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# A Comparative Investigation between Estimated and Actual Earnings per Share (EPS) in the Listed Companies of the Tehran Stock Exchange

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# ABSTRACT

The aim of this study is to investigate the relationship between Estimated and Actual Earnings per Share in the Listed Companies of the Tehran Stock Exchange. Consequently, the Actual Earnings per Share (AEPS) is used as the dependent variable and Estimated Earnings per Share (EEPS) as the independent variable. Totally, 973 firm-year observations were investigated during the years 2006-2011 at the level of 8 different industries. It should be mentioned that 2003 was the first year that managers were required to disclose EEPS in financial reports. E Views software was exerted to analyze the data. Our findings show that the control variables of SIZE and HISTORY don't improve the relation between EEPS & AEPS. The Control variable of Dividend per Share (DPS), however, improves this relation that the level of corporate and each industry. The results also indicate that investments by shareholders in the Chemical Products industry in Iran are economical due to the positive relationship between SIZE and AEPS and older companies in the Basic Metals industry have lower AEPS. EEPS by Managers has the most accuracy and precision in Automotive and Parts industry and the lowest in the Chemical Products industry. In 2006, the estimated earnings per share have the lowest accuracy and precision and the accuracy of EEPS by managers was higher in the Main Hall Forum than Sub Forum.

**KEYWORDS:** Estimated EPS, Actual EPS, Tehran Stock Exchange Industries, and Accuracy & Precision of managements' forecast.

#### **1. INTRODUCTION**

1990s witnessed substantial changes in the capital markets information environment, including a substantial increase in the percentage of shares held by institutional investors(Gompers and Metrick 2001), broader financial analyst (Barber et al. 2001), greater focus on the firms' ability to generate earnings that "meet or beat" expectations (Brown and Caylor 2005), increases in the accuracy and precision of financial analysts forecasts (Brown and Caylor, 2005) and the widely held popular belief that earnings had "lost relevance" for equity security valuation. With respect to this latter change in information environment, the investigation of the accuracy and precision of the estimated earnings per share (EEPS) by the managers in determining actual EPS is an important subject for accounting information users.

On the other hand, Earnings forecasts are voluntary disclosures, and managers have considerable discretion when issuing these forecasts. For example, they choose the frequency, precision and the horizon of their forecasts. These choices can influence the market's capability to interpret the forecasts and to reflect the implications of the forecasts in the current stock prices. In addition, the forecast characteristics may provide a signal about managers' confidence in their forecasts, help investors in superior understanding of the relation between forecasts and future earnings and allow them to price securities accordingly (Choi et al. 2010).

In this study, we examine whether management earnings per share (EPS) forecasts are able to reflect information in the Actual EPS. Studying this association is important because it would lead to accurate stock price determination and more informative stock prices can lead to more efficient resource allocation (Durnev et al. 2003; Fishman and Hagerty 1989). In addition, it provides an empirical data relating to a growing stock market and it attributes to current knowledge in this growing vital field.

#### 2. LITERATURE REVIEW

The accuracy of disclosed earnings forecasts has received significant attention from researchers world-wide, because it plays an important role in influencing investors' decisions (Firth and Smith (1992), Keasey and McGuiness (2008), Gounopoulos and Skinner (2010)).

Investors must often tradeoff between "relevance" and "reliability" when responding to company disclosures. This trade-off has long been recognized in accounting (for example, in the FASBs Statement of Accounting Concepts No. 2),

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and has become more important in recent years because firms increasingly provide multiple earnings signals with different degrees of relevance and reliability. We focus on firms which announce management earnings forecasts (future earnings guidance) and current earnings simultaneously. These disclosures may change investors' beliefs about the firm's future prospects and thereby affect returns around the announcements. The effect of the disclosures on security returns is likely to depend on investors' perceptions of the signals' relative relevance and reliability (Atiase et al. 2005).

Choi et al. (2010) in a research titled "Do management EPS forecasts allow returns to reflect future earnings? Implications for the continuation of management's quarterly earnings guidance "by using a sample of 18253 firm-year observations from 1998 to 2003, found that more frequent and more precise forecasts assist investors in better predicting future earnings. Also they found that quarterly and short-term forecasts incrementally increase the association between returns and future earnings beyond annual and long-term forecasts; thus, even short-term quarterly forecasts allow investors to form better expectations about future earnings.

Other empirical evidence also suggests that earnings announcements have information content. Specifically, earnings announcements affect both stock prices and trading volume (see e.g., Ball and Brown 1968; Beaver 1968; Beaver et al. 1979).

Another stream of literature finds that future earnings guidance is associated with security returns, trading volume and analyst earnings forecasts (e.g. Patell 1976; Penman 1980; Ajinkya and Gift 1984; Waymire 1984; Jennings 1987; Hutton et al. 2003; Atiase et al. 2004). The evidence is mostly based on future earnings guidance provided separately from earnings announcements and these studies do not examine the effects of earnings announcements.

Baginski et al. (2008) in a research titled "Macro information environment change and the quality of management earnings forecasts" by using a sample of 2437 management earnings forecasts, documented an increase in management earnings forecast precision, management earnings forecast accuracy and managers' tendency to explain earnings forecasts in 1993–1996 relative to 1983–1986.

The research results of Bamber et al. (2010) show that nearly half of managers' forecasts of annual earnings per share (EPS) end in Nickel intervals, whereas only about 20 percent of actual EPS end in Nickel intervals. They also find that managers' nickel forecasts spur even active analysts to issue forecasts heaped at nickel intervals, although analysts' forecast revisions partially adjust for the optimism and noise in managers' nickel forecasts.

Herrmann and Thomas (2005) concluded that analysts with fewer resources or lower ability are more likely to heap, whereas active analysts who follow the firm on a timely basis are less likely to heap. They found that management forecasts heaped at nickel intervals increase heaping even among active analysts.

