

# Analysing the moderating effect of managerial ability on the relationship between earnings management and cost stickiness: A panel data approach

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## Abstract

**Purpose:** The core purpose of this study is to examine the impact of managerial ability on the relationship between earnings management and cost stickiness.

**Design/method/methodology:** For the purpose of study, data related to 137 companies listed on the Tehran Stock Exchange was collected over the period 2017-2021. After conducting statistical tests and selecting the fixed effects model due to the presence of heteroscedasticity, the GLS method was used for estimation.


**Findings:** The results indicate a significant positive relationship between earnings management and cost stickiness, and managerial ability weakens the management of this relationship. The observed significant positive relationship between earnings management and cost stickiness suggests that firms engaged in earnings management tend to exhibit higher levels of cost stickiness. However, the presence of managerial ability weakens this relationship, indicating that managers with higher abilities are more effective in mitigating the impact of earnings management on cost stickiness. This research provides valuable insights into the complex dynamics between earnings management, cost stickiness, and managerial ability. It highlights the importance of considering the moderating role of managerial ability in understanding the relationship between these variables. The findings contribute to the existing literature by shedding light on how managerial ability can influence the management of earnings and costs within organizations.

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## 1. Introduction

In the literature of managerial accounting, cost stickiness is defined as the asymmetry in cost behavior

concerning changes in activity levels. Simply put, cost stickiness refers to the fact that cost reductions are less than cost increases when activity levels decrease. Cost stickiness arises from a risk-averse approach, where a

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manager facing a decline in sales must decide whether to reduce resources or maintain unused resources. If the manager expects sales to quickly return to normal, they decide to bear the cost of maintaining unused resources, implicitly adopting a risky approach.

One of the main tasks of management is planning. Planning can play a significant role in preventing errors or identifying hidden opportunities. In addition to decision-making being a fundamental aspect of all management tasks, planning serves as the foundation because there can be no plan until a decision is made. In other words, decision-making is the core of management that manifests in all managerial tasks. Management accounting is one of the most important tools for providing necessary information to managers for decision-making. In this regard, information can support management in making timely and appropriate decisions when it is understandable, timely, relevant, and reliable. In other words, the primary emphasis of management accounting is on supplying useful and timely information for planning and control by managers (Bolo et al., 2012).

Managerial ability means intelligently utilizing a company's time and assets to achieve the best possible results. In the accounting literature, managerial ability is one of the dimensions of a company's human capital and is classified as an intangible asset. Personal characteristics of managers are among the most influential factors affecting their managerial ability, and personality is influenced by two important factors: inheritance and the environment. Effective managerial ability is a fundamental step towards the optimal utilization of resources, improving responsiveness, transparency, fairness, and the rights of all stakeholders of companies, leading to the proper establishment of management systems. Managerial ability, which is a qualitative component encompassing managers' inherent talents, can have an impact on corporate transparency in various conditions. Shares of companies with more capable managers naturally have less holding risk because such managers, using their talents and abilities, make every effort to protect the interests of investors. Therefore, investors, due to their risk aversion nature, tend to select stocks with more capable managers, and the informational transparency has the capacity to enhance managers' abilities (Luo et

al., 2017).

Earnings management contributes to achieving specific management of discretionary accruals. Additionally, earnings management based on accruals distinguishes professional literature between actual earnings management and earnings management, which is usually influenced by the company's cash flow. Generally, earnings management has a significant impact, particularly on a company's economic performance, bankruptcy or financial health (Grofcikova, 2020). Earnings management usually does not mislead investors but provides useful information to support sound financial decisions. Current income, which reflects managerial judgment, is relevant to value and is a better predictor of future cash flow performance compared to current cash flows. Evidence from stock returns indicates that investors discount abnormal earnings compared to normal earnings, indicating that they consider abnormal profits to reflect earnings manipulation (Vagner et al., 2021).

Understanding the moderating effect of managerial ability is crucial for several reasons. Firstly, it provides insights into how managerial characteristics influence the behavior and outcomes of earnings management and cost stickiness. Secondly, it helps to determine the effectiveness of managerial ability in mitigating the negative impact of earnings management on cost stickiness. By exploring this moderating effect, we can gain a deeper understanding of the complex dynamics between these variables and their implications for firm performance. This study contributes to the existing literature in several ways. Firstly, it extends the understanding of relationship between earnings management and cost stickiness by introducing the moderating effect of managerial ability. This innovative approach allows us to examine how managerial ability influences the strength and direction of this relationship. Secondly, by identifying the role of managerial ability, our research provides valuable insights into the mechanisms through which firms can effectively manage earnings and costs. These findings have practical implications for managers and stakeholders in their decision-making processes.

