

The Role of Accounting Information in Reducing Information Asymmetry in Tehran Stock Exchange

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ABSTRACT

In this article, we study role of accounting information in decreasing of information asymmetry in Tehran Stock Exchange (TSE). Predicted Earning per Share (PEPS) announcement is a type of information that listed companies publish. This paper studies existence of information asymmetric and its effect on stock prices and trading volume 21 days before 21 days after PEPS announcements. Our samples are 121 PEPS announcement in 2009-2011 period. The results show that information asymmetric was been in threat period and its level in the period before announcement was higher than announcement. Also, we found information asymmetry was related to trading volume and stock price, so before the announcement, trading volume was increased and stock price was fluctuated.

KEYWORDS: stock exchange, accounting information, trading volume.

INTRODUCTION

When latest information about companies such as earnings announcement (EA) is disseminated in the market, analysts, investors, and other users analyze it, and then decisions, based on the results gained, are made to purchase or sell shares. In view of the fact that the way they react to such information forms fluctuations in prices, such information and reaction towards it influence the users' behavior, especially that of potential and actual shareholders, and instigate increase and decrease in prices and in trading volume. Thus, in case of covert and divergent dissemination of information, investors' diverse reaction can be seen in the market because of information asymmetry (IA) in the capital market. This leads to false or misleading interpretation of current status of market. Therefore, the present study aims at discovering the effect of EA on information asymmetry among investors.

Background

In the late 1970, a number of studies, obtaining various results in diverse contexts and at different time, were carried out on IA in several countries. Some reported IA before EA, while others did so after it. For instance, Ashman and Mourse (1983) and Chiang (1986) investigated IA after EA. However, Lee (1993) reported higher rate of IA before EA, using daily Information. Studying IA before EA, (1992) found out as IA increases, trading volume enlarges. Yan (1998) pointed out that "there is a positive relationship between the reaction of stock market to unexpected earnings and IA before EA. Libby (2003) discovered IA before EA in Toronto stock market. Wael (2004) observed higher rate of IA before EA in Euronext in Paris.

MATERIALS AND METHODS

The Bid-ask prices and its relation to trading volume and share prices at the time of earnings announcement were studied to figure out whether accounting earnings announcement causes information asymmetry among investors.

H1: the range of Bid-ask prices before EA is higher than that range after earning announcement.

H2: the trading volume before EA is higher than the trading volume after earning announcement.

H3: the EA results in modification of share prices.

Since IA is a general concept and in order to represent it in numbers, a model is necessary to convert it into a quantitative concept. To this end, an alternate quantity called "the range of bid-ask prices" was employed. In data analysis, after extracting the best price offered for selling and purchasing a share in the period of 21 days before and 21 days after EA, and measuring the range of bid-ask prices, the average of figures obtained for each sample before and after EA was calculated. If the average of the range equals zero, it is apparent that there is no information asymmetry regarding EA.

To measure the abnormal return, market method was employed. Therefore, the date for earnings per share (EPS) announcement was considered as the announcement date, and then share price along with market index on 21 before and after announcement were extracted from market database. After obtaining daily prices and index, proposed model was

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used to calculate the rate of accumulated abnormal return in period indented in the preset study. In this model unusual rate is the deduction of real yield from market yield.

The population included active companies in Tehran Stock Exchange. The sample of the study comprised 121 earnings per share (EPS) announcement of 93 companies. To analyze the data, mean difference test and T-test were performed. Since T-test requires analyzing homogeneity of variances, a Fisher test was first run to study homogeneity of variances. If the result of Fisher test reject the H_0 , a two-tailed T-test, disregarding homogeneity of variances of two samples, is then used.

Analysis

Hypothesis 1:

To test the first hypothesis, the average of bid-ask prices of companies on 21 days before and after EA were analyzed. The results of Fisher test revealed that the P value was less than the .05, so the null hypothesis could be rejected. Since homogeneity of variances was rejected by Fisher test, T-test was performed. The T-test showed that the null hypothesis could be rejected, because the calculated P -value was smaller than alpha.

