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The Role of Company Monitoring Factors on the Degree of Cost Stickiness Relying on the Role of Accounting-Based Performance

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ABSTRACT

The purpose of this study was to analyze the role of company monitoring factors on cost stickiness. The spatial realm was the companies listed on the Tehran Stock Exchange and the time realm was during 2014-2020 and 115 companies have selected by the systematic elimination method as a statistical sample. To collect data, reference to financial statements, explanatory notes and stock exchange monthly journals and to describe and summarize data, the descriptive and inferential statistics have been used. In data analysis, F-Leimer test, Hausman test and Jarque-Bera test were used to confirm and reject the hypotheses (Eviews software). The results showed that the company's supervisory factors affect the degree of cost stickiness by relying on the role of accounting-based performance which the results obtained in this study are consistent with the documents mentioned in the theoretical framework of research and financial literature.

1 Introduction

Cost stickiness refers to the fact that cost reduction in the time of the activity level reduction is less than cost increase when the activity level increases. Cost stickiness is the result of a risky approach. The manager facing declining sales must choose whether to reduce resources, or to conserve unused resources. If the manager expects sales to return to normal quickly, he or she will decide to bear the cost of maintaining unused resources. Since the future sale is uncertain, the manager implicitly takes a risky approach [1]. On the other hand, the ownership structure, and in particular the institutional shareholders are considered as one of the important mechanisms for the principles of corporate governance. It is generally thought that the presence of institutional investors may lead to changes in the behavior and performance of companies. It

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should be noted that not all institutional investors have the same motivation to supervise and monitor managers. Long-term investment allows investors to reap the benefits of oversight by long-term holdings of the stock. Also, institutions that have diversified ownership in many companies are less likely to seek to monitor the disclosure of information.

Since the institutional investors who hold a significant portion of the stock of these companies in their portfolio can monitor the performance of managers; because with their departure, there will be a big drop in the stock prices of these companies. In the shadow of the threat of institutional investors leaving the company, these investors can demand managers' high-performance. Traditional agency theory predicts that the higher the level of long-term institutional ownership, the lower the likelihood of moral deviance. One of the main reasons for this phenomenon is that managers are afraid of the negative consequences of getting caught if they do wrong things. In companies that have more institutional ownership, managers will have more fear. In other words, agency theory clarifies the idea that institutional investors can increase managers' fears of being caught if they commit wrongdoing and thereby adjust the likelihood of financial fraud (Shi et al. [24]).

Considering the channels through which an institutional investor can be involved in the activities and decisions of the company, it is expected that the cost management methods of such companies will be closely examined by institutional investors. To maximize shareholder value, cost stickiness in a company should be reduced as much as possible. Institutional investors are closely monitoring the company, which in turn reduces cost stickiness. Only long-term institutional investors are expected to be significantly motivated to monitor management. This is because progress in corporate governance takes time, and only long-term horizon investors can reap the benefits of better corporate performance and shareholder value (Chung et al. [17]), so it is expected that long-term institutional investors are associated with reduced cost stickiness. According to the contents presented in this section, the main question of the research is that what is the role of the company's monitoring factors on the cost stickiness level?

2 Theoretical Foundations and Research Background

In recent years, some researchers have come to the conclusion that costs do not change according to sales changes (volume of activity). In other words, costs increase in proportion to the increase in sales, but do not decrease in proportion to the decrease in sales. This type of cost

behavior is known as sticky costs. In fact, this theory states that the increase rate in some costs when increasing the sales level is more than the rate of decrease at the level of costs at the time of sales decrease [1-3]. On the other hand, the most important actors in corporate governance are shareholders because they are the suppliers of company capital and maintaining their trust is very important.