The subsequent sections of the paper are structured as follows. Section 2 provides a comprehensive literature review, discussing prior research on earnings

management, cost stickiness, and managerial ability. [Section 3](#) outlines the theoretical framework and develops hypotheses regarding the moderating effect of managerial ability. [Section 4](#) describes the research methodology, including data collection and analysis techniques. [Section 5](#) presents the empirical results and discusses their implications. Finally, [Section 6](#) concludes the paper, summarizing the key findings, and suggests avenues for future research.

## 2. Literature review

Understanding cost behavior is a vital and fundamental topic in managerial accounting and cost accounting. The cost structure of a company undergoes changes in business activities, as it heavily influences the decision-making process. In traditional cost behavior, the cost changes depend on the level of activity. These costs are classified into two categories: fixed costs and variable costs. In this model, variable costs change proportionally or symmetrically with the level of activity, while fixed costs remain the same within a specific range, regardless of changes in activity ([Ozkaya, 2021](#)). However, recent findings from studies by researchers such as [Anderson et al. \(2007\)](#) and [Hajiha et al. \(2019\)](#) indicate that, in terms of cost behavior, the reduction in fixed costs during a decrease in sales is less than the increase in variable costs during an increase in sales. This asymmetric behavior of costs during an increase or decrease in sales is referred to as cost stickiness. Cost stickiness is one of the characteristics of cost behavior in relation to changes in activity levels and demonstrates that the rate of increase in costs is higher than the rate of cost reduction when the level of activity decreases. There are two main theories to explain the phenomenon of cost stickiness: the theory of deliberate decision-making and the theory of cost adjustment delay. The theory of conscious decision-making is one of the prominent theories regarding cost stickiness. According to this theory, costs are influenced by management decisions. Managers believe that a decrease in sales will be short-term and temporary, and the decrease in sales in the current period will be compensated by an increase in sales in future periods. They attempt to preserve resources and bear the costs associated with resource preservation, hoping for better days. When managers reduce the resources of their operational activities due to a

decrease in sales, they need to spend more time and incur additional costs to acquire and prepare those resources. Therefore, in order to gain long-term profits, they strive to preserve their resources to benefit from potential future revenues ([Kama et al., 2013](#)).

Considering the importance of earnings and its high informational content, managers always try to manipulate the reported earnings in line with their specific goals. The main issue regarding this matter is why managers seek earnings manipulation, how they manage profit, and what the consequences of such behavior are. Asymmetric cost behavior leads company managers to engage in profit management when necessary to mitigate their losses, thereby avoiding asymmetric cost behavior ([Khodadadi & Janjani, 2011](#)).

Managers of a company often deal with issues such as planning and control in business enterprises. In the planning stage, managers need information related to cost patterns to predict future expenses. Furthermore, the relationship between costs and revenues is considered in managers' planning efforts. Therefore, identifying how costs are influenced by changes in revenue becomes important. On the other hand, the impact of cost stickiness on managerial decisions can be represented by the costs of agency and, consequently, the agency theory ([Khajavi et al., 2021](#)).

Various studies have addressed this issue. [Khajavi et al. \(2021\)](#) conducted a research titled "examining the effect of managerial ability and competence" using regression analysis, panel data, and data envelopment analysis to investigate the phenomenon of cost stickiness in administrative and sales expenses in a sample of 198 companies listed on the TSE from 2011 to 2018. They showed that 3.2 percent of administrative and sales expenses are sticky, and the presence of capable managers with low conflicting interests improves the performance of the business unit in the future. Therefore, cost stickiness has a greater positive impact on the efficiency of the business unit, providing solid evidence for the existence of informed managerial decisions.

[Hajiha et al. \(2019\)](#) conducted a research titled "Examining the Relationship between short-term management attitudes and cost stickiness" in 95 companies listed on the Tehran Stock Exchange from 2005 to 2014. They demonstrated that the relationship

between earnings management based on real items, discretionary cost reduction, and cost stickiness is accepted, and ultimately, it should be noted that the impact of government regulations, accounting standards, management performance, and perspectives on cost stickiness is significant, and any changes in these factors can affect the intensity or weakness of this phenomenon.

