

# Investigating Effective Factors on Audit Fees with an Emphasis on Stickiness of Audit Costs

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## Abstract

Agency problems between managers and shareholders as a result of a conflict of interest is created. In the meantime, the audit an effective strategy to limit a director's authority is in contractual relations. The aim of this study is Investigating effective factors on audit fees with an emphasis on Stickiness of audit costs in companies listed on the Tehran Stock Exchange. For this purpose, the data relating to companies listed on Tehran Stock Exchange for the period 2012 to 2016 were extracted. Test hypotheses using panel data regression model was conducted. The results show that the size of the company and the current ratio is an important factor affecting on audit fees. Also, the audit fees quickly and proportional to the levels provided by the model of audit fees, not modified, And audit fees when a reduction is expected to lower than expected increase when a decrease, and finally fees deviations from the standard model of audit fees reduced for longer periods of time.

**Keywords:** Stickiness of audit costs , audit fees right, the behavior of prices

## 1. Introduction

In this paper, we focus on audit fee movements. Our examination is informed by the economics literature on stickiness and apart from shedding light on audit fee behavior that may be of practical value to auditors, managers, audit committees, and regulators, our results have important implications for future studies of events that have an impact on the audit market. Sticky prices are prices that do not immediately adjust to changed conditions, such as increased costs. Thus, an audit fee can be described as sticky if it remains constant despite changed conditions or if it changes less than might be expected due to the changed audit conditions. The pricing and competitiveness of the market for audit services has been a matter of concern for regulatory bodies, as well as researchers and practitioners since the 1970s (US Senate, 1977). Causholli et al. (2010) also observe that the nature of auditing as a credence good can lead to over-charging, over-auditing or under-auditing. As the market for audit services has become more concentrated, and as audit failures have drawn attention to issues of audit quality, there have been official enquiries into this issue in the USA, the UK, and Europe (GAO, 2003, 2006, 2008; Oxera, 2006; US Treasury, 2008; European Commission, 2010; House of Lords, 2011). While a recent report in the USA concluded that "continued concentration in the audit market for large public companies does not call for immediate action" (GAO, 2008), other recent reports have expressed greater concern. The US Treasury (2008) reported that:

[. . .] as the result of mergers and the demise of Arthur Andersen, there are fewer large auditing firms with particular concentration amongst large global public companies. Audit committees and those who engage auditors desire choice and a competitive environment, which stimulates excellence and innovation.

The European Commission (2010) observed that "The market appears to be too concentrated in certain segments and deny clients sufficient choice when deciding on their auditors." The House of Lords (2011) also expressed concern over the extent of concentration in the market for audit services. Thus, the pricing of audit services and the extent of competition in the market for audit services continue to be relevant. Although there is a rich literature on audit fees, the area of fee movements remains under-researched. Issues examined include the determinants of audit fees (Hay et al., 2006), the existence of audit fee premiums representing quality (Simunic, 1980; Craswell et al., 1995); auditor specialization (Craswell et al., 1995; Francis et al., 2005; Basioudis and Francis, 2007; Carson and Fargher, 2007; Carson, 2009) the impact of corporate governance (Carcello et al., 2002; Knechel and Willekens, 2006); auditor independence (Antle et al., 2006) differences in legal regimes (Choi et al., 2008, 2009) and the impact of SOX (Huang et al., 2009). Nevertheless, the cost behavior of audit fees, especially over time, is not well understood and the examination of audit fee behavior over time can improve our understanding of the audit market. Few studies examine audit fee behavior over time (exceptions include Menon and Williams, 2001; Ferguson and Stokes, 2002; Francis and Wang, 2005; Hay and Knechel, 2010), while studies that compare the differences between upward and downward movements in audit fees are even less frequent (Ferguson et al., 2005; Albring and Keane, 2010). Menon and Williams (2001) examine long-

term trends in audit fees and their relation to changes in the environment such as auditing standards; Ferguson and Stokes (2002) examine auditor industry specialization premiums over periods of increasing concentration in the market for audit services; and Hay and Knechel (2010) examine changes associated with deregulation. In addition, budget ratcheting in the audit context has been examined by Bedard et al. (2008) and Ettredge et al. (2008). Francis and Wang (2005) examined audit fees in 2000 and 2001 to investigate the effect of audit fee disclosure, which they found was followed significantly smaller variances in audit fees as predicted for 2001 compared to the variances in 2000. Causholli et al. (2010) observe that “the limited evidence available suggests that audit fees react to changes in the drivers of audit production but slowly and somewhat unpredictably”, and suggest that the issue is worthy of further research. Our study examines the response of audit fees to changes in the variables that are usually seen as their determinants, such as size, complexity, and risk, and helps to explain:

- why the audit fee model does not fully explain the level of audit fees;
- why audit fees are more likely to be too high than too low;
- why lower audit fees suggestive of fee cutting are sometimes observed when clients switch auditors;
- what managers and audit committees should be concerned about regarding audit fees; and
- the extent to which the market for audit services is competitive.

