



**THE EFFECT OF EARNINGS VARIABILITY FACTORS ON MANAGERS
EARNING PER SHARE FORECAST ERROR IN SMOOTHING AND
OPERATIONAL EFFICIENCY COMPANY**

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ABSTRACT

The goal of financial reporting in firms is to let users forecast future earnings of an economic unit and also use this forecast to assess manager's performance. Accordingly, the main goal of the present study is to investigate about the effect of earnings variability factors on managers' earning forecast per share in firms enlisted in Tehran Stock Exchange. The statistical population for this research comprises all firms enlisted in Tehran Stock Exchange for the time period between 2015 and 2019 and after screening 125 firms were studied. The present research is descriptive and correlation type and the variables have been tested through statistical analyses. Research findings showed that earning variability factors did not have a meaningful effect on earning forecast per share in high and low levels regarding earning smoothing but in high and low operational efficiency variability levels it has had a negative and meaningful effect. Also the test of difference between earning per share forecast error in high and low level of smoothing was rejected but the test of earning forecast error in firms having a low level of operational efficiency variability compared to firms with a high level of operational efficiency variability has been less and meaningful.

KEYWORDS: *Earning Variability Factors, Managers' Earning Per Share Forecast, Earning Smoothing, Operational Efficiency Variability*

INTRODUCTION

Earning reporting is one of the items in financial statements used as performance assessment criterion and profitability of a profit unit [22]. Regarding efficient market theory, the investors seek to get some information to be used in order to maximize their benefits. Now, earning forecast is one of this information. Usually investors do not react to forecasted earnings but react against realized earnings [16]. Therefore, a manager uses any method to reduce the deviation

between the forecasted and real earnings (earnings forecast error). But, regarding the perspective of agency problem, one of opportunistic behaviors of managers is to manage earnings and they are stimulated to hide a part of losses [10]. Earnings management philosophy refers to utilizing the flexibility of standard methods and accepted accounting principles. But there are several interpretations about the standard accounting method. Another reason is the existence of earnings management [23].

Also due to the theory posed by Das et al (2009) besides the opportunity supplied for the managers, a manager can have loss of incentives to use accruals in order to forecast and estimate their goals and achieve them. Thus, it seems that the presence of earning forecast error in the past created a stimulus for managers to smooth earnings or reduce fluctuations in operational efficiency and to try to modify earning forecast errors. According to what was pointed out above, the researcher here wants to answer the following questions: do earning variability factors affect earning forecast error per share in firms with high and low levels of earning smoothing and operational efficiency variability?

RESEARCH LITERATURE

Earning forecast error

Investors, creditors and other users of financial information in firms need information about future of economic units besides historical information. Earning forecast by unit management is one of them which is specifically considered and cause changes in behaviors of investors and stock market. The forecast of earning per share is a type of firm disclosure that presents some information about earnings expected by any firm and is considered as a key aspect of disclosure [8]. Basically optional and obligatory disclosures are two important communicative routes to transfer information to outsider stockholders by managers. A considerable literature review showed that these two disclosure types represent valuable and related information and affect bonds' price meaningfully [7]. Earning forecast error has been used as a dependent variable in this research and regarding the theory posed by Hisu & et al (2008) it is the absolute amount of difference between forecasted earnings and real earnings. Thus, to measure this variable in different levels of earning smoothing and operational efficiency variability, we have used Johnson & Zehu (2012) model as follows:

$$FE_{it} = \text{ABS} (AEPS_{it} - FEPS_{it}) / AEPS_{it}$$

FE: forecast error of firm i in time t

AEPS_{it}: real earning per share of firm i in time t

FEPS_{it}: forecasted earning per share of firm i in time t

Earning variability

Information presented by the company and thus earnings are based on previous incidents in a company, but the investors need some information about future of the firm. A perspective is to present only historical and current information about the economic unit, of course, in a way that investors can do their own forecasts about future. Another viewpoint is that management carries out credited forecasts by having access to resources and facilities and increase the efficiency of financial markets by publishing these forecasts for all [22]. Decision making about how to choose between the two perspectives posed above seems to be difficult because there is not an acceptable comprehension of how to process information by investors and efficient market theory emphasizes on amount and rate of the effect of financial information on stocks' price. Different researches have made controversial conclusions about this issue. But, on the whole, most financial authorities believe that financial forecast publication helps in making investment decisions [32]. In this research earning variability factors are calculated by multiplying the two factors of earnings variability and earning forecast error during the previous year and the

regression. Thus, earning variability is gained through 4 years' standard deviation of earnings as follows [14]:

$$\sigma_E = \sqrt{\frac{\sum_{t-4}^t EAR^2 - \frac{(\sum_{t-4}^t EAR)^2}{4}}{4}}$$