Daryaei et al. (2021) conducted a research titled "management characteristics and cost stickiness" on 165 companies for the years 2009 to 2018. They showed that when non-executive managers have excessive confidence in their abilities, they become more involved in opportunistic activities and earnings management. Consequently, this increases cost stickiness, leading to excessive rigidity in reporting.

Allolinggi et al. (2021) conducted a research titled "corporate governance and earnings management on cost stickiness." They processed samples from 251 companies for earnings management and 133 companies for corporate governance. Their findings indicate that corporate governance can reduce the level of cost stickiness, but the extent of its impact on cost stickiness is not strongly related to earnings management.

Huang and Sun (2017) conducted a research titled "examining the impact of managerial ability on real earnings management" and showed that more capable managers engage in less earnings management. Consequently, managers with superior abilities decrease the negative impact of earnings management on future company performance.

### 3. Hypotheses development

Earnings management refers to the activities or financial arrangements undertaken to influence reported earnings. The primary objective of earnings management is to achieve specific profit targets, which may involve processes such as income boosting or income dampening. Cost stickiness refers to the situation where costs increase more significantly in response to revenue increases compared to revenue decreases of similar magnitudes. In other words, costs do not fully adjust downward in proportion to revenue declines, resulting in a more rigid cost structure during

economic downturns. In exploring the relationship between earnings management and cost stickiness, the following reasons can be examined:

**Earnings management and cost stickiness:** earnings management may contribute to an increase in cost stickiness. When companies strive to maintain earnings within a certain range, they align their costs with revenue increases. This leads to a higher degree of cost stickiness, as costs are more responsive to revenue increases compared to decreases (Franzoi et al., 2021).

**Income smoothing and cost stickiness:** income smoothing, as a form of earnings management, involves the deliberate matching of cost increases with revenue increases to present a smoother earnings pattern. This practice implies a higher degree of cost stickiness since costs become more responsive to revenue increases compared to decreases. By aligning cost behavior with revenue changes, income smoothing contributes to the positive relationship between earnings management and cost stickiness (Alsharairi et al., 2020).

**Income shifting and cost stickiness:** income shifting, another earnings management strategy, involves shifting income across different segments or periods. When income is shifted from a segment with higher cost stickiness to one with lower cost stickiness, the overall cost stickiness tends to increase. This is because the segment with lower cost stickiness absorbs a larger proportion of the cost increase associated with the income shift. Hence, income shifting contributes to the positive association between earnings management and cost stickiness (Rey et al., 2020).

**Discretionary accruals and cost stickiness:** discretionary accruals are a means of manipulating reported earnings. Managers can use discretion to estimate and record certain expenses, such as provisions for bad debts or warranty costs. In periods of revenue growth, managers may inflate discretionary expense accruals, leading to higher cost stickiness. This occurs due to the non-linear relationship between expenses and revenues, where costs increase more rapidly than revenues. Consequently, earnings management through discretionary accruals positively influences cost stickiness (Grimaldi, 2019).

According to the aforementioned explanations, earnings management practices can have a positive impact on

cost stickiness. These practices intentionally align cost behavior with revenue changes, resulting in a higher degree of cost stickiness. Therefore, we formulated the following hypothesis:

**H<sub>1</sub>:** *Earnings management has a significant positive relationship with cost stickiness.*

**Agency theory:** according to agency theory, managers may engage in earnings management to align their own interests with those of the shareholders. However, managerial ability can act as a counterbalancing factor. Higher managerial ability is associated with better decision-making, strategic planning, and ethical behavior, which reduces the need for earnings management. Therefore, it is theoretically expected that managerial ability would have a negative impact on the relationship between earnings management and cost stickiness.

**Information asymmetry:** information asymmetry exists between managers and external stakeholders, such as investors and creditors. Managers with higher ability have the potential to reduce information asymmetry by providing transparent and reliable financial reporting. As a result, stakeholders may have more trust in the reported earnings, reducing the need for earnings management and ultimately weakening the relationship between earnings management and cost stickiness.

**Enhanced decision-making:** managers with higher ability possess superior analytical and problem-solving skills, enabling them to make better decisions regarding cost management. These managers are more likely to implement efficient cost control measures, reducing the magnitude of cost stickiness and weakening the relationship between earnings management and cost stickiness.

**Transparent governance practices:** managerial ability is often associated with effective governance practices. Transparent governance ensures that firms adhere to ethical standards, maintain robust internal controls, and provide accurate financial information. Such practices can mitigate the need for earnings management, leading to a reduced impact on cost stickiness.