Research on stickiness is well-established in management accounting, and we adapt the methods used in previous studies. The management accounting research studies show that the relation between sales and categories of expenditure (such as selling, general, and administrative costs) is not symmetric for volume increases and decreases. Costs increase more quickly than they decrease (Anderson et al., 2003). We adapt the Anderson et al.

(2003) model [1] to examine audit fee movements in a large sample of US firms for the period from 2000 to 2008. We use a standard audit fee model to estimate expected audit fees for each firm-year. Using this audit fee model (with high predictive power shown by  $R^2$  above 0.74) provides a much more accurate estimate of the audit fee expense compared to models in the stickiness literature which rely solely on one variable, sales, to predict expenses, e.g., Anderson et al. (2003). We then compare actual audit fee movements from year to year with the expected movements predicted by the model, initially considering all movements together and then distinguishing between upward and downward movements. Thus, the market for audit services allows us to conduct a more fully developed model of stickiness, because we are able to include more of the determinants of audit fees. It is important to distinguish between cost stickiness (as examined in the management accounting literature) and price stickiness (as examined in the economics literature). Cost stickiness refers to movements in the total of expenses, which are under the control of the managers in the purchasing firm; whereas price stickiness or audit fee stickiness refers to the price of a single item (in this case the audit fee), which is negotiated between the managers of the firm being audited and the auditor. Therefore, we use the economics-based literature and arguments in our hypotheses development.

Our findings show that, when changes occur to the determinants of audit fees, then audit fees do not change immediately, or symmetrically, to the extent suggested by audit fee models. In particular, upward adjustments are much larger than downward adjustments. This difference between upward and downward adjustments gradually reduces when we examine changes over longer periods of time until the difference becomes insignificant when four year periods are considered. The observation that the upward/downward difference reverses and disappears over time provides evidence that audit markets are competitive in spite of switching costs. Upward adjustments of audit fees are also smaller than expected, suggesting that auditors fail to recognize upward changes soon enough, and thus implying a risk of under-auditing. We find that when clients switch auditors, their audit fees revert more fully to the levels suggested by an audit fee model. These results are all consistent with stickiness that lasts for several periods, but eventually reverses.

The results highlight that managers and audit committees need to apply extra care in managing their audit fees during periods of downturn, because audit fees generally take longer to reduce than to increase. Therefore, our results show the importance for audit committees of initiating audit fee negotiations as soon as firm forecasts indicate a downturn. In addition, auditors need to be aware of the risks and opportunities associated with changes in the determinants of audit fees, because our results point towards clear opportunities for auditors to increase audit fees sooner, decrease audit fees later, or reduce audit work sooner. The evidence regarding the competitiveness of the audit market will be of interest to regulators. The audit research community will be interested in the fact that audit fee models can be improved by including the impact of movements in audit fee determinants (by taking account of the previous year's fee).

Current audit fee models are based on an implicit assumption that the audit fee is based on audit fee determinants at a point in time, and do not take account of any rigidities or stickiness that influence the level of fees.

The price behavior and stickiness of audit fees are also important for another reason. Recent papers have examined the effects of events that affect auditors on changes in audit fees. Doogar et al. (2010) examine the effect over time of changes in the auditing standards (from AS2 to AS5) by comparing actual fees to the fees

predicted using a model based on the previous years' fees. Ettredge et al. (2011) determine fee pressure by comparing client audit fees in 2008, the center of the recession, to the estimated benchmark audit fees the companies would have paid in 2008 based on the previous year's audit fee model. Both of these papers examine audit fee behavior over short periods of time, when there is reason to expect change. However, they do not take into account how sticky fees are, i.e. how much fees may be expected to react in general when there are no specific event to examine, in upwards or in downwards directions.

Our study provides an indication of the extent to which audit fees can be expected to be sticky, and the differences between upward and downwards changes, that should be useful in further developing studies like Doogar et al. (2010) and Ettredge et al. (2011). The rest of the paper is organized as follows. In the next section we develop hypotheses, and this is followed by sections where we introduce our regression models; data and results; and conclusion.

