

The effect of earnings variability factors on managers earnings 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' earnings 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 2007 and 2011 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 earnings variability factors did not have a meaningful effect on earnings forecast per share in high and low levels regarding earnings smoothing but in high and low operational efficiency variability levels it has had a negative and meaningful effect. Also the test of difference between earnings per share forecast error in high and low level of smoothing was rejected but the test of earnings 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.

Key words: Earnings variability factors; Managers' earnings per share forecast; Earnings smoothing; Operational efficiency variability

1. Introduction

Earnings reporting are one of the items in financial statements used as performance assessment criterion and profitability of a profit unit (Namazi and Shoshtarian, 1998). Regarding efficient market theory, the investors seek to get some information to be used in order to maximize their benefits. Now, earnings forecast are one of this information. Usually investors do not react to forecasted earnings but react against realized earnings (Khalifeh-Soltani et al., 2010) 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 (Hodavi et al., 2011) 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 (Nazemi-e-Ardekani, 2003)

Also due to the theory posed by besides the opportunity supplied for the managers, a manager can have lots of incentives to use accruals in order to forecast and estimate their goals and achieve them. Thus, it seems that the presence of earnings forecast

error in the past created a stimulus for managers to smooth earnings or reduce fluctuations in operational efficiency and to try to modify earnings forecast errors. According to what was pointed out above, the researcher here wants to answer the following questions: do earnings variability factors affect earnings forecast error per share in firms with high and low levels of earnings smoothing and operational efficiency variability?

2. Research literature

2.1. Earnings forecast error

Investors, creditors and other users of financial information in firms need information about future of economic units besides historical information. Earnings forecast by unit management are one of them which are specifically considered and cause changes in behaviors of investors and stock market. The forecast of earnings 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 (Hirst et al., 2008). 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 (Francis et al., 2008) Earnings forecast error has

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been used as a dependent variable in this research and regarding the theory posed by it is the absolute amount of difference between forecasted earnings and real earnings. Thus, to measure this variable in different levels of earnings smoothening and operational efficiency variability, we have used model as follows:

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

FE: forecast error of firm i in time t

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

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

2.2. Earnings 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 increases the efficiency of financial markets by publishing these forecasts for all (Namazi and Shoshtarian, 1998). 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 (Tuna and Verdi, 2008) in these research earnings variability factors are calculated by multiplying the two factors of earnings variability and earnings forecast error during the previous year and the regression. Thus, earnings variability is gained through 4 years' standard deviation of earnings as follows (Karbasi-e-Yazdi et al., 2010):

$$\sigma_E = \frac{\sqrt{\sum_{t=1}^4 E_{A_{it}}^2 - \frac{(\sum_{t=1}^4 E_{AR})^2}{4}}}{4}$$

2.3. Earnings 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 earnings smoothening. The most important incentive for earnings smoothening is the belief that those firms that have had a suitable earnings 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 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 earnings forecasts of other firms and is done with a higher precision (Dichev et al., 2009) Also in this research we have used the following models to measure firms with high and low earnings' smoothening. Then, we used 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 earnings smoothening, and those lower than median as low levels of earnings smoothening (Nikoomaram et al., 2009) Accordingly, the calculation method and year-firms of high or low levels of earnings smoothening were as follows:

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

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

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

PPE: the amount of properties, machinery, and equipment's (gross) of firm i in year t

In this model first $\alpha_1, \alpha_2, \alpha_3$ 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).

Table 1: The number of firms with high and low levels of earnings smoothening

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

2.4. Operational efficiency variability

Also Dichev and Tang (2010) found that earnings forecast error is potentially resulted from earnings 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 to identify the earnings forecast capabilities through studying the reported earnings 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 earnings forecast error in the past creates an incentive for the managers to smooth the earnings or reduce fluctuations in operational efficiency to modify earnings 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 (Hwee Baljit Sidhu, 2012)

$$\text{Operational efficiency variability} = \frac{\text{net earnings}}{\text{total assets}}$$

Table 2: The number of firms having high and low levels of operational efficiency variability

