International Business Management 10 (19): 4490-4497, 2016
ISSN: 1993-5250

The Effect of Price Bubbles in Stock Markets on Dividend Policies

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Abstract: According to financial-behavioral perspective, managers make their dividend decisions based on the signals received from the market, even if they know that the market price is taken away from the intrinsic value of the shares. On the other hand, in the presence of bubbles in the stock market, stock valuation is not done based on the actual performance of the companies and prices, as an indicator, cannot represent their performance. In this regard, the present study aimed to investigate the effects of price bubbles on dividend policies in companies listed in Tehran Stock Exchange from 2009-2014. Statistical tests were conducted on a sample of 147 companies amongst 483 companies. The required data were collected from stock exchange official websites and Rahavard-e-Novin Software. Then, the primary processing was carried out on the collected data using Microsoft Excel and the obtained information were used to test models in the Eviews Software. The empirical evidence obtained from hypotheses testing indicate that there are a significant inverse correlation between price bubble and cash dividend and a significant direct correlation between price bubble and stock dividend policy at 95% confidence level.

Key words: Price bubble, profit, stock profit, cash dividend, dividend policy

INTRODUCTION

Mobilization and allocation of human resources are not simply possible without the help of financial markets especially extensive and efficient capital market. In a healthy economy, efficient financial system is essential for distribution of capital and financial resources, because in financial markets individuals and organizations who experience budget deficit are faced with individuals and organizations who have budget surplus. So, any factor that might jeopardize the proper distribution of capital and financial resources in the economy causes that companies and industries those in need financial resources face a crisis and beyond that, investment development be disrupted. A destructive and devastating factor in capital market is the formation of explosive price bubbles in the stock exchange (Sarebanha *et al*., 2010).

Company's investments, as the generator of cash flows, play an important role in long-term performance, the future value of companies as well as developing countries. Therefore, understanding the investment drivers in the companies is very important. In this study the consequences of deviation of stock price from its fundamental factors in the capital market on investment behaviors of companies were investigated. The stock price deviation from its fundamental factors results in the phenomenon of incorrect evaluation of companies in the capital market (Jensen, 1986). Mutual influence and interaction between pricing in the capital market and decisions made by the company's board of directors is a question that has seldom been considered.

Since, usually after formation of the bubble, the financial crisis occurs and due to the strategic position of stock exchange, in any economy it is necessary to be aware of the bubble impact on economic policies of companies in addition to knowing the bubble. Therefore, the present study examined the impact of stock price bubble on dividend policies in Tehran Stock Exchange.

Theoretical foundations: Basically, in financial markets history, stock markets have always been faced with speculative volatilities. In general, volatility of financial asset prices consists of two main parts: conventional part or fundamental changes in price affected by basic macroeconomic variables or conventional changes in the real value of financial assets and unconventional part or false changes in price which is known as price speculative bubbles in economy (Farzanegan, 2010).

Many researchers introduced speculative bubbles addressing two aspects: the first aspect is the definition of mathematical economics that describes bubbles in asset prices and the second aspect is theoretical economics that discusses and evaluates the bubbles in stock market (Koustas and Serletis, 2005). Although, the

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two aspects have basically the same concept but in mathematical economics, bubble is defined as a positive difference between real prices and fair prices (fundamental values) of assets.

On the other hand, in theoretical economics, asset price bubble is often expressed as the major deviation of asset prices from their fundamental values (Levin and Zajac, 2006). Note that there is a distinction between sharp volatilities of stock price and price bubbles, because the bubble includes a one-way concept of the sharp rise (Abbasian *et al*., 2010).

The issue raised in the finance literature is that whether rational managers follow intrinsic value and make their dividend decisions based on price bubbles? Do the financial constraints affect their decisions? In such a case, price bubble is considered as an external phenomenon and its real impacts are considered.

According to behavioral-finance perspective, managers make their dividend decisions based on the signals received from the market, even if they know that the market price is taken away from intrinsic value of the share. Many studies have shown that in such behavioral pattern, enterprises, unlike shareholders can benefit from the price bubble phenomenon and sell shares more expensive than the intrinsic value. This activity reduces cost of capital for them and will increase investment of enterprises (Fischer and Merton, 1984). However, a few studies investigated the issue that "incorrect valuation has real effects". In their first study, Fischer and Merton (1984) argued that managers should benefit from too low discount rates of their company (low rates of domestic financing) by mezzanine financing and saving net profit. Since enterprises have a natural monopoly in the supply of new shares, in such circumstances the following questions arise: do company directors benefit from increasing share price during bubble periods? If so, what do they do in such a situation? Do they save or invest? Do bubbles cause impacts out of the market?