## 2.Hypotheses

For the purpose of this study was to examine effective factors on audit fees with an emphasis on Stickiness of audit costs ,the hypothesis of the present study examined two groups:

- **The first group of hypotheses: A Study of Audit Fees**
- **The First hypothesis:** The size of the company has a significant impact on audit fees.
- **The second hypothesis:** The ratio of assets has a significant impact on audit fees.
- **The third hypothesis:** The current ratio has a significant impact on audit fees.
- **The fourth hypothesis:** The ratio of debt has a significant impact on audit fees.
- **Fifth hypothesis:** The return on assets a significant impact on audit fees.
- **Sixth hypothesis:** The loss has a significant impact of losses on audit fees.
- **The second hypothesis: the effect of Stickiness of audit costs on the audit fees**

Economic theory predicts price stickiness, among other circumstances,when sellers do not fully understand market conditions. Price stickiness is important in macroeconomics, because it helps to explain why changes in monetary policy take time to have an effect (Ball and Mankiw, 1994). It has been investigated using catalogues, surveys, and interview studies. Reasons for stickiness include "menu costs" of implementing new prices. Further investigation shows that menu costs in a literal sense are very small, while management costs are substantial, e.g. deciding on new prices, and convincing customers that they are fair (Ball and Mankiw, 1994, p. 25; Zbaracki et al., 2004, p. 514). Larger increases impose larger costs. Even price decreases are costly, as they open a "Pandora's box" of customer queries about prices (Zbaracki et al., 2004, p. 524). Under conditions of incomplete understanding of market conditions, sellers do not want to risk upsetting buyers with frequent or major price adjustments (Rotemberg, 2005; Zbaracki et al., 2004). Bhaduri and Falkinger (1990) also show that a seller who has imperfect market information will base his/her pricing on cost, and adjust pricing gradually and infrequently. We argue that auditors do not fully understand how clients will react to audit fee changes, i.e. if or when clients will consider switching auditors, and know that fee changes can be costly. Therefore, auditors will base their audit fees on cost and adjust audit fees gradually and infrequently. Audit fee stickiness can therefore be predicted. Considerable empirical evidence in the economics literature supports the notion of price stickiness (Carlton, 1986; Levy and Young, 2004). In the audit fee literature, Ghosh and Lustgarten (2006) show that the explanatory power (or R<sup>2</sup>) of a standard audit fee model is high when levels are considered, but low when year-on-year differences are used. This result suggests that audit fees do not change in every year by as much as the model would predict. In a working paper, Ferguson et al. (2005) also show evidence of stickiness in a sample of the UK and Australian audit fees. We test for overall stickiness by examining the extent to which changes in actual audit fees are consistent with predicted changes:

**The First hypothesis: The actual audit fees, audit fees estimated in the short term fits, do not adjust.**

In the economics literature, where quality cannot be discerned, price is often used as a proxy for quality (Shapiro, 1983). This is also the case in the audit fee literature where audit fees are used as a proxy for audit quality (Craswell et al., 1995). This appears to be a reasonable assumption given the fact that the Big x audit firms are generally known to charge more and assumed to provide higher quality audits. If clients see higher audit fees as a mark of quality, clients may resist fee increases less than expected and, when fee decreases are appropriate, clients may demand decreases less than expected (Ferguson et al., 2005). Furthermore, SOX caused additional risk to client managers, who had to start signing off on the adequacy of controls. Thus, during the period of SOX implementation, clients were likely to be more focused on assuring that adequate audit work was performed than on audit fee management. SOX is one example of a general ratcheting effect of audit regulation over time. Additional regulation means that audit fees are more likely to increase than to decrease. Anderson et al. (2003) advanced three reasons for the difference between positive and negative changes in costs, namely cost lumpiness, adjustment costs, and agency cost. However, it can be argued that these reasons do not apply as strongly to the audit setting[2].

Given that audit fees are broadly determined by effort and risk, when the audit effort and/or risk for a given client reduces, auditors may not recognize this before they have already committed a planned number of hours to the (interim) audit. By contrast, a larger required audit can, at least to some extent, be adjusted for and accommodated at a later stage in the audit. Therefore, late recognition of a change in the profile of the audit client during a given year will result in audit fee stickiness. This is a short-term effect which can be corrected in time for the next year's audit. Even when auditors recognize the need for a reduced audit early, cognizant of the cost to the client to switch auditors and the extended timeframe required to do so, auditors can opportunistically reduce the audit fee by a smaller amount. This can be achieved by over-auditing (reducing the audit less than is warranted) or by over-charging (reducing the audit sufficiently, but charging more). Over-auditing and over-charging under conditions that call for a reduction in the extent of auditing will result in a different level of adjustment of audit fees in an upwards direction compared to downwards adjustments, i.e. stickiness.