One of the most effective external control mechanisms of corporate governance which is so important is the emergence of institutional investors. Institutional investors monitor major capital investments, such as merger tenders, although they do control over current costs incurred by cost stickiness (Chen et al., [14]). The present study explains why institutional investors, as large shareholders, decide to influence asymmetric cost management practices of corporate executives as demand fluctuates throughout the business cycle. Chung et al. [17] found that institutional ownership is negatively related to the cost stickiness degree. This suggests that institutional investors are engaged in costly monitoring, which reduces cost stickiness. Chung et al. [16] stated that only long-term institutional investors with top investors are motivated to oversee management. This is because improvements in corporate governance take time to realize, and only long-term horizon investors can reap the benefits of better company performance and stock value [16]. Short-term institutional investors, on the other hand, often tend to vote by own and may even force the company to pursue short-sighted goals.

After the division of organizational inventory, we show to those who are held by long-term investors that negative relationship between institutional ownership and cost stickiness actually is driven by long term institutional investors or big investors. In addition, we find that short-term institutional investors' ownership is positively correlated with the degree of cost stickiness. This shows that short-term institutions are not concerned with non-optimal cost management and cost asymmetry is reinforced without organizational oversight, which is compiled according to the theoretical foundations presented in the study.

In the country in this field, Nikkar and Malek Khodayi [12] in studying the effect of cost structure and uncertainty in future demand on cost behavior asymmetry showed that cost asymmetric behavior (cost stickiness) which is due to asymmetry in cost behavior is in companies listed in Tehran Stock Exchange and the relative level of fixed costs in the company's cost structure increases cost asymmetric behavior and consequently increases cost stickiness intensity. Khajavi et al. [5], in the study of cost stickiness and cost inertia: two cost stimulus models of

asymmetric cost behavior showed that the extended model has more explanatory power in the stickiness of costs than the previous model and the more cost inertia than the cost stickiness hypothesis was not confirmed in the extended model. In optimistic circumstances (pessimistic) managers are more (less) inclined to maintain surplus resources, even if the current period performance is reduced and ultimately cause cost stickiness (anti-stickiness). Mohammadi and Zanjirdar [8], in studying the relationship between different types of institutional owners, conservative accounting and cost stickiness show that there is a significant and positive relationship between institutional investors and passive and conservative institutional investors, and cost stickiness has a positive effect on the relationship between institutional investors and passive and conservative institutional investors.

Sadeghpour Moghadam [4] in examining the relationship between institutional ownership and cost stickiness showed that there is a significant negative relationship between institutional ownership and cost stickiness. Also, the negative relationship between institutional investors and the degree of cost stickiness in active institutional shareholders is more than other inactive institutional shareholders. Ali Khani et al. [7] in the study of incremental profit management, corporate governance and cost stickiness showed that incremental profit management and corporate governance reduce cost stickiness. Also the interaction effect of corporate governance and incremental profit management leads to reduce the cost stickiness. Nowruzi et al. [11] in examining the relationship between institutional ownership variable and cost stickiness found that there is a positive relationship between institutional ownership variables and sales costs stickiness. Regarding public and administrative costs, it can be concluded that the cost stickiness of the companies under study is not in the control of management and managers and corporate governance have no effect on this issue and in sales costs, managers are trying to prevent losses due to missed opportunities. Bandarian and Ghatebi [3], in a study titled “the stickiness behavior of public, administrative, sales costs emphasizing on the size of the company show that the intensity of cost stickiness is less in the periods in which the income reduction occurred in the previous period, and also the intensity of cost stickiness is higher for companies that have a larger ratio of total assets to sales.

Ismailzadeh and Mehrnoosh [2] in investigating the relationship between cost stickiness and profit quality and forecasting error show that by increasing the stickiness of administrative, public and sales costs, the total cost of goods sold and the accuracy of profit forecasting and profit quality decreases.

The results are also presented for 84 different active companies in the stock exchange. Moradikhah [10] in investigating the relationship between cost behavior and profit predicted by management, and asymmetric cost behavior in profit forecasting, show that cost behavior affects the accuracy of profit forecasting and market reaction.