Total	Firms with high level operational efficiency variability	Firms with low level operational efficiency variability
310 year-firm	155	155
Earnings 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 (Rahmani et al., 2012):

$$R_{it} = \left[\frac{P_1 - P_0 + D_{it}}{P_0} \right]$$

Where,

P₁: price in current year

P₀: price in previous year

D_{it}: stock earnings paid in cash

Firm size: on the whole big companies encounter less earnings forecast error because in big companies, the creditors encounter less agency costs. In this research firm size was calculated using ln of assets.

$$\text{Size} = \log(\text{assets})$$

3. Research literature

3.1. International

carried out a research about accounting conservatism and management's earnings forecast and concluded that accounting conservatism works as an alternative for management's earnings forecast and that is less than what the analysts announce. However, this is considered as a complementary for management's earnings forecast which acts as something higher than what analysts have a consensus on. studied about the effect of voluntary disclosure of firm dangers and firm value and found that the evidences of management's earnings forecast show that there is a negative relationship between management's earnings 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 earnings 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' earnings forecast converges with forecasts of analysts completely regarding the current information about earnings variability for firms with high earnings and firms with less operational variety. Studied about the effect of earnings' consistent growth on characteristics of management's earnings forecast and found that the precision in earnings 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 earnings smoothening in reports published by the company reduces the effect of consistent earnings growth on the validity of forecasted earnings. Investigated on the effect of consistent growth of earnings on the characteristics of management's earnings 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. 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.

3.2. Local

Rahmani et al. (2012) studied about the effect of publishing earnings forecast on reaction coefficient of future earnings and concluded that management's earnings 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. Studied about the effect of auditors' tenure on accounting earnings' predictability emphasizing on precision amount (error level) of management's earnings forecast. In early years of

auditors' tenure the amount of precision in management's earnings 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. Studied about the relationship between management's earnings forecast and overall accruals and found that there was a meaningful relationship between management's earnings forecast error and total accruals. Also based on the results of second hypothesis of this research, the relationship between forecasted earnings error by management and total accruals in business environments was not approved with high absoluteness. Studied the effect of conservatism on management's earnings forecast error and concluded that in firms having more conservative accounting, management's earnings forecast error is less.

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

Rezazadeh and Ashtaab (2010) investigated about earnings 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 earnings forecast error and primary return on stocks of firms enlisted in Tehran Stock Exchange newly.

4. Research methodology

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

4.1. 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 2007 and 2011. The number of firms being active in bourse up to March 2011 was 466.

4.2. Presuppositions

The number of firms' outflow during the time period between 2007 and 2011 was 116.

The number of firms' inflow during the time period between 2007 and 2011 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 2007 and 2011 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 2007 and 2011 would equal:

The number of firms being investigated: 125 firms

4.3. Hypothesis

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

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

4.4. 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).

4.5. Data analysis

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

Table 3: The descriptive statistics of research variables for smoothening population

Variable	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis
managers earning per share (FE) forecast	0.891	0.403	10.00	0.000	1.483	3.567	3.618
(EV) earnings variability	0.056	0.040	0.579	0.001	0.069	4.701	30.970
managers earning per share (PFE t-1) forecast	0.994	0.403	16.00	0.000	2.008	4.754	29.369
earning variability factors in high smoothen companies (B1)	0.055	0.000	4.243	0.000	0.311	10.330	122.44
earning variability factors in Lower smoothen companies (B1)	0.018	0.000	0.652	0.000	0.055	6.997	66.924
(RET t-1) stock return	1.546	1.168	23.447	-35.561	6.06	-0.577	8.910
(SIZE) Companies Size	3.778	3.731	7.276	4.697	0.442	0.325	3.481

4.6. Earnings variability factors in high smoother companies

Table 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 (FE) forecast	1.090	0.407	15.666	0.038	2.098	4.231	3.051
(EV) earnings variability	0.074	0.060	0.402	0.005	0.056	2.172	9.495
managers earning per share (PFE t-1) forecast	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
(RET t-1)stock return	1.859	1.835	71.087	-72.376	9.385	-1.302	33.505
(SIZE) Companies Size	5.878	5.770	7.807	4.697	0.575	0.797	3.558

Table 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

Regarding Table 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, H₁, claiming the normal distribution

of data is accepted and this shows that the dependent variable of this research has had a normal distribution.

