



A Study of the Influence of Financial Situation of Companies on the Earning Forecast Accuracy by Managers of Listed Companies in Tehran Stock Exchange

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ABSTRACT: Forecasted earnings provide significant information for investment and other financial statements users. In recent years, a large number of studies have considered the forecasted earning accuracy by management. In this research, influence of financial situation of companies on the earning forecast accuracy by managers of listed companies in Tehran Stock Exchange is considered. Financial situation of companies is evaluated based on four variables, including: Income Smoothing, financial crisis, continuity of activity, and auditor's opinion. To achieve this goal 130 companies out of all companies working in Tehran stock market between the five year periods of 2008 to 2012 were selected as statistical sample. Two independent sample T- Student Test was used to study accuracy of hypotheses. Research findings show that continuity of activity and income smoothing variables can affect earning forecast accuracy, while financial crisis and auditor's opinion variables were not affective on earning forecast accuracy.

Keywords: Earning forecast accuracy- Financial situation of companies- Financial crisis-Income Smoothing-Auditor's opinion- Continuity of activity

ORIGINAL ARTICLE

INTRODUCTION

Today, one of the significant financial affairs is the determination of stock price. Many people, including investors and analysts are trying to find actual stock price in order to obtain the benefits they are entitled to. Therefore, these influential factors on stock price and how they are related to the stock price should be determined by investors and analysts.

There are many factors that affect stock prices, including quantity of sales, corporate profits, earnings per share and so on. The impact of these factors on stock prices can vary. For example the profits, in comparison with the quantity of sales, can have a greater impact on stock prices (Elton et al., 1972).

In addition to the actual data released on the market, there are also other information related to the expectation of analysts, brokers, investors and managers. Researches show that the expected profit is an important factor in stock valuation (JahanKhani et al., 1993). Moreover, stock prices react significantly to the prediction of earnings management (Waymire 1984; Pownall et al., 1989). With regard to the future profits related to the past information, the opinion of those who work in the organization has a greater impact on stock price.

There are several models to predict profits. These models are not accurate enough, and the predictions performed by professionals including analysts are

more accurate than the predictions made by these models. But the accuracy of prediction of these professionals is also affected by various factors.

Ruland (1997: 200) concluded that the variability of the earnings, in the earnings forecaster companies is lower than other companies.

Profits which are predicted have an important message. Firth (1998) stated that expected earnings are an important criterion in evaluating a company, because the public disclosure of it can reduce the information asymmetry and agency costs between managers and shareholders.

Prediction of the benefit is related to two subject of definition (last period profit) and future changes. In our country Accounting and Financial Sciences Research makes initial steps. Economic conditions and traditional features of the behavior of investors and managers of business units, still has not provided a consistent context for serious research. Especially the importance of stock prices and corporations profits are shrouded in a haze.

So far, the number of studies that evaluated the accuracy of predicted profits by executives in the financial companies has been limited. In the conducted researches, one or more limited factors are usually discussed. In the following we will review some of these researches:

Kurdistani et al. (2011) in a study have examined the amount of future profits of investment relation to profits prediction. To achieve this goal, they tested time series of the past profits and their relation to the future profits, cash flow time series and its relation to the future cash flows as well as the relationship between future cash flows and past profits. They supposed that by using past observations of the profits, it can be possible to predict the future profits very close to the actual profits. They concluded that only 12% of the changes of a year profits are related to the observations of the profits of the past four years. The overall results of their pattern show that the past observations of the profits are not useful for most companies to predict future earnings (p. 48).

1. Cross-Sectional Method (from year to year)

In this section the hypotheses were tested through the following two methods:

- a) Hypothesis tests based on sectional linear
- b) Hypothesis tests based on sectional logarithm

2. Data Average Method

This is similar to the previous section so that the hypotheses were tested through the following two methods:

- a) Hypothesis tests based on linear average
- b) Hypothesis tests based on logarithm average

His research based on cross-sectional data showed that the effect of independent variables on unexpected earnings in both linear and logarithmic mode for listed (accepted) Companies in Tehran Stock Exchange economic structure was neither meaningful nor approved. The results obtained from linear average are the same data as Cross-Sectional mode (either linear or logarithmic mode). But the results obtained from logarithm average data of the estimating model approved the effect of unexpected earnings from the proposed effective independent variables.