In abroad also Costa and Habib [18] in the study of commercial credit and cost stickiness found that companies with a high level of business credit show less cost stickiness and in a non-competitive market, where the problem of representation arises due to lack of competition, commercial credit plays the role of external oversight with debilitating cost stickiness. However, high customer focus reduces this monitoring ability. Chung et al. [17] in examining the role of company monitoring factors on the degree of cost stickiness relying on the accounting-based performance and market show that long term institutional investors are along with reduced cost stickiness, and these reductions lead to superior market performance and accounting in the future. Habib [19] in the study of corporate social responsibility and cost stickiness found that cost stickiness is more specific to strategic social responsibility. Finally, examined the social responsibility-based behavioral pattern in business cycles and provide evidences of cost stickiness during the expansion phase of the economy and cost stickiness during a recession and only for the social responsibility component.

Han et al [3] in investigating the relationship between cost stickiness and management revenue forecasts shows that firm-level cost stickiness is positively correlated with the firm's tendency to the VC issue as well as the frequency of links and the level of cost stickiness is related to the more favorable profit forecast by management. Tsui and Yang [25] in examining whether organizational investors demand less stickiness, found that when institutional ownership is higher, cost stickiness is less and the negative correlation between ownership by the organizational monitor and cost stickiness among companies where managers have more opportunities to access resources based on existing cash flow and tenure, is stronger. Madadian et al. [21], in examining the social comparison of cost behavior and financial analysis, showed that there is a negative relationship between similarity of public and administrative sales costs and analyst coverage, especially for companies which their previous public and administrative sale cost ratio to the social standard is higher. Cheng et al. [15] in investigating the effect of access to capital on cost stickiness show that, on average, cost stickiness is affected by capital. For companies in areas with lower levels of financial development, guidance costs are less sensitive to

increased sales and show less stickiness. Yao [26] in the study of cost stickiness, ownership focus and organizational risk show that cost stickiness significantly increases the amount of organizational risk. Ownership concentration, as the main content of organizational management, affects the relationship between cost stickiness and firm risk level: When the ownership concentration is higher, the effect of cost stickiness on firm risk will be greater. Paik and Koo [22] in examining the agency problem, cost solving, and shareholders' control confirm that the agency problem positively affects the cost stickiness at the company level and a positive relationship between agency problem and cost behavior in companies is stronger than the small ownership shares of the shareholders of controlling shareholders over the large shares. Hou [20] in examining the heterogeneity of institutional investors and cost stickiness show that organizational investors have a significant performance in cost stickiness and the performance of increasing institutional investors on cost stickiness are created by domestic institutional investors and trading institutional investors, but foreign institutional investors and fixed organizational investors have no significant effect on cost stickiness.

Cannon [13], in examining the determinants of cost stickiness: an analysis of cost stickiness using data from the US aviation industry shows that cost stickiness occurs when managers maintain unemployment capacity as demand decrease, but increase excess demand capacity. However, cost stickiness occurs when managers lower their prices to use existing capacity when demand decreases, but if demand increases, capacity increases and cost stickiness occurs because managers when adding capacity as demand grows, incurs more costs, and as their capacity increases, demand decreases.

3 Research Methodology

According to the title of the research and the theoretical framework, the research hypothesis is presented as follows:

Hypothesis 1: Company regulatory factors affect cost stickiness.

Hypothesis 2: Accounting-based performance affects the relationship between firm regulatory factors and cost stickiness.

The present research is in the category of applied researches, in terms of nature is descriptive and in terms of method is in the category of correlational researches. To collect data and infor-

mation, the library method has been used and in the research data section, references to financial statements, explanatory notes and stock exchange monthly journals have been used. Descriptive and inferential statistics have been used to describe and summarize the collected data. In order to analyze the data, first the variance heterogeneity pre-tests, F-Limer test, Hausman test and Jarque-Bera test were used and then to confirm and reject the research hypothesis, the Eviews software has been used.