Earning smoothening

The goal of management is to show the company consistent and dynamic for the investors and capital market. Gaining a suitable position among rivals and capital market induces investors and creditors to have a more positive attitude towards the firm and this may result in the firm not to need to spend much to compete against other similar companies and to receive credit and loans using a lower amount of expenditures. Therefore, managers try to show that earnings' pattern show a consistent growth trend throughout the lifespan of the company and this in fact is interpreted as earning smoothening. The most important incentive for earning smoothening is the belief that those firms that have had a suitable earning trends and their earnings did not face main changes are more valuable than other similar companies. Smoothening results in increasing stock price of the firm in bourse and attracts potential investors for it (Hisu & et al, 2008). Also smoothening reinforces future earnings capability potentially and helps the users in forecasting future trends in firm's profitability. In fact, the prediction of firm's future earnings with smooth earnings is simpler than future earning forecasts of other firms and is done with a higher precision [4]. Also in this research we have used the following models to measure firms with high and low earnings' smoothening. Then, we used Cheng & et al (2012) model in order to measure high and low levels of earnings smoothening. The higher than median optional accruals were considered as year-firms with high levels of earning smoothening, and those lower than median as low levels of earning smoothening [24]. Accordingly, the calculation method and year-firms of high or low levels of earning smoothening were as follows:

$$\left(\frac{TA_{it}}{A_{it-1}}\right) = \alpha_1 \left(\frac{1}{A_{it-1}}\right) + \alpha_2 \left(\frac{\Delta REV - \Delta REC}{A_{it-1}}\right) + \alpha_3 \left(\frac{PPE}{A_{it-1}}\right) + \varepsilon_{it}$$

In equation number 1 we have:

TA_{it}: total accruals of firm i in year t which is the result of net earnings before discretionary items minus operating cash

A_{it-1}: total assets of firm i in year t-1

REV: revenue change of firm i between the years t and t-1

ΔREC: change in accounts receivable of firm i between the years t and t-1

PPE: the amount of properties, machinery, and equipments (gross) of firm i in year t

In this model first α₁, α₂, α₃ of the parameters estimated for a certain firm through least squares estimation method are estimated within a more time span and then it would be tested regarding the research period. In this model the index of optional accruals or the absolute amount is the same as error phrase (ε) (Kothari & et al, 2005).

Figure 1. the number of firms with high and low levels of earning smoothening

Total	Firms with high level smoother	Firms with low level smoother
310 year-firm	155	155
Earning smoothening index	Kothari's index for categorizing firms: 0.0601440	

Operational efficiency variability

Also Dichev & Tang (2010) found that earning forecast error is potentially resulted from earning variability in previous periods. Meanwhile, firms having a high level of smoothing and operational efficiency with less fluctuation have more consistent earnings. The present research has used the framework posed by Talker & Zarowin (2010) to identify the earning forecast capabilities through studying the reported earning variability. Accordingly, the reason to select this issue is that since managers are permanently seeking to attract the attention of capital suppliers of the companies, they try to adjust the published information with their tendencies. Thus, it seems that the presence of earning forecast error in the past creates an incentive for the managers to smooth the earnings or reduce fluctuations in operational efficiency to modify earning forecast error. Also in this research we have used return on assets ratio to measure firms with high and low levels of operational efficiency variability. And since operational efficiency variability is taken into consideration, 4 year standard deviation of operational efficiency is calculated and firms with higher levels are categorized above median of operational efficiency variability and those with lower than that are categorized as firms with a low level of operational efficiency variability [9].