In a recent review, Hirst et al. (2008) concluded that the voluntary disclosure literature has focused on identifying determinants and consequences of managers' decisions whether to issue forecasts; yet managers' choice of forecast characteristics [e.g., precision, accuracy and bias] appears to be the least understood (both in terms of theory and research), even though it is the component over which managers have the most control.

Rogers and Stocken (2005) argue that managers are more likely to issue biased forecasts when uncertainty about earnings makes it difficult for market participants to determine ex post whether this forecast was in fact a biased representation of managers' private information. When there is more uncertainty about earnings, market participants understand that managers' forecasts will contain more error, so they are less likely to attribute errors in management forecasts to deliberate misrepresentation.

Managers' forecasts of annual earnings are longer-horizon forecasts that are, on average, optimistically biased (e.g., Choi and Ziebart 2004; Rogers and Stocken 2005; Ajinkya et al. 2005). Bergman and Roychowdhury (2008) explain that firmlong-horizon disclosure choices, in consistent with Hales' (2007) evidence that people are likely to become optimistic about the outcomes of things they care about, reflect managers' desire to maintain optimistic earning valuations.

Hutagaolet al. (2012) showed that there is an indication that the forecasters conduct more earnings management than the non-forecasters. However, the difference is statistically insignificant. Also, their study indicated that forecast accuracy is significantly related to managers' behavior to manage post-IPO earnings. Further analysis shows that there is a significant difference in earnings management among the forecasters, in which optimistic forecasters tend to engage more in earnings management through discretionary accrual than conservative forecasters.

Drobetzet al. (2012) in the research entitled "Management Earnings Forecasts and the Performance of Global Shipping IPOs" indicated pessimistic forecast by ship-owners, which is mainly attributed to the uncertain and volatile environment surrounding the maritime sector. Efforts should focus on improving the accuracy levels of earnings forecasts in order to increase the reliability of the shipping industry. Financial leverage, listing in emerging markets and global market conditions prove to be the main factors that are responsible for inaccurate earnings forecasts.

In sum, previous research reveals that stand-alone earnings and future earnings guidance announcements have information content. For the first time we investigate the accuracy and precision of the estimated EPS by the managers in determining the actual EPS in TSE industries.

#### **3. RESEARCH METHOD**

This study is an empirical research whose data is based on the archival data. In terms of purpose, it is an applied research that its results can be useful for an extensive range of users including stockholders, auditors, TSE, and standard setters. Companies' information is collected through the Stock Exchange official website (www.rdis.ir&http://www.irportfolio.com/sdinfo.aspx) and then data are analyzed by the econometrics software EViews.

# **3-1. HYPOTHESES DEVELOPMENT**

Based upon the theory and the empirical research studies cited in section 2 and by considering this fact that the larger companies (with more published stock) should have more AEPS based on the cost-benefit theory, this is expectedly, there is a positive relationship between SIZE & AEPS and this positive relationship will improve the explanatory power of the regression models. So the research hypotheses are as follows:

# H1: bigger companies posit a better relationship between estimated EPS and actual EPS.

Since, based on rational economic theory, the older and more experienced companies should have more accuracy and precision of EEPS; expected HISTORY variable would have the positive relationship with the EEPS, and subsequently positive relationship with AEPS. This relationship will improve the explanatory power of the regression models.

Another hypothesis of this research is as follow:

# H2: There is a better relationship between estimated EPS and actual EPS in the older companies.

The dividend per share (DPS) is a percentage of AEPS. Hence, it is expected that there is a positive relation between DPS &AEPS; this will improve the explanatory power of the regression models. Therefore, a third hypothesis is expressed as follows:

# H3: The distribution of earnings to stockholders leads to the improvement of the relation between estimated EPS and actual EPS.

To evaluate the accuracy and precision of EEPS by the managers, in various years and different industries and in the Main Hall and Sub forums of TSE, the following hypotheses have been used:

H4: There is a relationship between estimated EPS and actual EPS in different industries.

# H5: There is a relationship between estimated EPS and actual EPS in consecutive years.

# H6: There is a relationship between estimated EPS and actual EPS in Main and Sub Hall Forums.

# **3-2. SAMPLE SELECTION AND DESCRIPTION**

The population of the study includes all accepted companies in TSE from 2006 to 2011.

A sample of the firms was selected based upon the following conditions:

- 1. Financial year end should be 29 March.
- 2. Companies should be profitable during the study period (periods of estimation earnings per share).
- 3. Companies' information should be available for the purposes of this study.
- 4. Companies should continuously be active in TSE from 2006 to 2011.

Applying these criteria resulted in finding 973 firm-year observations.

# 4. RESEARCH VARIABLES

#### A. Dependent Variable

Actual earnings per share (AEPS) were used as the dependent variable. AEPS is approved and disclosed earnings per share in annual financial statements.

#### **B.** Independent Variable

In this study, the average estimated earnings per share (EEPS) during each year were exerted as the independent variable. Due to this fact that companies in Iran estimate EPS several times in each year, the average estimated earnings per share were applied as proxy for EEPS.

#### **C.** Control Variables

In this study, the following variables were used as control variables:

1. Dividend per share (DPS), and

2. Size of company (SIZE):

In this study, the natural logarithm (Ln) of the number of outstanding shares was employed for measurement of company's size.

3. History of company (HISTORY):

In the first year of study, for measuring this variable the number of activity years of companies before the study period in Tehran Stock Exchange was used and for the coming years, one year was added to the number of activity years.

#### 5. RESULTS ANALYSIS

Table 1 represents the descriptive statistics for total companies (973 firm-year observations). It shows that SIZE variable among other variables has had the lowest variation coefficient (Std. Dev. divided by mean), but DPS variable exhibits the most variation coefficient in this study. This means that investigated companies have rarely issued excess stocks to finance in this period. That is, since 2003, TSE hasn't been a suitable place to invest and /or financing by issuing

stock hasn't been commodious for Iranian companies. The findings also indicate that payment of dividend has had the most fluctuation because of unsuitable economic position in TSE or managers' tendency to satisfy the stockholders to maintain their ownership percent in the company.

