Investigating the Impacts of Stock Price Changes Ratio on Company Growth Opportunities

Nasim Nozari 1, Gholamhasan Taghinataj Malekshah 2,*Behzad Ghorbani 3

1Department of Accounting, Takestan Branch, Islamic Azad University, Takestan, Iran
2Accounting Department of Management Faculty, Imam Hosein University, Tehran, Iran
3Department of Accounting, Khodabandeh Branch, Islamic Azad University, Khodabandeh, Iran

ABSTRACT

The goal of this research is to investigate the impact of stock price changes ratio on company growth opportunities. Therefore, a hypothesis is considered for realizing the related claims. Research sample includes 113 companies which are accepted in Tehran Stock Exchange during 2008 to 2013 along with mid-term financial statements that are selected through systematic elimination. Test of hypotheses is performed through multiple regressions with panel data layout. This research is correlative-descriptive in terms of way of implementation, and it is applied from the point of view of the end of implementation. Using second data extracted from accepted companies in Tehran Stock Exchange, this research analyzes the correlation relationship. This research will be conducted in the framework of inductive-deductive reasoning. Also, this research is library and analytical-casual study and it is based on panel data analysis.

KEYWORDS
Stock price, Growth opportunities, Asset changes, Financial leverage, Stock return

INTRODUCTION

Growth of a company has been always proposed as one of the most important issues in the business world. Survival and existence of a company, innovation and creativity in changes are factors which represent the importance of growth. Companies with an appropriate growth are of more importance to investors, and according to agency theory, in the top of company’s goals, managers have been seeking the determinants of growth for their company and they always try to consider these factors in their planning and satisfy the owners. Stock price changes and efficiency of company are important tools in the growth of company in Tehran Stock Exchange. So the problem which occurs in the growth of company can be due to ignorance of these impacts which are derived from strategies of the company. Continuously improvement in company’s performance can create a great force of synergistic with respect to its policies; these forces can support growth and development program and creation of great organizational opportunities. Government, organization and institutions apply a promoter effort in this case. Without knowledge of achieving goals and development and without identification of the challenges which the company is faced and getting a feedback and awareness of implementing the edited policies and identification of cases which require serious improvement, continuous improvement will not be possible. Each organization requires an evaluation system in order to be aware of suitability and quality of their activities, especially in complex and dynamic environment. On the other hand, lack of an evaluation system and control in a system is considered as no communication with inside and outside of organization that leads to ageing and ultimately death of organization.

Occurrence of the phenomenon of organizational death due to its sudden occurrence may be unseen to senior managers in the organization. However, studies show that revisions for growth, development and improvement of the organization’s activities will be impossible in the lack of a feedback system, and this results in the phenomenon of organizational death[4].

IMPORTANCE AND NECESSITY OF RESEARCH TOPICS

Since changes in stock price and dividend payable by companies are two main factors in efficiency in terms of investors, so the importance of these two factors and also company growth opportunity attract more attention and interest from perspective of the researchers in the financial markets. Moreover, investment management interacts with profitability and risk of company. So poor liquidity management leads to surplus investment in current assets, reduced profitability of company, and finally increases the risk[2].
The main goal of companies is to achieve highest profit and finally increase their optimal performance by which they can attract investors’ interest towards the company. Also, the goals of investors is to achieve highest return with respect to the dividend payable by company and positive volatilities of company stock price in order to reduce the risk of investment[2].

According to the young Iranian capital market, attraction of investors in capital market have been important to the managers and in order to achieve this goal, identification of relationships between factors such as ratio of stock price changes and its effect on growth opportunity can help companies to achieve the final goal[2].

**RESEARCH BACKGROUND**

Eslamibidgoli and et al. (2008) in a research entitled “A model for ultra-reaction to EPS shocks on stock markets” presented in 22th International Conference on Dynamic Communities of System provided a pattern for explaining this behavior in financial markets[3].

Namazi and Shirzad (2005) investigated on the relationship of capital structure with company profitability. The results show that there is a significant and positive relationship between capital structure and return ratio of equity[6].