Namazi et al. (2007) in their paper have examined the structures that affect the accuracy of the expected earnings by the management of listed (accepted) companies on the Tehran Stock Exchange. They have investigated the effects of nine variables on the accuracy of the expected earnings by the management of listed (accepted) companies on the Tehran Stock Exchange. Expectation accuracy is measured through forecast errors, absolute magnitude forecast error, the square of forecast error and the natural logarithm of the squared forecast error. The results indicate that there is a significant relationship between the earnings growth, sales growth, assets growth, earnings expectations in the past, financial leverage, stock prices and expected earnings accuracy. But there is no relationship between the payment dividends and the firm size and

the expected earnings accuracy. The results of multiple regression models show that there is a relationship between growth and financial leverage and the accuracy of the expected earnings. Sabet (2005) examined the effect of five factors of company size, the financial crisis scope, the growth rate, external financing, and prices control in the industry on the corporation's managers' bias in the prediction of the payment dividends. His findings showed that on the average, an optimistic forecasting is performed for the earnings expectation of firms. In research hypothesis External financing is effective for earnings expectation. He concluded that smaller firms in comparison with larger firms do more pessimistic forecasts. In addition, with increasing financial crisis scope, pessimistic earnings are released. However, in his research, he found no significant relation between firm growth and prices control in the industry and the bias in earnings forecasts.

Ghasemi (2005) has examined the earnings forecast accuracy of the managers with earnings forecast based on the Box-Jacknes method. The examination of the evidences from 48 companies listed in Tehran Stock Exchange during 1382-1368 showed that the Expectation accuracy of the management is much higher than the time series model of Box-Jacknes.

Bahramian (2006) evaluated the Expectation accuracy of earnings per share of the companies whose stock for the first time is public offering on the stock exchange, and the companies which raise capital on the stock exchange. The results of this research for the period of 1379 to 1381 including 81 companies indicate that earnings forecast error has a direct relationship with forecast period and the fluctuations of stock total index. There is no meaningful relation with regard to the firm size, firm life, the degree of financial leverage, the auditor opinion, and the industry stage.

Mak (1989) in the investigation of New Zealand Stock Exchange examined the effect of factors such as forecasting period duration, type of industry, company age, and economic conditions on the accuracy of earnings expectation, and found some evidence showing that the companies with greater efficiency deviation in comparison with the companies with less efficiency deviation, disclose more information. He concluded that the share percentage of the owners in the company is in connection with the level of the forecasted information reporting. In other words, when the share percentage of the owners in the company increases, it is expected that the forecasted information increases too. The results of this research showed that there is a statistically significant relationship between forecasting period duration and

forecasting error. But the relationship between type of industry and poor forecasting error and expectation accuracy are significantly related to the operation history (life) of companies and economic change.

Mak (1989) examined the accuracy of the expected earnings again by the use of the data of the years 1983 to 1987. His research results show that the earnings expectation was not conducted accurately by the management of New Zealand companies. Results indicate that over 40% of the expectations deviate by more than 100% average deviation between actual earnings and earnings expectations among 70 - to 70 + percent. He also tested the effect of firm size, forecasting period duration, type of industry and the foresee-year to determine the accuracy and deviation of the earnings expectation by management. Mack concluded that forecasting period duration is significantly associated with forecast accuracy and deviation. So that longer forecasting period duration causes the decrease of the accuracy of expectation and increase of the company management optimism. He did not report any significant relationship for other variables of the examination.

Firth et al. (2006) used a sample of 89 New Zealand firms during the period of 1983 to 1986 to evaluate the accuracy of the expected earnings made by management and concluded that the average forecasting error was equal to -92%, the absolute average of the forecasting error was equal to 328% and the real earnings was on the average, 92% lower than the expected earnings. Negative forecasting error means higher expected earnings compared with actual earnings, and as a result means the management optimism. The change range of the expected error was reported between -12,393 % to +47/30 %. Firth et al. (2006) reported a significant and positive Statistical relationship between firm size and the accuracy of earnings expectation by managers. This relationship showed that the expected earnings of smaller firms by managers are more accurate than larger firms. They found no statistically significant relationship between earnings expectation accuracy and the firm's specific characteristics such as age and life, financial leverage, auditor reputation, forecasting period duration, foresee year, initial spending of the stock and spending of the prices (prices charged) and the fact that auditory is conducted by one of the eight large companies.

Firth (1998) using a study, examined the expectation accuracy of earnings of the New Zealand Companies. The sample consisted of 143 firms in the period between 1979 to1987. He made use of two criteria of forecasting error and absolute magnitude of forecasting error to measure the expected earnings accuracy. His study results were similar to his and

Smith's previous research (2006). The average of the forecasting error and absolute magnitude of forecasting error were reported respectively -91% and +111 %, which showed that the company management has forecasted the earnings optimistically.