Variables	EEPS	AEPS	DPS	HISTORY	SIZE			
Statistics								
Statistics								
Mean	954.5063	933.8640	707.0370	10.26824	18.34926			
Median	672.0000	618.0000	420.0000	8.000000	18.19754			
Maximum	8317.286	9204.000	7000.000	40.00000	23.48328			
Minimum	8.250000	0.000000	0.000000	0.000000	14.91412			
Std. Dev.	921.8936	996.1439	855.2401	9.126173	1.510654			
Observations	973	973	973	973	971			

**Table 1-Descriptive Statistics for Total Companies**

Table 2 shows the results of the regression model for EEPS & DPS. It reveals that EEPS & DPS variables are positively related to AEPS. These relationships are strong with respect to regression coefficients and t-statistics are significant statistically. This indicates that first, companies divided the major part of the approved EPS in the financial period because the regression coefficient of DPS indicates that the increasing of 1 unit in DPS leads to the increasing only 0.768023 unit in AEPS, and second, the results show high accuracy of managers in the estimation of EPS. The results also illustrate that larger companies have lower AEPS. This finding indicates that low investment efficiency is due to lack of suitable investment opportunities or the inability of managers to detect these opportunities. The negative relation between SIZE (Natural logarithm of the number of outstanding shares) & AEPS indicates that investment in TSE isn't efficient. Although, the HISTORY variable has a positive relationship with AEPS; but it isn't statistically significant. The value of determination coefficient shows that approximately 87% of changes AEPS have been affected by research variables during the study period. In general, regression model is significant with respect to F-statistic and the Durbin-Watson shows that the model hasn't autocorrelation problem.

Table 2-Total Regression for Total Companies

Dependent Variable: AEPS			Method: Lea	Sample: 971	
Variables	Coefficient	Std. Error		t-Statistic	Prob.
EEPS	0.324742	0.023518		13.80812	0.0000
DPS	0.768023	0.025416		30.21757	0.0000
HISTORY	1.586143	1.259254		1.259589	0.2081
SIZE	-29.85352	7.63	5976	-3.909588	0.0001
С	612.7755	143.2556		4.277498	0.0000
R-squared	Adjusted R-squa	red	Durbin-Watson Stat		Prob. (F-Statistic)
0.872624	0.872097			1.839653	0.000000

The step by step regression model has been represented in table 3. The results show that elimination of HISTORY and SIZE variables don't change explanatory power of the model. That means HISTORY and SIZE variables don't improve the relationship between the EEPS & AEPS. However, as the results of the table 3 shows, elimination of DPS variable would cause a decrease explanatory power of the model to the amount of 13% (87%-74%). This matter indicates that DPS variable is effective in improvement of the relation between EEPS & AEPS.

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Dependent Va	ariable: AEPS		Method: Lea	Sample: 971	
Variables	Coefficient	Std. 1	Error	t-Statistic	Prob.
EEPS	0.327049	0.02	3454	13.94434	0.0000
DPS	0.764893	0.02	5302	30.23017	0.0000
SIZE	-29.91179	7.63	8152	-3.916103	0.0001
С	630.1289	142.	6348	4.417778	0.0000
R-squared	Adjusted R-squa	ared Dur		bin-Watson Stat	Prob. (F-Statistic)
0.872415	0.872019			1.834433	0.000000
Variables	Coefficient	Std. Error		t-Statistic	Prob.
EEPS	0.330464	0.023593		14.00699	0.0000
DPS	0.768104	0.02	5431	30.20290	0.0000
С	75.35605	16.5	8000	4.544998	0.0000
R-squared	Adjusted R-squa	red	Dur	bin-Watson Stat	Prob. (F-Statistic)
0.872415	0.872019			1.834433	0.000000
Variables	Coefficient	Std. Error		t-Statistic	Prob.
EEPS	0.935405	0.017359		53.88678	0.0000
С	41.01398	23.0	2957	1.780927	0.0752
R-squared	Adjusted R-squa	red	Dur	bin-Watson Stat	Prob. (F-Statistic)
0.749405	0.749147			1.863784	0.000000

#### **5-1. Industry findings**

In this study, the industries that had 50 or up firm-year observations were selected to investigate. These industries include 1. Automotive and Parts Industry; 2. Basic Metals Industry; 3.Cement, Lime and Plaster Industry; 4. Chemical Products Industry; 5. Food and Beverages Products except Sugar and Cube Sugar Industry; 6. Machinery & Equipment Industry; 7. Materials and Pharmaceutical Products Industry, and 8. Other non-Metallic Mineral Products Industry.

The regression models for the Automotive and Parts Industry (table 4) show that in this industry, 93% of changes in AEPS can be explained by all variables(R-square = 93%). As previously mentioned, lack of the effect of HISTORY & SIZE variables and existence of the positive effect of DPS variable on relation between EEPS & AEPS is also revealed in the above industry. According to the results of table 4, the elimination of DPS variable would cause a decrease in the explanatory power of the model to the amount of 8% (93%-85%). In this industry, DPS variable has lower explanatory power than total model (see table 3). In this industry based on regression coefficient of EEPS, in the absence of control variables, the ability of EEPS in explanation of the changes of AEPS is approximately 0.99. In other words, estimations of the managers in association with EPS have the highest accuracy and precision in comparison with other industries.