**Long-Term orientation:** managers with higher ability tend to adopt a long-term orientation, focusing on sustainable value creation rather than short-term earnings manipulation. By prioritizing long-term performance, these managers are more likely to

implement cost management strategies that align with revenue changes, reducing cost stickiness and weakening the association between earnings management and cost stickiness.

Therefore, these theories suggest that higher managerial ability exerts a negative influence on the relationship between earnings management and cost stickiness. Thus, we formulating the following.

**H<sub>2</sub>:** *Managerial ability has a significant negative impact on the relationship between earnings management and cost stickiness.*

## 4. Research Methodology

This research is applied in nature according to its purpose and descriptive (survey) in terms of its nature. The methodology used in this research is retrospective study and relies on past information. In cases where the investigation of the relationship between a dependent variable and multiple independent variables is of interest, the researcher's aim is to estimate parameters for the independent variable(s) and predict them with the help of historical data by providing a model. In other words, this research is descriptive, aiming to describe the relationships between variables (dependent and independent) using statistical tests. After formulating the model, the coefficients of the independent variables and their impact on the dependent variables will be determined using panel data and ordinary least squares regression estimation.

The statistical population of this study consists of the companies listed on the TSE, and the sampling in this research will be conducted in the time interval of 2017-2021 using the systematic elimination method and with the following limitations:

For the sake of comparability, their financial period should end in the month of March.

The company should have been listed on the TSE before 2017. The required information regarding such companies should be available. The companies should not belong to banks and financial institutions (investment companies, financial intermediaries, holding companies, and leasing companies) because their financial disclosures and structures are different. The company should not have changed its fiscal year or activities during the time period. The companies should



not have a trading suspension for more than 3 months. Considering the applied limitations, a total of 137 companies were selected for the study.

The following model are proposed to test the first research hypothesis:

$$CS_{it} = \beta_0 + \beta_1 EM_{it} + \beta_2 FCF_{it} + \beta_3 TOBQ_{it} + \beta_4 SIZE_{it} + \beta_5 LEV_{it} + \varepsilon_{it} \quad (1)$$

The following model is used to test the second hypothesis:

$$CS_{it} = \beta_0 + \beta_1 EM_{it} + \beta_2 Ability_{it} + \beta_3 EM * Ability_{it} + \beta_4 FCF_{it} + \beta_5 TOBQ_{it} + \beta_6 SIZE_{it} + \beta_7 LEV_{it} + \varepsilon_{it} \quad (2)$$

Where,

CS = cost stickiness,

EM = earnings management,

FCF = free cash flow,

SIZE = company size,

LEV = financial leverage,

TOBQ = company growth,

Ability = managerial ability.

Based on Xue and Hong (2015), the cost stickiness is measured according to the model (3).

$$\log\left(\frac{SG\&A_{i,t}}{SG\&A_{i,t-1}}\right) = \alpha_0 + \alpha_1 \log\left(\frac{REV_{i,t}}{REV_{i,t-1}}\right) + \alpha_2 DUM \times \log\left(\frac{REV_{i,t}}{REV_{i,t-1}}\right) + \varepsilon_{it} \quad (3)$$

Where,

$\log\left(\frac{SG\&A_{i,t}}{SG\&A_{i,t-1}}\right)$  = Natural logarithm of company i's selling, general and administrative expenses in period t divided by the same in period t-1, which is considered as the dependent variable.

$\log\left(\frac{REV_{i,t}}{REV_{i,t-1}}\right)$  = Natural logarithm of company i's sales revenue in period t divided by the same in period t-1.

DUM = A dummy variable that is equal to 1 if company i's sales in period t are smaller than the sales in period t-1, and 0 otherwise.

The quality of accruals is used to calculate earnings management. Accruals are derived from the difference between operating income and cash obtained from operations. Accruals can also include changes in working capital and depreciation expenses. This definition of accruals excludes non-current operating assets and liabilities, financial assets, and non-cash liabilities. Accruals related to non-current operating assets and liabilities and financial assets (such as long-

term receivables) are included.  $TCA_{it}$  represents discretionary accruals (indicating the extent to which managers have discretion over these items and can manipulate them) and is measured using the equation (4):

$$CFO = NI + NCC + \Delta WC \quad (4)$$

Where, CFO is the net cash flow from operating activities, NI is net income, NCC is non-cash charges that should be added to net income (as these expenses reduce net income but are not cash outflows), and  $\Delta WC$  is the change in working capital.