Operational efficiency variability = net earnings / total assets

Figure 2. The number of firms having high and low levels of operational efficiency variability

Total	Firms with high level operational variability	Firms with low level operational efficiency
310 year-firm	155	155
Earning smoothening index	Operational efficiency variability index for categorizing firms: 0.060003	

Also in this research we have considered control variables as follows:

Return on stock: to measure real stock return we have used 'Rahaward' software. In this software we can use the following equation to calculate daily stocks' return [25]:

$$R_{it} = \left(\frac{P_1 - p_0 + DV_{it}}{p_0} \right)$$

Where,

P₁: price in current year

P₀: price in previous year

D_{it}: stock earning paid in cash

Firm size: on the whole big companies encounter less earning forecast error because in big companies, the creditors encounter less agency costs (Howang & et al, 2010). In this research firm size was calculated using In of assets.

Size = log (assets)

RESEARCH LITERATURE

International

Khuan, Joggy (2013) carried out a research about accounting conservatism and management's earning forecast and concluded that accounting conservatism works as an alternative for management's earning forecast and that is less than what the analysts announce. However, this is considered as a complementary for management's earning forecast which acts as something

higher than what analysts have a consensus on. Foster & et al (2013) studied about the effect of voluntary disclosure of firm dangers and firm value and found that the evidences of management's earning forecast show that there is a negative relationship between management's earning forecast publication and several dangers endangering the company (specific risk, stock return fluctuations, beta, and development suggestion) and there can be a more precise forecast to reduce firm's risk. Finally, management's earning forecast not only affects firms through risk reduction, but also through changing the perceptions of investors about the future of cash flows. Ton Sidhu (2012) found that the effect of earnings variability on managers' earning forecast converges with forecasts of analysts completely regarding the current information about earning variability for firms with high earnings and firms with less operational variety.

Kotch Park (2011) studied about the effect of earnings' consistent growth on characteristics of management's earning forecast and found that the precision in earning forecast in firms having a consistent growth rate is more than other firms. Results of this research also showed that the presence of management symptoms and earning smoothening in reports published by the company reduces the effect of consistent earning growth on the validity of forecasted earnings. Rako (2010) investigated on the effect of consistent growth of earnings on the characteristics of management's earning forecast, pessimistic forecasts and forecasts that predict a loss and they do not have a meaningful correlation with high levels of capital costs. On the contrary, in time forecasts and forecasts with high information content have been related with low level capital costs.

Wi Hon Zho (2009) found that the effect of how to forecast earnings by management also affects accruals in future earnings, inappropriate pricing of accruals for firms that publish forecasts' limits, but it is not applied for firms that publish forecast points.

Local:

Ali Rahmani & et al (2012) studied about the effect of publishing earning forecast on reaction coefficient of future earnings and concluded that management's earning forecast affects the relationship between return and future earnings. The more occurrences of forecasts will result in less errors and the validity of it will be deemed higher considering the viewpoints of investors.

Azizkhani & Safarbandi (2012) studied about the effect of auditors' tenure on accounting earnings' predictability emphasizing on precision amount (error level) of management's earning forecast. In early years of auditors' tenure the amount of precision in management's earning forecast (less forecast error) will increase and after that it will decrease (more forecast errors). Results of this research proposed experimental evidences regarding the obligatory recycling of auditing entities.

Mahdavi & Zare-e-Hosseiniabadi (2011) studied about the relationship between management's earning forecast and overall accruals and found that there was a meaningful relationship between management's earning forecast error and total accruals. Also based on the results of second hypothesis of this research, the relationship between forecasted earning error by management and total accruals in business environments was not approved with high absoluteness.

Latifi & Hajipour (2010) studied the effect of conservatism on management's earning forecast error and concluded that in firms having more conservative accounting, management's earning forecast error is less.

Khalifeh Soltani & et al (2010) found that the relationship between management's earning forecast error and accruals is positive and in firms acting in an uncertain business environment, this positive relationship is even stronger.

Rezazadeh & Ashtaab (2010) investigated about earning forecast error and primary return on stocks of firms newly enlisted in Tehran Stock Exchange and found that like other countries there

is cheap sales phenomenon at this part too. Also there was a meaningful relationship between earning forecast error and primary return on stocks of firms enlisted in Tehran Stock Exchange newly.