Dependent Va	ariable: AEPS	Ν	Aethod: Leas	st Squares	Sample: 146
Variables	Coefficient	Std. I	Error	t-Statistic	Prob.
EEPS	0.363438	0.050	0086	7.256312	0.0000
DPS	0.730292	0.05	1661	14.13635	0.0000
HISTORY	4.872978	3.113	3845	1.564939	0.1198
SIZE	-14.68335	7.885849		-1.861987	0.0647
С	278.8797	150.	1837	1.856924	0.0654
R-squared	Adjusted R-squa	red	Durbin-Watson Stat		Prob. (F-Statistic)
0.939036	0.937307		1.945072		0.000000
Variables	Coefficient	Std. Error		t-Statistic	Prob.
EEPS	0.999930	0.033	3562	29.79352	0.0000
C	-60.07312	34.10	6837	-1.758150	0.0808
R-squared	Adjusted R-squa	red	Durbi	in-Watson Stat	Prob. (F-Statistic)
0.859585	0.858617			1.898136	0.000000

Table 4	-Regression	Models for	the Automotive	and Parts Industry
				1

The results of table 5 show that in the Basic Metals Industry, R-square of the model is strong (approximately 96%) and elimination of DPS decreases R-square amount to 16%. In this industry, explanatory power of DPS variable in comparison with the total model is high. Furthermore, although the elimination of DPS has decreased R-square of the model, regression coefficient of EEPS has increased to the amount of 0.83 (1.13-0.3). In this industry, estimated EPS by managers is more than actual EPS. This means that in above industry, the managers have low conservatism in estimation of EPS.

Tuble 5-Regression Wodels for the Dusie Wieturs industry								
Dependent Variable: AEPS			Method: Lea	st Squares	Sample: 146			
Variables	Coefficient	Std. 1	Error	t-Statistic	Prob.			
EEPS	0.308719	0.06	1493	5.020402	0.0000			
DPS	0.854273	0.05	5220	15.47026	0.0000			
HISTORY	-9.415669	3.77	5124	-2.494135	0.0142			
SIZE	-44.97315	25.44293		-1.767609	0.0818			
С	990.1051	492.	3526	2.010967	0.0485			
R-squared	Adjusted R-squa	red	Durbin-Watson Stat		Prob. (F-Statistic)			
0.960425	0.957990		2.151269		0.000000			
Variables	Coefficient	Std. 1	Error	t-Statistic	Prob.			
EEPS	1.134968	0.068321		16.61240	0.0000			
Ĉ	-91.05142	104.	5469	-0.870914	0.3869			
R-squared	Adjusted R-squa	red	Dur	bin-Watson Stat	Prob. (F-Statistic)			
0.802309	0.799402		2.015803		0.000000			

 Table 5-Regression Models for the Basic Metals Industry

In the Cement, Lime and Plaster Industry, the R-square of the model with control variables is approximately 88%. The regression coefficient of EEPS with control variables is 0.52, but with the elimination of control variables, this coefficient becomes 0.97. This means that estimated EPS by managers have more accuracy and precision. On the other hand, in this industry, the effect of DPS on the relation EEPS & AEPS has been low (Difference between 88% and 82%).

Table 6-Regression Models for the Cement, Lime and Plaster Industry

	U		,		
Dependent Va	ariable: AEPS		Method: Lea	st Squares	Sample: 80
Variables	Coefficient	Std. I	Error	t-Statistic	Prob.
EEPS	0.520093	0.085	5355	6.093267	0.0000
DPS	0.400067	0.095	5270	4.199292	0.0001
HISTORY	9.329534	5.434	4085	1.716855	0.0901
SIZE	-267.7234	100.3	7457	-2.657417	0.0096
С	5175.635	1966	.861	2.631419	0.0103
R-squared	Adjusted R-squa	red	Durbin-Watson Stat		Prob. (F-Statistic)
0.883299	0.877075		2.461900		0.000000
Variables	Coefficient	Std. Error		t-Statistic	Prob.
EEPS	0.977517	0.051422		19.00955	0.0000
Ĉ	0.696383	115.5	5966	0.006024	0.9952
R-squared	Adjusted R-squa	red	Dur	bin-Watson Stat	Prob. (F-Statistic)
0.822470	0.820194		2.271736		0.000000

In the Chemical Products Industry, EEPS has negative effect on AEPS in the total model. With the elimination of control variables, R-square of the model has intensely decreased and the negative effect of EEPS (-0.005) has converted to positive effect (0.4). However, the estimated EPS by managers has had the lowest accuracy and precision in comparison with other industries.

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Dependent Va	Ν	Iethod: Leas	st Squares	Sample: 78	
Variables	Coefficient	Std. 1	Error	t-Statistic	Prob.
EEPS	-0.005570	0.025173		-0.221265	0.8255
DPS	1.037037	0.03	6463	28.44052	0.0000
HISTORY	-2.520524	2.81	7404	-0.894626	0.3739
SIZE	4.730397	15.44356		0.306302	0.7602
С	80.56958	278.2575		0.289550	0.7730
R-squared	Adjusted R-squa	ared	Durbin-Watson Stat		Prob. (F-Statistic)
0.948230	0.945393			1.768581	0.000000
Variables	Coefficient	Std. 1	Error	t-Statistic	Prob.
EEPS	0.408348	0.07	6666	5.326351	0.0000
С	509.0122	106.0387		4.800251	0.0000
R-squared	Adjusted R-squa	ared	Durbi	in-Watson Stat	Prob. (F-Statistic)
0.269242	0.259751			1.148754	0.000001

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According to regression models which are represented in tables 8 to 11, the trend of estimations by managers is similar to previous industries. In other words, the R-square of the models with control variables has been high but, the elimination of control variables has decreased the R-square and regression coefficient of EEPS has increased. This trend generally indicates that control variables (DPS, HISTORY and SIZE) can't be the cause of AEPS. Also the results show that among remaining industries, estimated EPS by managers in Machinery & Equipment Industry has had the lowest accuracy and precision.