3.1 Statistical Population and Models

The statistical population of this study is the companies listed on the Tehran Stock Exchange that participated in the Tehran Stock Exchange during 2014-2020. Based on the systematic elimination method, 115 companies have been selected as a statistical sample of the research to test the statistical hypothesis. Based on the Chung et al. [17] research, the following model is estimated to comment on the first research hypothesis:

$$WS_{i,t+1} = \alpha + \beta_1 \cdot Monitoring\ IO_i + \beta_2 \cdot Non-Monitoring\ IO_i + \beta_3 \cdot SIZE_i + \beta_4 \cdot PROF_i + \beta_5 \cdot MB_i + \beta_6 \cdot LEV_i + \beta_7 \cdot Industry\ D + \varepsilon_{i,t+1}. \quad (1)$$

To test the second hypothesis of the research, model (1) of the hypothesis model in two levels of companies with high and low level of accounting-based performances (data higher and lower than the middle of the sample) is estimated separately and the results are compared with each other. After measuring the accounting-based performance index, the median of this index is calculated for the whole sample and then the index values are compared with the median, if the value of the index is higher in each year-company than the median, in that year-company, the accounting-based performance will have a high level and if the value of the index is smaller than the median value, in that year-company, the accounting-based performance will have a low level. In the mentioned model we have:

W-S: cost stickiness; Monitoring IO: Company monitoring factors including (IO: total institutional shareholders; LIO: long-term institutional shareholders; SIO: short-term institutional shareholders and MON5: percentage of shares in the hands of 5 large shareholders); Non_ Monitoring IO: Percentage of shares in the hands of shareholders other than 5 large shareholders; SIZE: Company size; PROF: Profitability; MB: stock market value to book value; LEV: Financial Leverage [17]. The following is a measurement of each of the variables:

Research dependent variable is as follows:

A- Cost stickiness which is measured through model (2):

$$WS_{it} = \log\left(\frac{\Delta Costs}{\Delta Sales}\right)_{i,\theta} - \log\left(\frac{\Delta Costs}{\Delta Sales}\right)_{i,\phi} \quad (2)$$

Where in:

$$\Delta Sales_{i,t} = Sales_{i,t} - Sales_{i,t-1} \quad (3)$$

$$\Delta Costs_{i,t} = (Sales_{i,t} - Earnings_{i,t}) - (Sales_{i,t-1} - Earnings_{i,t-1}) \quad (4)$$

$Sales_{i,t}$: sales of company in time t, $Sales_{i,t-1}$: Company sales in the time t-1; $Earnings$: Profit before contingencies; θ: Periods with declining sales; : ф : Periods with increased sales [17].

3.2 Variables

Independent variable can be stated as follows:

A- Company monitoring factors including (IO: total institutional shareholders; LIO: long-term institutional shareholders; SIO: short-term institutional shareholders and MON5: percentage of shares in the hands of 5 large shareholders) which are discussed below:

-To calculate the level of institutional ownership, the total shares held by banks and insurers, holdings, investment companies, pension funds, financing companies and investment funds, governmental organizations and institutions and state-owned companies are divided by the total share of the company and the percentage or institutional ownership level is obtained:

$$\textit{Institutional ownership level: total shares held by institutional owners} \quad (5)$$
$$\textit{Total issued shares of the company}$$

On the other hand, to classify the ownership of investors in two categories, short-term and long-term, the total purchase and sale of each investor is defined as (6) and (7) equations:

$$CR_{buy_{j,t}} = \sum_{i\in Q, N_{j,i,t} > N_{j,i,t-1}} |N_{j,i,t}P_{i,t} - N_{j,i,t-1}P_{t-1} - N_{j,i,t}\Delta P_{i,t}| \quad (6)$$

$$CR\_sell_{j,t} = \sum_{i\in Q, N_{j,i,t} \le N_{j,i,t-1}} |N_{j,i,t}P_{i,t} - N_{j,i,t-1}P_{t-1} - N_{j,i,t}\Delta P_{i,t}| \quad (7)$$