Research methodology

In this research the methodology comprises of the following items such as: statistical population, hypotheses, research method:

Statistical population and sample amount:

The statistical population of the present study entails all firms enlisted in Tehran Stock Exchange during the time period between 2015 and 2019. The number of firms being active in bourse up to March 2019 was 466.

Presuppositions:

The number of firms' outflow during the time period between 2015 and 2019 was 116.

The number of firms' inflow during the time period between 2015 and 2019 was 30.

The number of firms not ending fiscal year on 21st March was 65.

The number of firms changed their fiscal year during the time period between 2015 and 2019 was 15.

The number of firms acted in investment, and joint funds was 52.

The number of firms that have had more than 3 months of exchange stops was 63.

If we subtract the firms enlisted in presuppositions, the total subtraction during the time period between 2015 and 2019 would equal:

The number of firms being investigated: 125 firms

Hypothesis:

Regarding the researcher's questions, the following hypotheses were formed:

- 1- In firms with high or low levels of earning smooth and operational efficiency variability, earning variability factors also affect earning forecast error of each share as well.
- 2- Earning forecast error per share in firms having a low level of earning smoothing has a meaningful difference with that of firms having high levels of earning smoothing.
- 3- Earning forecast error per share in firms having a low level of operational efficiency variability has a meaningful difference with that of firms having high levels of operational efficiency variability.

Research method:

The present research is correlation type and it is applied regarding goal. This research is considered to be one of descriptive researches in accounting. Additionally, since historical information has been used in testing hypotheses, it can be categorized as quasi-experimental researches. Also it is experimental based and its reasoning is inferential and regarding the type of study, it is a field study with library studies using historical data in the form of post-incident (using past information).

Data analysis:

The following table represents results of descriptive statistics of research variables for 310 observations in smoothing population and operational efficiency variability as follows:

Figure 3. The descriptive statistics of research variables for smoothening population

Variable	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis
managers earning per share forecast) FE(	0.891	0.403	10.00	0.000	1.483	3.567	3.618
variability earnings) EV(	0.056	0.040	0.579	0.001	0.069	4.701	30.970
managers earning per share forecast) PFE t-1(	0.994	0.403	16.00	0.000	2.008	4.754	29.369
earning variability factors in high smoother companies (B1)	0.055	0.000	4.243	0.000	0.311	10.330	122.44
earning variability factors in Lower smoother companies (B1)	0.018	0.000	0.652	0.000	0.055	6.997	66.924
stock return)RET t-1(	1.546	1.168	23.447	-35.561	6.06	-0.577	8.910
Companies Size) SIZE(	5.778	5.751	7.276	4.697	0.442	0.325	3.481

Earning variability factors in high smoother companies

Figure 4. The descriptive statistics of research variables for operational efficiency variability population

Variable	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis
managers earning per share forecast) FE(	1.090	0.407	15.666	0.038	2.098	4.231	3.051
variability earnings) EV(	0.074	0.060	0.402	0.005	0.056	2.172	9.495
managers earning per share forecast) PFE t-1(	0.953	0.390	20.461	0.028	1.930	5.862	47.525
earning variability factors in high smoother companies (B1)	0.080	0.001	4.223	0.000	0.369	9.450	999.22
earning variability factors in Lower smoother companies (B1)	0.014	0.0003	0.554	0.000	0.044	8.012	82.626
stock return)RET t-1 (	1.859	1.835	71.087	-72.376	9.385	-1.302	33.505
Companies Size) SIZE(	5.878	5.770	7.807	4.697	0.575	0.797	3.558

Figure 5. Results of studying the normality of the distribution of research's dependent variable

Variable	test results of K-S					
	Mean	Std. Dev.	Positive	negative	k-z	sig
earnings forecast error in smoothers	0.891	1.483	0.306	-0.277	1.140	0.138

earnings forecast error in operational efficiency	1.090	2.098	0.302	-0.308	1.223	0.124
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Regarding figure 5, after normality test, the meaningfulness level of Z statistic of ks test for the dependent variable has been increased into higher than 0.05. Thus, H_1 , claiming the normal distribution of data is accepted and this shows that the dependent variable of this research has had a normal distribution.

