THE RELATIONSHIP BETWEEN EARNINGS PREDICTABILITY AND INFORMATION EFFICIENCY OF LISTED COMPANIES IN TEHRAN STOCK EXCHANGE

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Abstract
The main aim the present study is to determine the Relationship between earning predictability and information efficiency in firm accepted in Tehran stock exchange. After sampling impose restrictions, the data of 87 company in the period 2010 to 2012 that included 261 observed for analyze the extraction and were used. To analyze the data Pearson correlation test was used. The results indicate that between earnings predictability with information efficiency for 30 and 60 day there was no significant relationship.
Key Words: Information efficiency- disclosure quality- Timeliness disclosure- reliability-earning predictability

1- Introduction:

Transition from the industrial age to the information age has caused more prominent role in the decision-making process. In such phases, information is like valuable commodity, instead of machines and physical goods are the determinant of competitive advantage for participants in a variety of markets. Further information has inevitable role on the better performance of financial markets. On the one hand fundamental changes in recent years in Iran and development of economic foundations along with complex business and information systems, on the other, the need for reliable and related information for decision making in various fields has made it dominant more than ever before (Soleimani and Nazari, 1999). Moreover, the increase growing of these complexities the need to justify related economic data, also justifies the process of generating this information (Nikkhah Azad, 1998). Information is the center core of performance. Information and how to interpret propagation speed has sensitive key role in the efficiency of market. Efficiency of information would be important that stock prices reflect all available and accessible information, information that affects the value of the company. If we achieve informational efficiency in the market, Investors cannot access unusual and extraordinary benefit by having specific information (Chen Charles J.P Shimin Chen and Xijia Su, 1999). Informational efficiency of stock prices is an essential aspect of the market quality. To

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the extent that prices are influenced by the available information they are also influenced financial and investment decisions. This issue has affected how to interpret and use information by preparers of financial statements, investors and analysts (Perotti Pietro & Windisch David, 2012). Efficiency means that the content of the disclosed information (but not the disclosure of information) is the attention of markets. Market values the content of the disclosed information (Scott, 2009). In 1987, Jenson is called the efficient market that can make a profit using the available information (Salimifar and Shizour, 2010). In a fully efficient market, stock prices are heavily influenced by all the available information in the market, and because, the available information their had impact on prices investors can then use this information to make a profit in such a market the price of each securities is equal to its intrinsic value so that this intrinsic value reflects all the information that there are about these securities (Jones, 2011). It should be noted that the ultimate value of information is not only to provide it, but also its use is in financial and economic decision-making. In Iran, because of the Pale of information resources, the role of accounting information is very important. As a result the importance of financial and accounting information in investment decision is twofold. If there is ambiguity in this information, the prices of securities cause high fluctuations and increase the risk of investment.

One of the purposes of accounting and preparation of financial statements is to provide useful information to facilitate decision making. Accounting profit forecasts as an influential factor in the economic decisions of users has long been a favorite. This interest stems from many factors, including helping to improve the efficiency of capital markets (given the relationship between changes in profit and price movements of shares) (Hagigat and Motamed, 2011). The vast bulk of previous research indicates that the possibility of predicting profit significant relations by economic factors such as cost of capital (Francis et al, 2004 - Kurdestani and Majdi, 2007) and stock returns (Frankel and Leito, 2009). In Iran Norvash and Gholamzadeh (2003) investigated the behavior of accounting profit showed that the benefits of future profits does not provide much information. Regarding the issue of separation of ownership from management, financial transparency, the need of investors, and other stakeholders to financial information reported by high reliability quality and according to the influential role of profit in investment decisions, this study sought to examine the relationship between profit predictability and disclose quality with performance information. And whether increasing the profit predictability improve information performance or not?

2- Methodology

Since the time of public release of financial information impact on the research results and the fact that the financial year of most companies listed in Tehran Stock Exchange ended March ends, so all the companies listed in Tehran Stock Exchange, form the research population. Due to the extent of the population and existence of some inconsistency among the members of society, then the necessary restrictions was selected the statistical sample. Mentioned conditions are:

1. Companies that are presented the necessary information for conduct research in the period 2010 to 2012 in full.
2. The financial year of company has not changed during the years 2010 to 2012.
3. The financial year of company ended to the end of March.
4. Companies whose share prices are not below the nominal value.
5. Company stock trading is constantly carried out in Tehran Stock Exchange and trading stop was not happened for over a month in the mentioned stock.
6. Not to be investment companies.

Companies whose their price is below the nominal value, may have a good performance but even so are not at attention of market, so these companies were not suitable for the purposes of the present study and were excluded from the sample. Monthly returns distribution of companies that are not available data on their return more than two-month, this was not statistically reliable because those companies were excluded from the samples.
After doing mentioned restrictions 87 companies were chosen as the statistical sample in which the observation period of the study in 261 selected companies was extracted and was used to analyze of the study.

