

**Research Article**

## **THE INVESTIGATION OF RELATIONSHIP BETWEEN FIRM SIZE AND POLITICAL COSTS AND STOCK RETURN OF THE FIRMS ACCEPTED IN TEHRAN STOCK EXCHANGE IN 2009-2012**

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### **ABSTRACT**

In the present paper, the relationship between firm size and political costs and stock return for the companies, listed in Tehran Stock Exchange, has been studied. For this purpose, three hypotheses have been proposed. Multiple regression analysis and financial data from a sample of 85 companies accepted in Tehran Stock Exchange in 2009-2012 have been used to examine the research hypothesis. Research findings indicate that there is a significant relationship between firm size in terms of total assets and stock return. Furthermore, the results indicate a positive and direct relationship between them. Another research result demonstrated that stock returns of the firms accepted in Tehran Stock Exchange are not affected by political costs.

**Keywords:** *Firm Size, Political Costs, Stock Exchange, Stock Return*

### **INTRODUCTION**

The main aim of the financial reporting is to help users, particularly investors in economical decision making. With an emphasis on codification of accounting standards which could provide investors and other groups with useful and relevant information as financial information, professional financial accounting institutions have taken basic steps and it is expected that their efforts will lead to improved quality of financial information. One of the required components for financial information to be useful is the ability of explanation and predictability of the information. Thus, by using financial information the investors could evaluate and predict stock returns. Usefulness of financial accounting information such as firm size and political costs in evaluating and predicting stock return in recent studies has been noticed by most of investors, financial analysts, and managers and it is considered a main pattern in financial accounting research. That is why determination and evaluation of stock returns for the firms that are active in Tehran Stock Exchange (TSE) could provide an appropriate criterion to evaluate and usefulness of accounting numbers.

#### **Problem Statement**

In recent decades, rapid developments in activities of profit enterprises coupled with complexities of information systems has increased need for preparation and offering relevant and reliable financial information by profit enterprises. One of the most important requirements to prepare and provide financial information with the above-mentioned specifications is to codify accounting standards and observing them in practice. The standards are usually codified based on the accounting theories, economic status and finally political conditions and factors. The term "political factors" in accounting has not necessarily its certain sense which is related to parties and groups involved in political issues but conflict of power among actors, accounting filed could be considered a political factor. Given the role of politics in accounting and accepting it as an important part of accounting, an extensive research approach is proposed to study the relationship between political costs and accounting variables such as stock returns for the firms listed in Stock Exchange.

In several studies, the firm size has indicated various aspects of the firm. The firm size could represent leverage of firm. Through operating leverage and financial leverage, profit and stock returns could be obtained. The firm size could indicate competitive examination of the firm in the market. Since large market share requires more production and sales, thus having adequate financial resources and larger size could help the firm in high production and in spending more production and marketing costs so that it

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may create competitive advantages. The firm size could indicate management capability and quality of accounting schemes because the development of the firm size represents a strong management who attempts to increase economical resources of the firm by using the accounting schemes. The firm size could indicate total rate of the firm risk. More financial capacity may make an overall decreased risk because larger firms are well-known and subject to more public safety. The firm size may indicate information efficiency of the firm. Financial analysts and investors in markets usually care about larger firms. That is why accounting information creates more effective process in larger firms. Firm size may represent political sensitivity. Larger firms usually are more subject to sight of statesmen and politicians and thus they incur more political costs than smaller firms.

Firm size and political costs are used as two different and sometimes relevant criteria to measure volume and extent of the firm activities. In fact, the firm size and political costs could affect performance and annual returns of firms and make changes in their own stock returns. Therefore, by using information about the firm size and political costs the investors could evaluate and predict stock returns properly and use it as a main pattern in economic informed decision making.

In his M.S. dissertation, "Survey of political costs in stock companies in Mazandaran, solutions to reduce this cost" in Mazandaran University, by review of political costs in 1995-1997, Firouzi (1998) concluded that there had been a close relationship between the firm size in terms of sales and total political costs during 1995-1997.

In his M.S. dissertation, "Relationship between company size and political costs in Rah Gostar International Developing International Trade Company", Hosseinzade (2003) studied information of 27 firms covered by Rah Gostar Developing International Trade Company in 1999-2001. The results indicated that there was a significant relationship between the firm size and political costs and type of the industry could affect this relationship.

In an article "A review of the relationship between political costs and conservatism in TSE", Ebrahimi and Shahriyari (2009) mentioned that the firm size and extent of investment had negative relationship with conservatism and degree of competition in the industry and state ownership had positive relationship with conservatism. Also, the research results demonstrated that there was not significant relationship between the effective tax rate and risk and conservatism.