TABLE 1

F-Test Two-Sample for Variances			t-Test: Two-Sample Assuming Unequal Variances		
	Before	After		Before	After
Mean	6.8243	0.8985	Mean	6.8243	0.8985
Variance	687.4074	358.8594	Variance	687.4074	358.8594
Observations	121	121	Observations	121	121
d.f	120	120	Hypothesized Mean Difference	0	
F	1.9155		d.f	218	
P(F<=f) one-tail	0.0002		t Stat	2.0152	
F Critical one-tail	1.3519		P(T<=t) one-tail	0.0226	
			t Critical one-tail	1.6519	
			P(T<=t) two-tail	0.0451	
			t Critical two-tail	1.9709	

Hypothesis 2:

For the second hypothesis, the average of Stock turnover on 21 days before and after EA was analyzed. To test the hypothesis, like what was done for testing H_1 , at first Fisher test was run, then a two-tailed T-test ($P < .05$). Since the results of Fisher test revealed that calculated P -value was smaller than alpha (.05), null hypothesis could be rejected. Furthermore, results of T-test ($P = .012$) showed that there was no statistically significant differences in average of Stock turnover on 21 days before and after EA; thus, the null hypothesis could be rejected.

TABLE 2

F-Test Two-Sample for Variances			t-Test: Two-Sample Assuming Unequal Variances		
	After	Before		After	Before
Mean	0.0010	0.0015	Mean	0.0010	0.0015
Variance	0.000001	0.000004	Variance	0.000001	0.000004
Observations	121	121	Observations	121	121
d.f	120	120	Hypothesized Mean Difference	0	
F	0.3684		d.f	179	
P(F<=f) one-tail	0.0000		t Stat	-2.5163	
F Critical one-tail	0.7397		P(T<=t) one-tail	0.0063	
			t Critical one-tail	1.6526	
			P(T<=t) two-tail	0.0127	
			t Critical two-tail	1.9720	

Hypothesis 3:

For the third hypothesis, the average of abnormal return on 21 days before and after EA was analyzed. The results of Fisher test revealed that the p -value was less than the .05 criterion of statistical significance, so the null hypothesis could be rejected. The T-test showed that the null hypothesis predicting significant differences in average abnormal return for samples under investigation on 21 days before and after EA, could be rejected, because the calculated P -value (.035) was smaller than alpha.

TABLE 3

F-Test Two-Sample for Variances		
	After	before
Mean	1.0111	1.1757
Variance	0.2603	0.1903
Observations	121	121
d.f	120	120
F	1.3677	
P(F<=f) one-tail	0.0438	
F Critical one-tail	1.3519	

t-Test: Two-Sample Assuming Unequal Variances		
	Before	After
Mean	1.17571	1.0111
Variance	0.19033	0.26031
Observations	121	121
Hypothesized Mean Difference	0	
d.f	234	
t Stat	-2.6974	
P(T<=t) one-tail	0.00375	
t Critical one-tail	1.65139	
P(T<=t) two-tail	0.0075	
t Critical two-tail	1.97015	

Conclusion

The results of this study revealed that:

1. IA in Tehran Stock Market results from information leakage by traders.
 2. In the period before EA more attempts are made to gain confidential information, leading to higher level of IA.
 3. IA influences trading volume and share price.
 4. Assessed earnings per share (EPS) contribute to IA in capital market.
- Regarding the role of clear, accurate, and up-to-date information, which decreases the level of IA, the following suggestions are offered:
- 1) Establishing appropriate rules by exchange organization and pertinent institutions to prevent information leakage in capital market.
 - 2) Strong guarantees given by registered companies in Tehran stock market for executing information leakage regulation.
 - 3) Commitment of companies to announce their stock market information simultaneously to their public announcement
 - 4) Preventing unauthorized individuals to access to information before announcement.
 - 5) Announcing the value of trade and share price after dealing with people by registered companies in Tehran stock market
 - 6) Developing marketing organizations to thwart unusual fluctuations in share prices.
 - 7) Providing condition for release of accurate and up-to-date information for all parties involved in capital market.

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