the same and are not affected by financial events in the same way. The real owners are interested in maximizing investment returns and security prices, although this does not necessarily lead to maximizing the managers' utility function. Such conflicts can create costs in an agency relationship that are not pleasant for either party to the contract (Management group and business owners) [5].

The tax rate demanded by the government in most countries, including Iran, is a fixed rate. Still, all income earned by companies is not subject to tax or has separate rates, including income from agricultural activities,

which is exempt from tax. In addition, some expenses included in the income statement to calculate profit or loss under accounting standards are not considered allowable expenses for tax purposes. Due to the differences above, another tax rate is created, called the effective tax rate [6]. In light of the above, this study seeks to answer whether there is a meaningful relationship between agency costs and tax planning, emphasizing the moderating role of government ownership.

## **2 | Theoretical Foundations and Research Background**

### **2.1 | Agency Costs**

Each party seeks to maximize its interests by entering into an agency relationship. Thus, the agency relationship leads to agency problems and issues, which, according to agency theory, have costs. (According to agency theory, there is a possibility that management may deviate from its position to enhance its interests and that it may improve its interests by engaging in activities that are contrary to the interests of shareholders and at their expense). As a result, owners must incur costs to align the interests of agents with their interests. Because these expenses are incurred by entering into the agency relationship, they are called agency costs [2]. Agency problems resulting from opportunistic managerial behaviors such as perks over salaries, power grabs, failure to perform duties, and incorrect investment decisions lead to non-optimal decisions and inefficient allocation of the economic unit's resources (Resources belonging to the owners), which are ultimately reflected in inappropriate management performance and a decrease in the company's value [7]. Studies have shown that the right institutional investors can reduce agency costs by reducing shareholder concerns and properly allocating cash reserves, leading to more efficient use. The agency's problem is to encourage agents to make decisions that maximize the welfare of the owners [2].

### **2.2 | Tax Planning**

Tax avoidance is a legal behavior, i.e., economic agents try to reduce their tax liability by exploiting tax law loopholes and revising their financial decisions. The payment of taxes causes the company to withdraw cash flows. For this reason, corporate managers have always focused on investment in tax planning [8]. These plans can range from conservative tax policies, such as profit smoothing, to bold tax policies, such as tax avoidance strategies. Bold tax policies often come with costs and benefits. One of those benefits is an increase in the company's after-tax value, an issue always of interest to investors and shareholders. One of the potential risks for companies in adopting bold tax policies is unknowingly entering the realm of tax evasion, which is a red line for tax officials and can lead to a loss of credibility for managers and even a decrease in the value of the company's stock. Tax avoidance can lead to a reduction in the stock price and the value of the firm on the one hand and an increase in the firm's cash flows on the other. Therefore, striking a balance between the two determines the firm's strategy [9].

### **2.3 | Government Ownership**

Major government owners may pass on confidential information to other shareholders they have obtained from the company's managers. However, for such monitoring to be acceptable, it is necessary for large shareholders to maintain their investment for a relatively long period and to have sufficient shares to offset the problem of other shareholders taking advantage of this monitoring for free. Studies in this area show that the presence of government shareholders in the ownership mix can have positive and negative consequences for the company. Anderson and Reeb [10] empirically examined the effect of government ownership on the performance of joint-stock companies and found significant results. They believe that the more shareholders there are and the lower their ownership percentage, the weaker the firm's performance. Most notable is the growing presence of government investors among the owners of public companies and the impact of this group's active presence on the governance, stewardship, and performance of organizations. The most fundamental element of corporate governance is ensuring shareholders exercise proper control over the company's management. However, certain circumstances make exercising this governance difficult,

particularly for minority shareholders. Therefore, one of the most important aspects of corporate governance is to be aware of the ownership structure and its classification on standard scales to develop the necessary strategies for establishing corporate governance. According to some experts, the presence of major shareholders in a company, on the one hand, strengthens the grounds and incentives for monitoring the performance of managers. On the other hand, sometimes, due to the mismatch between the interests and goals of major shareholders and the interests and expectations of minority shareholders, the costs of controlling and aligning the demands of major shareholders with the interests of other shareholders increase.