Pourheidari and Hemmati studied the effect of debt contracts, political costs, reward plans, and ownership on profit management in the firms listed in TES and they concluded that in average, there was not any positive and significant relationship between debt/equity ratio and profit manipulation.

In her M.S. dissertation, "The study of relationship between political costs and voluntary disclosure of accounting information associated of capital market, Case study: pharmaceutical, food, and vehicle industries in 2006-2010", Moheb (2013), concluded that there was a positive and significant relationship between political costs and rate of voluntary disclosure. In addition, the research results indicated that there was a positive relationship between the firm size and rate of voluntary disclosure.

In their research, Deegan and Gordon (1996) studied the relationship between the firm size and environmental sensitivity and the results indicated a positive correlation between firm size and environmental sensitivity (political costs).

Kuban *et al.*, (1979) studied behaviors of US chemical firms and the results indicated that firm managements got motivated to affect results of the political activities whether political costs were defined extensively or limited. Effects of political costs on smoothing profit, by Godfrey and Jones (1999) concluded that the firms operating in banking, financial, research, fundamental, and civil services sectors bore more political costs. In their own study, Digan and Hallam (1991) declared that the firms which had larger share of the market associated with their own industry, were more likely to bear more political costs and would be subject to more public scrutiny. Panchapakesan and McKinnon (1992) declared that the firm size, market share, number of employees, number of shareholders, social reporting, and coverage had all similar effects on the political costs. However, return on investment was not included in the above group because research demonstrates that it was possible that a firm bears high political costs both in terms of high and low returns on investment.

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A research conducted by Darroge *et al.*, (1998) indicated that there was a negative relationship between number of employees as an index of political pressures and profit manipulation. Results of their research suggest that the firms with larger number of employees had been under more political pressures thus managements of such units try to reduce profit in order to reduce pressures.

Moses (2005) believes that the more political costs the more willing and motivated the managers will be to manipulate. In his opinion, the larger firms make their accountability to be increased and their managers would be subject to a wide range of claims.

Blaconiere and Patten (1994) noticed legal costs imposed on the firms by law and regulations. They pointed out that it could be expected that for chemicals industry, as a result of damages on the environment such as the disaster happened in India, political costs increased. In addition, they proposed that political costs could be expected to be increased in case of occurrence of such disasters

Jacobs and Kenneth (1986) conducted a research to answer questions: what is the relationship between the firm size and price/earnings (P/E) ratio if one of them affects the other and how does one affect the other? Is the size really an important factor? Is P/E an important factor? The analysis in this research was performed based on monthly returns.

General result obtained by Jacobs & Kenneth (1986) indicated that low P/E had a good average return in 1978-1986 and even if P/E was low, effects of other factors such as sales/price ratio was measured then the result would be positive. The effect of small size of the firms on net average return was more important than that on normal average return in the given period. That is to be mentioned that a firm with smaller size has a larger average return than the firms with larger size and effect of the size was measured in January and it was confirmed that the effect of P/E and size on normal return data is totally clear and the size as a subset of P/E affects the return and/or P/E as a subset of size affects return. Results indicated independency between low P/E and small size of firms. Of course, it must be noted that effect of size and other relevant and effective features on return could be associated with macroeconomic events.

Donald (1990) examined the effect of firm size and E/P ratio on stock returns. For this purpose, he considered a stock sample from 1951 to 1987, and return data, prices for shares issued by a firm and are at hands of the people obtained from Chicago University that is a research center for prices of securities. Sample of firms only includes those firms that the end of financial year of them is 31 Dec. Securities have been classified and average balanced return for any portfolio monthly including 12 months has been obtained. Effect of market value such as firm size on return was tested separately and market value was classified into ten classes and ten portfolios including smaller firms that stand at first class and large firms stand at tenth class. Where effect of size and P/E were examined separately, Kim found that the firms with a lower market value have larger return than those with higher market value.

### **Research Objectives**

Familiarity with effect of political process and costs on cash flows of the firms such as their returns is one of the important and critical resources for any business unit that is of special importance. Political cost is one of the firm costs that if it is identified and controlled it could be useful in increasing competitive capabilities of firms in domestic and even world markets. Given novelty of concept of political costs in Iran and more familiarity with costs of this type by top managers of firms and activists in Stock Exchange and accounting and auditing professionals could underlie future research in this field.

Review of dimensions of political costs in firms whether large or small and understanding how it affects stock return as the most important criterion for evaluation of performance of firms in Stock Exchange and in case of presence of a significant relationship between firm size and effects of political costs on stock return could be useful as an information resource for users of financial statements because they could compare more clear information gained in their own transactions with business units with this information resource and make more informed decisions according to the obtained results.