Table 8-Regression Models for the Food and Beverages Products except Sugar and Cube Sugar Industry

Dependent Va	riable: AEPS		Method: Lea	ast Squares	Sample: 69
Variables	Coefficient	Std. Error		t-Statistic	Prob.
EEPS	0.429050	0.09	2541	4.636332	0.0000
DPS	0.441570	0.10	3103	4.282807	0.0001
HISTORY	-2.485705	2.74	6129	-0.905167	0.3688
SIZE	-20.53589	25.46805		-0.806339	0.4230
С	566.2958	444.8673		1.272954	0.2076
R-squared	Adjusted R-squa	ared D		oin-Watson Stat	Prob. (F-Statistic)
0.782307	0.768701			1.845904	0.000000
Variables	Coefficient	Std. 1	Error	t-Statistic	Prob.
EEPS	0.761106	0.058609		12.98613	0.0000
С	135.1738	52.99746		2.550571	0.0130
R-squared	Adjusted R-squa	ared	Durt	oin-Watson Stat	Prob. (F-Statistic)
0.715667	0.711424			1.634606	0.000000

Table 9-Regression Models for the Machinery & Equipment Industry

Dependent Va	N	Aethod: Leas	Sample: 63		
Variables	Coefficient	Std. Error		t-Statistic	Prob.
EEPS	0.084650	0.047611		1.777925	0.0807
DPS	0.984339	0.06	1314	16.05408	0.0000
HISTORY	3.315204	2.98	3815	1.111062	0.2711
SIZE	-2.144568	16.22020		-0.132216	0.8953
С	132.2141	292.4462		0.452097	0.6529
R-squared	Adjusted R-squa	ured Durbi		n-Watson Stat	Prob. (F-Statistic)
0.934990	0.930506			1.951348	0.000000
Variables	Coefficient	Std. 1	Error	t-Statistic	Prob.
EEPS	0.690233	0.066484		10.38187	0.0000
С	151.4881	65.26848		2.321000	0.0236
R-squared	Adjusted R-squa	ared	Durbi	n-Watson Stat	Prob. (F-Statistic)
0.638590	0.632665			2 296916	0.000000

Table 10-Regression Models for the Materials and Pharmaceutical Products Industry

Dependent Va	Dependent Variable: AEPS		Iethod: Leas	st Squares	Sample: 130
Variables	Coefficient	Std. 1	Error	t-Statistic	Prob.
EEPS	0.367744	0.06	0198	6.1082900	0.0000
DPS	0.634915	0.05	9256	10.71480	0.0000
HISTORY	7.837221	4.74	4931	1.651704	0.1011
SIZE	-123.8003	26.6	0940	-4.652503	0.0000
С	2290.929	463.	8009	4.939467	0.0000
R-squared	Adjusted R-squa	red	ed Durbin-Watson Stat		Prob. (F-Statistic)
0.901218	0.898056			1.594597	0.000000
Variables	Coefficient	Std. 1	Error	t-Statistic	Prob.
EEPS	0.947873	0.04	2161	22.48234	0.0000
С	68.58614	64.9	5651	1.055878	0.2930
R-squared	Adjusted R-squa	red	Durbi	in-Watson Stat	Prob. (F-Statistic)
0.797934	0.796355			1.956900	0.000000

Dependent Variable: AEPS N		Method: Least Squares		Sample: 51	
Variables	Coefficient	Std. I	Error	t-Statistic	Prob.
EEPS	0.744860	0.122	2689	6.071133	0.0000
DPS	0.367331	0.10	7538	3.415813	0.0013
HISTORY	1.455597	1.58	6983	0.917210	0.3638
SIZE	-54.77828	36.4	6249	-1.502319	0.1398
С	949.1916	652	3108	1.455122	0.1524
R-squared	Adjusted R-squa	ared	Durbin-Watson Stat		Prob. (F-Statistic)
0.848420	0.835239		1.546717		0.000000
Variables	Coefficient	Std. I	Error	t-Statistic	Prob.
EEPS	1.114121	0.08	1704	13.63606	0.0000
С	-48.49646	37.84	4983	-1.281286	0.2061
R-squared	Adjusted R-squa	ared	Durb	oin-Watson Stat	Prob. (F-Statistic)
0.791438	0.787182			1.334781	0.000000

Table 11-Regression Models for the other non-Metallic Mineral Products Industry

# 5-2. Cross-section findings

The regression models in different years are represented in tables 12 to 17. As is noted, the estimations trends of EPS by managers approximately have been the same from 2006 to 2011. In the total models, the most R-square amount among various years is related to year 2008 and the least R-square is related to year 2009. With elimination of control variables, the most accuracy and precision estimated EPS by managers is related to 2009 and the least is related to 2006.

 Table 12-Regression Models in Year 2006 for Total Companies

Dependent Va	ariable: AEPS	1	Method: Lea	st Squares	Sample: 58
Variables	Coefficient	Std. H	Error	t-Statistic	Prob.
EEPS	0.077328	0.052	2815	1.464141	0.1491
DPS	1.043880	0.068	8392	15.26311	0.0000
HISTORY	10.81131	6.15	7195	1.755882	0.0849
SIZE	-68.75580	37.87	7326	-1.815418	0.0751
С	1403.713	668.3	7581	2.098985	0.0406
R-squared	Adjusted R-squa	red	Durb	oin-Watson Stat	Prob. (F-Statistic)
0.914411	0.907951			2.319291	0.000000
Variables	Coefficient	Std. H	Error	t-Statistic	Prob.
EEPS	0.661074	0.08	7619	7.544866	0.0000
С	588.7625	171.3	7487	3.428046	0.0011
R-squared	Adjusted R-squa	ired	Durb	oin-Watson Stat	Prob. (F-Statistic)
0.499671	0.490893			1.670424	0.000000