In this relationship CR_buyj, t is the total purchase of institutional investors in year t; CR_sellj, t is total sales of institutional investors in year t; Pi, t is the stock price and Ni, t is the stock price. If the number of shares in period t is more than period t-1, it is considered as the purchase of an institutional investor, and if the number of shares in period t is less than the period t-1, it is considered as the sale of an institutional investor. Now, to measure the horizon of institutional investors, it is necessary to calculate the fall rate, which is calculated as described in equation (8) [17]:

$$CR_{j,t} = \frac{min(CR\_buy_{j,t}, CR\_sell_{j,t})}{\sum_{i\in Q} \frac{N_{j,i,t}P_{i,t} + N_{j,i,t-1}P_{t-1}}{2}} \quad (8)$$

Investors are classified into three portfolios based on the mentioned amount. If they are in the upper portfolio, it means that they have the highest average of fall rate (more than 80%), the percentage of institutional shareholders is considered as an indicator of the SIO institutional shareholder horizon, and for investors in the lower portfolio, i.e. have the lowest average of fall rate (less than 20%), the percentage of institutional shareholders considered as the long-term horizon index of LIO shareholders [9].

- The percentage of shares in the hands of 5 large shareholders is equal to the percentage of shares in the hands of 5 large shareholders.

Control variables are summarised as follows:

A- Percentage of shares in the hands of shareholders other than 5 large shareholders, which is equal to the percentage of shares in the hands of shareholders other than 5 large shareholders.

B- The size of the company which is equal to the natural logarithm of the total sales of the company [6].

C- Profitability which is equal to the ratio of operating profit before deduction of depreciation on total assets [6].

D- Financial leverage which is equal to the ratio of total debt to total assets [6].

E- Stock market value to book value.

The modifier variable is described as follows:

1. Accounting-based performance

According to Chung et al. [17], accounting-based performance is measured by the return on equity index as follows:

$$ROE = \frac{PAT}{BVE}$$

ROE: Return on equity

Where in:

$: ROE$: Return on equity

PAT: Net profit after tax

4 Analysis of Research Data

4.1 Descriptive Statistics of Research Variables

Before testing the hypotheses, the variables are summarized in Table 1.

Table 1: Descriptive statistics of examined variables

Financial leverage	stock book value to market value	profitability	Company size	Percentage of shares in the hands of shareholders other than 5 large shareholders	Percentage of shares in the hands of 5 large shareholders	Long-term institutional shareholders	short-term institutional shareholders	Cost stickiness	Titles of descriptive index variables
LEV	MB	PROF	SIZE	Non Monitoring IO	Monitoring MON5	Monitoring LIO	Monitoring SIO	W_S	
0/589744	7/803187	0/108334	13/85873	0/032672	0/963725	0/000610	2/833740	0/082765	mean
0/615770	3/195170	0/091180	13/85752	0/000000	1/000000	0/000000	0/000000	0/085487	median
0/976750	1092/057	0/623360	19/56638	0/749200	1/000000	0/037730	97/25762	0/243040	Max.
0/046900	0/159930	-1/112220	8/959180	0/000000	0/000000	0/000000	0/000000	-0/064610	Min.
0/200311	44/56657	0/166383	1/543919	0/086742	0/104854	0/003310	11/74761	0/057381	Standard deviation
-0/325810	20/09764	-1/516322	0/198675	5/514877	-5/950387	7/562886	5/495519	-0/012798	skewness
2/504675	458/2107	14/49446	4/223628	39/28963	44/63785	66/86189	34/92913	3/389050	kurtosis
805	805	805	805	805	805	805	805	805	observations

Resource: researcher's findings

In Table 1, the mean indicates the equilibrium point and center of gravity of the distribution and is a good indicator to show the centrality of the data, which is equal to 0.082 for the cost stickiness variable. The median for the cost stickiness variable is 0.085, which indicates that half of the data is less than this value and the other half is more than this value. Also, the same value of the mean and median indicates the normality of this variable.