Arab Salehi and Kazemi Nouri [11] studied the effect of agency costs on investment sensitivity, that is, cash flows of companies listed on the Tehran Stock Exchange. They studied 103 companies. The study's results, using logistic regression based on the period 2006-2010, show that agency costs alone do not cause over- or underinvestment but increase the sensitivity of cash flow investments.

Heydari et al. [12] presented a study whose main objective was to investigate the effect of board independence on the relationship between ownership structure and tax gap of companies listed in the Tehran Stock Exchange for 62 companies from 2007-2013. The research results show a negative and significant relationship between family ownership and the tax gap, and a positive and significant relationship between corporate ownership and the tax gap, and that board independence does not play a moderating role in these relationships.

Moradi [13], in a study titled "Investigating the relationship between tax planning, corporate governance, and equity value in companies listed on the Tehran Stock Exchange", The results of the study show that there is a positive relationship between tax planning and the value of equity of companies listed in Tehran Stock Exchange, and a negative relationship between corporate governance and institutional ownership, board independence and the value of equity of companies listed in Tehran Stock Exchange.

Mukaria et al. [14] conducted a study titled "Mediating effect of agency cost on the relationship between ownership structure and firm value". The results show that higher tax rates in the structure of state-owned enterprises increase managerial promotion. The results also show that managerial incentives and tax reporting are conditions based on the ownership structure in firms.

Armstrong and Blouin [3] study tax planning incentives using a hierarchical dataset of executive compensation and incentive information to examine the relationship between tax manager incentives and generally accepted accounting principles, the cash effect of tax rates, the tax-book gap, and a measure of tax aggressiveness. They concluded that tax manager compensation and incentives have a negative relationship with the GAAP effective tax rate but little relationship with other tax attitudes and behaviors.

Chen et al. [14] found that tax avoidance increases agency costs and reduces firm value. Financial reporting transparency interacts with firm tax avoidance and moderates the relationship between tax avoidance and firm value. Investors in China react negatively to corporate tax avoidance, but this adverse reaction can be mitigated through information transparency.

### 3 | Research Method

#### 3.1 | Statistical Population, Sampling Method and Statistical Sample

In this study, the sample was selected using the systematic exclusion method. Therefore, the sample chosen included all companies listed on the stock exchange during the period from 2014 to 2023 that met the following criteria:

- I. Their trading symbol should not have been removed from the stock exchange board during the study years 2014 to 2023.
- II. The companies under study should not have changed their fiscal year and activity during the relevant periods.
- III. The required financial information should be available, especially the notes to the financial statements.



IV. The company in question has been operating continuously during the research period. Its shares have been traded, and there has been no trading suspension.

V. It does not belong to financial intermediaries (banks, investment and leasing companies).

Considering the abovementioned characteristics, 142 companies were selected during the study (1420 company-year observations).

### 3.2 | Research Hypotheses

The research hypotheses are:

- I. Agency costs and tax planning have a significant relationship.
- II. Government ownership moderates the relationship between agency costs and tax planning in companies listed on the Tehran Stock Exchange.

### 3.3 | Research Model and Variables

In this study, to test the hypotheses, a linear regression model with mixed data is used to analyze the data, which will be explained below.

To test the first hypothesis of the study, *Model (1)* is used:

$$\text{Taxplaing}_{it} = \beta_0 + \beta_1 \text{Agencycost}_{it} + \beta_2 \text{Size}_{it} + \beta_3 \text{lev}_{it} + \beta_4 \text{AGE}_{it} + \varepsilon_{it} \quad (1)$$

For confirmation of the study's first hypothesis, it is expected that  $\beta_1$  will be significant.