The residuals from the regression of these residuals are the measure of earnings management. Positive and larger residuals indicate higher earnings management, while negative and smaller residuals indicate lower earnings management (Dong et al., 2020).

To measure managerial ability, the Demerjian et al. (2012) model is used. In this model, the efficiency of the company is measured and then entered into a multiple linear regression as the dependent variable, controlling for company specific characteristics to calculate managerial ability.

$$max_v \theta = sales / (v_1 CoGS + v_2 SG\&A + v_3 NetPPE + v_4 OpsLease + v_5 R\&D + v_6 Goodwill + v_7 Intan) \quad (5)$$

Where,

Sales: Sales revenue

COGS: Cost of goods sold in year t

SG&A: Selling, general, and administrative expenses in year t

NetPPE: Net property, plant, and equipment at the beginning of year t

OpsLease: Operating lease expenses in year t

R&D: Research and development expenses in year t

Goodwill: Purchased goodwill at the beginning of year t

Intan: Net intangible assets at the beginning of year t

In the model (5), a specific coefficient ( $v$ ) is considered for each of the input variables because the effect of all input variables on the output (sales) is not equal. The calculated value for company efficiency ranges from 0 to 1. Companies with an efficiency score of 1 are highly efficient, while companies with an efficiency score less than 1 are below the efficiency threshold and need to reduce costs or increase revenues to reach the efficiency

threshold. The purpose of calculating company efficiency is to measure managerial ability, but since the inherent characteristics of the company also influence the efficiency calculations, it is not possible to accurately measure managerial ability. This is because the influence of these characteristics is over-estimated or under-estimated compared to the actual calculated value.

Demirjian et al. (2012) divided company efficiency in their model into two separate parts: efficiency based on company characteristics and managerial ability. They achieved this by controlling five inherent company characteristics (company size, market share, free cash flow indicator, company age, foreign currency indicator). In the model presented by Demirjian et al. (2012), these characteristics are controlled:

$$\text{firm efficiency} = \alpha_0 + \alpha_1 \text{size} + \alpha_2 \text{market share} + \alpha_3 \text{free cash indicator} + \alpha_4 \text{age} + \alpha_5 \text{foreign currency indicator} + \varepsilon \quad (6)$$

Where, size: company size (equals the natural logarithm of company assets); Market share: company's market share (equals the ratio of company sales to industry total sales); Free cash Indicator: assigned as 1 if a company has positive operating cash flow and 0 otherwise; Age: company age (equals the natural logarithm of the number of years the company has been listed on the stock exchange); Foreign Currency Indicator: a virtual variable assigned as 1 for companies with exports (sales in foreign currency) and 0 otherwise. The residuals of the model represent managerial ability.

Company growth in this study is obtained by dividing the sum of market value and total long-term debt by total assets: (market value + total long-term debt) / total assets. Free cash flow in this study is calculated as: (operating cash flow - dividend) / total assets. Financial leverage is obtained by dividing total debt by total assets. Company size is also calculated as the natural logarithm of total company assets.

## 5. Data analysis and research results

The descriptive statistics table for the variables is presented as follows:

**TABLE 1- DESCRIPTIVE STATISTICS OF RESEARCH VARIABLES**

variable	Mean	Median	Max	Min	Std. dev.
CS	0.1964	-0.1859	65.63	-20.9	6.3525
EM	0.0205	-0.0110	1.787	-0.98	0.2461
FCF	0.0169	0.0233	0.547	-1.31	0.1408
TOBQ	3.1259	1.7445	76.27	0.228	4.6228
SIZE	14.806	14.634	20.31	11.36	1.4527
LEV	0.5565	0.5585	1.824	0.031	0.2255
Ability	-0.0017	0.0023	0.459	-0.37	0.1132

Table 1 provides descriptive statistics for the variables CS, EM, FCF, TOBQ, SIZE, LEV, and ABILITY. It includes measures such as mean, median, maximum, minimum and standard deviation. For example, the mean of the variable "CS" (cost stickiness) is 0.1964, the median of the variable "FCF" (free cash flow) is 0.0233, and the maximum value for the variable "SIZE" (company size) is 20.31. Furthermore, we need to ensure the stationarity of the variables (the absence of unit roots) to avoid dummy regression. According to the stationarity table, all variables in this study are stationary.