We further argue that audit risk is greater for clients that are decreasing in size (or in the other factors that determine audit fees), than for those that are growing. Firms that are decreasing in size may have risk factors such as impaired assets or reduced viability, which would require more audit work. Growing firms may have an increase in risk but not to the same extent. Audit fees are often contracted between client and auditor before the commencement of the audit. However, it is customary to have "escape" clauses that would allow the auditor to perform extra work and to charge for the extra work in case of unforeseen circumstances, e.g. the existence of going concern issues, or other audit risk factors. Audit contracts do not customarily provide for contingencies that would allow the audit fee to be reduced (Palmrose, 1989; Corporate Executive Board, 2005). These contractual arrangements and the other forces discussed above such as menu costs would cause audit fee increases to be more common than audit fee decreases.

We examine the relative magnitude of predicted increases and predicted decreases:

**The second hypothesis: Tend to increase audit fees, audit fees is greater than the loss.**

Although we anticipate audit fee stickiness, it is not likely that it will continue indefinitely. Competitive markets force pricing to revert to the norm, i.e. a seller cannot (indefinitely) extract a premium price from a buyer. Market frictions (e.g. incomplete information) cause stickiness (i.e. prices do not change instantaneously), but competition

forces the sellers to reduce higher than average prices over time. Alternatively, buyers will switch to less expensive sellers. Either way, the observed transaction price reverts to the norm over time. Specifically, Martin (1993) shows that prices are less sticky if there are more sellers and less collusion between sellers, implying that prices revert to the norm and prices are less sticky in more competitive markets. Several empirical studies support the notion that prices are less sticky (i.e. adjust quicker) in more competitive markets (Carlton, 1986; Weiss, 1993; Hall et al., 2000).

Anderson et al. (2003) ascribe the reversal of stickiness in subsequent periods to slow manager reactions to downturns and to the fact that it can take time to unwind contractual commitments. If managers and audit committees are slow to recognize a downturn and negotiate their audit fee down, audit fee stickiness will reverse in subsequent periods. It may be that auditors wait to assess whether a change is likely to be permanent. Contractual commitments can also be a factor, because if managers recognize a downturn late, they would not have sufficient time to renegotiate or be able to switch auditors during that period, but might be able to in the subsequent period.

From an auditor point of view, if auditors are late in recognizing the need for a smaller audit, audit fees will be higher in the current period and lower in the subsequent period. Thus, stickiness would reverse in the subsequent period.

Alternatively, in a competitive audit market, opportunistic auditors would have to reverse their opportunistic behavior in order to avoid losing the audit. Alternatively, if the auditor does not adjust the audit fee and the client decides to switch auditors for a reduction in audit fees, reversal of audit fee stickiness would also be observed.

Anderson et al. (2003) argue that longer periods of time (more than one year) capture complete adjustment cycles and this explains the fact that stickiness reduces over longer periods of time. With audit fees, clients can be expected to manage audit fees down over longer periods of time. If there is a competitive audit market, then auditors would have to adjust their audit fees over time to revert to the norm:

**The third hypothesis: deviation of the actual remuneration fees estimated, in the long-term relationship is negative.**

### 3. Model and variables

This study sought to evaluate the Stickiness of auditing fees. For this purpose, the following model was used to test the hypotheses. Also considered for the estimation of each company's fee, the fee model standard is used. Using this model, it is possible to accurately estimate the cost of audit fees relative to the cost of providing Stickiness model. Then change the actual fee, with models predict the severity of changes in general and can be

compared separately. Audit fees are a function of the following variables. (Choi et al., 2009; Huang et al. 2009)

$$LAF_{i,t} = \alpha_0 + \alpha_1 LTA_{i,t} + \alpha_2 CATA_{i,t} + \alpha_3 QUICK_{i,t} + \alpha_4 DE_{i,t} + \alpha_5 ROA_{i,t} + \alpha_6 LOSS_{i,t} + \varepsilon \quad (1)$$

Table 1: Variable definitions(model 1)

Specific name	measurement
LAF	The natural log of audit fees
LTA	The natural logarithm of the total assets of the company
CATA	The ratio of current assets to total assets
QUICK	The ratio of current assets (excluding inventory) to current liabilities
DE	The ratio of Long-term debt to total assets ratio
ROA	The ratio of Income before interest and taxes to total assets
LOSS	Losses during the year or 2 years ago, that The title is a dummy variable, That if there is one, and otherwise

**Stickiness of auditing fees:** In this study, the dependent variable is the right to Stickiness of auditing fees, that For calculating the natural logarithm is used to Stickiness of audit (Identity et al., 2007) Information on the right to audit fees of notes accompanying the financial statements of administrative and general expenses And certain other costs have been extracted.