What matters is that company valuation in the capital market is very important to directors and can affect their behaviors and operational measures. Based on reception theory, we can argue that incorrect valuation companies in the capital market has a direct impact on their investment and company directors host incorrect valuation through investment (Polk and Sapienza, 2009). Therefore, the present study examined the question that whether distancing market share price from its intrinsic value affect enterprises' dividend decisions or not?

Literature review:

Foreign background: Polk and Sapienza (2009) argued that issuing new shares, discretionary accrual profit and deferred returns can be defined as indexes to identify bubbles. Using Tobi's Q for control of investment opportunities, they found that these bubble indexes have positive and significant coefficients in the investment regression. They also examined too high investments and argued that such investments have been made in the presence of price bubbles. Gilchrist *et al.* (2005) stated that enterprises, unlike investors, benefit from price bubbles through issuing new shares at the time of stock price inflation. Using cash dividend variance analysis, they found that separation of the share price from the intrinsic value caused an increase in issuing new shares Tobin's Q theory has been confirmed. They used VAR method and concluded that shock on the price bubble had a significant positive effect on the company' Tobin's Q and net investment was increased so new shares were issued. Amidu and Abor (2006) conducted a study entitled "Elements determining dividend payout ratio in Ghana" in Ghana during 1998-2003. The results showed a positive correlation between dividend payout ratio and profitability, as well as between liquidity and taxes. They also found that dividend payout ratio is negatively correlated with risk, institutional investors and growth opportunities. The most important variables in this study were determined as follows: Profitability, liquidity and growth opportunities. Denis and Osobov (2008) in their study entitled "Why do firms pay dividends?" investigated changes in the intrinsic desire to pay dividends during 1994-2002 and examined the correlation between profitability, growth opportunities, firm size and acquired capital amongst companies paying dividends and companies that did not pay dividends in the United States, Canada, Britain, Germany, France and Japan. They concluded that dividend is under the influence of size, profitability, growth opportunities and acquired capital. Ha (2010) proposed the hypothesis that "Did the growth in stock prices cause by monetary and fiscal policies of the government" and examined price bubble using duration dependence test and used VAR self-regression vector model to show the reaction of stock returns to monetary policy. The analyses showed that the created bubble is a rational bubble, policies are generated on stock returns with a delay of one month and stock returns are predictable based on monetary policy in the last month. Michaely and Thaler (2012) showed that the market shows a positive reaction to starting dividend payment and a negative reaction to the elimination of dividend. They claimed that the dividend announcement contains valuable and important information and found that decreasing dividends causes a greater reaction of the market to increase it. In fact, they concluded that "Good news is not basically a news" which means that the market does not react to changes in dividends containing good news. Campello and Graham (2013) studied

investment, shares issuing and the behavior of non-technological producing fund savings (old economic enterprises) during the bubble period of 1990. The experimental results indicated that high stock prices affect companies' decisions because it eliminates their funding restrictions. During the technological bubble limited investment of non-technological enterprises reacted to the high prices of stock. They responded to too high stock valuation by issuing shares and saved a part of their net profits in cash. Alzahrani and Rao (2014) investigated the effect of incorrect pricing on investment decisions of a company and its components (capital expenditures, research and development expenditure, ownership structure and the sale of assets). Bu dividing market-to-book ratio into two components of incorrect valuation and growth components, they showed that company's investment is correlated with incorrect pricing through market timing and reception. The correlation can be seen in the companies with financial constraints and companies with stronger short-term shareholders.

Major domestic researches in this field have been conducted on study of the effect of managers' investment policies on stocks market prices. However, some studies have confirmed the opposite effect.