Dispersion indices are a measure of the extent to which data are dispersed from each other or their dispersion relative to the mean. The standard deviation is one of the most important dispersion indices which is equal to 0.05 for the cost stickiness variable. The skewness coefficient value for the stickiness variable is positive and close to zero, which indicates that the distribution is normal and very skewed to the right and the kurtosis is positive for all variables.

4.2 Reliability Test of Research Variables

To evaluate the reliability of the variables, Levin and Lane test was used, the results of which are presented in Table 2.

Table 2: Levin and Lane test results

Signifi-cance level	Levin, Lin and Chou test statistics		variables
0.0000	-31.5792		Cost stickiness
0.0000	-14.4271		Short-term institutional shareholders
0.0000	-4500.46		long-term institutional shareholders
0.0000	-207.340		Percentage of shares in the hands of 5 large shareholders
0.0000	-206.936		Percentage of shares in the hands of shareholders other than 5 large shareholders
0.0000	-14.1709		Company size
0.0000	-19.0707		profitability
0.0000	-20.5414		stock book value to market value
0.0000	-17.6406		Financial leverage

Resource: researcher findings

Based on the values presented in Table 2, the level of significance in all variables is less than 0.05 and shows that they are of the order of zero and in the stationary level. This means that the mean and variance of variables over time and the covariance of the variables were constant during 2014-2020 and show the reliability of the variables.

4.3 Variance Stability of Error Sentence (Residuals)

To investigate the heterogeneity of variance of the residues, White test was used and the results are presented in Table 3.

Table 3: White test results

probability	Statistic value	Statistic type	Row
0.0003	8.202596	F-statistic	H1

Resource: researcher findings

Based on the values presented in Table 3, for the research hypothesis, the significance level of

F-statistic is less than 5% and our hypothesis that there is variance homogeneity in the research hypothesis is rejected, so for the research hypothesis, the GLS method is used to estimate the test.

4.4 F-Limer and Hausman Test

The results of F-Limer and Hausmann test for research hypotheses are listed in Table 4.

Table 4: F-Limer and Hausmann Test Results

Significance level	Hausman test	Significance level	F-Limer test	
0.0405	22.576014	0.0000	2.839914	Research hypothesis

Resource: researcher findings

In Table 4, the panel data method for the research model is accepted that the panel data method can be performed using two models of random effects and fixed effects and to select them, the Hausman test is used. According to the research model, the probability of chi-square test is less than 5%, so constant effects are used to estimate and analyze the research hypothesis model.

4.5 Summary of Research Hypothesis Analysis

The results of the first research hypothesis are described as in Table 5. In Table 5, the probability of t-statistic for fix coefficient and coefficients of variables of short-term institutional shareholders, long-term institutional shareholders, percentage of shares in the hands of 5 large shareholders, percentage of shares in the hands of shareholders other than 5 large shareholders, company size, profitability, stock book value to market value and financial leverage on cost stickiness level is less than 5%; therefore, the above relationship is statistically significant.
The coefficient of short-term institutional shareholders, long-term institutional shareholders on cost stickiness level is a negative and significant and the variables of percentage of shares in the hands of 5 large shareholders and percentage of shares in the hands of shareholders other than 5 large shareholders on cost stickiness level are positive and significant. The value of Durbin-Watson is 1.88, which the value of this statistic is in the range of 1.5 to 2.5, so the independence of the model residues is confirmed.

