Research Journal of Recent Sciences ISSN 2277-2502
Vol. **3(6),** 15-19, June **(2014)** *Res.J.Recent Sci.*

Effective Factors in Information Asymmetry from Managers' Perspective

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Available online at: www.isca.in, www.isca.me
Received 6th September 2013, revised 11th November 2013, accepted 29th December 2013

Abstract

The aim of this research is to investigate effective factors in information asymmetry of the listed companies in Tehran Stock Exchange from managers' perspective. The difference between Approved Earnings per Share and Estimated Earnings per Share divided by Approved Earnings per Share was applied to measure information asymmetry from managers' view. In the study, number of years of the firm attendance in the exchange (History), size of the company (Size), the percentage of active attendance in exchange transactions (Active Attendance) and the managers' record were considered as the effective factors in information asymmetry from managers' view. To this end, 97 listed companies in TSE during 2006-2010 were investigated. The pooled regression models (with fixed effects) and EViews Econometric Software were used for testing the hypotheses. Findings indicate there is the significant and negative relationship between managers' record and information asymmetry, however, no relationship among History, Size, and Active Attendance with information asymmetry was observed.

Keywords: Approved earnings per share, estimated earnings per share, history, size, active attendance in exchange, and managers' record.

Introduction

Prediction is a key factor in economic decision making. Investors, creditors, management and other characters rely on prediction and expectations in economic decision making. Since investors and financial analysts use earnings as one of major criteria for evaluating the firms, they tend to measure future profitability so that they are able to decide on holding or selling their shares. In fact, it is difference in expectations and predictions which specify allocation of capital resources to various business units. Since e is regarded as a main factor in evaluating performance and determinant of economic enterprise's value, investigating estimated earnings per share by managers can be important in the perspective of financial information users.

An effective factor in decision making is having appropriate information which is relevant to the decision subject. If information is distributed inappropriately among people, it may have different results considering a single subject. There is information symmetry if managers and participants in the capital market especially shareholders have identical information about the firm. But if there is information asymmetry, managers would have more and better information compared to the market due to having access to special and confidential information of the firm. That is, they have access to firm information prior the market[1]. The main stimulus of the current work is this question: does estimated earnings per share information provide close approximation of the real earnings per share? In other words, in this work the author seeks for answer to this question: to what extent there is compatibility between estimated earnings per share with real earnings per share and if users of this information can use estimated information as alternative before determining real earnings per share? How managers are able to estimate estimated earnings per share better and properly and what are effective factors in the gap between estimated and approved earnings of the firms listed in Tehran Stock Exchange?

Theoretical Principles and Review of Literature: For decision making in stages of purchase, sale or holding shares, investors need some information which expresses future profitability of the firm. In fact, profitability prediction very important, since it is regarded as effective factors in judgments and decision making of users and an important factor in effectiveness of the capital markets[2].

In information perspective, concept of earnings defines results of economic activities, but it is yet doubtful to be considered as a basic measurement criteria. Based on the assumption of efficient capital markets, findings of experimental works suggest accounting earnings have information content[3]. Net profit is an important item which is presented in financial reports and has various applications in accounting and financial reporting. Usually earning is considered as a basis for calculating tax, a factor for developing profit sharing policies and a guide for investment and decision making and a predictive factor. Calculating net profit is done according to accounting methods and estimates, thus it is possible to be manipulated by the management[4].

Proof researches on the profit are for understanding use of reported financial information (financial analysis) and characteristics of this information. This group of researches can be classified into 5 categories: i. Works related to annual series which investigate potential of last year annual earnings in predicting future earnings, ii. Works which investigate potential of past quarterly earnings in predicting earnings, iii. Works which investigate role of earnings constituents, iv. Works which consider potential of items in financial statements of profit and loss, balance sheet and cash flow statements in predicting earnings. In some works, variables related to industry or macro economic variables are investigated. v. Works which investigate accuracy and ability of predicting profitability offered by the management, financial analysts and statistical models, or compare these predictions[2].