Domestic background: Soltani (2007) studied stock price bubbles in the Tehran Stock Exchange during 1991-2005 for 70 companies in the stock exchange. He used Johansen co-integration test to detect bubbles in shares prices of these companies. The results showed that at 95% confidence level, 55% of these companies have bubble in their stock prices. Vaez and Torki in an article entitled "Price bubbles and capital market in Iran" using Monte Carlo simulation technique investigated presence or absence of price bubble in the stock market of Iran. The results obtained from their study showed that stock price deviated from the long-run equilibrium (the present value of the future expected profits) so the presence of price bubble in Iran's capital market was confirmed. Karami *et al.* (2010) studied the representation theory and signaling theory in dividend policy. The modified Lintner model was used to test the relationship between dividend policy and representation theory. VAR model was used to determine the relationship between dividend policy and signaling theory. In general, the results showed a negative correlation between representation theory and dividend payment. This issue indicates that managers of the statistical sample companies used the dividend in order to send a signal to the capital market and reduce agency problems. Fallah and Zare (2013) examined price bubbles in companies listed in the Tehran Stock Exchange. First, sequence, skewness, kurtosis and the duration dependence tests showed that a price bubble occurred in Tehran Stock Exchange during 2004-2009. Then, using price bubbles tests, all companies that experienced a sharp fall or rise in stock prices within the mentioned time domain were divided into two groups of companies with and without bubbles. In order to predict the bubble, companies' endogenous variables including the firm size, combination of shareholders, P/E ratio, information transparency and the speed of liquidity were used. Hypotheses testing showed that there are significant correlations between all chosen independent variables and price bubbles and the neural network model was determined as the more precise model due to the less prediction error. Shoorvarzi *et al.* (2013) examined the relationship between the capital market information transparency and formation of price bubble. The results indicated that there is a significant difference in information transparency of companies with bubbles and information transparency (distribution) is intermediate in these companies. As well, there is a significant difference in information transparency of companies without bubbles and information transparency (distribution) is very high in these companies. Sequence test indicated that there is a relationship between information transparency and formation of price bubbles and transparency of information in companies with bubbles is intermediate and it is very high in companies without bubbles.

Hypotheses: According to the above theoretical foundations, the following hypotheses can be raised.

The first hypothesis: There is an inverse correlation between stock price bubbles and the company's cash dividends. In other words, there is a significant negative correlation between the presence of bubble and cash dividends of companies in stock exchange.

The second hypothesis: There is a direct correlation between stock price bubbles and stock dividend. This means that non-cash and stock dividend is more in companies that their stock prices have bubbles.

MATERIALS AND METHODS

The present study is a practical study and the results obtained from this study can be used by a wide range of people including directors of companies, shareholders, investors, creditors, researchers and standard setters. This researches can be retrospective or prospective in terms of time. Therefore, the present study is a retrospective investigation. This research is a descriptive and correlational study. So, it can be classified as a post-event study.

Statistical population and sample: The population of this research included companies listed in the Tehran Stock Exchange. Systematic elimination method was used to have a proper representative sample of the desired population. To this end, the following five criteria were considered. If the company has met all criteria, it was selected as the sample and the rest of companies were deleted:

- The company has been listed in stock exchange before 2008 and was active in exchange by the end of 2014
- Due to the specific nature of activities of holding companies, insurances, leasing companies, banks and financial and investment institutions and their significant differences with manufacturing and trading companies, the company was not selected from the mentioned industries
- The fiscal year of the company ended 29 March and during 2008-2014 the fiscal year did not change
- The companies during the research period had continuous activity and their shares have been traded
- Financial information of the companies is available

After considering all the above criteria, 147 companies were remained as the screened population and all of them were selected as the sample. Thus, according to the 6 year study period (2009-2013) observations were equal to 882 year-company (6 years×147 companies).

Variables and calculations: Variable is properties, situation or condition that can be converted into a quantity and researcher tests hypotheses by controlling, manipulating and observing it. Based on their role in the study, variables are divided into three categories of independent, dependent and control variables. In the next section, calculation of all the variables used in the present study are described.

The independent variable:

Stock price bubble: In the present study to measure the price bubble, stock price incorrect valuation model proposed by Trinugroho and Rinofah (2011) was used. In this model, positive residuals represent the stock price bubbles:

$$Mb_{i,t-1} = \alpha_1 + \alpha_2 EPS_{i,t-1} + \alpha_3 PER_{i,t-1} + \alpha_4 ROE_{i,t-1} + \alpha_5 ROA_{i,t-1} + \alpha_6 DPR_{i,t-1} + \alpha_6 PS_{i,t-1} + \alpha_6 PFCF_{i,t-1} + \varepsilon_{i,t-1} \quad (1)$$

Where:

$Mb_{i,t-1}$ = The natural logarithm of the market value of company i at the beginning of the year t

$EPS_{i,t-1}$ = Earnings per share of company i at the beginning of the year t

$PER_{i,t-1}$ = The ratio of price to earnings per share of company i at the beginning of the year t

$ROE_{i,t-1}$ = Return on equity of company i at the beginning of the year t

$ROA_{i,t-1}$ = Return on assets of company i at the beginning of the year t

$DPR_{i,t-1}$ = The dividend per share to earnings per share ratio of company i at the beginning of the year t

$Ps_{i,t-1}$ = The ratio of price (market value) to sale of company i at the beginning of the year t

$PFCF_{i,t-1}$ = The ratio of price (market value) to free cash flow of company i at the beginning of the year t

Free cash flow is calculated as the difference between operating cash flows and capital expenditures.