**TABLE 2- HADRI TEST**

variable	CS	EM	FCF	TOBQ	SIZE	LEV	Ability
Satis.	17.28	14.47	16.26	14.79	23.47	18.29	20.90
Sig.	0.000	0.000	0.000	0.000	0.000	0.000	0.000

The Table 2 presents the results of the HADRI test for validity for various variables. It includes the test statistic and the associated probability level for each variable, indicating the level of significance of the test.

Before estimating the model using panel data, it is necessary to consider the appropriate method for utilizing such data in estimation and decision-making. Based on the results Table 3, a decision will be made regarding the acceptance or rejection of the hypothesis of equal effects of specific factors for companies and ultimately the selection between the classical method or panel data method for decision-making.

**TABLE 3- RESULTS OF F TEST FOR SELECTING THE POOL OR PANEL METHOD**

Model	Model Null Hypothesis	F-statis.	P-value	Results
1	Pooling method is suitable	11.26	0.000	Reject
2	Pooling method is suitable	11.22	0.000	Reject

Based on the obtained results, the panel data method should be used. Therefore, the discussion of choosing

between fixed effects and random effects models arises, for which the Hausman test is used.

**TABLE 4- RESULTS OF HAUSMAN TEST**

Model	Model Null Hypothesis	$\chi^2$	P-value	Results
1	Random effects is suitable	26.25	0.002	Reject
2	Random effects is suitable	25.07	0.021	Reject

Based on the obtained results, the panel data method should be used. Therefore, the discussion of choosing between fixed effects and random effects models arises, for which the Hausman test is used.

By choosing the fixed effects method, the variance heterogeneity test is performed to find the appropriate estimation method for the model.

**TABLE 5- RESULTS OF HARVEY TEST**

Model	Model Null Hypothesis	FStats.	P-value	Results
1	Variances are homogeneous	2.75	0.021	Reject
2	Variances are homogeneous	10.48	0.000	Reject

According to the obtained results, the hypothesis of variance homogeneity in error terms is rejected in the research model. The model will be estimated using the GLS method, and its results are presented in Table 6.

**TABLE 6- THE RESULTS OF ESTIMATING THE FIRST RESEARCH MODEL**

Variable	Coef.	Std. Error	t-Stat.	Prob.	VIF
EM	0.239	0.0825	2.898	0.004	1.47
FCF	0.203	0.1424	1.431	0.152	1.28
TOBQ	0.001	0.0035	0.382	0.702	1.20
LEV	-0.182	0.1123	-1.0621	0.105	1.13
SIZE	0.118	0.0253	4.6538	0.000	1.15
C	-1.464	0.3668	-3.992	0.000	-
$R^2$	0.92				
Adj. $R^2$	0.90				
D-Watson	1.90				
F-statistic	49.819				
Sig.	0.000				

Based on the calculated F-statistic probability (0.0000), it can be claimed that the fitted regression model is significant. Considering the R-squared of the fitted model, it can be claimed that approximately 92% of the variation in the dependent variable (Cost Stickiness) is explained by the independent variables. The value of the Watson's statistic, which is 1.90, suggests that the

model does not suffer from autocorrelation in error terms. Additionally, the results indicate that the model is not affected by multicollinearity. The estimation results of the model show that the statistical relationships of the research hypotheses are confirmed, and there is a significant and positive relationship between earnings management and cost stickiness.

**TABLE 7- THE RESULTS OF ESTIMATING THE SECOND RESEARCH MODEL**

Variable	Coef.	Std. Error	t-Stat.	Prob.	VIF
EM	0.138	0.029	4.744	0.000	1.37
Ability	-0.044	0.021	-2.057	0.045	2.48
EM*Ability	-1.017	0.508	-2.001	0.035	1.63
FCF	0.072	0.144	0.499	0.617	1.04
TOBQ	-0.003	0.004	-0.781	0.434	3.31
LEV	-0.203	0.126	-1.604	0.109	1.44
SIZE	0.013	0.004	3.228	0.002	3.74
C	-1.729	0.439	-3.930	0.000	-
$R^2$	0.89				
Adj. $R^2$	0.87				
D-Watson	1.88				
F-statistic	33.484				
Sig.	0.000				

Based on the calculated F-statistic probability (0.0000), it can be claimed that the fitted regression model is significant. Considering the R-squared of the fitted model, it can be claimed that approximately 89% of the variation in the dependent variable (Cost Stickiness) is explained by the independent variables. The value of the Watson's statistic, which is 1.88, suggests that the model does not suffer from autocorrelation in error terms. Additionally, the results indicate that the model is not affected by multicollinearity. The estimation results of the model show that the statistical relationships of the research hypotheses are confirmed. The ability to manage has a significant negative impact on the relationship between earnings management and cost stickiness, weakening the positive relationship between earnings management and cost stickiness.