This work is put in the last category since it investigates difference between estimated and approved earnings per share as information asymmetry in the view of the managers. Followings are related cases to this category:

Azad[5] in his work, "information content of prediction of firms' earnings" concluded there is significant relation between earnings predicted by the firms and approved earnings. Morad Zadeh et al.[6] found that Accruals Management has negative significant effect on liquidity of company shares so that management of higher earnings causes information asymmetry and transaction cost and liquidity is reduced. Ahmad Pour Kasgari and Ajam[7] found quality of accruals of firms listed in TSE has no significant effect on information asymmetry. Results found by McCafferty[8], Taub[9], Koller and Rajan[10] and Donohue[11] regarding prediction of quarterly earnings suggest a negative view would be created in investors toward the firm if such predictions are exposed and they are not realized, and in such circumstances, managers may sacrifice firm's long-term financial health for achieving short-term earnings to confront it. Hewitt[12] in his work on accuracy of prediction of earnings found that accuracy of the earnings prediction is increased if elements of the earnings have high stability. Choi et al.[13] investigated role of prediction of quarterly and short-term earnings in comparison with annual prediction and concluded short-term and quarterly predictions increase relation between current period yields and future earnings. They also mentioned that quarterly and accurate prediction of earnings per share helps investors in predicting future earnings.

Methodology and Data Analysis

The major aim of this work is investigating relationship between information asymmetry in the view of managers and its effective factors including history, size, and active attendance in the stock exchange and managerial records. Thus this work is quasi-experimental and ex-post factor research in the field of positive accounting research which was done using Multivariate regression and econometric models. Research hypotheses are tested according to pooled regression models (with fixed effects) and statistical analysis is done using E Views Econometric Software.

Testing Hypothesis: i. There is significant relationship between information asymmetry in managers and history of the firm, ii. There is significant relationship between information asymmetry in managers and size of the firm. iii. There is significant relationship between information asymmetry in managers and active attendance. iv. There is significant relationship between information asymmetry in managers and managers' record.

Statistical Population: Statistical population includes all firms listed in Tehran Stock Exchange and firms with following features are studied: i. Have been active in stock exchange during 2006-2010 and have provided financial reports and other information needed by this work to the stock exchange. ii. Their financial year ending is 29 Esfand (March 20) annually. iii. Are not among investment companies. iv. Have not changed their financial year during years of the study (2006-2010). v. Their stock trades have been done continuously on the Tehran Stock Exchange and there has been no stop in transactions for more than one month. vi. They have to be listed in TSE prior to 2006. According to above criteria, 97 firms were indentified. Then, all needed information were collected from databases of TSE and Rah-AvardNovin Software as well as stock exchange's journals.

Measurement of Variables: Measurement of Information Asymmetry in Managers' View (Managers Asymmetry - MA): For measurement of managers' asymmetry, ratio of approved earnings per share minus estimated earnings per share divided by approved earnings per share was used. This model is as follows:

$$\mathrm{MA_{it}} = (\mathrm{AEPS_{it}} - \overline{\mathrm{EEPS}}_{\mathrm{it}})/\mathrm{AEPS_{it}}$$

Where: MA_{it}: Criterion for information asymmetry in the view of managers in the firm i at the end of year t, $AEPS_{it}$: Approved earnings per share in the firm i at the end of year t, $\overline{\mathrm{EEPS}}_{\mathrm{it}}$: Estimated earnings per share in the firm i at the end of year t.

According to above model, the more is difference between estimated and approved earnings per share, it suggests more managers asymmetry. In testing hypotheses, the figure taken from this model is used.

Effective Factors in Managers Asymmetry: i. History (H): For calculating this factor in the first year of the research, the attendance years in TSE prior to research period was used and in the next years of the research, 1 was added to the number of attendance years for each year to the previous year. The longer is history, it suggests active and loyal attendance of the firm, and it can be due to approximation of predictions and estimates of the management of the earnings per share to approved and real earnings per share. ii. Size (S): the firm's size was calculated using natural logarithm of the firm's market value (the number of shares in the hands of shareholders in market price for shares at the end of financial years). Larger firms have higher ability to confront with unexpected events and it can help the firm to realize estimated earnings. iii. Active Attendance (AA): In this work, ratio of the number of transactional days of the firm divided by transactional days of the stock exchange per year was considered as the variable for active attendance in the stock exchange. The more is the number of forms' transactional day in the, it indicates higher tendency in potential shareholders to the firm and it can be due to approximation of the management's predictions and estimates of the share to approved and real earnings per share. iv. Manager Record (MR): In this work, the number of attendance years of CEO in the firm was used as the manager record. Managers with higher records in the firm can provide more accurate estimates of the earnings per share.