Selva et al. (1994) in the Stock Exchange study, examined the effect of some factors such as type of industry, forecasting period duration, property, and economic conditions on the accuracy of expectation, and the average of the forecasting error of the sample was equal to -41/2% and absolute magnitude of forecasting error was equal to 18%. Their research results showed that the forecasting error is significantly associated with the forecasting period duration at level of 1%. But there were no statistical correlation between forecasting error and variables such as type of the industry, fluctuations in GDP (Gross Domestic Product) and the percentage of held shares by directors (ownership).

Baginski, et al. (2002) compared the identification time of the expected earnings in two countries, America and Canada. They concluded that American companies will probably forecast the earnings when the bad news is close, but Canadian companies forecast the earnings when there is good news the forecast period.

Gramlich et al. (2004), examining the relationship between the management expectations of earnings and discretionary accruals in new entrants firms to Denmark stock exchange, suggests that managers of companies in Denmark, regardless of actual earnings (before earnings management) are more or less than the expected earnings, use the discretionary accruals to reduce earnings forecast error.

Research hypothesis:

First Hypothesis: accuracy of the expectation of earnings in firms with critical financial situation is less than other Companies.

Second hypothesis: accuracy of the expectation of earnings in earning smoothers companies has a meaningful difference with non-smoothers companies.

Third hypothesis: accuracy of the expectation of earnings in Companies containing continuation activity has a meaningful difference with other companies.

Hypothesis Fourth: accuracy of the expectation of earnings in Companies that the commenting of their Auditor is acceptable has a meaningful difference with other companies.

MATERIALS AND METHODS

In this study, the dependent variable is the accuracy of the expectation of earnings. The expectation of earnings helps the investors to improve their decision-making process and decrease their

decisions risk. They are interested in the estimation of the future benefits of their investments, and they like to judge receiving of the future cash dividend and their shares value. Being in the Company, Corporation managers are those users of financial statements that, relative to others, have more information. Disclosure of Enterprises forecasting (cash flow earnings) is one of additional Information which is disclosed for the users because of some advantages. The manner of calculating accuracy of the expectation of earnings has been brought below:

Earnings expectation mistake by the managers

$$= (EPS_{i,t} - F_{ik,t}) / ABEPS_{i,t}$$

Its components include:

each real reported share earnings for i company in t period
 $= EPS_{i,t}$

the k forecast of the managers for each share earnings of t period
 $= F_{ik,t}$

absolute value of each real share earnings of t period
 $= ABEPS_{i,t}$

Earnings expectation mistake with accidental step model
 $= (EPS_{i,t} - EPS_{i,t-1}) / ABEPS_{i,t}$

In which:

each real reported share earnings for i company in t
 $- 1$ period $= EPS_{i,t-1}$

Independent Variables

Independent variables in this research include:

1) Financial crisis (financial distress)

The financial crisis means the companies bankruptcy. Bankruptcy refers to the inability of a company's liquidity to continue operating and pay its maturing obligations. A business failure can result from an actual ceasing or a bankruptcy. Bankruptcy is measured with different models. Model (Z"-SCORE) Altman is one of the models which have considered in this study. The model consists of five financial ratios, including: Working capital to total assets (1 X), retained earnings to total assets (2X), earnings before interest and taxes to total assets (3X), book value of equity to book value of debt (4X), and sales to total assets (5 X):

$$Z'' = 0.717 \times 1 + 0.84 \times 2 + 3.1 \times 3 + 0.42 \times 4 + 0.998 \times 5$$

Complete bankruptcy case $Z < 1.2$

Between bankruptcy and non-bankruptcy case

Health state $Z > 2.9$

2) income smoothing

Income Smoothing is the process of manipulating the earnings identification time or reported earnings, which have changed little, while the reported earnings are not changed in long term. Ekle model is a method of measuring the smoothing. The statistical formula of Ekle index calculation is as follows:

. Earning changes during a period $= \Delta I$

. Sales changes during a period $= \Delta S$

CV = coefficient of variation for the considered variable (is obtained from the division of standard

deviation of the considered variable by the mean of the same variable) and

If $\frac{CV_{\Delta I}}{CV_{\Delta S}} \geq 1$, the company is detected as a company which does not smooth the earnings. But if $\frac{CV_{\Delta I}}{CV_{\Delta S}} < 1$, the company is detected as a company which smooth the earnings.