Mordegigheshni (2002) investigated the relationship between stock price variables and financial ratios of accepted companies in Tehran Stock Exchange. In this research, ten financial ratios are considered as independent variable and distribution coefficient of stock price was the dependent variable. Research results show that there is a significant relationship between stock price changes with financial ratios changes[5].

Jon Du and Surafelgrima (2009) conducted a research about financial resources, size and growth of company. The results show that big companies experienced faster growth using bank loans than small companies[4].

Partikmoso and Stephanoschuav (2007) conducted a study about effect of financial limitation on growth and survival, and the results showed that financial constraints significantly increase likelihood of existing companies. Also, access to external resources can influence growth in sales, capital structure and employment, and financial limitations have significant relationship with growth of company.

Canon (2006) in his research entitled “Entrepreneurial activities in order to create companies with fast growth”, investigated different schools including economics, management, etc. This research identified some factors which cause to create gazelles, factors such as creativity, innovation, recognition of opportunity for making decision, market-leading, alternative planning, organization, and leadership.

Beck et al. (2005) conducted a research about financial development, firm size, and growth. The results show that financial development reduces barriers for company growth and consequently, it causes to improve the performance of companies in macro-economy[1].

**RESEARCH HYPOTHESIS**

This research has one hypothesis, and it is as follows:

The ratio of stock price changes influence on company growth opportunities.

**RESEARCH TERRITORY**

**Research spatial territory:**

Spatial territory of this research is all accepted companies in Tehran Stock Exchange.

**Research temporal territory:**

In this research, data of companies during 2008 to 2013 is used.

**Research subjective territory:**

It is investigating the effect of stock price changes ratio on company growth opportunities.

**VARIABLES AND RESEARCH MODEL**

Research model obtained from Ang and Bekret (2007) and adjusted variables of Goydoline and et al. (2014) is estimated as follows:

\[ \text{roG}_{i,t} = \alpha + \beta_1 \text{rp}_{i,t} + \beta_2 \text{Exp}_{i,t} + \beta_3 \text{Size}_{i,t} + \epsilon_{i,t} \]

\[ \text{roG}_{i,t} \] growth opportunity

\[ \text{rp}_{i,t} \] The ratio of stock price changes

\[ \text{Exp}_{i,t} \] asset variances ratio

\[ \text{Size}_{i,t} \] firm size

**WORDS DESCRIPTION AND RESEARCH TERMINOLOGY**

The ratio of stock price changes: It means different changes in trading value of stock which is traded in Tehran Stock Exchange.

Growth opportunities: It is the fields made corresponding to new investment according to the predictable limitation and company liquidity level.

**Operational and definitions of variables:**

**Operational definition of dependent variable:**

Growth opportunities (roG_{i,t})

Growth opportunity is the market value of equity ratio in addition to book value of debts to book value of stock (Long et al. 1996).

**Operational definition of independent variables:**

The ratio of stock price changes (rp_{i,t})

According to Bansal et al. (2009), variable of stock price changes over the past 12 months is equal to the absolute value of stock price changes in the current period relative to the past period divided by stock price in the past period which is calculated as follows:

\[ \text{RP}_{i,t} = \left| \frac{P_{i,t} - P_{i,t-12}}{P_{i,t-12}} \right| \]

\[ \text{RP}_{i,t} \] the absolute value of stock price changes over past 12 months of company i in year t.

\[ P_{i,t} \] stock price of company i in year t.
P<sub>t</sub>= stock price in the past 12 months before the year under study

**Operational definitions of control variables:**

Asset variances ratio (exp<sub>i,t</sub>):

Assets variances ratio is the changes which lead to maintenance, continuing or increase of capacity of production of goods and services, and they have future profitability for companies. Asset variances ratio is spent mostly for buying, constructing, optimizing and repairing stable assets. In this research, to calculate the assets variances ratio Desho et al (2008) is followed. This quantity is calculated as:

\[
(AD - EX)_i = \frac{\text{book value of total assets in current year}}{\text{book value of total assets in year } t - 1}
\]

Stock return rate

Stock return rate is calculated for selected companies annually as follows:

\[
P_{it} = \text{stock price in the beginning of the period}.
\]

\[
P_{it+1} = \text{stock price in the end of year } t
\]

DPS: cash profit per share based on the stock number at the beginning of the period.