Figure 6. Testing common root by using adjusted Diki Fuller test

Society Classification	earnings forecast error in high operational efficiency			earnings forecast error in high smoothers		
	sig	T	Interruptions number	Sig	t	Interruptions number
managers earning per share forecast)FE(	0.000	-10.352	0	0.000	-17.060	0
variability earnings) EV(	0.000	-15.213	0	0.000	-15.948	0
managers earning per share forecast)PFE t-1(	0.000	-17.993	0	0.000	-17.043	0
earning variability factors in high smoother companies (B1)	0.000	-17.669	0	0.000	-17.835	0
earning variability factors in Lower smoother companies (B1)	0.000	-17.658	0	0.000	-18.005	0
stock return)RET t-1(	0.000	-10.272	0	0.000	-16.635	0
Companies Size)SIZE(	0.000	-5.234	0	0.000	-10.186	0

Regarding results presented in figure 6, all research variables have had consistency in an assurance level of %95. In next stage, and to test research hypotheses, we used the F Limer tests to identify whether using panel data estimation method could be efficient or not. In testing these hypotheses we have used a model as follows:

Testing first model:

Figure 7. Results of F Limer statistic to test model

Statistic	Amount of statistic	degree of freedom	Meaningfulness level
F	0.925	4.299	0.449

Since the meaningfulness level of this test is more than 0.05 (0.449), the divergence of latitude from bases could not be approved and we have used pooled data method in model estimation.

Figure 8. Results of White statistic for model test

Statistic	Amount of statistic	Meaningfulness level
W	10.372	0.000

Judgment method: also since the meaningfulness level of White's test is less than 0.05 (0.000), we can conclude that the model has variance incongruence. Thus, after resolving the problem, we have used god Ferry test to test the model.

Figure 9. Results of god Ferry test to test the model

Statistic	Amount of statistic	Meaningfulness level
BG	0.146	0.863

Judgment method: also since the meaningfulness level of god Ferry test is more than 0.05 (0.863), we can conclude that the model does not have serial self-correlation problem.

Figure 10. Results of research model estimation for smoothening statistical population

Variable	T	sig	R	VIF
variability earnings) EV(	0.317	0.751	0.098	1.103
managers earning per share forecast)PFE t-1(	7.500	0.000	0.683	2.899
earning variability factors in high smoother companies (B1)	0.069	0.944	0.029	2.641
earning variability factors in Lower smoother companies (B1)	1.183	0.237	1.482	1.451
stock return)RET t-1(	1.470	0.142	0.006	1.023
Companies Size) SIZE(	0.080	0.936	0.003	1.015
)c(	0.613	0.540	0.148	-
F)sig(		456.271)0.000(	D_W	2.036
)R(		)0.900(	J-B)sig(	3.014)0.154(
$FE_{it} = 0.148 + 0.098 EV_{it} + 0.683 PFE_{i,t-1} + 0.029 (EV_{it} * PFE_{i,t-1}) + 1.482 (EV_{it} * PFE_{i,t-1}) + 0.006 RET_{i,t-1} + 0.003 SIZE_{it} + \varepsilon$				

In studying the total model's meaningfulness and regarding that the meaningfulness of F statistic is less than 0.05 (0.000), we can approve the meaningfulness of total model in an assurance level of %95. Also model's identification coefficient shows that %90 of changes of earning forecast error per share of firms can be determined using by variables entered into the model. Also in studying the classic regression presuppositions, the results of Jaque-Bera test showed that residuals of model estimation have had a normal distribution in an assurance level of %95 in a way that the meaningfulness level related to this test has been greater than 0.05 (0.154). Also regarding that the amount of Durbin-Watson statistic of the model was between 1.5 and 2.5 (2.036), we can say that there is not self-correlation problem among residuals in the model. Finally regarding the meaningfulness level of earning forecast related to previous year (descriptive variable) which is 0.05, we can say that earning forecast error in previous year has had a positive and meaningful effect on earning forecast error per share (dependent variable). Also independent variables (earning variability of firms with high and low smoothening) have

been rejected. Finally after testing the co-linearity among research variables, the amount of VIF statistic (variance inflection factor) for all variables has been less than 5 and this shows that there has not been a severe co-linearity between research variables.