Table 5: Summary of the results of the first research hypothesis model

Significance level	statistic -t	Standard error	coefficients	
0.0050	2.815423	0.020975	0.059054	y-intercept
0.0000	-12.60421	3.20E-05	-0.000403	Short-term institutional shareholders
0.0000	-9.400228	0.299240	-2.812925	long-term institutional shareholders
0.0000	5.218430	0.008888	0.046382	Percentage of shares in the hands of 5 large shareholders
0.0000	4.201872	0.016826	0.070699	Percentage of shares in the hands of shareholders other than 5 large shareholders
0.0032	2.959501	0.001234	0.003653	Company size
0.0000	-11.19125	0.006632	-0.074221	profitability
0.0001	3.918076	4.42E-05	0.000173	Stock Market value to book value
0.0000	-18.75122	0.005822	-0.109166	Financial leverage
0.845869				The coefficient of determination
0.818297				Adjusted coefficient of determination
30.67876				F-statistic
0.000000				Significance level
1.921624				Durbin-Watson

Resource: researcher findings

According to the hypothesis because the variables of short-term institutional shareholders, long-term institutional shareholders on cost stickiness level are negative and significant and the variables of stock percentage in the hands of 5 large shareholders and percentage of shares in the hands of shareholders other than 5 large shareholders on cost stickiness level are positive and significant. Hypothesis H0 is then rejected for the hypothesis. That is, the company's regulatory factors affect the cost stickiness level. The results of the second hypothesis of the research are as described in Table 6.

In Table 6, the probability of t-statistic for fix coefficient and coefficients of variables of short-term institutional shareholders, long-term institutional shareholders, percentage of shares in the hands of 5 large shareholders, percentage of shares in the hands of shareholders other than 5 large shareholders, profitability, sock market value to book value and financial leverage on stickiness level based on high level of accounting-based performance and variables of short-

term institutional shareholders, long-term institutional shareholders, percentage of shares in the hands of 5 large shareholders, percentage of shares in the hands of shareholders other than 5 large shareholders, profitability and financial leverage on stickiness level based on low level of accounting-based performance is less than 5%; therefore, the above relationship is statistically significant.

Table 6: Result summary of Model 2 using the cross-sectional method

Model (2): Based on low level of accounting-based performance				Model (1): Based on high level of accounting-based performance					variables
Significance level	statistic - t	Standard error	coefficients	Significance level	statistic - t	Standard error	coefficients		
0.0654	-1.847488	0.118796	-0.219474	0.0000	4.687762	0.097770	0.458324		y-intercept
0.0154	-2.434230	0.000155	-0.000377	0.0387	-2.074049	4.73E-05	-0.000098		Short-term institutional shareholders
0.0000	-5.185586	0.613745	-3.182627	0.0000	-4.815166	0.667249	-3.212915		long-term institutional shareholders
0.0030	2.987858	0.117735	0.351777	0.0007	-3.436768	0.096192	-0.330590		Percentage of shares in the hands of 5 large shareholders
0.0013	3.233276	0.122839	0.397172	0.0073	-2.695029	0.103372	-0.278590		Percentage of shares in the hands of shareholders other than 5 large shareholders
0.1619	1.401178	0.001407	0.001971	0.0770	1.772803	0.001534	0.002719		Company size
0.0056	-2.787412	0.016085	-0.044835	0.0078	-2.673137	0.017475	-0.046714		profitability
0.0759	1.779451	0.000209	0.000372	0.0489	1.975433	0.000227	0.000448		Stock Market value to book value
0.0000	-10.63344	0.010510	-0.111757	0.0000	-10.79415	0.011499	-0.124127		Financial leverage
0.486973				0.503692					The coefficient of determination
0.477881				0.494874					Adjusted coefficient of determination
19.82167				19.45581					F-statistic
0.000000				0.000000					Significance level
1.896850				1.794944					Durbin-Watson

Resource: researcher findings

Coefficient of short-term institutional shareholders, long-term institutional shareholders, percentage of shares in the hands of 5 large shareholders and percentage of shares in the hands of shareholders other than 5 large shareholders on stickiness level based on high level of accounting-based performance is , -0.000098, -0.3305, -0.2785 and significant. And the variables of short-term institutional shareholders, long-term institutional shareholders, percentage of shares in the hands of 5 large shareholders and percentage of shares in the hands of shareholders other than 5 large shareholders on the stickiness level based on low level of accounting-based performance are -0.00037, -3.1826, 0.3517, 0.3971 respectively. And the variable of company size on the degree of stickiness based on the high level of accounting-based performance and the variables of company size and stock market value to book value on the stickiness level based on the low level of accounting-based performance is more than 5%; therefore, the above relationship is not statistically significant. Therefore, with 95% confidence, these variables are non-significant in the model. Hypothesis H0 is therefore rejected for the hypothesis. That is, accounting-based performance affects the relationship between corporate regulatory factors and cost stickiness level.