3)types of auditor opinion

In audited financial statements, the overall objective of the audit is to obtain reasonable assurance about whether the financial statements as a whole are free of material misstatement due to fraud or error or not. Achieving this objective enables the auditor to comment, based on auditing standards, about whether the financial statements are prepared on all aspects of the matter in accordance with accounting standards or not. And according to his/her data, take an action in report preparation and presentation regard to the financial statements. Type of auditor's opinion depends on the financial statements whether the financial statements as a whole are free of material misstatement due to fraud or error or not, and according to their findings give three kinds of opinion, involving unqualified opinion, qualified and disqualified offers. If the fiscal period is generally accepted number 1 is given, otherwise number 0 will be given.

4) The continuation of activities assumption

In preparing the financial statements, the examined entity is assumed to continue its operation in the foreseeable future, a period usually a year after the end of the financial period, unless otherwise stated. Thus, assets and liabilities are identified and recorded based on the ability of the examined entity in recovery of assets and liquidation of liabilities in the normal course of business operation. If there is no assumption of continuity of activity, the examined entity may not be able to recover the registered amount of the assets and will require changes in the amount of repayment of debt maturities. In this research, the companies with equivocal continuation of activities are covered by Article 141 of the Iran Commercial Code. If the company is continuing its activities number 1 is given to it, in the absence of continuity number 0 will be given.

The statistical population of this research is all companies listed on the Tehran Stock Exchange. The statistical sample in this research are selected using systematic removal and must have the following conditions:

✓ The companies which were present in exchange since the beginning of 1386 until the end of 1390.

✓ The companies whose stock in business is staggering since 1386 to 1390.

- ✓ The companies which ended their fiscal year at the end of March.
- ✓ The companies which are not investment companies, insurance companies or banks.
- ✓ The companies which can provide the information needed for research. Applying the above conditions, 130 companies were selected to estimate the models and test the hypotheses of the research.

RESULTS

First hypothesis: accuracy of the expectation of earnings in firms with critical financial situation is less than other Companies.

$$H_0: \mu_1 \geq \mu_2$$

$$H_1: \mu_1 > \mu_2$$

The table 1 of t-test results shows since the Loan test $F = 1.030$ in the error level of 5%, is greater than 5%, ($Sig = .312$). In this case, for continuing the examination, the first row of the t test will be used.

Test results show that as the value of the statistic t ($t = .392$) is smaller than 2 and the significance level ($Sig = .696$) is greater than 5%, so we accept the assumption H_0 that claims accuracy of the expectation of earnings in firms with critical financial situation is the same as other Companies, and reject H_1 .

Second hypothesis: accuracy of the expectation of earnings in Companies that the commenting of their Auditor is acceptable has a meaningful difference with other companies.

$$H_0: \mu_1 = \mu_2$$

$$H_1: \mu_1 \neq \mu_2$$

The table 2 of t-test results shows the Loan test is equal to .379 and its significance level is greater than 5% ($Sig = .539$). In this case, for continuing the examination, the first row of the t test will be used.

In this hypothesis, the value of statistic $t < 2$ and significance level ($Sig = .950$) is greater than 5%, then H_0 with 95% confidence level is accepted and we reject H_1 . That's to say, accuracy of the expectation of earnings in Companies that the commenting of their Auditor is acceptable has no meaningful difference with other companies.

Third hypothesis: accuracy of the expectation of earnings in earning smoothers companies has a meaningful difference with no smoothers companies.

$$H_0: \mu_1 = \mu_2$$

$$H_1: \mu_1 \neq \mu_2$$

Regarding the table 3 of t-test results, since significance level of statistic of the Loan test $F = 7.704$ is smaller than 5%, ($Sig = .006$). In this case, for continuing the examination, the second row of the t test will be used.

Based on the fact that the value of statistic t is greater than ($t = -2.055$) and significance level ($Sig = .044$) is smaller than 5%, then H_0 is rejected and we accept H_1 . That's to say, we accept the hypothesis that accuracy of the expectation of earnings in earning smoothers companies has a meaningful difference with no smoothers companies, and with 95% confidence level, reject the hypothesis zero which states accuracy of the expectation of earnings in earning smoothers companies has no meaningful difference with no smoothers companies.