A= the percentage of capital increase from cash input.

\[
R_i = \frac{(P_{it} - P_{it+1}) + DPS + (P_{it} - 1000)A + P_{it}B}{P_{it+1}} \times 100
\]

B: the percentage of capital increase from accumulated profit.

Financial leverage (O<sub>i,t</sub>):

High ratio of financial leverage is more likely to show the debt increase relative to accumulated cash funds of company, and it will cause to bankruptcy in the company. High ratio of financial leverage shows that as debt increases, cash funds will decrease. According to this, the companies with more debts cannot save more cash. In this research, Zang (2011) is followed in order to calculate financial leverage ratio (O<sub>i,t</sub>) as follows:

\[
O_{i,t} = \frac{\text{book value of total debts}}{\text{book value of total assets}}
\]

Firm size (size<sub>i</sub>): It is the natural logarithm of book value of total company assets (Chen and et al. 2005).

<table>
<thead>
<tr>
<th>Firm size</th>
<th>Financ ial leverage</th>
<th>Stock return rate</th>
<th>Capital cost</th>
<th>The ratio of stock price changes</th>
<th>Growth opportunity</th>
<th>Depend ent variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>4</td>
<td>-</td>
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<tr>
<td>5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

As clear in Table 1, statistical community of research includes 678 companies —year and average of company growth opportunity is 1.768, minimum growth opportunity is 0.234, maximum growth opportunity is 15.028, and average of company stock price changes ratio is 0.536. Minimum and maximum for stock price changes is 0.000 and 7.79 respectively. Also, average of control variables, asset variances ratio, stock return, financial leverage and firm size is 0.0006, -4.128, 0.089, and 8.537 respectively. Also, Maximum control variable is 0.99, 4.685, 0.997, and 19.618.

**Inferential Statistics**

Pearson correlation coefficient

In this part, using correlation coefficient, the relationship of research variables and correlation between them is investigated. Correlation coefficients matrix is presented between research variables in Table 2.
As reported in Table 2, coefficient obtaining from Pearson test shows that there is a weak relationship and correlation between variables.

**NORMALITY TEST**

For doing this research, ordinary least squares approach is used in order to estimate model parameters, and this approach assumes that research dependent variables have normal distribution, since abnormal distribution of dependent variable does not provide accurate results. Therefore, normality distribution test is necessary for this variable. Normality of the residuals of regression model is one of the regression assumptions which reflects the validity of regression tests, thus, normality of the dependent variable leads to normality of model residuals (difference of estimated values from the actual values). So, it is necessary to control the normality of dependent variable before estimation of the parameters, and otherwise, we should take a suitable solution (including converting them) to normalize them. In this study, this issue is investigated through Jarque-Bera (J-B) statistics. In this test, null hypothesis and alternative hypothesis are as follows: if the importance level of statistics is greater than 0.05 (prob>0.05), the hypothesis which is based on the normality of variable distribution is accepted. In Table 3, J-B test results are presented.

<table>
<thead>
<tr>
<th>Kurtosis</th>
<th>Skewness</th>
<th>Significant level (p-value)</th>
<th>J-B statistics</th>
<th>Normality test type</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.039</td>
<td>0.249</td>
<td>0.053</td>
<td>6.250</td>
<td>Jarko and Bera</td>
</tr>
</tbody>
</table>

As observable in Table 3, J-B statistics value and significant level are representing the normality of the dependent variable. Therefore, null hypothesis is confirmed based on the distribution normality (the rest are normal).

**INCONSISTENCY TEST OF VARIANCES**

One of the classical regression statistical assumptions is consistency of residuals. If the variances are inconsistent, the linear estimator will not be unbiased and will not have least variance. In this study, Arch test is used in order to investigate the consistency of variances. According to the importance level of this test which is less than 0.05, null hypothesis is rejected based on consistency of variance and we can say that model has inconsistency of variances problem. In this research, generalized least squares (GLS) estimation method is used to solve this problem.

Arch test is used to investigate consistency of errors variance which its results are shown in table 4.