5 Discussion and Conclusion

The present study seeks the role of corporate regulatory factors on cost stickiness by relying on the role of accounting-based performance. Finally, according to the results of the first hypothesis of corporate regulatory factors, including all institutional shareholders; long-term institutional shareholders; short-term institutional shareholders and the percentage of shares in the hands of 5 large shareholders have a significant impact on cost stickiness and it is concluded that institutional investors, as major shareholders, have significant stakes in companies in their portfolio. According to the research literature as expected, long-term institutional investors are involved in costly monitoring, which reduces cost stickiness; in addition, short-term institutional investors are positively related to the degree of cost stickiness, and institutions in the short term are not worry about non-optimal cost management and cost asymmetry is strengthened without organizational monitoring.

In this regard, Tsui and Yang [25] and Hou [20], also showed that organizational investors demand less stickiness; Chen et al. [14], who provided an explanation based on the represen-

tation of cost stickiness theory, confirmed the effect of reduced corporate governance on asymmetric costs; In Iran, also, Sadeghpour Moghadam [4] and Nowruzi et al. [11] showed that the relationship between institutional ownership and cost stickiness is inverse which are in line with the results of the present study. Also according to the results of the research hypothesis, investors are suggested to use the present research model to predict the degree of asymmetry of costs; corporate managers can also identify and control the effects of corporate regulatory factors, and finally managers can consider the cost and revenue stickiness in the budgeting can provide more reasonable estimates in the years when sales are expected to decline.

And finally, according to the results of the second hypothesis, we came to the conclusion that the company's regulatory factors include all institutional shareholders; long-term institutional shareholders; short-term institutional shareholders and the percentage of shares in the hands of 5 large shareholders have a significant effect on cost stickiness in two levels of high and low accounting-based performance companies and according to the significant coefficients of corporate regulatory factors, the existence of a significant relationship between corporate regulatory factors and corporate cost stickiness in two levels of high and low accounting-based performance companies is inferred; so, it can be said that accounting-based performance affects the relationship between the company's regulatory factors and the cost stickiness level; the results show that asymmetric responses to economic shocks in firm performance lead to a further reduction in corporate profits by reducing firm activity; since sticky costs are detrimental to firm value, we expect to see improved firm performance (accounting-based performance) following institutional investors' efforts to reduce cost stickiness. Chung et al. [17], in their research showed that accounting-and-market--based performance has a moderating role on the relationship between the company's regulatory factors and cost stickiness, which is in line with the results of the present study.

The results of this research hypothesis are also suggested in the budgeting process; in addition, companies listed on the stock exchange are recommended to create separate units for measuring accounting-based performance, in addition to the use of specialized personnel, improve structures and strategies of the company in the face of external shocks and product demand. Also, by maintaining accounting-based performance at the optimal level and lack of consuming resources unfavorably, and considering the causes and consequences of cost asymmetry, seek to increase the company's response capacity and flexibility to reduce demand for goods and services.

And finally, researchers are encouraged to explore the following topics in their future researches:

- The effect of the quality of corporate governance and motivation of managers' empire-making on cost stickiness.
- The impact of the tendencies of different groups of stakeholders on cost stickiness.
- Repeating the research using time lag and investigating the effect of increasing the interruption on improving the model prediction.
- The effect of the company's regulatory factors on the stickiness of accrual and cash costs.

The most important limitation of the present study is the lack of full disclosure of information related to research variables. Information on all research variables is not fully available for listed companies. Therefore, to avoid biasing the research results, some year-companies were removed from the statistical sample and this reduced the sample size.

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