Hypothesis Fourth: accuracy of the expectation of earnings in Companies containing continuation activity has a meaningful difference with other companies.

$$H_0: \mu_1 = \mu_2$$

$$H_1: \mu_1 \neq \mu_2$$

Regarding the table 4 of t-test results, since significance level of statistic of the Loan test (.825) is smaller than 5%, ($Sig = .366$). In this case, for continuing the examination, the second row of the t test will be used.

T-test results showed that there is no significant difference between the companies with more continuing activities and those with less continuing activities in 5% error level ($Sig = .049$). Then H_0 with 95% confidence level is rejected and we accept H_1 . That's to say, we accept the hypothesis that accuracy of the expectation of earnings in companies containing continuation activity has a meaningful difference with other companies(less continuation activity).

Table 1. Analyze of study data

	Loan's Test for Equality of Variances					t-test for Equality of Means				
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
								Lower	Upper	
Y Equal variances assumed	1.030	0.312	0.392	118	0.696	2318.4130	5909.3178	-9383.6451	14020.4711	
Y Equal variances not assumed			0.448	31.481	0.657	2318.4130	5172.9353	-8225.3255	12862.1515	

Table 2.

		t-test for Equality of Means								
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Y	Equal variances assumed	0.379	0.539	0.063	118	0.950	312.4971	4983.2406	-9555.6759	10180.6702
	Equal variances not assumed			0.069	66.090	0.946	312.4971	4560.6431	-8792.8894	9417.8838

Table 3.

		t-test for Equality of Means								
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Y	Equal variances assumed	7.704	0.006	-2.295	118	0.023	10565.1866	4603.3863	19681.1448	1449.2284
	Equal variances not assumed			-2.055	57.868	0.044	10565.1866	5141.7912	20858.1014	272.2717

Table 4.

		t-test for Equality of Means								
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Y	Equal variances assumed	13.251	0.000	2.051	118	0.042	8887.361	4333.309	17468.4937	306.2298
	Equal variances not assumed			2.092	92.317	0.039	8887.361	4249.1486	17326.1512	448.5723

DISCUSSION

In this research some effective variables on the financial status companies are examined, including: Income Smoothing, continuity of activity, and auditor's opinion and financial crisis (bankruptcy) on earnings forecast accuracy.

For meaningful examination of the earning forecast accuracy by the managers on financial status of companies, four hypotheses were used. The obtained results from the examination of hypotheses showed that among tested hypotheses, Income Smoothing and continuity of activity are the only influential factors on earning forecast accuracy, and the others are ineffective.

Test comparing two sample means and regression analysis mean that based on empirical evidence and findings, in a general conclusion, there is a significant relationship between income smoothing and continuity of activity and earning expectation accuracy. The hypothesis test related to the auditor opinion also corresponds with the examination results of Bahramian (2006), based on "the Expectation accuracy of earnings per share of the companies whose stock for the first time is public offering on the stock exchange, and the companies which raise capital on the stock exchange". In addition, the hypothesis test results related to continuing activity follow the research results of Namazi et al. (2007) based on the fact that "The examination of the structures that affect

the accuracy of the expected earnings by the management of listed (accepted) companies on the Tehran Stock Exchange ". Test results hypothesis of financial crisis is also consistent with Sabet's research (2005) based on "examination of the effect of five factors of company size, the financial crisis scope, the growth rate, external financing, and prices control in the industry on the corporations managers' bias in the expectation of the earnings".

According to the assumptions results and comparing them with previous studies, it appears that other factors can influence the expected earnings. More research work is needed to identify these factors and in future studies this issue can be addressed.

Research proposals:

1-According to the relationship between the earning expectation accuracy and income smoothing, it is recommended that analysts consider this criterion in their evaluation.

2-According to the relationship between the earning expectation accuracy and continuation activity, it is recommended that analysts consider this criterion in their evaluation.

3-According to the lack of a significant relationship between the earning expectation accuracy and the auditor's opinion, it is recommended that analysts do not consider this criterion in their evaluation.

4-According to the lack of a significant relationship between the earning expectation accuracy and the critical financial situation, it is recommended that analysts do not consider this criterion in their evaluation.

5-Most of the data relating to the years 1385 to 1390 is worked out from prudence processing software and based on t-student comparison test, two samples are analyzed. It is recommended that in future research, researchers use other software and appropriate statistical methods.

6-For more research, it is recommended to use Out of Stock Exchange firms.

7 - In a similar study, it is recommended that the effects of other variables, such as management experience, firm size, firm age, trading volume and stock, etc. on the accuracy of earnings forecasts be examined for longer time periods and larger samples and the results be compared with the outcome of this study.

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