

Venture capital and the market reaction to the disclosure of information

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Abstract: The transaction volume behavior is closely related to the inhomogeneity of information among investors. Investors in financial markets are generally divided into two groups of informed and uninformed investors. To gain an abnormal return, informed investors make deals based on the confidential information of a security or the information they have and other market actors are lack of them. Uninformed investors, on the other hand, buy and sell stocks based on other reasons, including having liquidity. This carries with it the matter of unsecure choices according which uninformed investors are placed in an unpleasant condition. The leading question, thus, is that how the investors' decisions, in the face of abnormal return and unexpected earnings, affect the unusual stock trading volume in the Tehran Stock Exchange. Given the research limitations, all companies listed in the Tehran Stock Exchange were sampled by the systematic elimination method (screening). The general purpose of this research is to study the effect of decisions made by venture capitalists on trading on the Tehran Stock Exchange. This is a practical research study, in terms of purpose, with an ex post facto design. Here, three hypotheses, including the effect of CGO investors on abnormal trading volume when companies' financial information is disclosed, the correlation between unexpected earnings and trading volume and the abnormal return when companies' financial information is disclosed, were assessed. Based on results, there is a positive and significant correlation between investors' CGO and the abnormal trading volume when companies' financial information is disclosed. Investors' CGO has a strong impact on the relation between unexpected earnings and fluctuations in the stock prices and trading volume. There is a negative and significant correlation between investors' CGO and the abnormal return when companies' financial information is disclosed. Besides all factors affecting decision-making, investors check all overhang returns. However, the stock returns have a trivial impact on this research.

Key words: Investors' CGO; Unexpected earnings; Abnormal return; Trading volume

1. Introduction

Economic decision-making requires information to properly appropriate the available resources. One of the most important factors in making correct decisions is appropriate and related information pertaining to those decisions. If the information are not correctly provided and processed, it would have negative effects on the decision-maker. Using disclosed information and making correct decisions in the stock exchanges are possible when the information is in time, related, important, complete and comprehensible. If the disclosed information lacks of these features or some of them, the mechanism of finding market prices does not undoubtedly work efficiently and the securities are not correctly priced. There is a close relation between sufficient information in the market and immediately reflecting information on security prices and market efficiency. Disclosed information improves the mechanism of finding market prices and results in optimal pricing and consequently predicts price trends. The transparency of the management power is based on correctly, clearly and available presenting the necessary information. Put it differently, transparency reflects this question

that if investors have a real image of what happens in the company (Vatanparast, 2008).

The accounting system as an information system can provide these information or it can present information that the beneficiaries or those who are interested in economic units need for making wise decisions. The important of such claim has led many specialists to test it and introduce a new market-based research branch in accounting as the value relation studies (Baghumian, 2011).

1.1. Financial reporting purposes of economic units

The first purpose relates to accountability. Thus, the satisfaction of the purpose can be raised about users (Bolkuee, 2002). The second purpose refers to distrusts and risks. Although it is not possible to overlook risks and distrusts, financial reports are prepared to minimize these distrusts and enable users to judge and assess risks threatening economic entities (Bolkuee, 2002). The third one is about changes and innovations. The financial reporting standards should, thus, present a wide spectrum and provide the ground for evolving. The fourth purpose has a connection with skilled and non-skilled users. Financial reporting should target users who can comprehend a complete (and necessarily

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complicated) set of financial reports or experts that help unaware users understand the report contents.

1.2. Problem statement

Beaver (1968) showed that the price reaction to the disclosed information reflected any change occurring in investors' beliefs. While such response is an indicator of disagreements or different perception of the matters among investors, both provide the content of disclosed information. The relation between market reactions to disclosed information has been widely studied (Varian, 1985; Kim and Verrecchia, 1991; Donto and Ronen, 1993; Kandel and Pearson, 1995; Kim and Verrecchia, 1997; Verrecchia, 2001). To concentrate on the components of the information, researchers have ignored factors affecting market reaction to disclosed financial information and this may have had impact on drawing inferences from market reaction to disclosed information. It is important to understand this issue because the Financial Accounting Standards Board (FASB) assesses the content of financial statements based on the evidences of the market reaction to the disclosure of information (Bamber, 1987). Bamber et al. (2011) believed that the previous research studies had not checked the market reaction to the disclosure of financial information resulting from the differences of investors in liquidity needs, risk-taking and their balanced stock portfolio (Eric Weisbrod, 2013).