The independent variables are the following:

Company size: equal to the natural logarithm of the total assets of the company.

current ratio: the ratio of current assets to current liabilities

long-term debt ratio: the ratio of long-term debt to total assets

Return on assets: the ratio of earnings before interest and taxes to total assets

Loss: variable is allowed if the company this year, a year ago or two years ago, the number of losses is one and otherwise zero

The first study to test the hypothesis of the model (1) is used.

$$\log(AF_t/AF_{t-1}) = \beta_0 + \beta_1 \log(EAF_t/EAF_{t-1}) + \varepsilon \quad (2)$$

Table 2: Variable definitions(model 2)

Specific name	measurement
LAF	The natural log of audit fees
L(EAF <sub>t</sub> / EAD <sub>t-1</sub> )	Natural logarithm (audit fees diagnosed (t) / (audit fees diagnosed (t-1))

To test the hypothesis Two hypothesis study of the model (2) is used and it is predicted that if the amount of beta (B<sub>1</sub>) is less than one indicates that audit fees in full and in accordance with the fee estimate been amended.

In other words, the response to the audit fees fit and function of the proposed changes in the standard model (1).

$$\log(AF_t/AF_{t-1}) = \beta_1 \log(EAF_t/EAF_{t-1}) + \beta_2 Decreas\_Dummy * \log(EAF_t/EAF_{t-1}) + \varepsilon \quad (3)$$

Table 3: Variable definitions(model 3)

Specific name	measurement
LAF	The natural log of audit fees
L(EAF <sub>t</sub> / EAD <sub>t-1</sub> )	Natural logarithm (audit fees diagnosed (t) / (audit fees diagnosed (t-1))
Decrease_Dummy	When L (EAF <sub>t-1</sub> / EAD <sub>t-2</sub> ) is negative, otherwise

To test the second hypothesis, the hypothesis of the present study (3) is used. And it is predicted that the relationship between the two beta coefficient (β<sub>2</sub>) dependent variable is significant and shows the willingness to further enhance their fees. In other words it is assumed with respect to the theoretical right to audit fees usually trend is increasing, not decreasing.

$$\log(AF_t/AF_{t-1}) = \beta_0 + \beta_1 \log(EAF_t/EAF_{t-1}) + \beta_2 Decreas\_Dummy * \log(EAF_t/EAF_{t-1}) + \beta_3 \log(EAF_t/EAF_{t-1}) + \beta_4 Decreas\_Dummy_{t-1} * \log(EAF_{t-1}/EAF_{t-2}) + \varepsilon \quad (4)$$

Table 4: Variable definitions(model 4)

measurement	Specific name
Natural logarithm (audit fees diagnosed (t) / (audit fees diagnosed (t-1))	L(EAF <sub>t</sub> / EAD <sub>t-1</sub> )
When L (EAF <sub>t</sub> / EAD <sub>t-1</sub> ) is negative, otherwise 0.	Decrease_Dummy
Natural logarithm (audit fees diagnosed (t-1) / (audit fees diagnosed (t-2))	L(EAF <sub>t-1</sub> / EAD <sub>t-2</sub> )
When L (EAF <sub>t-1</sub> / EAD <sub>t-2</sub> ) is negative, otherwise 0	Decrease_Dummy <sub>t-1</sub>



The third hypothesis to test two hypotheses research model (4) is used and is predicted beta coefficient four ( $B_4$ ) is positive and represents a significant reduction in the adhesion fee.

#### 4. Research population and statistical sample

Population of this research includes total companies listed in Tehran stock exchange in 2012-2016 time period. Through screening method, only the companies which have had below qualifications have been selected as statistical samples:

1. their financial year ends in March.
2. they have not changed their financial year during research period.
3. they have provided all the required financial information in 2012-2016 time period.
4. they are not investment company, banks, or financial intermediates.