Data Analysis and Research Findings

Results of descriptive statistics are given in table 1, which indicates "manager asymmetry" criterion has higher change coefficient (SD divided by the mean) and scattering and thus lower stability compared to independent variables including active attendance, history, size and manager record. It denotes information asymmetry in the view of managers is influenced by factors in addition to above mentioned ones, thus it is necessary to identify them in the future works. Descriptive statistics related to the history indicate in average, firms under study had 12.5 years of history in the stock exchange, and descriptive statistics show active attendance suggesting the firms had activity in transactions in stock exchange in 50% of the days in average. Managers' record indicates their record in CEO position in the 5-year research period varied between 1-5 years. It should be noted that mangers record below 6 months was eliminated and manager records above 6 months was turned into 1 year.

In order to test the reliability of the variables during the study period unit root test was used. Results are given in table 2. Results indicate research variables including dependent and independent are stable. Reliability means mean and variance of the variables is stable over the time and covariance of the variables is fixed over different years. It should be noted reliability test was not done for history and managers record variables due to low number of figures.

In order to test H1, results for effect of history on managers' asymmetry in Table 3 indicate their relationship is negative. That is, managers' asymmetry is reduced by increased firm's history. Considering regression of the firm's history (-0.0006), it is a very weak relation and it is not significant considering t-statistics probability (0.9145). Results also show about 25% of variations in managers' asymmetry is influenced by firm's history. Considering lack of significance for effect of history on managers' asymmetry, H1 is rejected.

Table-1
Descriptive statistics of the variables in research period

Variables / Statistics	Managers Asymmetry	History	Size	Active Attendance	Managers Record
Average	0.21	12.49	26.54	0.49	1.71
Mean	0.15	11	26.31	0.50	1
Maximum	0.89	42	30.71	1	5
Minimum	0	2	23.38	0.004	1
Standard deviation	0.19	0.71	0.05	0.57	0.56
Coefficient of Variation	0.90	0.71	0.05	0.57	0.56
485	485	485	485	485	485

Table-2
Reblity test for variables in research period

Criteria / Variables	Value of Levin, Lin and Chou	Probability of Levin, Lin and Chou	Value of Im, Boys and Shin	Probability of Im, Boys and Shin	Augmented Dickey-Fuller test	Augmented Dickey-Fuller probability	Phillips-Perron test	Phillips-Perron probability
Managers asymmetry	-33.06	0.000	-13.09	0.001	397.21	0.000	484.62	0.000
Size	-52.07	0.000	-9.09	0.000	259.77	0.001	341.19	0.000
Active attendance	-.25.37	0.000	-8.17	0.000	319.60	0.000	392.99	0.000

In order to test H2, effect of firm's size on managers' asymmetry, table 4 indicates the relation between two variables is negative. That is, large companies face low managers' asymmetry. Considering regression of the firm's size (-0.002), it is a very weak relation and it is not significant considering t-statistics probability (0.9262). Results also show about 11% of variations in managers asymmetry is influenced by firm's size. Considering lack of significance for effect of firm's size on managers' asymmetry, H2 is rejected.

In order to test H3, effect of firm's active attendance on managers' asymmetry, table 5 indicates the relation between two variables is negative. That is, managers' asymmetry is reduced by increased active attendance. Considering regression of the firm's active attendance (-0.03), it is a very weak relation and it is not significant considering t-statistics probability (0.5423). Results also show about 14% of variations in managers asymmetry is influenced by firm's active attendance. Considering lack of significance for effect of firm's active attendance on managers' asymmetry, H3 is rejected.

In order to test H4, effect of manager record on managers' asymmetry, results in table 6 suggest there is negative relationship between 2 variables. That is, managers' asymmetry is decreased by increased manager record. It is a relatively strong relationship given regression coefficient (-0.21) and it is significant considering value of t-statistics (0.0000). Results indicate about 95% of variations in managers' asymmetry is under influence of manager record. Considering significant effect on manager record on managers'' asymmetry, H4 is approved.