In recent decades, there have been anomalies in financial markets that standard finance theories could have not explained them. These anomalies include negative and positive autocorrelations in short-term, investors' overreaction (under reaction), companies' size effect on return, P to E ratio and its end effect on return, abnormal returns in the early January (January effect), the weekend effect, end of month effect, end of year effect, and the trading volume. Such anomalies reflect that investors are not only affected by the variables of finance theories, but are under the effect of behavioral and psychological variables.

Prospect theory and the reference point are of the main implications in the areas of behavioral finance. Introduced by Kahnman and Tversky in 1979, the prospect theory states that the satisfaction of a certain earning is less than dissatisfaction of the same loss. This theory is explained by value function. It is an S-shaped curve with one reference point. The reference point determinates how much investors are risk-taker and risk-averse. Risk-takers are under the reference point and those who are risk-averse are placed under the reference point (ibid, 8).

Prospect theory and reference points are an important subject in behavioral finance paradigm describing people's situation at the time of making decision. According to empirical evidences, in their trading decisions, investors choose some points as their cost and benefit reference points. If the prices are lower than their reference point, they will delay selling their share. This causes a reduction in trading

volume. And if the prices are higher than the reference point, they will sell their share. This would bring about a growth in trading volume. Ceiling and bottom prices and finished prices within last year are of subjects that have been investigated in previous studies. Most studies on developed stock exchanges confirm these points as reference points (ibid, 8).

The effectiveness of disclosed information varies from one company to the other (Alford, Jones, Leftwich and Zmijewski, 1993; Ball et al., 2000). Companies usually seek to disclose good information and try to delay disclosing bad news (Aboody and Kaznik, 2000). Therefore, at the time of disclosure, good information is reflected in stock return and bad news is accompanied by new information for investors. Given what was mentioned, in a financial market, investors deal with each other because they have certain securities and different knowledge and beliefs. So there is a close relation between trading volume and inhomogeneity of information among investors. Investors in financial markets are generally divided into two groups of informed and uninformed investors. To gain an abnormal return, informed investors make deals based on the confidential information of a security or the information they have and other market actors are lack of them. Uninformed investors, on the other hand, buy and sell stocks based on other reasons, including having liquidity. Accounting policies and motivational methods affect the quality of disclosed accounting information and the relationship between companies and users of accounting information. This carries with it the matter of unsecure choices according which uninformed investors are placed in an unpleasant condition. According to this theory, at the time of announcing earnings, unsymmetrical information is at the maximum level among informed and uninformed investors. At this state, trading volume decreases because uninformed investors delay their transaction in the face of uncertain options. When unsymmetrical information is reduced, they enter new deals and raise the trading volume. The leading question, thus, is that how the investors' decisions, in the face of abnormal return and unexpected earnings, affect the unusual stock trading volume in the Tehran Stock Exchange.

1.3. Research background

Studying buying and selling transactions, Weber et al. (2006) stated that to evade identifying loss was a common mistake among investors. This is while there is a strong incongruity about identifying profits.

Polet and Wilson (2010) studied the relation between an average correlation and stock market return. They concluded that the average relation between daily stock return can predict the four-month abnormal return. They also showed that any change in the stock market risk could be predicted by the changes of the average variance in individual

stocks. Such changes cause a negative effect on the abnormal return in the future.

In a 2203-sample, Johnson and Zoho (2012) looked at the relation between unexpected earnings and the reaction of stock market to the announced returns. By developing studies carried by Burgstahler and Martin (2001), they concluded that there was a negative and significant correlation between unexpected earnings (positive and negative) and stock price reaction. This means that the higher the expected earnings, the stronger the reaction of investors would be.