### **Research Hypotheses**

In order to study and determine the relationship between firm size and political costs and stock return for the firms listed in TSE, three hypotheses including one main hypothesis and two sub-hypotheses are proposed.

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### Main Hypothesis

There is a significant relationship between firm size and political costs and stock return for the firms listed in Tehran Stock Exchange.

### First Sub-hypothesis

There is a significant relationship between sales rate of the firm and political costs and stock return for the firms listed in Tehran Stock Exchange.

### Second Sub-hypothesis

There is a significant relationship between assets of the firm and political costs and stock return for the firms listed in Tehran Stock Exchange.

## MATERIALS AND METHODS

### Research Method

The present study is applied and correlation type. Correlation research involves all studies in which it is attempted to determine the relationship between different variables by using correlation coefficient. Also, in this research, independent variables taking precedence over dependent variable will be measured by using correlation statistics that will be performed by using multiple regressions. Also along this model, analysis of variance (ANOVA) test is used to have an overall assessment of linear relationship.

### Statistical and Sample Population

Statistical population includes all firms listed in Tehran Stock exchange that were operating in 2008-2012 and statistical sample was determined 85 firms given the following conditions:

- Firms have not changed their financial year during the above period.
- Transactions of the firm stock have not faced trading interruptions during the above period.
- Firms are investment, insurance, and leasing firms or banks.
- Required information for the given period is available.

### Research Variables

For the present research, ordering of variables given the research objective are:

#### Independent Variables

**Firm size.** The first independent variable for the present research is the firm size. It is a criterion that is used to identify large or small firms and in order to measure it, we will use two indices including sales rate and total assets of the firm that have been used with their logarithm to eliminate measurement scale as a variable of firm size with their.

**Political costs.** The second independent variable for the present research is the political cost existing in financial statements of the firms accepted in Tehran Stock Exchange and it will be measured by using relevant indicating indices such as tax, insurance, costs for environmental protection, sports subsidies, etc. Finally, political costs calculated for each company will be normalized by using variable total assets of the firm and result political costs divided by total assets.

#### Dependent Variable

In the present study, stock return is used as a dependent variable that constitutes ratio of total revenue (loss) from investment at a certain period (one year) to the invested capital used at the beginning of the same period to obtain that revenue. The revenue includes first change in value (price) of original capital and secondly profit associated with the original capital.

#### Descriptive Statistics

Table 1 gives some of the concepts for descriptive statistics of these variables including mean, standard deviation, minimum and maximum.

**Table 1: Descriptive statistics of research variables**

Variables	Mean	Standard deviation	Minimum	Maximum
Stock return	45.78	76.15	-56.77	820.16
Logarithm of total assets	12.52	0.74	10	13.8
Logarithm of total sales	13.87	1.73	9.32	18.73
Political costs to assets ratio	0.41	1.19	0	9.17

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In the above table, the mean, variables centrality, and standard deviation indicate scattering variables. Minimum and maximum indicate the lower and upper values for variables. Given that the results have been rounded to two decimal places, in this table minimum ratio of political costs to total assets has been zero.

**Inferential Statistics**

**Hypotheses Testing**

As mentioned in section 3, in this research multiple regressions have been used to test hypotheses as described here.

**First Sub-hypothesis**

There is a significant relationship between total sales of the firm and political costs and stock returns for the firms accepted in Tehran Stock Exchange.

Hypothesis results testing are shown in Table 2.

**Table 2: Results obtained from regression of the first sub-hypothesis**

Type of variable	Symbol	Name of variable	Coefficient	Statistic t	Level of significance
Dependent variable	Y	Square root of stock return	-	-	-
Constant value	$\alpha$	Intercept	84.83	2.433	0.015
Independent variables		Political costs to total assets ratio	5.007	1.348	0.178
		Logarithm of total sales	-3.685	-1.44	0.178
Durbin-Watson statistic			1.975	-	-
Statistic F			1.256	-	0.286
Correlation coefficient R			0.077	-	-
The coefficient of determination (R Squared)			0.006	-	-
Adjusted coefficient of determination (R squared)			0.001	-	-

As shown in Table 2, linear relationship is not verified for none of the variables ranging from political costs to total assets and logarithm of total sales and stock return (P-value>5%).

Given value of statistic F, fitted regression pattern is not suitable. Hypotheses of this test include:

Null hypothesis: none of independent variables has linear relationship with dependent variable.

Opposite hypothesis: at least one of independent variables has linear relationship with dependent variable.