To test the second hypothesis of the research, *Model (2)* is used:

$$\begin{aligned} \text{Taxplaing}_{it} = & \beta_0 + \beta_1 \text{Agencycost}_{it} + \beta_2 \text{GOVSHLD}_{it} + \beta_3 \text{Agencycost}_{it} * \text{GOVSHLD}_{it} \\ & + \beta_4 \text{Size}_{it} + \beta_5 \text{Lev}_{it} + \beta_6 \text{AGE}_{it} + \varepsilon_{it} \end{aligned} \quad (2)$$

For confirmation of the second hypothesis of the study, the expectation is that  $\beta_1$  will be significant.

#### Dependent variable: tax planning

To measure this variable, the tax saving criterion is used, and this variable is equal to the difference between the legal tax rate and the effective tax rate. The legal tax rate is the rate that the company is legally obliged to pay, and the effective tax rate is calculated as follows [15]:

$$\text{Effective tax rate} = (\text{deferred tax} + \text{current year tax}) / \text{profit before tax}.$$

#### Independent variable: Agency costs

The interaction between growth opportunities, free cash flow, and asset turnover ratio are used to calculate agency costs. To calculate the dependent variable, growth opportunities, using Tobin's Q ratio, the sample companies were divided into two groups, above and below the median. Then, the companies in the group whose Tobin's Q ratio was above the median were assigned the number zero, and the companies in the second group were assigned the number one. Indeed, firms with Tobin's Q ratios above the median are expected to have higher growth opportunities than other firms and, thus, lower agency costs [16]. Free cash flows are calculated as follows, following Wang [17]:

$$\text{Free Cash flows} = \text{Net cash flow from operating activities} - \text{Paid interest} - \text{Dividends}.$$

After calculating each company's free cash flow, it was divided by its revenue to increase comparability. By multiplying the two factors, the agency costs for the companies studied were obtained [15].

### Modifier variable

Percentage government ownership (GOVSHLD): If the major shareholder is a corporation, government, or government-related or quasi-government entity, it takes the number 1. Otherwise, it takes the number 0. This study defines government ownership as a shareholder owning at least 20 percent of the company's shares. There is still no definition of quasi-governmental entities in Iranian law. The Public Accounts Law defines ministries, companies, and government organizations. A state-owned enterprise is a specific organizational unit established as a company by law, and the government owns all or at least 50% of its capital, whether it was originally established by the government or all of its shares were transferred to the government due to nationalization.

### Control variables

Company size (size): The natural logarithm of total assets at the end of the fiscal period [15].

Financial leverage (LEV): This is obtained by dividing total liabilities by assets [15].

Company age (AGE) Is the natural logarithm of a firm's age from its inception to the end of the financial period [15].

## 4 | Findings

### 4.1 | Descriptive Statistics

After collecting the data and calculating the variables used in the study, the descriptive parameters of each variable are calculated separately. *Table 1* shows the descriptive statistics of the dependent, independent, and control variables for all observations in this study. These parameters include information related to central indices such as mean, median, minimum, and maximum and information related to dispersion indices such as standard deviation and coefficient of skewness.

**Table 1. Descriptive Statistics.**

Variable Titles	Variable Symbol	Average	Median	Max	Min
Tax planning	TAXPLAING	0.16	0.18	0.25	0.005
Agency costs	AGENCYCOST	0.33	0.32	0.78	0.18
Company size	SIZE	6.58	6.48	9.26	4.25
Leverage	LEV	0.58	0.63	0.85	0.05
Company age	AGE	3.55	3.66	4.39	2.19

*Table 1* shows that the average company has agency costs of about 16%. It has also used debt financing, on average 58%. The average state ownership in the selected companies is 49%. Also, *Table 2* shows the dummy variable of the study, that is, government ownership.