<table>
<thead>
<tr>
<th>Significant level (p-value)</th>
<th>statistics</th>
<th>Arch test type</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.9413</td>
<td>1.675</td>
<td>F-test</td>
</tr>
</tbody>
</table>

As seen in Table 4, F-test value and test value of Lagrange coefficient are related to all hypotheses which are less than critical value in statistical tables. So, null hypothesis is confirmed based on the consistency of errors variances. In other words, there is no inconsistency of variances.

**F-LIMER TEST**

F-Limer test is used to examine the use of panel data with fixed effects against consolidated data method. Test hypothesis is as follows:

H0 = Pooled Model
H1 = Fixed Effect Model

Results of F- Limer test are shown in table 5:

<table>
<thead>
<tr>
<th>Error level</th>
<th>Statistics</th>
<th>Accepted method</th>
<th>Type of test</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.6511</td>
<td>112.558</td>
<td>Consolidated data method</td>
<td>F-Limer</td>
</tr>
</tbody>
</table>

As we can see in the above table, according to this case that F-statistics of all models is significant in error level of 1%, consolidated data method is preferred to panel data method. Thus, if we accept H0 hypothesis, in the following we can investigate test hypothesis.

**GOODNESS OF FITTING TEST**

Generally, research hypothesis is in the form of an edited hypothesis that each of them are tested and analyzed in the following.

In Table 6, regression results are represented which examine the research hypothesis.

<table>
<thead>
<tr>
<th>VIF</th>
<th>Tolerance</th>
<th>Sig. level</th>
<th>F-statistics</th>
<th>Coefficient of variables</th>
<th>variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0000</td>
<td>65.62043</td>
<td>0.9412</td>
<td>0</td>
<td>55569</td>
<td>intercept</td>
</tr>
<tr>
<td>1.0000</td>
<td>0.0000</td>
<td>0.0000</td>
<td>3.617190</td>
<td>0.623743</td>
<td>The ratio of stock price changes</td>
</tr>
<tr>
<td>1.047</td>
<td>0.000</td>
<td>0.0000</td>
<td>36.48435</td>
<td>0.646840</td>
<td>Capital cost</td>
</tr>
<tr>
<td>1.0000</td>
<td>0.0000</td>
<td>0.0000</td>
<td>25.80650</td>
<td>0.184696</td>
<td>Stock return rate</td>
</tr>
<tr>
<td>1.047</td>
<td>0.000</td>
<td>0.0000</td>
<td>9.09086</td>
<td>0.240790</td>
<td>Financial leverage</td>
</tr>
<tr>
<td>1.000</td>
<td>0.000</td>
<td>0.0000</td>
<td>47.82289</td>
<td>0.170943</td>
<td>Firm size</td>
</tr>
<tr>
<td>1.96 2</td>
<td>Durbin- Watson</td>
<td>0.1452</td>
<td>determinati on coefficient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1859 689</td>
<td>F statistics</td>
<td>0.1451</td>
<td>Adjusted determinatio n coefficient</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Research hypothesis: there is significant relationship between the ratio of stock price changes and company growth opportunities.

Result of this hypothesis show that there is a positive and important coefficient in error level of 5% for the ratio of stock price changes (0.023, t= 3.67).

This finding show that the ratio of stock price changes positively affect the company growth opportunities. In other words, by increasing the ratio of stock price changes, company growth opportunities increase.

The results of control variable test show negative impacts of firm size on company growth opportunities; Furthermore, the results show positive impacts of asset variances ratio, stock return rate and financial leverage on company growth opportunities.

P-value of F-statistics for regression model is equal to 0.000 that according to error level of 5%, total estimated model is confirmed. Adjusted determination coefficient shows that 145% of dependent variable changes are explicable by research variables.

Durbin-Watson statistics value is 1.962 which represents that there is no continuous auto-correlation.

CONCLUSIONS AND SUMMARY OF THE RESEARCH FINDINGS

Result of research hypothesis show a positive impact of stock price changes ratio on company growth opportunity. Therefore, by increased ratio of stock price changes, company growth opportunity increases. Because stock price changes makes investors buy more related stocks according to mentioned volatilities in order to increase profit which this case leads to prosper investment in the institution that would reduce financing problem for institution through which the institution can obtain appropriate growth. This result is consistent with results of Sanders and Meyers (2014) and Govinand Chen (2012).

REFERENCES