As significance level for this statistic is more than 5%, then it is not significant. In other words, by 99% confidence none of independent variables (total sales and political costs) has linear relationship with dependent variable.

Given the coefficient of determination, independent variables describe only 0.6% of changes in stock return.

Durbin-Watson statistic is also between 1.5 and 2.5. Thus it could be concluded that there is not issue of self-correlation between variables.

**Second Sub-hypothesis**

There is a significant relationship between total assets and political costs of the firm and stock return for the firms listed in Tehran stock Exchange.

Hypothesis results testing are shown in Table 3.

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**Table 3: Results obtained from regression of the second sub-hypothesis**

Type of variable	Symbol	Name of variable	Coefficient	Statistic t	Level of significance
Dependent variable	Y	Square root of stock return	-	-	-
Constant value	$\alpha$	Intercept	83.992	-1.32	0.188
Independent variables		Political costs to total assets ratio	1.976	0.64	0.522
		Logarithm of total sales	9.502	1.872	0.062
Durbin-Watson statistic			1.985	-	-
Statistic F			1.972	-	0.14
Correlation coefficient R			0.096	-	-
The coefficient of determination (R Squared)			0.009	-	-
Adjusted coefficient of determination (R squared)			0.005	-	-

As could be seen in table 3, linear relationship is not verified for none of the variables ranging from political costs to total assets and logarithm of total sales and stock return (P-value>5%).

Given value of statistic F, fitted regression pattern is not suitable. Hypotheses of this test include:

Null hypothesis: none of independent variables has linear relationship with dependent variable.

Opposite hypothesis: at least one of independent variables has linear relationship with dependent variable.

As significance level for this statistic is more than 5%, then it is not significant. In other words, by 99% confidence none of independent variables (total assets and political costs) has linear relationship with dependent variable.

Given the coefficient of determination, variables describe only 0.9% of changes in variable stock return.

Durbin-Watson statistic is also between 1.5 and 2.5. Thus it could be concluded that there is not issue of self-correlation between variables.

Main hypothesis

There is a significant relationship between the firm size and political cost and the stock return for the firms listed in Tehran Stock Exchange.

H0= relationship between independent variables and stock return is significant (H0:  $\beta=0$ ).

H1: relationship between independent variables and stock return is not significant (H1:  $\beta \neq 0$ ).

The main hypothesis results testing are given in Table 4.

**Table 4: Results obtained from regression of the main hypothesis**

Type of variable	Symbol	Name of variable	Coefficient	Statistic t	Level of significance
Dependent variable	Y	Square root of stock return	-	-	-
Constant value	$\alpha$	Intercept	-0.327	-0.077	0.939
Independent variables		Political costs to total assets ratio	0.137	0.608	0.544
		Logarithm of total assets	0.669	2.007	0.669
		Logarithm of total sales	-0.118	-0.693	0.489
Durbin-Watson statistic			1.863	-	0.489
Statistic F			1.375	-	0.251
Correlation coefficient R			0.117	-	-
The coefficient of determination (R Squared)			0.014	-	-
Adjusted coefficient of determination (R squared)			0.004	-	-

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As could be seen in Table 4, only variable logarithm of total assets has significant relationship with square root of stock return (P-value<5%). Linear relationship for the other variables is not verified. Also, presence of intercept in the model is not verified because level of significance (0.939) is more than 5%.

Given the value of statistic F, fitted regression model is not suitable.

Null hypothesis: none of the independent variables has linear relationship with dependent variable.

Opposite Hypothesis: at least one of the independent variables has linear relationship with dependent variable.

Given the coefficient of determination, variables describe only 1.45 of changes in variable stock return.

As Durbin-Watson statistic is between 1.5 and 2.5, then it could be concluded that there is not issue of self-correlation between variables.

## **RESULTS AND DISCUSSION**

### **Results**

As mentioned before, the present study has three hypotheses. The first sub-hypothesis indicated that there was a significant relationship between sales rate and political costs of the firm and stock return for the firms listed in Tehran Stock Exchange. The results indicated that the linear relationship for none of the variables whether political costs or sales rate of the firm was not verified with stock return and by 99% confidence, such relationship was weak. The second sub-hypothesis indicated that there was a significant relationship between total assets and political costs of the firm and stock return. The results suggested that the linear relationship was not verified for none of variables whether political costs or assets of firm and assets of the firm and by 99% confidence, such relationship was weak. Results for the main hypothesis indicating significant relationship between firm size and political costs and stock return for the firms listed in Tehran Stock Exchange demonstrated that only variable logarithm of total assets of the firm had significant relationship with stock return and by 99% confidence, such relationship was direct and strong.

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