**Table 13-**Regression Models in Year 2007 for Total Companies

Dependent Va	Dependent Variable: AEPS		Method: Least Squares		Sample: 159
Variables	Coefficient	Std. I	Error	t-Statistic	Prob.
EEPS	0.393137	0.054	4304	7.239618	0.0000
DPS	0.768785	0.054	4614	14.07670	0.0000
HISTORY	4.146950	2.71	1492	1.529398	0.1282
SIZE	-0.161825	16.6	0389	-0.009746	0.9922
С	-1.471730	302.	9545	-0.004858	0.9961
R-squared	Adjusted R-squa	ared	Durb	oin-Watson Stat	Prob. (F-Statistic)
0.922809	0.920804			1.773617	0.000000
Variables	Coefficient	Std. I	Error	t-Statistic	Prob.
EEPS	1.058026	0.03	9194	26.99447	0.0000
С	-49.54091	52.9	8268	-0.935040	0.3512
R-squared	Adjusted R-squa	ared	Durb	in-Watson Stat	Prob. (F-Statistic)
0.822739	0.821610			1.861822	0.000000

#### Table 14-Regression Models in Year 2008 for Total Companies

Dependent Va	riable: AEPS	]	Method: Least Squares		Sample: 191
Variables	Coefficient	Std. I	Error	t-Statistic	Prob.
EEPS	0.220184	0.03	7293	5.904112	0.0000
DPS	0.831622	0.03	6372	22.86407	0.0000
HISTORY	-1.231920	2.07	4095	-0.593956	0.5533
SIZE	-43.67591	12.9	1508	-3.381777	0.0009
С	896.3035	239.	3623	3.744548	0.0002
R-squared	Adjusted R-squa	ared	Durbin-Watson Stat		Prob. (F-Statistic)
0.932388	0.930934			1.898626	0.000000
Variables	Coefficient	Std. I	Error	t-Statistic	Prob.
EEPS	0.935579	0.04	1496	22.54632	0.0000
С	-3.256724	55.2	0116	-0.058997	0.9530
R-squared	Adjusted R-squa	ared	Durb	bin-Watson Stat	Prob. (F-Statistic)
0.728969	0.727535			1.936067	0.000000

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Dependent Variable: AEPS		Method: Lea	st Squares	Sample: 191	
Variables	Coefficient	Std. 1	Error	t-Statistic	Prob.
EEPS	0.684916	0.07	3994	9.256327	0.0000
DPS	0.428031	0.08	4671	5.055250	0.0000
HISTORY	6.252890	4.19	6051	1.490185	0.1379
SIZE	-43.80351	25.4	3541	-1.722147	0.0867
С	736.2352	479.	2517	1.536218	0.1262
R-squared	Adjusted R-squa	red	Durbin-Watson Stat		Prob. (F-Statistic)
0.818357	0.814450		2.116534		0.000000
Variables	Coefficient	Std. 1	Error	t-Statistic	Prob.
EEPS	1.022038	0.03	8365	26.64003	0.0000
С	-45.44726	54.7	0345	-0.830793	0.4071
R-squared	Adjusted R-squa	red	Durt	oin-Watson Stat	Prob. (F-Statistic)
0.789694	0.788581			2.195409	0.000000

# Table 15-Regression Models in Year 2009 for Total Companies

# Table 16-Regression Models in Year 2010 for Total Companies

Dependent Va	Dependent Variable: AEPS N		Method: Lea	st Squares	Sample: 187
Variables	Coefficient	Std. I	Error	t-Statistic	Prob.
EEPS	0.257430	0.05	1666	4.982517	0.0000
DPS	0.733388	0.054	4132	13.54826	0.0000
HISTORY	-4.100016	1.91	6824	-2.138963	0.0338
SIZE	-19.06442	11.8	3722	-1.610549	0.1090
С	533.9721	226.	9212	2.353117	0.0197
R-squared	Adjusted R-squa	red	Durb	oin-Watson Stat	Prob. (F-Statistic)
0.891408	0.889021			2.084993	0.000000
Variables	Coefficient	Std. I	Error	t-Statistic	Prob.
EEPS	0.881969	0.034	4909	25.26506	0.0000
С	88.38784	37.5	2682	2.355325	0.0196
R-squared	Adjusted R-squa	ared	Durb	oin-Watson Stat	Prob. (F-Statistic)
0.775301	0.774086			2.191734	0.000000

 Table 17-Regression Models in Year 2011 for Total Companies

Dependent Va	riable: AEPS		Method: Least Squares		Sample: 184
Variables	Coefficient	Std. 1	Error	t-Statistic	Prob.
EEPS	0.253394	0.05	5677	4.551109	0.0000
DPS	0.772716	0.05	9623	12.95997	0.0000
HISTORY	-0.718345	2.14	8334	-0.334373	0.7385
SIZE	-14.24433	12.6	1133	-1.129487	0.2602
С	387.1721	245.	5347	1.576853	0.1166
R-squared	Adjusted R-squa	red	Durbin-Watson Stat		Prob. (F-Statistic)
0.901349	0.899144		1.902338		0.000000
Variables	Coefficient	Std. 1	Error	t-Statistic	Prob.
EEPS	0.910988	0.03	2838	27.74161	0.0000
С	21.69909	38.3	8851	0.565250	0.5726
R-squared	Adjusted R-squa	red	Durb	oin-Watson Stat	Prob. (F-Statistic)
0.807894	0.806844			1.866382	0.000000

# 5-3. Findings for the Main Hall and Sub Forums

The regression models for the Main Hall and Sub Forums are represented in tables 18 & 19. According to the obtained results, both R-square and regression coefficient of EEPS were high in Main Hall Forum than Sub Forum. The causes of this finding related to the followings: 1. located companies in the Main Hall than companies in the sub-forum have high experience for estimating of EPS, 2.the regulations in the Main Hall are tough and hard, and 3.Users consider the information disclosed by companies in the Main Forum more than Sub-forum.