## 6. Conclusion

The analysis of the first hypothesis in this study showed a significant and positive relationship between earnings management and cost stickiness. According to previous research, earnings management leads to avoiding the disclosure of profit and loss reports, deviation from analysts' predictions, reduced company revenues, reduced taxes, and potential reduction of unpaid



company debts. The researchers found that earnings management leads to avoiding the presentation of reports on low profits and reducing company income. Some researchers have also shown that earnings management leads to cost reduction and avoiding the release of negative news about the company. According to the researchers, the data on earnings management in the sub-sample are classified into two categories. The first category of data represents low positive profits, indicating motives for avoiding the disclosure of company loss news. The second category of data indicates a slight increase in the return on investment, reflecting the existing motivation for not publishing news related to reduced company income.

Cost stickiness has multiple determining factors, and earnings management is one of the potential reasons for cost stickiness. The results of the first hypothesis showed a significant and positive relationship between earnings management and cost stickiness. The positive relationship between the two variables can be attributed to the personal reasons of managers arising from the agency relationship. As the title suggests, managers are opportunistic and prefer a very slow reduction in costs during sales decline. This behavior will cause a deviation of cost stickiness from the desired level. This phenomenon will likely be due to the positive relationship between agency costs and cost stickiness. Since corporate governance systems are designed and implemented to reduce agency costs, it is expected that stronger corporate governance systems will weaken the positive relationship between agency costs and cost stickiness. On the other hand, the ultimate goal of any business unit is to maximize profits and subsequently increase shareholders' equity. However, this requires a thorough understanding of cost behavior and the factors influencing it. This finding is consistent with the results of studies by [Chen et al. \(2012\)](#), and [Xue and Hong \(2015\)](#), but contradicts the findings of the research by [Pichetkun \(2012\)](#).

The analysis of the second hypothesis in this study showed that managerial ability had a significant negative effect on the relationship between earnings management and cost stickiness. Managerial decisions and expectations have been introduced as one of the key determining factors of cost behavior. If a manager expects a permanent decline in sales volume, they will take actions to reduce unused resources. Researchers

have mentioned indicators such as economic growth and repeated sales declines in the following year as messages that communicate the permanence of recessionary conditions to managers. Delay in cost adjustments is another reason for sticky cost behavior. Between managers' decision to adjust resources and its implementation, a time period is required that leads to the reduction of cost stickiness in the medium term. Additionally, researchers have mentioned the conflict of interest between managers and owners as a factor that creates sticky cost behavior.

Adherence to costs can be either good or bad. If the adherence is a result of inappropriate decisions by the manager in allocating resources in the past (meaning that the manager did not accurately predict future trends and increased resources accordingly) or the result of the current failure to adjust resources (meaning that if the manager had properly considered future trends, it would have been necessary to adjust resources), this adherence will have a negative impact on the company's profitability and, therefore, be considered bad. However, if it arises from conscious and calculated decisions by the manager, it is highly likely to be beneficial. In any case, the manager sometimes needs to make adjustments to excess resources and at other times may choose not to make these adjustments. The suitability of each decision depends on a proper and accurate comparison between the costs of adjustment and the costs of maintaining excess resources. Researchers introduce the factors influencing cost adherence into three categories: firstly, managers' expectations of the company's future revenue growth; secondly, previous decisions by managers that led to resource commitments and now, during a sales decline, these committed resources cannot be reduced at the same rate as the decline in sales (of course, if it is necessary to do so, meaning if the cost of maintaining the resources exceeds the cost of adjustment, it is necessary to proceed with this action); and thirdly, the issue related to agency theory and the conflicts of interest between the manager and the owner.

The ability to manage the quality of accruals has a significant impact. The more knowledge and awareness a manager has about their industry, the greater their ability to make accurate and precise judgments about accruals. This leads to the provision of truthful accounting profits, resulting in increased profit quality,

reduced earnings management, and consequently a decrease in the impact of earnings management on cost stickiness. Based on the findings of this study, it is recommended that market participants in the stock and capital market not only focus on attracting competent managers but also utilize motivational and supervisory mechanisms to align the interests of managers with their own interests. Additionally, the attention of the stock exchange organization to this issue can contribute to market growth and increase investor confidence. In fact, by approving effective laws to empower corporate governance and developing a framework for preparing and disclosing appropriate information regarding the abilities and ranking of managers, the stock exchange organization can improve the capital market.