Dependent variables:

$$\left(\frac{Cash\_D_{i,t}}{E_{i,t}}\right)$$

Cash dividend: This variable represents the percentage ratio of the company's cash dividend to the total dividend over the related fiscal year and it is calculated as the ratio of cash dividend per share to earnings per share.

Stock dividend:

$$\left(\frac{Stock\_D_{i,t}}{E_{i,t}}\right)$$

This variable represents the percentage ratio of the company's stock dividend to the total dividend over the fiscal year and it is calculated as the ratio of bonus shares per share to earnings per share.

Control variables:

Operating cash flows: The net cash flows from operating activities during the desired year which is directly derived from cash flow statement of company and is divided by total assets.

Discretionary accruals (): Accruals are temporary adjustments transferring cash flows during time periods. In this study, Jones model (1991) was used to measure discretionary accruals so that the residuals of this model represent discretionary accruals.

$$\frac{TA_{i,t}}{A_{i,t-1}} = \beta_0(\frac{1}{A_{i,t-1}}) + \beta_1(\frac{\Delta SALES_{i,t} - \Delta AR_{i,t}}{A_{i,t-1}}) + \beta_2(\frac{PPE_{i,t}}{A_{i,t-1}}) + \varepsilon_{i,t} \quad (2)$$

Where:

$Ta_{i,t}$ = The total accruals of company i in the year t calculated as the difference between net profit and operating cash flows

$A_{i,t-1}$ = Total assets of company i in the year t-1

$SALES_{i,t}$ = Sales revenues of company i in the year t

$Ar_{i,t}$ = Accounts receivable of company i in the year t

$PPE_{i,t}$ = Property, plant and equipment of company i in the year t

Financial leverage: Financial leverage is calculated as the ratio of total debt to total assets.

Cash: Company's cash flow represents the sum of total cash and cash equivalents of the company (including short-term investment deposits) divided by the total assets. Roohi *et al*. (2014) reported that as the company has more available cash, earnings quality and cash dividend payment are increased.

RESULTS AND DISCUSSION

Testing normality of the dependent variables distribution: In this study, normality of the dependent variables distribution was tested using Jarque-Bera statistic. The results obtained from this test are presented in Table 1.

Because the Jarque-Bera statistic was <5% (0.000) for both variables, thus the dependent variables were not normally distributed. Hence, these variables were normalized using Johnson transfer function.

According to Table 2, since after normalization, the significance level of Jarque-Bera statistic was increased to greater than 0.05 for both variables, the dependent variables were normally distributed after normalization.

First hypothesis testing: This hypothesis was tested using panel data via the following model:

$$\left(\frac{Cash\_D_{i,t}}{E_{i,t}}\right) = \beta_1 + \beta_2 MP_{i,t-1} + \beta_3 CFO_{i,t} + \beta_4 DA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 CASH_{i,t} + \varepsilon_{i,t}$$

To determine that whether the use of panel data for estimation will work or not, Limer F test was used. F Limer test results are presented in Table 3.

Table 1: Results of testing normality of the dependent variables distribution

Variables	Jarque-Bera statistic	Significance level
Cash dividend	000032.384	0.0000
Stock dividend	163919.7	0.0000

Table 2: Results of testing normality of the dependent variables distribution after normalization

Variables	Jarque-Bera statistic	Significance level
Cash dividend	3.890	0.142
Stock dividend	3.987	0.136

Table 3: F Limer test results for the first hypotheses test regression model

F statistic	Degree of freedom	Significance level	Result
45.196	(146.729)	0.000	Panel data regression