Table 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 (FE) forecast	0.000	-10.352	0	0.000	-17.060	0
(EV) earnings variability	0.000	-15.213	0	0.000	-15.948	0
managers earning per share (PFE t-1) forecast	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
(RET t-1)stock return	0.000	-10.272	0	0.000	-16.635	0
(SIZE) Companies Size	0.000	-5.234	0	0.000	-10.186	0

Regarding results presented in Table 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:

4.7. Testing first model

Table 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.

Table 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.

Table 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.

Table 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 earnings per share forecast) PFE t-1(	7.500	0.000	0.683	2.899
earnings variability factors in high smoother companies (B1)	0.069	0.944	0.029	2.641
earnings 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		456.271	D_W	2.036
)sig(		)0.000(	J-B	3.014
)R(		)0.900(	)sig(	)0.154(
$FE_{it} = 0.148 + 0.098 EV_{it} + 0.683 PFE_{it-1} + 0.029 (EV_{it} * PFE_{it-1}) + 1.482 (EV_{it} * PFE_{it-1}) + 0.006 RET_{it-1} + 0.003 SIZE_{it} + \epsilon$				

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 earnings 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 earnings forecast related to previous year (descriptive variable) which is 0.05, we can say that earnings forecast error in previous year has had a positive and meaningful effect on earnings forecast error per share (dependent variable). Also independent variables (earnings 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.

4.8. Testing second model

Table 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.

Table 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.

Table 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.

Table 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 earnings per share forecast)PFE t-1(	7.757	0.000	0.701	2.745
earnings variability factors in high operational efficiency companies (B1)	2.874	0.004	1.176	2.057
earnings 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	D_W	2.056
)sig(		)0.000(	J-B	6.980
)R(		)0.236(	)sig(	)0.098(
$FE_{it} = -0.363 + 4.209 EV_{it} + 0.701 PFE_{it-1} + 1.176 (EV_{it} * PFE_{it-1}) + 7.649 (EV_{it} * PFE_{it-1}) - 0.002 RET_{it-1} + 0.116 SIZE_{it} + \epsilon$				

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 earnings 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 earnings

forecast related to previous year (descriptive variable) which is 0.05, we can say that earnings forecast error in previous year has had a positive and meaningful effect on earnings forecast error per share (dependent variable). Also independent variables (earnings 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

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

Table 15: Results of t test for firms with high and low levels of earnings smoothing

Number		Average		F statistic	Degree of freedom	I statistic	Meaningfulness level	Average difference
Firms having higher than earning smoothing level	Firms having lower than earning smoothing level	Firms having higher than earning smoothing level	Firms having lower than earning smoothing level	4.711 & meaningfulness level 0.051	308	1.112	0.267	0.187
155	155	0.984	0.797					

In Table 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, earnings forecast error per share in firms having a low level of earnings smoothening

would not have a meaningful difference with firms having a high level of earnings smoothening. Results of findings of this hypothesis accord and converge with those in a research carried out by

Testing third hypothesis: Earnings 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.

Table 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 Table 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, earnings 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.

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 earnings 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 earnings variability factors in firms having earnings smoothening were controlled and they cannot result in earnings 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 earnings variability factors finally result in earnings forecast error per share. Regarding the results of research hypotheses, it can be suggested to investors to consider earnings 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 earnings variability factors on earnings forecast error should be taken into consideration in different levels of operational efficiency.

5. Discussion and conclusion

The goal of the present study was to identify the effect of earnings variability factors on earnings 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 earnings variability factors did not have a meaningful effect on earnings forecast error per share both in high and low levels of earnings smoothening, but it has had a negative and meaningful effect in operational efficiency variability of both high and low levels. Also earnings forecast error per share test in high and low level of earnings smoothening was rejected, but the difference between earnings 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

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 earnings variability factors and relative consistency in earnings they can clear the earnings 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 earnings variability factors on earnings 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 earnings variability factors and operational efficiency variability to be able to reduce the controversies created by managers and investors.

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