Ghalibafasl and SadeghiBatani (2009) checked the maximum and minimum points of previous stock prices between 2001 and 2007 as a reference point. According to results, the trading volume significantly goes up when the observed weak price pass the maximum point of the previous prices. This is while no significant change is observed in the trading volume when the prices pass the previous minimum prices.

Kordestani and Ashtab (2010) investigated the correlation between earnings prediction error and abnormal returns of new companies listed on the Tehran Stock Exchange, based on data released of 104 companies between 1999 and 2005. Research results were analyzed by multivariate linear regression and showed that there was a significant and positive correlation between earnings prediction error and abnormal returns of new companies listed in the Stock Exchange.

1.4. Research hypotheses

1. There is a positive and significant correlation between investors' CGO and abnormal trading volume when companies' financial information is disclosed.

1.1 Investors' CGO affects the relation between unexpected earnings and trading volume.

1.2 Investors' CGO affects the relation between fluctuations in stock prices and trading volume.

1.3 there is a negative and significant correlation between investors' CGO and abnormal return when companies' financial information is disclosed.

1.5. Research statistical population

In this research, stratified and accounted financial data of companies listed on the Tehran Stock Exchange was used to test the hypotheses. The statistical population includes all companies having the following qualities:

1. Listed on the Stock Exchange in financial years between 2008 and 2012;
2. Are not of investment companies and financial dealers, banks and insurance companies;
3. Their financial year finishes at the end of March and no change occurs in their financial year within this period;
4. They should have an active stock symbol and the stock symbol should not stop more than six months in a year; and

5. They should release their information and data at the end of each financial year.

Accordingly, the research duration included five executive years from 2008 to 2012. The systematic elimination sampling (screening) was used which was matched with the over-mentioned conditions of a number of companies in our statistical sample and their information was applied.

2. Research methodology

This is an empirical survey study with a field-library research design. It is categorized as decision-oriented studies, which uses the regression method for statistical analysis. So it is considered as a causal research study.

2.1. Research variables and measuring them

2.1.1. Abnormal trading volume

We used regression analysis for companies' stock trading and the total trading volume in the market to find the abnormal trading volume. Although the market value of stock trades can be concentrated, the number of traded stocks was considered to control the effect of stock prices. The regression error ϵ_{it} means the abnormal trading volume in the observed week for the related company.

$$VOL_{it} = \beta_0 + \beta_1 MVOL_t + \epsilon_{it}$$

$MVOL_t$: the number of traded stocks in relation to the whole number of issued stocks in the market

$VOL_{it=i}$: the number of traded stocks of company i in relation to the whole number of issued stocks

CGO_{it} : overhang return

2.1.2. Stock growth relative to investors' reference point

It is a scale from the weight mean of investors' unreached cost and benefits in a stock (Weisbrod, 2013).

$$CGO_{it} = \frac{P_{it} - RP_{it}}{P_{it}}$$

P_{it} : stock price at the end of financial year

RP_{it} : reference price

This variable is of behavioral indices which can be considered as a reference point, because it creates this perception that the stock has reached its ceiling price and this is the time of selling. To find this variable, we should find the maximum prices in the last year. Here, the reference price has been considered as the maximum rate of last year.

2.1.3. Abnormal stock return

Stock return: it includes all advantages of a stock during a specific period. These advantages include the cash dividends, preferred stock value, bonus share and changes in stock price during the period.

$ABS_RETURN_{it} = |RET_{it} - RET_{mt}|$
 RET_{it} : company return rate
 RET_{mt} : total return index for stock exchange

2.1.4. Unexpected earning

Unexpected earning signifies return forecast errors. The less the unexpected earning, the fewer the errors of forecast would be. So the earning is more efficient.

The absolute value for real earning difference and forecasted return for each stock are used to calculate unexpected earnings.