Testing second model:

Figure 11. Results of F Limer statistic to test model

Statistic	Amount of statistic	degree of freedom	Meaningfulness level
F	2.035	4.299	0.089

Judgment method: Since the meaningfulness level of this test is more than 0.05 (0.089), the divergence of latitude from bases could not be approved and we have used pooled data method in model estimation.

Figure 12. Results of White statistic for model test

Statistic	Amount of statistic	Meaningfulness level
W	0.722	0.839

Judgment method: also since the meaningfulness level of White's test is more than 0.05 (0.000), we can conclude that the model does not have variance incongruence. Thus, we have used god Ferry test to test the model in order to determine serial self-correlation problem.

Figure 13. Results of god Ferry test to test the model

Statistic	Amount of statistic	Meaningfulness level
BG	2.292	0.102

Judgment method: also since the meaningfulness level of god Ferry test is more than 0.05 (0.102), we can conclude that the model does not have serial self-correlation problem.

Figure 14. Results of research model estimation for operational efficiency variability statistical population

Variable	t	sig	R	VIF
variability earnings) EV(	2.134	0.033	4.209	1.110
managers earning per share forecast)PFE t-1(	7.757	0.000	0.701	2.745
earning variability factors in high operational efficiency companies (B1)	2.874	0.004	1.176	2.057
earning variability factors in Lower operational efficiency companies (B1)	2.341	0.019	7.649	1.948
stock return)RET t-1(	-0.214	0.829	-0.002	1.026
Companies Size) SIZE(	0.622	0.534	0.116	1.038
)c(	-0.325	0.745	-0.363	-
F		15.627		
)sig(		0.000(	D_W	2.056
)R(		0.236(	J-B	6.980
		)sig(	)0.098(
$FE_{it} = -0.363 + 4.209 EV_{it} + 0.701 PFE_{i,t-1} + 1.176 (EV_{it} * PFE_{i,t-1}) + 7.649 (EV_{it} * PFE_{i,t-1}) - 0.002 RET_{i,t-1} + 0.116 SIZE_{it} + \varepsilon$				

In studying the total model's meaningfulness and regarding that the meaningfulness of F statistic

is less than 0.05 (0.000), we can approve the meaningfulness of total model in an assurance level of %95. Also model's identification coefficient shows that %23.6 of changes of earning forecast error per share of firms can be determined using by variables entered into the model. Also in studying the classic regression presuppositions, the results of Jaque-Bera test showed that residuals of model estimation have had a normal distribution in an assurance level of %95 in a way that the meaningfulness level related to this test has been greater than 0.05 (0.098). Also regarding that the amount of Durbin-Watson statistic of the model was between 1.5 and 2.5 (2.056), we can say that there is not self-correlation problem among residuals in the model. Finally regarding the meaningfulness level of earning forecast related to previous year (descriptive variable) which is 0.05, we can say that earning forecast error in previous year has had a positive and meaningful effect on earning forecast error per share (dependent variable). Also independent variables (earning variability of firms with high and low smoothing) have been rejected. Finally after testing the co-linearity among research variables, the amount of VIF statistic (variance inflection factor) for all variables has been less than 5 and this shows that there has not been a severe co-linearity between research variables. Results of findings of this hypothesis accord and converge with those in Hiu & Ton (2012).

Testing second hypothesis: Earning forecast error per share in firms having a low level of earning smoothing has a meaningful difference with that of firms having high levels of earning smoothing.