Table-3
Regression model for firm's history on information asymmetry

Variables	**Regression coefficient**	**Standard error**	**t-Statistics**	**t-Statistics probability**
Fixed value	0.21	0.08	2.85	0.0046
History	-0.0006	0.006	-0.11	0.9145
Coefficient of determination	Adjusted coefficient of determination	Durbin - Watson statistics	f-value	f-value probability
0.25	0.20	2.46	1.34	0.028

Table-4
Regression model for firm's size on information asymmetry

Variables	**Regression coefficient**	**Standard error**	**t-Statistics**	**t-Statistics probability**
Fixed value	0.27	0.64	0.42	0.6773
History	-0.002	0.02	-0.09	0.9262
Coefficient of determination	Adjusted coefficient of determination	Durbin - Watson statistics	f-value	f-value probability
0.11	0.06	2.47	1.34	0.027

Table-5
Regression model for firm's active attendance on information asymmetry

Variables	**Regression coefficient**	**Standard error**	**t-Statistics**	**t-Statistics probability**
Fixed value	0.22	0.03	7.64	0.0000
History	-0.03	0.06	-0.61	0.5423
Coefficient of determination	Adjusted coefficient of determination	Durbin - Watson statistics	f-value	f-value probability
0.14	0.10	2.08	1.35	0.026

Table-6
Regression model for manager record on information asymmetry

Variables	**Regression coefficient**	**Standard error**	**t-Statistics**	**t-Statistics probability**
Fixed value	0.006	0.01	0.55	0.5801
History	-0.21	0.02	-10.84	0.0000
Coefficient of determination	Adjusted coefficient of determination	Durbin - Watson statistics	f-value	f-value probability
0.59	0.55	2.14	1.35	0.022

Conclusion

Main aim if the current work is investigating relationship between effective factors in information asymmetry in firms listed in TSE form manager's view during 2006-2010. Descriptive statistics indicate information asymmetry in the view of managers is influenced by factors in addition to above mentioned ones, thus it is necessary to identify them in the future works. Findings also show: i. Firm's history has no effect on managers' asymmetry. ii. Firm's size has no effect on managers' asymmetry. iii. Active attendance in stock exchange has no effect on managers' asymmetry. iv. Manager record has negative significant effect on managers' asymmetry.

Negative significant relation between manager records and managers' asymmetry suggest managers with high stability in the firm increase their accuracy in estimation and prediction of earnings per share and information asymmetry (gap between approved (real) and estimated earnings per share) is reduced in these firms and reliability of predicted and estimated earnings for making economic decisions for estimating approved earnings in increased. Results of this work may be somehow consistent with works by McCafferty[8], Taub[9], Koller and Rajan[10] and Donohue[11]. They found if quarterly earnings predictions are disclosed and they are not realized, negative view would be created in investors toward the firm and in such circumstances, managers may sacrifice firm's long-term financial health for achieving short-term earnings to confront it. Comparison is not possible in other cases.

Recommendations: i. Considering negative relationship between manager record and information asymmetry, and since predicted (estimated) earnings in financial period (usually 3-month) is close to approved earnings at the end of financial year in firms with high manager record in CEOs, thus users of financial statements of stock exchange's firms are recommended to use predicted earnings in financial period in these firms for estimation of approved earnings at the end of financial period for economic decision making. ii. Considering negative relationship between manager record and information asymmetry, potential shareholders of stock exchange firms are recommended to use predicted earnings in forms with high record CEOs for estimating approved earnings at the end of financial year for making economic decisions.

Recommendations for Future Works: i. Repetition of this research using measurement criteria of lack of information asymmetry in the view of shareholders through shares price gap in each year, ii. Investigation of non-linear relationship between information asymmetry and it effective factors, iii. Running similar research in various industries, iv. Comparative study of difference between estimated and approved earnings per share annually for specifying improvement or lack of improvement of managers' prediction for shares in different years, v. Comparative study between estimated and approved earnings per share in profitable and losing companies using virtual variable, in this way that virtual variable is considered as 1 for profitable companies and as 0 for losing ones.

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