$ABS_UE_{it} = |AEPS_{it} - FEPS_{it}|$

2.1.5. Price fluctuations

$\Delta E = (P_{it} - P_{it-1}) / TA$

2.2. Testing data normality

To normalized data, $\ln(1/V^2)$ was used instead of primary data. By a test-retest analysis and according to table 1, it is observed that the significance level of the primary data with $\log \ln(1/V^2)$ is above 0.05. As a result, H_0 is confirmed at the confidence level of 0.95 and data are normally distributed.

Table 1: K-S test results: the logarithm (Ln) of primary data

Variables	Significance Level
CGO	0.20
Abnormal stock return	0.11
Unexpected earnings	0.58
Price fluctuation	0.88
AVOL	0.34
SIZE	0.66
ROA	0.31
CGO	0.09
Abnormal stock return	0.41

2.3. Hypotheses test results

First hypothesis

Table 2: Hypothesis 1 results

$AVOL = \beta_0 + \beta_1 CGO_DUMMY_{it} + \beta_2 ABS_UE_{it} + \beta_3 SIZE_{it} + \beta_4 PRICE_{it} + \beta_5 ESFAND + \beta_6 AVG_TURN_{it} + \epsilon_{it}$				
Enter method	F = 2.844		p-Value = 0.026	
Descriptive variable	Variable Coefficient	T	p-Value	results
Constant	-4.077	-17.635	0.000	Significant
CGO_DUMMY	1.462	2.474	0.014	Significant
CGO_DUMMY	1.462	2.474	0.014	Significant
ABS_UE	-1.080	-2.119	0.036	Significant
ABS_RETURN	0.590	2.289	0.023	Significant
SIZE	-0.228	-0.210	0.834	-
ESFAND	-3.670	-30.701	0.000	Significant
PRICE	0.444	2.441	0.016	Significant
AVG_TUR	0.174	1.431	0.006	Significant
Adjusted R2 = 0.35		R2 = 0.27		D.W = 1.503

Test F: according to the above table, p-value = 0.026 is under 5% at 95% confidence level. Thus, the regression model is significant and the linearity hypothesis is confirmed.

Test t: statistic t and p-value of CGO_DUMMY indicate a significant and positive correlation between investors' CGO and abnormal trading volume when companies' financial information is disclosed at 0.95% confidence level.

Adjusted determinant coefficient (R^2): this value shows that if the effect of other variables is presumed as constant, only 0.27% of the changes in abnormal trading volume can be explained by the changes of independent variables. Other changes are described by factors other the above ones.

Durbin-Watson Test (D.W): D.W is 1.503. It can be concluded that error statements (first model) are independent in different periods. In other words, error values are random and the hypothesis of correlation between estimated model errors is rejected.

Second hypothesis

Test F: according to the above table, p-value = 0.000 is under 5% at 95% confidence level. Thus, the regression model is significant and the linearity hypothesis is confirmed.

Test t: statistic t and p-value of CGO_DUMMY * ABS_UE and CGO_DUMMY * ABS_RETURN indicate an impact of investors' CGO on the relation between fluctuations in stock prices, unexpected earnings and trading at 0.95% confidence level.

Adjusted determinant coefficient (R^2): this value shows that if the effect of other variables is presumed as constant, only 0.28% of the changes in abnormal trading volume can be explained by the changes of independent variables. Other changes are described by factors other the above ones.

Durbin-Watson Test (D.W): D.W is 1.607. It can be concluded that error statements (second model) are independent in different periods. In other words, error values are random.

Test F: according to the above table, p-value = 0.000 is under 5% at 95% confidence level. Thus, the regression model is significant and the linearity hypothesis is confirmed.