According to above mentioned qualifications, a number of 71 companies were selected and reviewed as sample.

#### 5. Research method and data collection

Since this research is going to determine the Investigating effective factors on audit fees with an emphasis on Stickiness of audit costs, it is a correlation research, and since determination on such a relationship may be useful to those who use financial information of the companies, it is an applied research. after-event method is used when researcher reviews the issue after the event has happened, and also when manipulation of independent variables is impossible.

In this research, data collection is performed by referring to financial statements, explanatory notes, weekly reports and journal of stock exchange, and through using Rah Avard Novin and Tadbir Pardaz softwares.

#### 6. Data analysis method

The data collected using the proposed theoretical and software EXCEL and SPSS software have been analyzed. Statistical analysis using Pearson correlation coefficient between the Durbin Watson, tests F (Fisher) and T regression was used to examine significant. In this study, the level of significant is  $\alpha=5\%$  defined that in this case would be 95%.

#### 7. Testing hypotheses

##### The first group of hypotheses: Investigate the factors affecting on audit fees

Table 5: results of the first group regression assumptions

Variables	Coefficients	T test	p- Value
Constant	-6/567	-12/925	0/000
size of the company	0/519	15/269	0/000
ratio of assets	-/463	-1/820	0/070
current ratio	0/162	2/110	0/036
ratio of debt	-/631	-1/341	0/181
return on assets	-0/009	0/468	0/640
loss	-0/094	0/595	0/552

##### The first hypothesis: Company size has a significant impact on addressing the audit fees.

According to Table 5 As can be seen, the estimated coefficient for firm size variable indicates that company size has a significant positive impact on audit fees entity.. However, considering that the value of the significant effect of firm size on audit fees P.value = (0.0 < 0.05). Therefore this is a significant relationship. Thus, the first research hypothesis is accepted thus expected to increase the size of the company, increased audit fees.

##### The second hypothesis: Assets ratio has a significant impact on audit fees.

According to Table 5 As can be seen, the coefficient of assets ratio shows that, between the assets ratio and audit fees there is a negative relationship. However, considering that the level of significance in the evaluation of assets ratio on audit fees at 95% is not significant because its significance 0.07 and this number is more than 5% error level accepted in the research. Therefore this The relationship is not significant. Thus, the second hypothesis is not accepted.

##### The third hypothesis: Current ratio has a significant impact on audit fees.

According to Table 5 As can be seen, the coefficient of the current ratio indicate that there is a positive relationship between current ratio and audit fees.

Also, considering that the level of significance in the relationship between audit fees and the current ratio P.value = ( 0.036 < 0.05). Therefore this is a significant relationship. Therefore, the third hypothesis is accepted. Thus is expected to increase the current ratio, increased audit fees.

##### Fourth hypothesis: There is a significant impact of debt ratio on audit fees.

According to Table 5 As can be seen, the coefficient indicates that the debt ratio, debt ratio and audit fees there is

a negative relationship. However, considering that the level of significance in the relationship between debt ratio and audit fees ( $P.value = 0.181 > 0.05$ ). Therefore, this relationship is not significant.

**Fifth hypothesis: Return on assets has a significant impact on audit fees.**

However, given that the level of significance of the effect of rate of return on assets and audit fees at 95% is not significant because its significance 0.640 and this number is more than 5% error level accepted in the research are; Therefore, this relationship is not significant. Thus, the fifth research hypothesis is not accepted.

**Sixth hypothesis: Loss of a significant impact on audit fees.**

Finally, according to Table 5. As can be seen, the coefficient of losses suggests that there is a negative relationship between losses and audit fees. However, given that a significant level of losses on audit fees in effect  $P.value = (0.552 > 0.05)$ . Therefore, this relationship is not significant. Therefore, the sixth hypothesis research will not be accepted.

**The second group of hypotheses: The effect of Stickiness audit costs to audit fees.**

**Hypothesis 1: Audit fees real, in the short term, according to estimates audit fees, not be amended.**

**Statistical results of testing the first hypothesis:**

In order to test the data, multiple regression analysis, and enter variables in the model used by Enter. The results of the statistical analysis model to test the first hypothesis is presented in the following tables.

Table 6: variables entered into the regression model

The regression mode	Entrant variables
1	Logarithm of estimated fees

As can be seen on Table 6, the results indicate that the independent variable in the model was log of audit fees.

