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Research Paper

Investigating the Relationship between Earnings Management and the Stock Price Bubble of the Firms Accepted in Tehran Stock Exchange

Hassan Zalaghi[a,] *, Masoume Ghasemi[b], Reza Madadian Moez[a]

[a] *Department of Accounting, Faculty of Economic and Social Sciences, Bu-Ali Sina University, Hamedan, Iran*
[b] *Department of Accounting, Alvand Non-Profit Higher Education Institute, Hamedan, Iran*

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ABSTRACT

Capital market is considered one of the most important channels in the financial optimal resources allocation, and any disruption occurs in it will encounter the allocation of financial resources in the economics of each country with a serious problem. The Stock price bubbles one of the reasons disrupting capital appropriation. Generally, when there is a difference between the price of a share and its expected price in the future, the Stock price bubble issue is considered. The economic bubble will face investors by choosing the best investment opportunities. It will finally deviate the process of equipping and appropriating the resources optimally from its principled path. The present study aims at investigating the relationship between earnings management and economic bubble. To achieve this purpose, the number of 109 firms has been studied from 2008 to 2018. The study's hypothesis was tested through a multivariate regression method and panel data method and utilizing Eviews9. The findings show a significant relationship between earnings management and Stock price bubble, which shows that besides the external factors, the managers' behaviour may influence the generation of the Stock price bubble.

1 Introduction

The capital market is considered one of the most important channels optimal resources allocation. Any disruption that occurs in it will encounter the appropriation of financial resources in the economics of each country with a serious problem. The Stock price bubble is one of the reasons disrupting capital appropriation. Generally, when there is a difference between the price of a share and its expected price in the future, the issue of the Stock price bubble is considered. The economic bubble appears when the fluid process of correct information is disrupted in the market, and ignoring this economic factor has imposed economic costs and faces the investors by choosing the best investment opportunities. It will finally deviate the process of equipping and optimal resources allocation from its principled path.
In the condition of the financial crisis, the firms are intended to manage their profit in such a way to cover their weak financial function and to increase the motivation of earnings management during the years that the financial condition of the firm is undesirable. Therefore, the Determining the amount of

* Corresponding author. Tel.: *+989185402847.*
E-mail address: *zalaghi@basu.ac.ir*

earning, which is considered one of the most important purposes of reporting function and determining the firm value, has been doubted. Its credit is distorted because when the firms aim to manage earnings, the informational content of the profit will be reduced. The desirable use of this element in decision making patterns will be threatened [6]. Huddart and Louis [10] found out that the managers are intended to show their profit more before selling the share and showed that during 1997 to 2000 those firms that intended to manage earnings, have obtained an output equal to 21% more than the firms which have not intended to manage earnings. The managers have become sensitive to the short-term functions of the share during bubble time. They understood that the share price is positively related to both earnings management and domestic sales during bubble periods, especially in firms. Moreover, they showed that when the share price is reduced definitely, it is in a strong and positive relationship between earnings management and domestic sales. During the past years, the issue of the Stock price bubble has led to the reduction of certainty and trust of investors in Iran Capital Market, and it has been among the main reasons to orient investments to other economic sectors including parallel markets of the coin, currency, and house and has damaged the capital market seriously whose prosperity provides economic flourishment for the country. Consequently, studying the effective factors on creating a Stock price bubble and the mechanisms to control it seems to be important to increase the efficiency of the capital market [25]. The stock market crash in Tehran Stock Exchange changes with trading. If the deals guide the orientation of a company's share price towards increasing or decreasing, the stock price of that firm will change. Share price reduction is a phenomenon in which the share price is extremely modified negatively and suddenly. In another definition, the stock market crash is defined as a phenomenon in which a sudden and negative revision occurs in the investors' expectations about the share of a company.

Two components are always considered important in stock market crash: first, the management of the firm which aims at exaggerating the function of the company through postponing to release bad news and also accelerating to release good news (that this process leads to creating a bubble in the price of stock) due to selfish motivations (for their personal interest) and or philanthropic motivations (for organization) and second, accounting system and using it for management that the management allows the above measures [17]. Asadi et al [3] maintained that besides factors including the behavior of investors, government behavior, the behavior of macro-economic sectors, the behavior of exchange and the important international events, and the behavior of managers and internal elements might be effective on the create of the Stock price bubble. So this question raises whether the authorities of management may influence the volume of deals and change the share price. Most previous studies related to economic bubble have studied the existence of an Stock price bubble in some different periods Abbasian et al [2]; Asadi et al [3]; Abbasi et al., [1]; Samadi et al., [17]; Gholizadeh et al., [9] and Bayat and Afshari, [5] and their results show the existence of an economic bubble in Iran Capital Market. Some other studies, Sarebanha et al [19] and Salemi and Jamshidi [17] have found that income smoothing does not influence Stock price bubble creation in exchange. But no study has been conducted to investigate internal factors and specifically the management's behavior in manipulating the profit and its impact on the formation of a Stock price bubble.