Figure 15. Results of t test for firms with high and low levels of earning smoothing

Number	Average	F statistic	Degree of freedom	T statistic	Meaningfulness level	Average difference
Firms having higher than earning smoothing level 155	Firms having lower than earning smoothing level 155	Firms having higher than earning smoothing level 0.984	Firms having lower than earning smoothing level 0.797	4.711 & 1.112	308 0.267	meanings level 0.187

In figure 15 and regarding that in F (4.711), the meaningfulness level is lower than %5, the presupposition of equal variances for the two groups is not approved. Thus, we used independent t test with adjusted freedom degrees. Next, and due to lack of equality among the averages, we investigated about meaningfulness, too. Since the amount of t statistic equals 1.112 and its meaningfulness level is more than %5, earning forecast error per share in firms having a low level of earning smoothing would not have a meaningful difference with firms having a high level of earning smoothing. Results of findings of this hypothesis accord and converge with those in a research carried out by Hiu & Ton (2012).

Testing third hypothesis: Earning forecast error per share in firms having a low level of operational efficiency variability has a meaningful difference with that of firms having high levels of operational efficiency variability.

Figure 16. Results of t test for firms with high and low levels of operational efficiency variability

Number	Average		F statistic	Degree of freedom	T statistic	Meaningfulness level	Average difference	
Firms having higher than operational efficiency variability	Firms having lower than operational efficiency variability	Firms having higher than operational efficiency variability	Firms having lower than operational efficiency variability	20.880 & meaningfulness level 0.000	308	2.853	0.005	0.672
155	155	0.984	0.797					

In figure 16 and regarding that in F (20.880), the meaningfulness level is lower than %5, the presupposition of equal variances for the two groups is not approved. Thus, we used independent t test with adjusted freedom degrees. Next, and due to lack of equality among the averages, we investigated about meaningfulness, too. Since the amount of t statistic equals 2.853 and its meaningfulness level is less than %5, we can say with an assurance level of %95 that the averages of these two groups are not equal. In other words, earning forecast error per share in firms having a low level of operational efficiency variability has had a meaningful difference with that of firms with high level of operational efficiency variability. Results of findings of this hypothesis accord and converge with those in a research carried out by Hiu & Ton (2012).

DISCUSSION AND CONCLUSION

The goal of the present study was to identify the effect of earning variability factors on earning forecast error per share by managers in firms enlisted in Tehran Stock Exchange. Research hypotheses were investigated in isolation. Regarding the theoretical foundations mentioned, findings in this research also showed that earning variability factors did not have a meaningful effect on earning forecast error per share both in high and low levels of earning smoothening, but it has had a negative and meaningful effect in operational efficiency variability of both high and low levels. Also earning forecast error per share test in high and low level of earning smoothening was rejected, but the difference between earning forecast error per share in firms having a low level of operational efficiency variability has had a less and meaningful of high level operational efficiency variability firms. Regarding first hypothesis and difference test we can say that smoothening reinforces the potential power of predictability of future earnings and it helps the users in predicting the future trend of firm's profitability. In fact, future earning forecast of firms having smooth earnings is simpler than forecasting future earnings of other firms and it is done through higher precision methods. Accordingly, the reason to reject these hypotheses was due to the fact that earning variability factors in firms having earning smoothening were controlled and they can not result in earning forecast error. But regarding the approval of hypotheses of levels related to operational efficiency variability we can say that since operational efficiency variability results in creating an opaque reporting environment, the possibility of earnings management increases in this environment. Thus, managers tend to preserve their jobs and hide a part of losses. This process, not disclosing real losses until the managers continues being with the company, enforces a vast volume of losses after the manager leaves the company

to enter market and concurrently this occurs when earning variability factors finally result in earning forecast error per share. Regarding the results of research hypotheses, it can be suggested to investors to consider earning forecast error per share when they analyze to purchase firms' stocks because this result in a reduction in the value created for stockholders. So, the effect of earning variability factors on earning forecast error should be taken into consideration in different levels of operational efficiency.

Regarding the results of research hypotheses it can be suggested for managers to try to achieve the trust of owners. So they should pay attention to the fact that by reducing earning variability factors and relative consistency in earning they can clear the earning manipulation imaginations out of beneficiaries' minds. Regarding the results of research, it can be suggested to bourse to create transparent information and make some rules and regulations due to the positive effect of earning variability factors on earning forecast error in different levels (high and low) and operational efficiency variability either to determine the real value of their firms. This helps firms enlisted to reduce earning variability factors and operational efficiency variability to be able to reduce the controversies created by managers and investors.

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