Table 4: Results of Hausman test for the first hypothesis regression model

Chi-square statistic	df	Significance level	Result
21.479	5	0.0007	Fixed effects

Table 5: The results of the model no.1 estimation

Variables	Symbol	Coefficient	t-statistic	p-value	VIF
Fixed coefficient	C	0.719	24.565	0.000	.
Stock price bubble	MP_1	-0.023	-2.096	0.036	1.016
Operational cash flow	CFO	0.015	0.288	0.772	1.782
Discretionary accruals	DA	-0.081	-1.874	0.061	1.525
Financial leverage	LEV	-0.257	-6.175	0.000	1.247
Cash	CASH	0.160	2.688	0.007	1.173

The model adjusted coefficient of determination 0.95 are:F statistic of the model, 91.796; (p-value), (0.0000); Jarque-bera statistic, 5.95; (p-value), (0.051); Breusch-pagan statistic, 1.460; (p-value), (0.131); Durbin watson statistic, 2.046; Dependent variable: Cash dividend payment; No. of observations: 881 year-company

According to the test results and the p-value (0.000), the hypothesis is rejected at the 95% confidence level and it is necessary to estimate the model using panel data. Also, Hausman test was used in order to determine the most appropriate estimation method (recognizing that differences in sectional units are fixed or random. The results obtained from Hausman test for the first hypothesis regression model are presented in Table 4. According to the test results and the p-value (0.0007) which is <0.05, the model was estimated using fixed effects method.

According to the results of F Limer and Hausman tests, the model was estimated using fixed effects panel data and the results are shown in Table 5.

For examining the significance of the model, given that F statistic is <0.05 (0.000) significance of the model is verified at 95% confidence level. The model coefficient of determination indicates that 95% of changes in dependent variable can be determined by the independent variables entered into the model. The results of Jarque-Bera test indicate that residuals obtained from the model estimation are normally distributed at 95% confidence level so that the probability related to this test is larger than 0.05 (0.0510). Durbin-Watson statistic value was a value between 1.5 and 2.5 (2.046), so independence of residuals

is accepted. Breusch-Pagan statistic was used for residuals variance consistency test. According to the results obtained from this test and P-Value of the statistic (0.1317) which is >0.05, the null hypothesis, homogeneity of residuals variance, is accepted at 95% confidence level. In examining variables co-linearity, based on the obtained results, VIF index is <5 for all variables, so there is no multicollinearity between the variables of the model.

According to the results presented in Table 5, the probability of t-statistic for variable MP_1 (price bubble) is <0.05 (0.0363) and its coefficient is negative (-0.0230). Therefore, it can be said that there is a significant inverse correlation between price bubble and cash dividends.

The second hypothesis testing: This hypothesis was tested using panel data via Eq. 3.

$$\left(\frac{Stock\_D_{i,t}}{E_{i,t}}\right)=\beta_1+\beta_2 MP_{i,t-1}+\beta_3 CFO_{i,t}+\beta_4 DA_{i,t}+\beta_5 LEV_{i,t}+\beta_6 CASH_{i,t}+\varepsilon_{i,t} \quad (3)$$

To determine that whether the use of panel data for estimation of Eq. 3 will work or not, Limer F test was used. F Limer test results are presented in Table 6. According to the test results and the P-Value (0.020), the hypothesis is rejected at the 95% confidence level and it is necessary to estimate the model using panel data. Also, Hausman test was used in order to determine the most appropriate estimation method (fixed effects or random effects) (recognizing that differences in sectional units are fixed or random). The results obtained from Hausman test for the second hypothesis regression model are presented in Table 7.

According to the test results and the p-value (0.005) which is <0.05, the model was estimated using fixed effects method. According to the results of F Limer and Hausman tests, the model was estimated using fixed effects panel data and the results are shown in Table 8.

For examining the significance of the model, given that F statistic is <0.05 (0.000) significance of the model is verified at 95% confidence level. The model coefficient of determination indicates that 30.52% of changes in dependent variable can be determined by the independent variables entered into the model. The results of Jarque-Bera test indicate that residuals obtained from the model estimation are normally distributed at 95% confidence level so that the probability related to this test is larger than 0.05 (0.8125). Durbin-Watson statistic value was a value between 1.5 and 2.5 (2.304), so independence of residuals is accepted. Breusch-Pagan statistic was used

Table 6: F Limer test results for the second hypotheses test regression model

F-statistic	df	Significance level	Result
41.294	(146.578)	0.020	Panel data regression