Table 7: Summary of regression

the regression model	R	R <sup>2</sup>	Adjusted R2	The estimated standard deviation	Durbin-Watson statistic
1	<b>0/0810</b>	<b>0/657</b>	<b>0/656</b>	<b>.319</b>	<b>2/064</b>

As can be seen in Table 7. According to this model, the coefficient of determination is equal to 0.656, ie 65% of the variability of dependent variables explained by the independent variables. Also, the Durbin-Watson statistic model, which is equal to 2.06 in the interval between 5/1 and 5/2, and there is no indication that the errors of autocorrelation model.

Table 8: test the significance of the regression model

Multiple regression model	F statistic	p- Value
<b>1</b>	654/732	0/000

In a multiple regression equation, if any relationship between dependent and independent variables and control variables do not exist, have all independent and control variables in the equation coefficients equal to zero. Therefore, the significance of the regression tested. This is done using the F statistic. As in Table 8 can be seen, the F statistic and significance level of this test indicate that the null hypothesis by the same meaningless entire model (zero all coefficients), it is rejected and the regression model estimated total is significant.

• **T test to determine the significance of partial regression coefficients.**

Table 9: Results of t-test to evaluate significant partial regression coefficients

p- Value	T test	Standardized coefficients	Not standardized coefficients		the regression model
		Beta	The standard deviation	Coefficient	
<b>0/910</b>	<b>0/113</b>		<b>0/017</b>	<b>-0/002</b>	Constant
<b>0/000</b>	<b>25/588</b>	<b>0/810</b>	<b>0/051</b>	<b>0/314</b>	Logarithm of estimated fees

According to Table 9. As can be seen, The estimated coefficient for variable fees log estimates, indicate that, there is a positive relationship between Estimates of log fees (audit fees is the expression of Stickiness) and audit fees. Also, given that the level of significance in the relationship between the logarithm of estimated fees and audit fees  $P.value = 0.0 < 0.05$ ). Therefore this is a significant relationship. Thus, the first research hypothesis is accepted. Thus, audit fees have a significant positive impact on the estimated fees. So expect given that, predicted beta ( $\beta_1$ ) less than one, the first hypothesis of this study that the audit fees quickly and appropriate estimated auditing fees, correction can not be confirmed Is.

### Statistical results of the second test hypotheses

#### Hypothesis2: Audit fees tend to increase rather than decrease.

Table 10: variables entered into the regression model

The regression mode	Entrant variables
1	Logarithm of estimated fees
2	Dummy variable* Logarithm of estimated fees(t)

As can be seen on Table 10, the results indicate that the independent variable log of audit fees and variable fees allowed \* log estimates this year's model.

Table 11: Summary of regression

the regression model	R	R <sup>2</sup>	Adjusted R2	The estimated standard deviation	Durbin-Watson statistic
1	<b>0/847</b>	<b>0/718</b>	<b>0/716</b>	<b>0/2896</b>	<b>1/843</b>

As can be seen in Table 11. According to this model, the coefficient of determination is equal to 0.716, ie 71% of the variability of dependent variables explained by the independent variables. Also, the Durbin-Watson statistic model, which is equal to 1.843, in the interval between 5/1 and 5/2, and there is no indication that the errors of autocorrelation model.

Table 12: test the significance of the regression model

Multiple regression model	F statistic	p- Value
<b>1</b>	433/810	0/000

As in Table 12 can be seen, the F statistic and significance level of this test indicate that the null hypothesis by the same meaningless entire model (zero all coefficients), it is rejected and the regression model estimated total is significant.

- **T test to determine the significance of partial regression coefficients**

Table 13: Results of t-test to evaluate significant partial regression coefficients

p- Value	T test	Standardized coefficients	Not standardized coefficients		the regression model
		Beta	The standard deviation	Coefficient	
<b>0/910</b>	<b>0/113</b>		<b>0/017</b>	<b>-0/002</b>	Constant
<b>0/000</b>	<b>25/588</b>	<b>0/810</b>	<b>0/051</b>	<b>0/314</b>	Logarithm of estimated fees
<b>0/000</b>	<b>8/585</b>	<b>0/392</b>	<b>0/073</b>	<b>0/628</b>	Dummy variable* Logarithm of estimated fees(t)