**Table 2. the dummy variable of the government ownership.**

Government Ownership	GOVSHLD	Government enterprise	707 - % 498
		Non-government owned	713 - % 502

### The first research model estimation results

Based on the results of the F-Limer test, the first research model was estimated using the panel data approach with fixed effects. The estimation results of this model are presented in *Table 2*. The F-regression value indicates the explanatory power of the model. For this model, the statistical probability is less than 0.01, which means it is significant and valid at the 99% confidence level. Based on these results, considering the value of the Durbin-Watson statistic (1.72) also confirms no correlation between the autocorrelation components since this value is between 1.5 and 2.5.

**Table 2. Results related to the estimation of the first research model.**

Variable Name	Symbol	$\beta$	Coeff.	t-stat.	Sig.
Agency Cost	AGENCYCOST	0.077	0.021	3.556	0.000
Company Size	SIZE	0.013	0.003	3.390	0.000
Financial leverage	LEV	0.258	0.033	7.827	0.000
Company Age	AGE	0.0017	0.0012	1.404	0.160
Constant	C	0.806	0.076	10.485	0.000
F-Statistic	81.92		F- Sig.	0.0000	
Durbin-Watson	1.72		R2	0.38	

The research's first hypothesis seeks to answer whether there is a significant relationship between agency costs and tax planning. To test the first hypothesis of the study, the aim was to find no significant relationship between agency costs and tax planning in companies listed on the Tehran Stock Exchange, and the opposite of the null hypothesis was considered as the opposing hypothesis, so the relationship must be significant to confirm the hypothesis. As seen in *Table 2*, the calculated significance level for the variable between agency costs is 0.0000, which indicates that the relationship between these two variables is significant at a 95% confidence level. Also, the estimated coefficient of this variable is 0.077, which suggests that the relationship under investigation is direct. Therefore, considering the significance level and the sign of the estimated coefficient of the agency cost variable, it can be said that the relationship between agency cost and tax planning has a significant effect at the 95% confidence level, and based on these results, the first hypothesis of the research is confirmed. In other words, firms turn to tax planning as agency costs increase.

#### The second research model estimation results

Based on the results of the F-Limer test, the second research model was estimated using the panel data approach with fixed effects. As mentioned above, the research model was estimated to consist of three statistical populations divided according to the life cycle to verify the second hypothesis. *Table 3* presents the results of this model's estimation. The F-value of the regression, which indicates the model's explanatory power, is less than 0.01 for this model, meaning that it is significant and valid at a 99% confidence level. Based on these results, considering the value of the Durbin-Watson statistic also confirms no autocorrelation between the disturbance components since this value is between 1.5 and 2.5. Also, the  $R^2$  is equal to 0.36, which means that the regression model explains 36 percent of the changes in the dependent variable.

**Table 3. Results related to the estimation of the second research model.**

Variable Name	Symbol	$\beta$	Coeff.	t-stat.	Sig.
Agency cost	AGENCYCOST	0.466	0.164	2.84	0.005
Government ownership	GOVSHLD	-0.308	0.048	-6.38	0.000
Interaction effect of agency cost and government ownership	AGENCYCOST*GOVSHLD	-0.229	1.030	-0.22	0.824
Company size	SIZE	2.653	0.584	4.54	0.000
Financial leverage	LEV	1.716	0.166	10.34	0.000
Company age	AGE	0.395	0.352	1.112	0.141
Constant	C	1.120	.479	2.337	0.019
F-statistic	55.329		F- sig.		0.000
Durbin-watson	1.85		R <sup>2</sup>		0.36

The second hypothesis of the research seeks to answer the question of whether government ownership has a significant effect on the relationship between agency costs and tax planning. To test the second hypothesis of the study, the aim was to determine the absence of a significant effect of government ownership on the relationship between agency costs and tax planning in companies listed in the Tehran Stock Exchange, and the opposite of the null hypothesis was considered as the opposing hypothesis, so the relationship must be

significant to confirm the hypothesis [19]. As shown in *Table 3*, government ownership has no significant effect on the relationship between agency costs and planning.