2-1 The research model:
By the following model the linear relation and multiple informative is calculated with the profit predictability and disclosed quality.

$$IE = \alpha_o + \alpha_1 EF + \alpha_4 \mathrm{DVOL} + \alpha_5 SIZE + \alpha_6 \mathrm{LEV} + \mathrm{e}$$

IE: Information Efficiency
EF: Earnings Forecast
DVOL: The natural logarithm of daily stock volume of transactions
SIZE: Firm size
LEV: company financial leverage
E: representing error

2-2 Method of measuring information efficiency
To measure information efficiency based on Prout and Vendich (2012) research study, was used the ratio of the variance. To calculate the variance will be used returns over 30 days and 60 days. This means that the results are presented according to the VAR (1,30) and VAR (1,60).

$$\mathrm{VAR}(1{,}30) = \frac{VAR(R_1)}{VAR(R_{30})}$$

VAR (R_1) = First Day Return Variance
VAR (R_{30}) = Thirtieth Day Return Variance

$$\mathrm{VAR}(1{,}60) = \frac{VAR(R_1)}{VAR(R_{60})}$$

VAR (R_{60}) = Sixtieth Day Return Variance
Whatever the variance of the first day smaller than the thirtieth day, in that case it revealed that of the difference variance of the thirtieth day was greater than the first day or in other words there was significant difference between the stock price and its intrinsic value and market does not have the required efficiency. This means that whatever the amount of $\left|\mathrm{VAR}\ (1, 30)-1\right|$ and $\left|\mathrm{VAR}\ (1, 60)-1\right|$ is smaller in that case, the market is more efficient. Consequently, for ease of interpretation, its results multiplied in negative one IE1and IE2 level higher to show more efficiency information. So we have:

$IE_1= \left|\mathrm{VAR}\ (1, 30)-1\right| \times (-1)$
$IE_2= \left|\mathrm{VAR}\ (1, 60)-1\right| \times (-1)$

2-3 Assessment Method of predictive capability of earnings

Earning ability is in anticipation of future profits. Following Shipper, Olson, and Francis earnings is the predictive capability of the adjusted determination coefficient of the following models (Hagigat and Motamed, 2011):

$$E_{i,t} = \alpha_o + \alpha_1 E_{i,t-1} + \mathrm{e}$$

$E_{i,t}$ = Income before Extraordinary Items in year t

α_o = Constant

α_1 = Sustainability of Profit

$E_{i,t-1}$ = Profit before Extraordinary Items in year t-1

e = Error repsentative

3- Results

Description of the research variables shows the performance data for 30 days; E2 informational efficiency of 60 days; EF Earnings Forecast. As Table "1" shows, from 261 observation of the 87 surveyed companies; data efficiency average for 30 days (E1): -1181 with a standard deviation of 6556/ 6192 informational efficiency average for 60-day (E2): -857/6 with a standard deviation of 3982/2938, the earnings forecasts average (EF): 0/733667 with SD 0/0703076.

Firm size average (size): 11/93 with the standard deviation of 0/661, the financial leverage average (Lev): 0/638 with a standard deviation of 0/189, the logarithm average of the transactions volume (Dvol) 0/0024 with standard deviation of 0/0015.

H1.There is relationship between Earnings Forecast and informational efficiency in 30 days.

Table 1: Results of computing the correlation coefficient between earnings forecast and information efficiency in 30 days

(p-value)	Pearson correlation coefficient	Number of samples	Research variables	
0/084	0/107	261	Efficiency data of 30 days	Earnings predictability

Since, the significant level is equal to 0/084 and greater than 0/05 we can reject the null hypothesis of the test therefore there is no significant relationship between earnings forecast and information efficiency in 30 days. So, in error level of 0/05 and 95% confidence level hypothesis that there was a significant relationship between earnings forecast and information efficiency in 30 days was not accepted.

H2. There is relationship between Earnings Forecast and informational efficiency in 60 days.

Table 2: Results of computing the correlation coefficient between earnings forecast and information efficiency in 60 days

(p-value)	Pearson correlation coefficient	Number of samples	Research variables	
0/335	0/057	261	Efficiency data of 60 days	Earnings predictability

Because, the significant level is equal to 0/355 and greater than 0/05 we can reject the null hypothesis of the test therefore, there is no significant relationship between earnings forecast and information efficiency in 60 days. So, in error level of 0/05 and 95% confidence level the second hypothesis that there was a significant relationship between earnings forecast and information efficiency in 60 days was not accepted.

Since, lack of existence significant relationship between the variables, there is not existed the necessary condition for the implementation of the stepwise regression to determine the contribution of the independent variables (earnings predictability, timeliness and reliability of data) in predicting the dependent variable (Efficiency data) and it cannot be performed the stepwise regression.