Table 7: Results of Hausman test for the second hypothesis regression model

Chi-square statistic	df	Significance level	Result
1.290	5	0.005	Fixed effects

Table 8: The results of the Eq. 3 estimation

Variables	Symbol	Coefficient	t-statistic	p-value	VIF
Fixed coefficient	C	1.153	63.290	0.000	.
Stock price bubble	MP_1	0.024	2.945	0.003	1.016
Operational cash flow	CFO	-0.074	-1.102	0.270	1.782
Discretionary accruals	DA	-0.105	-2.121	0.034	1.525
Financial leverage	LEV	-0.267	-17.302	0.000	1.247
Cash	CASH	-0.085	-1.224	0.221	1.173
Auxiliary variable of correcting autocorrelation	AR (1)	-0.193	-2.938	0.003	1.012

The model adjusted coefficient of determination 0.3052 are F statistic of the model, 1.670; (p-value), (0.0000); Jarque-bera statistic, 0.415; (p-value), (0.812); Breusch-pagan statistic, 1129; (p-value), (342); Durbin Watson statistic, 2.304; Dependent variable: Cash dividend payment; No. of observations: 731 year-company

for residuals variance consistency test. According to the results obtained from this test and p-value of the statistic (0.3428) which is >0.05, the null hypothesis, homogeneity of residuals variance is accepted at 95% confidence level. In examining variables co-linearity, based on the obtained results, VIF index is <5 for all variables, so there is no multicollinearity between the variables of the model.

According to the results presented in Table 8, the probability of t-statistic for variable MP_1 (price bubble) is <0.05 (0.0034) and its coefficient is positive (0.0249). Therefore, it can be said that there is a significant direct correlation between price bubble and stock dividends, so that presence price bubbles in the company's stock leads to increase in their share dividend. Therefore, the second hypothesis is accepted at 95% confidence level. It can be concluded that companies with price bubbles on one hand to avoid negative effects of cash dividend payment on shares price and on the other hand to meet the expectations of shareholders, prefer to pay stock dividend rather than cash dividend.

According to the results of testing the first hypothesis, it can be said that there is a significant reverse correlation between price bubble and cash dividend. Therefore, the first hypothesis is accepted at 95% confidence level. The results obtained from testing the first hypothesis are consistent with the theoretical foundations of Campello and Graham (2013).

CONCLUSION

The results indicate that stock of companies active in Iran capital market have price bubbles, there is lower

tendency to pay cash dividends and companies try to keep profits within the organization as much as possible. This issue is due to the sharp fall in stock prices after high cash dividend and negative effects of reduced liquidity on the stock price. The company prefers to pay less cash dividend in order keep its stock price at the desired level. According to the results of testing the second hypothesis, it can be said that there is a significant direct correlation between price bubble and stock dividend and when the companies listed in the Tehran Stock Exchange have price bubbles, they prefer to pay stock dividend. Therefore, the second hypothesis is accepted at 95% confidence level. The results obtained from testing the second hypothesis are consistent with the theoretical foundations of Campello and Graham (2013) as well. According to the results, it can be concluded that companies with price bubbles on one hand to avoid negative effects of cash dividend payment on shares price and on the other hand to meet the expectations of shareholders, prefer to pay stock dividend rather than cash dividend.

According to the results obtained from the first hypothesis, stock price bubbles have reducing effect on companies' cash dividend. We recommend shareholders and investors in the capital market to choose proper investment options, take into account dividends and reasonability of companies' dividend policies in addition to considering capital gain caused by increased stock profit. Because, in case of falling stock prices, in addition to losses caused by the sharp decline in stock price, they will have no considerable returns cash dividend.

On the other hand, considering that based on the second hypothesis test, companies with price bubbles prefer to pay stock dividend in order to keep their stock price at the desired level, so it is recommended that capital market supervisors and participants take into account stock price and absence of price bubbles in examining feasibility reports of increasing capital from retained earnings and giving the provision for the capital increase from this source.

Due to the negative effects of formation of price bubbles devastating consequences of falling stock prices consequently falling the capital market, capital market authorities and supervisors should pay more attention to price bubbles and prevention of its formation. Timely action and appropriate measures are strategies that can be used by supervisory agencies to prevent the formation of bubbles and its growth in the capital market. Obviously supervisory agencies should not directly intervene in the market but they must create positive changes in the market using tools such as issuing shares by major shareholders. By increasing supply to the demand in the capital market, the formation of bubbles is prevented. Transparency is another tool to prevent formation of price bubbles, so that if investors receive transparency information, they can finally take the action appropriate to the realities of the market.

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