## References

- Allolinggi, T. R., Saraswati, E., & Ghofar, A. (2021). Effect of corporate governance and earnings management on expense stickiness. *International Research Journal of Management, IT and Social Sciences*, 8(3), 246-55.
- Alsharairi, M., Khamis, R., & Alkhalailah, M. (2020). How does real earnings management affect firms' future profitability? Evidence from Jordan. *Corporate Ownership & Control*, 18(1), 47-55.
- Anderson, M., Banker, R., Huang, R., & Janakiraman, S. (2007). Cost behavior and fundamental analysis of SG&A costs. *Journal of Accounting, Auditing & Finance*, 22(1), 1-28.
- Bolo, G., Mazzez, E., Khanhosseini, D., & Nikoonesbati, M. (2012). Investigating the relationship between management perspective and cost stickiness in Tehran stock exchange. *Journal of Planning and Budgeting*, 17(3), 79-95.
- Chen, C. X., Lu, H., & Sougiannis, T. (2012). The agency problem, corporate governance, and the asymmetrical behavior of selling, general, and administrative costs. *Contemporary Accounting Research*, 29(1), 252-282.
- Daryaei, A. A., Fattahi, Y., Sadeqi, H., & Hasani, R. (2021). Management characteristics and cost stickiness: an examination based on agency theory. *Environmental Energy and Economic Research*, 5(1), 1-15
- Demerjian, P., Lev, B., & McVay, S. (2012). Quantifying managerial ability: A new measure and validity tests. *Management science*, 58(7), 1229-1248.
- Dong, N., Wang, F., Zhang, J., & Zhou, J. (2020). Ownership structure and real earnings management: Evidence from China. *Journal of Accounting and Public Policy*, 39(3), 18-29.
- Franzoi, F., Mietzner, M., & Thelemann, F. (2021). The influence of family board involvement on earnings management. *Corporate Ownership & Control*, 18(2), 106-123.
- Grimaldi, F. (2019). The relationship between financial crisis and earnings management: Some evidence from the Italian context [Special issue]. *Corporate Ownership & Control*, 17(1), 325-335.
- Grofcikova, J. (2020). Impact of selected determinants of corporate governance on financial performance of companies. *Ekonomicko-manazerske spektrum*, 14(2), 12-23.
- Hajiha, Z., Ghaderi, K., & Ghaderi, S. (2019). The effect of short-term managerial attitudes on the cost stickiness of accepted companies in Tehran stock exchange. *Journal of Asset Management and Financial Supply*, 7(3), 44-27.
- Huang, X., & Sun, L. (2017). Managerial ability and real earnings management. *Advances in Accounting*, 39(3), 91-104.
- Kama, I., & Weiss, D. (2013). Do earnings targets and managerial incentives affect sticky costs?. *Journal of accounting research*, 51(1), 201-224.
- Khajavi, S., Ghayouri Moghadam, A., & Hajeb, H. R. (2021). Investigating the Effect of Trade Credit on Cost Stickiness. *Financial Accounting Knowledge*, 8(3), 125-141.
- Khodadadi, V., & Janjani, R. (2011). Investigating the relationship between earnings management and profitability of accepted companies in Tehran stock exchange. *Financial Accounting Research*, 3(1), 77-95.
- Luo, Y., & Zhou, L. (2017). Managerial ability, tone of earnings announcements, and market reaction. *Asian Review of Accounting*, 14(2), 145-161.
- Ozkaya, H. (2021). Sticky cost behavior: evidence from small and medium sized enterprises in Turkey. *Eurasian Business Review*, 11(2), 349-369.
- Pichetkun, N. (2012). *The Determinants of sticky cost behavior on political costs, agency costs and corporate governance perspectives*. Unpublished PhD Dissertation, Faculty of Business Administration, Rajamangala University of Technology, Thailand.
- Rey, A., Tuccillo, D., & Roberto, F. (2020). Earnings management and debt maturity: Evidence from Italy. *Corporate Ownership & Control*, 17(3), 179-186.
- Vagner, L., Valaskova, K., Durana, P., & Lazaroiu, G. (2021). Earnings management: A bibliometric analysis. *Economics and Sociology*, 14(1), 249-262.
- Xue, S.h., & Hong, Y. (2015). Earnings management, corporate governance and expense stickiness. *China Journal of Accounting Research*, 41(1), 1-18.