Table 18-Regressior	Models for Companies	in the Main Hall Fo	orum
ndent Variable: AEPS	Method: Lea	st Squares	San

Dependent Va	ariable: AEPS	1	Method: Lea	st Squares	Sample: 502
Variables	Coefficient	Std. H	Error	t-Statistic	Prob.
EEPS	0.291217	0.025	5381	11.47386	0.0000
DPS	0.831670	0.020	6242	31.69195	0.0000
HISTORY	1.353513	1.159	9200	1.167627	0.2435
SIZE	-12.05978	8.47	1300	-1.423604	0.1552
С	262.2952	162.0	6717	1.612425	0.1075
		ared Durb			
R-squared	Adjusted R-squa	red	Durb	oin-Watson Stat	Prob. (F-Statistic)
<b>R-squared</b> 0.936661	Adjusted R-squa 0.936151	ared	Durb	bin-Watson Stat 1.567909	Prob. (F-Statistic) 0.000000
R-squared 0.936661 Variables	Adjusted R-squa 0.936151 Coefficient	red Std. I	Durt Error	bin-Watson Stat 1.567909 t-Statistic	Prob. (F-Statistic)           0.000000           Prob.
R-squared 0.936661 Variables EEPS	Adjusted R-squa 0.936151 Coefficient 0.988811	<b>Std. I</b> 0.02	Durk Error 1542	tin-Watson Stat           1.567909           t-Statistic           45.90225	Prob. (F-Statistic)           0.000000           Prob.           0.00000
R-squared 0.936661 Variables EEPS C	Adjusted R-squa 0.936151 Coefficient 0.988811 -17.80409	<b>Std. I</b> 0.02 28.6	Durb Error 1542 1215	t-Watson Stat           1.567909           t-Statistic           45.90225           -0.622256	Prob. (F-Statistic)           0.000000           Prob.           0.00000           0.0000           0.5341
R-squared 0.936661 Variables EEPS C R-squared	Adjusted R-squa 0.936151 Coefficient 0.988811 -17.80409 Adjusted R-squa	red Std. I 0.02 28.6 red	Durk Error 1542 1215 Durk	t-Watson Stat           1.567909           t-Statistic           45.90225           -0.622256           bin-Watson Stat	Prob. (F-Statistic)           0.000000           Prob.           0.00000           0.5341           Prob. (F-Statistic)

Dependent Va	ariable: AEPS	]	Method: Lea	ist Squares	Sample: 469
Variables	Coefficient	Std. I	Error	t-Statistic	Prob.
EEPS	0.352936	0.03	8374	9.197215	0.0000
DPS	0.706855	0.04	3211	16.35816	0.0000
HISTORY	1.635164	2.44	5164	0.668734	0.5040
SIZE	-43.62035	13.6	2845	-3.200683	0.0015
С	875.6326	250.	2662	3.498805	0.0005
R-squared	Adjusted R-squa	ared	Durb	oin-Watson Stat	Prob. (F-Statistic)
0.812111	0.810491			1.907410	0.000000
Variables	Coefficient	Std. I	Error	t-Statistic	Prob.
EEPS	0.886404	0.02	7109	32.69808	0.0000
С	92.55109	35.9	2015	2.576579	0.0103
R-squared	Adjusted R-squa	ared	Durb	oin-Watson Stat	Prob. (F-Statistic)
0.695543	0.694893			1.830740	0.000000

#### Table 19-Regression Models for Companies in the Sub Forum

To compare, the absolute value of the regression residuals in different years and for the Main Hall and Sub Forums was used. The results show that there weren't significant differences between the explanatory power of the regression models before and after arrival of the control variables in years 2009& 2010, but these differences were significant in other years. In other words, control variables weren't effective in improving the explanatory power during years 2009& 2010.

Table 20-Comparison of the ABS	<sup>1</sup> (Residuals) in Regression Models (BCV	$7^{2}$ & ACV <sup>3</sup> ) for 2006 to 2011 yea	ars respectively
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Test for Equality of Means between Series (t-test)			
Year	df	Value	Prob.
2006	116	2.701270	0.0079
2007	316	2.973175	0.0032
2008	380	2.199766	0.0284
2009	380	0.666689	0.5054
2010	372	1.341107	0.1807
2011	368	2.533557	0.0117

The results in tables 21 & 22 show that there are significant differences between absolute value of the regression residuals in different years before the control variables; however, after entering the control variables significant differences disappeared. In other words, there are significant differences in the accuracy and the precision of estimates of managers before entering the control variables in different years. Hence, it can be concluded that although control variables have eliminated significant difference between the explanatory powers of the models, but this doesn't represent the stability of managers' estimations relating to EPS in different years.

<b>Table 21-</b> Comparison of the ABS (Residuals) in Regression Models (BCV) for Ann	iual Models	
Test for Equality of Moons between Series (E statistic)		

Test for Equality of Means between Series (F-statistic)			
df	Value	Prob.	
(5,966)	6.436768	0.0000	

Table 22-Comparison of the ABS (Residuals) in Regression Models (ACV) for Annual Models

Test for Equality of Means between Series (F-statistic)			
df	Value	Prob.	
(5,966)	2.044088	0.0702	

The results of table 23 show that there aren't significant differences between the explanatory power of the regression models before and after arrival of the control variables in the Main Hall and Sub Forums. In other words, control variables haven't been effective in improving of the explanatory power in the Main Hall and Sub Forums.

 Table 23-Comparison of the ABS (Residuals) in Regression Models (BCV & ACV) for the Main Hall & Sub Forums

 Respectively:

Respectively			
Test for Equality of Means between Series (t-test)			
Forums	df	Value	Prob.
Main Hall	1004	3.996816	0.0001
Sub Forum	938	2.241247	0.0252

The results in tables 24 & 25 show that there aren't significant differences between the absolute value of the regression residuals in the Main Hall and Sub Forums before the control variables, however, after entering the control variables significant differences appeared. In other words, there are significant differences in the accuracy and the precision of estimates of managers after entering the control variables in the Main Hall and Sub Forums. From finding it can be

concluded that control variables have different effects in determining the explanatory power of the regression models in the Main Hall and Sub Forums.