Table 3: Hypothesis 2 results

AVOL = $\beta_0 + \beta_1$ CGO_DUMMY _{i,t} + β_2 ABS_UE _{i,t} + β_3 CGO_DUMMY _{i,t} * ABS_UE _{i,t} + β_4 ABS_RETURN _{i,t} + β_5 CGO_DUMMY _{i,t} * ABS_RETURN _{i,t} + β_6 SIZE _{i,t} + β_7 PRICE _{i,t} + β_8 ESFAND + β_9 AVG_TURN _{i,t} + $\epsilon_{i,t}$				
Enter method	F = 2.844		p-Value = 0.026	
Descriptive variable	Variable Coefficient	T	Descriptive variable	Variable Coefficient
Constant	-2.288	-23.799	0.000	Significant
CGO_DUMMY	0.310	3.013	0.003	Significant
ABS_UE	0.030	0.170	0.005	Significant
CGO_DUMMY* ABS_UE	0.029	0.334	0.039	Significant
ABS_RETURN	1.289	3.148	0.002	Significant
CGO_DUMMY* ABS_RETURN	2.251	31.580	0.000	Significant
SIZE	0.309	6.432	0.087	-
PRICE	1.282	3.154	0.002	Significant
ESFAND	1.819	1.118	0.002	Significant
AVG_TUR	0.521	1.655	0.000	Significant
Adjusted R2 = 0.36		R ² = 0.28	D.W = 1.607	

Third hypothesis

Table 4: Hypothesis 3 results

ACAR _{i,t} = $\beta_0 + \beta_1$ CGO_DUMMY _{i,t} + β_2 LOSS _{i,t} + β_3 ROA _{i,t} + β_4 PRICE _{i,t} + β_5 ESFAND + β_6 AVG_TURN _{i,t} + $\epsilon_{i,t}$				
Enter method	F = 10.185		p-Value = 0.000	
Descriptive variable	Variable Coefficient	T	p-Value	results
Constant	-2.384	-5.613	0.000	Significant
CGO_DUMMY	0.446	3.370	0.001	Significant
LOSS	-0.255	-1.373	0.172	-
ROA	0.104	1.108	0.270	-
PRICE	1.068	2.331	0.021	Significant
ESFAND	-1.823	-58.626	0.000	Significant
AVG_TUR	0.264	4.100	0.000	Significant
Adjusted R2 = 0.17		R ² = 0.19	D.W = 1.681	

Test t: statistic t and p-value of CGO_DUMMY indicate a significant and positive correlation between investors' CGO and abnormal trading volume when companies' financial information is disclosed at 0.95% confidence level.

Adjusted determinant coefficient (R²): this value shows that if the effect of other variables is presumed as constant, only 0.17% of the changes in abnormal trading volume can be explained by the changes of independent variables. Other changes are described by factors other the above ones.

Durbin-Watson Test (D.W): D.W is 1.681. It can be concluded that error statements (first model) are independent in different periods. In other words, error values are random and the hypothesis of correlation between estimated model errors is rejected.

3. Conclusion

Regarding hypotheses test results, investors check all overhang returns. However, the stock returns have a trivial impact on this research. This is may be because of the fact that value changes can have different explanations as a result of changes in annual and medial periods. It was expected that there was a negative significant correlation between investors' CGO and abnormal return at the time of

disclosing financial information. However, results revealed that the correlation is of positive significant kinds. In contrast, the reported earnings were more constant because of real activities and it is considered as continuous earnings. But as this earning (operating profit) has not been widely studied, it is more fluctuated than overhang returns. It can be also stated that such relations are true of the related sample, but it cannot be generalized to the whole statistical population. Moreover, the overhang earnings are a function of the profit reported to accounting department. But other factors such as investors' behavior are more effective and this is because of concerning its continuation and not differentiating between efficient and inefficient markets in Iran by investors. This has led it to be at the center of attention during decision-making. Results revealed that there is a correlation between fluctuations of reported profit based on the accounted reports and the market value of the company.

4. Research limitations

Any research study is based on information according which the research hypotheses are tested. The more precise and complete the information, the more reliable and valid the research results would

be. According to the limitations in selecting the sample, the results can be generalized to the whole society. The major limitation was other intermediary variables relating to the effect on the dependent variables such as rumors, which cannot be eliminated or studied. Other research limitations include presenting financial statements that have not been completely accounted by companies listed on the Tehran Stock Exchange within the research period.

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