## 5 | Conclusion

The positive and significant relationship between agency costs and tax planning indicates that using tax planning in companies listed on the Tehran Stock Exchange can have complex consequences. While this tax tool can help reduce costs and increase corporate profits, it can also serve as a platform for increasing conflicts of interest, reducing transparency, and increasing regulatory costs. This result can be analyzed from several perspectives:

- I. Conflict of interest between managers and shareholders: Agency costs arise from the conflict of interest between managers and shareholders. Although tax planning can reduce the tax burden and increase the firm's profitability, managers may use this tool to pursue their interests or create abuse opportunities. This increases agency costs as more monitoring is required to prevent managers' opportunistic behavior.
- II. Tax planning as a management tool: Companies use tax planning to reduce costs. However, complex and sometimes opaque tax planning processes can reduce financial transparency and increase regulatory or supervisory costs. This increased complexity can contribute to the growth of agency costs.
- III. Tax planning risks: Tax planning is associated with tax and legal risks that may be detrimental to the firm's interests in the long run. Managers may spend more on reporting and other management activities to hide these risks, increasing agency costs.

It should be noted that this study's results are inconsistent with those of Badertscher et al. [16].

The results of this study show that state ownership alone cannot act as a moderating factor in the relationship between agency costs and tax planning. This finding underscores the importance of strengthening regulatory mechanisms and creating incentives for reform in state-owned enterprises.

The results show that government ownership does not affect the relationship between agency costs and tax planning. This result is noteworthy and can be examined from several perspectives:

- I. The passive role of the government in the management of enterprises: Government ownership usually implies government supervision of enterprise performance. However, in many cases, especially in developing countries, this supervision may be merely formal and may have no practical impact on management decision-making processes. As a result, government ownership cannot act as a control instrument to reduce agency costs.
- II. Complexity of tax planning processes: Tax planning is a complex and specialized process influenced by the organization's management structures and strategies. Due to bureaucratic hierarchies and the lack of strong incentives for managers in state-owned enterprises, tax planning may remain independent of state ownership.
- III. Conflicts of interest and lack of influence of government ownership: Agency costs arise from conflicts of interest between managers and owners (Shareholders). In state-owned enterprises, this conflict may be exacerbated by other reasons, such as politicization or lack of sufficient government control over management. In such circumstances, state ownership cannot moderate the relationship between agency costs and tax planning.
- IV. Lack of corrective incentives: In state-owned firms, managers may behave more opportunistically due to the lack of corrective incentives. State ownership cannot help reduce agency costs or control managerial behavior.

## Research Suggestions

This section presents suggestions for future research:

- I. Future studies could examine the impact of Iranian tax policies on agency costs and evaluate the effects of specific management strategies to reduce these costs.



- II. Future studies could examine the role of corporate governance quality and alternative regulatory mechanisms in moderating the relationship between agency costs and tax planning in SOEs. Analyzing the impact of state ownership under different economic and political conditions could also provide new perspectives.

## Author Contributions

Each author played a vital role in this study. Azadeh Shemshad developed the research framework, carried out the primary data analysis, and wrote the initial draft of the manuscript. Shamsullhaq Fazl provided support for the methodological design, confirmed the accuracy of the statistical analysis, and reviewed the manuscript. Faezeh Pirouz helped with data collection, managed the references, and polished the final draft. All authors have reviewed and approved the final version of the manuscript.

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## Data Accessibility

The information utilized in this research comes from publicly accessible sources, predominantly the financial reports of firms listed on the Tehran Stock Exchange between 2014 and 2023. More detailed information about the data and the methodology can be obtained from the corresponding author upon reasonable inquiry.

## Conflicts of Interest

The authors confirm that there are no conflicts of interest regarding this publication. The research was carried out independently, free from any external influence from organizations or individuals.

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