Table 24-Comparison of the ABS (Residuals) in Regression Models (BCV) for the Main Hall & Sub Forums Models

Test for Equality of Means between Series (t-test)			
df	Value	Prob.	
971	1.564726	0.1180	

Table 25-Comparison of the ABS (Residuals) in Regression Models (ACV) for the Main Hall & Sub Forums Models

Test for Equality of Means between Series (t-test)			
df	Value	Prob.	
971	2.644381	0.0083	

#### 6. CONCLUSION & DISCUSSIONS

This study investigates the relationship between Estimated and Actual Earnings per Share in the Listed Companies of the Tehran Stock Exchange. Period of the study is 2006-2011 and to implementation of research, 973 year-company selected as sample in TSE. The software EViews applied for analyzing the data. The findings show that DPS and EEPS variables have the strong positive and significant relation with AEPS in investigated models for total companies, industries, annually and by forums in TSE.

Our findings show that the control variables of SIZE and HISTORY don't improve relation between EEPS & AEPS. However, Control variable of Dividend per Share (DPS) improves this relation both at the level of corporate and industry. The results also show that investment by shareholders in the chemical industry in TSE is economical due to the positive relationship between SIZE and AEPS and older companies in the basic metals industry have lower AEPS. EEPS by Managers have the most accuracy and precision in the Automotive and Parts industry and the lowest in the chemical products industry. In 2006, the estimated earnings per share has the lowest accuracy and precision and the accuracy of EEPS by managers is higher in the main hall Forum than sub-forum.

The main goal of this research was investigation the accuracy and the precision of EEPS by managers at two levelsthe total companies and various industries in Tehran Stock Exchange. Secondary objectives of this study were:

1- Reviewing the trend of EEPS improvement by managers from 2006until today.

2-Analyzing the effect of the firm HISTORY and SIZE in improving the relationship between EEPS and AEPS.

3- Comparing the trend of EEPS improvement by managers in the Main and Sub Forums.

4- Investigating the effect of DPS in improving the relationship between EEPS and AEPS.

Detailed research results are as follows:

1- HISTORY and SIZE variables have almost no effect in improving the relationship between EEPS and AEPS at the level of total companies, different industries and the Main and Sub Forums and for different years.

2- Regression coefficient for SIZE is negative in all regression models except the chemical products industry. This shows that investment is economical in this industry. In other words, AEPS enlarges with increasing the financing of companies through the publication of common stock (increase of companies' size). The regression coefficient of the size based upon the "t-test" is non-significant in this industry.

3- Regression coefficient of HISTORY is contradictory, that is, in some models its coefficient is positive and in others is negative. This variable is significant only in the basic metals industry. This matter indicates that companies with higher-old HISTORY in this industry have lower AEPS.

4 – Results of DPS regression coefficient show that this variable improves the explanatory power of the regression models in all cases and this positive effect is verifiable from three aspects:

4-1- Increase in R-square of the regression models; this variable has the greatest effect on the chemical products industry (changes in R-square = 68%) and the least effect in 2006 (changes in R-square = 3%).

4-2- Decrease of the effect of the EEPS in regression models with DPS; this variable posits the greatest effect in the basic metals industry (changes from 1.13 to 0.3) and the lowest in the Food and Beverages Products except Sugar and Cube Sugar Industry (changes from 0.76 to 0.42) and also in 2009 (changes from 1.02 to 0.68).

4-3- In relation with the regression coefficient of DPS in the regression models; this variable has the most positive effect in chemical products industry (1.03) and in2006 (1.04), and the least positive effect in other non-metallic mineral products industry (0.36) and also in2009 (0.42).

In relation with the most accuracy and precision of EEPS by managers, obtained results are as follows:

1- Based on the regression coefficient of EEPS; the EEPS by managers in the Automotive and Parts industry exhibits the most accuracy and precision (0.9999), in the Main Hall Forum, the most accuracy and precision digit downward (0.98) and in year 2009, the most accuracy and precision digit upward (1.02). EEPS by managers in the Chemical Products industry has the least accuracy and precision digit downward (0.4) and in the Basic Metals industry, the least accuracy and precision digit upward (1.13).

2- In relation with the model R-square before control variables; EEPS has the least R-square in the Chemical Products industry (0.26) and in 2009 (0.49), and the most R-square in the Automotive and Parts industry (0.85) and in 2007 (0.82).

To compare the regression models in each year and in the Main and Sub Forums (before and after arrival of control variables), and in different years and in the Main and Sub Forums in 2 cases (1- before arrival of the control variables and 2- after arrival of the control variables), absolute value of regression residuals was used. Obtained results are:

1- Significant differences exist between regression residuals before and after arrival of the control variables (special DPS) in 2006, 2007, 2008 and 2011, as well as in the Main and Sub Forums. It shows the low accuracy and precision of managers in relation with the EEPS, and lack of significant differences between regression residuals in years 2009 and 2010showing the high accuracy and precision of managers about EEPS.

2- Significant differences exist between regression residuals before arrival of the control variables (special DPS) in different years. It indicates the low accuracy and precision of the managers in relation with EEPS, too.

3- Significant differences don't exist between regression residuals after arrival of the control variables (special DPS) in different years. It shows that approximately equal explanatory power of the regression models is due to the existence of control variables special DPS not to the high accuracy and precision of the managers.

4- Significant differences don't exist between regression residuals before arrival of the control variables (special DPS) in the Main and Sub Forums, which shows approximately equal accuracy and precision of managers in the Main Hall Forum in comparison with the Sub Forum.

5- Significant differences exist between regression residuals after arrival of the control variables, which shows the different effect of control variables (special DPS) in increasing the explanatory power of regression models in the Main Hall and Sub Forums.

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