According to Table 13 As can be seen, the coefficient estimated for the variable logarithm fees estimates indicate that between logarithm fees estimates this year (which represents the Stickiness audit costs) and audit fees positive relationship exists . Also, given that a significant level in the current year estimates the effect of the logarithm of fees and audit fees P.value = 0.0 <0.05)). Therefore this is a significant relationship. Also, the coefficient of the logarithm of fees estimates \* dummy variable equal to 628/0 year, which indicates the logarithm fees estimates \* dummy variable indicating that this year's audit cost legitimate expectations Stickiness audit fees have a positive impact . Also, given that the level of significance in the relationship between the logarithm of fees and audit fees estimates \* year dummy variable P.value = 0.0 <0.05)); thus, the second hypothesis is accepted; And since, the beta coefficient is used to test the hypothesis that the auditor's assessment of fees and audit fees and there is a significant positive relationship. So expect when a reduced audit fees be expected to be less than when an increase is expected, that show reduced Stickiness audit costs based on audit fees is expected to change. In other words audit fees tend to increase rather than decrease.

### Statistical results of the third hypothesis testing

#### Hypothesis 3: deviation of the actual remuneration fees estimated, in the long-term relationship is negative.

Table 14: variables entered into the regression model

The regression mode	Entrant variables
1	Logarithm of estimated fees
2	Dummy variable* Logarithm of estimated fees(t)
3	Dummy variable* Logarithm of estimated fees(t-1)

As the tables 14 can be seen, the results indicate that the independent variable log of audit fees, dummy variable \* log fees estimates this year and dummy variable \* log fees estimates last year's model gets .



Table 15: Summary of regression

the regression model	R	R <sup>2</sup>	Adjusted R2	The estimated standard deviation	Durbin-Watson statistic
1	0/986	0/972	0/972	0/091	2/474

As can be seen in Table 15. According to this model, the coefficient of determination is equal to 0.972, ie 97% of the variability of dependent variables explained by the independent variables. Also, the Durbin-Watson statistic model, which is equal to 2.474, in the interval between 5/1 and 5/2, and there is no indication that the errors of autocorrelation model.

Table 16: test the significance of the regression model

Multiple regression model	F statistic	p- Value
1	295/341	0/000

As in Table 16 can be seen, the F statistic and significance level of this test indicate that the null hypothesis by the same meaningless entire model (zero all coefficients), it is rejected and the regression model estimated total is significant.

• **T test to determine the significance of partial regression coefficients**

Table 17: Results of t-test to evaluate significant partial regression coefficients

p- Value	T test	Standardized coefficients	Not standardized coefficients		the regression model
		Beta	The standard deviation	Coefficient	
0/910	0/113		0/017	-0/002	Constant
0/000	25/588	0/810	0/051	0/314	Logarithm of estimated fees
0/000	8/585	0/392	0/073	0/628	Dummy variable* Logarithm of estimated fees(t)
0/000	-23/293	-0/415	0/028	0/913	Dummy variable* Logarithm of estimated fees(t-1)

And finally, as for the table 17 can be seen, the estimated coefficient for the logarithm of the variable remuneration of the last year did \* dummy variable equal to .0913. Also, given that a significant level in check the relationship between the logarithm of fees estimates \* year dummy variable fee audit fees P.value = 0.0 (<0.05)) is. Therefore, this relationship is significant.so, third hypothesis is accepted;

And since the beta coefficient four for the third hypothesis testing is used so that the deviation of the remuneration of the standard model of remuneration over long periods of time and audit fees significantly positive correlation exists so expect deviations fee model standard audit fees over longer periods of time is reduced. This indicates that the strength of Stickiness audit costs in the short term, most of the medium and long term. And Stickiness of costs in the long term is reduced.

**8. Proposals based on the results**

**According to the findings of the first group hypotheses, proposals to make better decisions by consumers are as follows:**

- Investors and other users of information offered, The anticipated audit fees due to two factors: the size of the company's current ratio because the results show that these factors affect audit fees.
- According to two factors: company size, current ratio and calculate the variables related to these two factors, it is not a problem, so the impact of these two factors on the one hand and ease of calculation of these two factors on the other hand, made it possible for investors professional and non-professional investors provides to easily be able to use these two factors, so it is best used of these two factors in the Iranian capital market.

**Also according to the findings of the second group hypotheses, proposals will be presented as follows:**

Based on the findings, audit fees in the short term and in accordance with audit fees estimates, do not adjust, audit fees in the course of a few years, changes in short periods of time (usually a year) further change the audit fees not done so for a period of multi-year audit firms auditing gain a better understanding of client operations and audit fees also are proportional to obtain corrected.

The results also showed that the Stickiness fee of not follow a clear trend. This is due to inflation in recent years noted, so that each year the amount of audit fees due to price changes, is determined institutes in order to attract clients, many changes in fees are not required.

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