4- Discussion and conclusions

Accounting earnings forecast has been long as an influential factor in the economic decisions in favor of users. This interest caused by several factors. Among these factors is this that contributed to improve efficiency of capital markets through the assumed relationship between changes in earnings and stock price changes (Hagigat and Motamed, 2011). In the research of Hassanzadeh's brothers and colleagues (2010), which is related to the mentioned assumption the result showed that there was relationship between changes in earnings and stock price changes. Also Khoshniyat and Rezaye (2006) showed that the persistence of profit (which represents predictable earnings) increases the power of price justification by benefit (due to the absence or lack of access to related research study the researcher was used on the subject of similar studies to explain the theory).

In explaining the previous contents can be told that whatever earnings is more predictable, the assumed relationship between earnings and stock price, decline the changes of stock returns as a result improve information efficiency. But the result of the investigation, that there is no significant relationship between earnings predictability and efficiency of data (which were tested in hypotheses 1 and 2), suggests that the increase or decrease in profit forecasts has no significant effect on increasing or decreasing the information efficiency. Therefore the result is not consistent with the inferences made from the previous research results. The reasons for the lack of significant correlation between earnings predictability and efficiency of information can be as follows:

The efficiency of Iran stock market in numerous studies and it has been studied by using the different test methods. The results of these studies indicate the inefficiencies in Iran capital market are weak. Among the studies conducted in this field of study, we can point out studies such as Galibaf asl and Nategi (2006) by using the model Arima and Arch Khaloozadeh et al (1996) using the method of basis change in price changes of the time series on the field, Fadaye Nesuad (1995) by using flow test, Samadi et al (2007) using the capital assets pricing model, Khani and Farahani (2008) using the coefficient of price adjustment, Shooshtarian and Prayer (1996) using of filtering rules, Sinai (1994), using autocorrelation test and workflow analysis; and Talanh and Rod (2011) and Abdo Tabrizi and Johari (1996).

Many factors such as insufficient information and irrational and illogical behavior of investors caused ineffective market. There seems to be a lack of complete data on forecasts of future financial statement items listed companies in Tehran Stock Exchange and lack of confidence in the actual and predicted financial data for companies are the reasons for the lack of correlation between profit forecasts and efficiency information on the Tehran Stock Exchange.

So based on research findings, we recommend the following suggestions:

1- In spite of the measures taken in recent years in order to create transparency information in the Tehran Stock Exchange, the Stock Exchange situation for this purpose has not changed. Given that information transparency is central to the efficiency of the capital market, it is recommended that measures be taken more seriously in this field.
2- Since the lack of market efficiency can be other reasons, such as collusion, manipulation and price manipulation have more control over the performance of investments and transactions can also be helpful.
3- Since the entry of capitals with speculative incentives is one of the causes of the crisis, by prevention from entering such capital can prevent somewhat of exchange inefficiency.
4- Establish rules and constant monitoring on regular and schedule reporting for the listed companies in Tehran Stock Exchange.
5- Full implementation of laws and regulations, with emphasis on achieving transparency.
6- Reduce the impact of political and economic issues of capital markets in order to avoid magnification and gossip.
7- Reduce costs and increase the speed of information flow.
8- Increase market experts that cause rapid turnaround and rapid adjustment in prices.

The limitations of the study were as follows:

Limitation of the studied population: Many studies have been carried out of Iran and a large number of companies have tested. Since the stock market is relatively dynamic and it has shallow depths[2] and low width[3], so generalization of the results to whole economic units should be made with caution.

1- In this type of research companies that their symbol had trading stop for more than two months were excluded from the sample, which caused to reduce the number of sample.
2- To compute the information efficiency needed the price of 1 day and 30 days per month of companies, that lack of this information for some companies have been other factors of reducing the number of statistical samples.
3- Due to the limited statistical sample of firms listed in Tehran Stock Securities Exchange That their manufacturing and financial year leaded to the end of March, extending the results to other companies should be done with caution.
4- Effects arising from differences in measurement method and reporting of financial events that may affect the results of these adjustment of has been done about the lack of access to information this adjustment was not made for the lack of access to information.
5- The existence of inflation causes the financial statements information cannot show the financial situation and the results of company performance properly. Thus, taking into account the effects of inflation may be achieved different results.

Instability of the political-economic-social: Changes in political, economic and social conditions may affect the results of research in the years studied. Stock Exchange of Iran strongly is under the influence political, economic and social conditions. In a period of time may be increased the public tendency for buying and selling the securities and vice versa. For example, as early as 2004, we see an increase in prices and then we encountered with serious loss and declining prices that this issue faced the results of research with doubts.

[2] . Due to the shallow depth of stock exchange trades a company can affect the whole market.
[3] . Stock low width means that the variety of companies is low in this market.

6- Access to corporate data has been associated with many problems and spending a long time. Tehran Stock Exchange has no a comprehensive database and corporate financial reports is not maintained consistently and regularly. Databases also do not have information of some years. Some of the companies' information was not available in Securities Exchange published reports and other databases which inevitably we referred to the individual financial statements of the sample companies. These factors caused to prolong the duration of the study.

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