Therefore, the main questions of the present study are: Does earnings management influence the generation of the Stock price bubble in firms accepted in the stock exchange? Conducting this study will provide results that will help investors in predicting the Stock price bubble, which is demonstrative of the sudden increase and fall of the stock price in the capital market. Therefore, this study aims to investigate the influence of earnings management in the creation of a Stock price bubble in the Tehran Stock Exchange between 2008 and 2018. This study is going to investigate existing experimental evidence and so to show the adaptation of existing facts with considered opinions and reasons about the role of

earnings management in creating an Stock price bubble and the findings of this study may help actives of the capital market, decisions makers, financial analysts and potential and actual investors of the stock exchange in analyzing investment plans in financial properties and stock exchange considering the existent or non-existence of Stock price bubble.

2 Literature Review

Fluctuations have to be created logically and based on fundamental factors to capital markets reach necessary efficiency to attract investors and supply financial resources and, as a result, appropriating the resources optimally. Although the market has some fluctuations in the short term, the nature of the market requires this, but in the long term, the stock price has to be determined based on the logical factors of firms and the information released about them. If the price of stock changes due to illogical reasons and has extreme fluctuations, the attraction of this investment option has been reduced seriously and as a result, we will observe the output flow of the capitals from this markets that it will lead to the reduction of investment and economic growth and these illogical changes in the price of stock leads to the generation of the bubble in stock price [19]. When the supply and demand usually have to determine the price in the capital market, and trading orders reach the market a balanced price, the bubble is creating an atmosphere of the capital market that causes the rate of stock return to be determined instead of determining the mentioned price. In such a situation, the capital market, like any other market, exits from its main axis. It cannot do its main duties, which is appropriating the efficiency resources, and critical consequences are expected. One of these disastrous dimensions is that those buyers who have to segregate firms with weak function by market signs from those that are really successful and are good for investment will have deviated. It means that during bubble time, firms are not valued based on their real function, and the prices as an operating indicator cannot be a trustworthy guide for capital appropriation and guiding them to be present when they have the most efficiency [14].

As long as the bubble expression appeared in Iran Capital Market in 2003, any rapid increase in prices is supposed mistakenly as the bubble, although it is not true; bubble occurs when speculation in the capital market increases the price of the stock, and this leads to more speculation. In such a situation, the price of the market reaches a perfectly illogical level. The bubbles face with sudden reduction of the price, which is interpreted as a stock market crash [19]. The shadow of the bubble will lead to the dazzling and unjustified economic growth by influencing market transparency, the profit of the company may increase due to economic reasons or managers and main shareholders increase the profit of the company to legitimize stock exchange and recharging the price growth, and in such a situation only good news are bale to enter the market and people react extremely facing with good news and some percentages of growth in the profit of each stock increase the stock price more than usual. In such a situation, the stock exchange market loses its function to appropriate the resources optimally and determine the price [20]. Based on applying the radical assumptions of rational expectations theory based on modifying and optimizing past and present expectations, the Stock price bubble are categorized into two groups of rational and irrational bubbles, respectively.

When a person purchases a stock without profit to sell it in the next years with a higher price and makes a profit, such thought increases the demand for that stock. As a result, the stock price that such movement in stock price is called a rational Stock price bubble. Such a bubble starts expanding permanently, and finally, it will burst and disrupts all plans and predictions [24]. Rational bubbles emerge influenced by the incidence of external events, their rumors, and predictions and based on the increase of stock price in the future. The Stock price bubble of each commodity may be created due to this reason that after the value of commodity increased, irrational speculators believe that as the price of that commodity

has increased previously, so it will be permanently increased in the future as it increased in the past that such prediction is called self-fulfilling prophecy in the economic literature. The bubble that speculators create in such a situation is called an irrational bubble. These types of bubbles are not related to fundamental reasons at all. This prediction also leads to the increase of demand for that commodity, and as a result, the price of that commodity will be increased in the future. In such a situation, the market has people with a limited intellectual horizon, and people do not recognize the difference between market value and real value. They will help bubble creation in the market. People do not have rational expectations about commodities' future profits and their prices in irrational economic bubbles. When we face irrational Stock price bubble, the investment is not made based on risk and efficiency information. The market will be guided, utilizing random and psychological reactions [9]. The stock market, as part of the capital market, plays a very important role in directing savings to the economic production sectors in all countries. The stock market is the mirror of the country's economy Interpreting short-term changes in asset prices in the context of efficient and rational markets remains a challenge Many empirical studies have shown that stock prices show some extreme volatility That is, these prices change so much that they cannot be interpreted and explained by changes in fundamental elements such as dividends. In order for the capital market to reach efficiency, it is necessary for market fluctuations to be created logically and based on fundamental factors If the stock price changes due to irrational factors and has very sharp fluctuations, the attractiveness of such an investment will be greatly reduced and we will see an outflow of capital [1].

Abbasi et al [1], in a study entitled investigating the role of the Stock price bubble in creating fluctuations in Tehran stock exchange, found out that 63% of firms studied during 2009 to 2014 have had a Stock price bubble. Salemi and Jamshidi [17] conducted a study entitled the effect of operating profit smoothing in forming an economic bubble. The hypothesis results showed that operating profit smoothing does not significantly influence the formation of a Stock price bubble. Setayesh et al [22] investigated earnings management's effect based on accruals and real earnings management on the risk of the stock market crash. Results of hypothesis testing showed that earnings management based on accruals and real earnings management does not influence the risk of a stock market crash (utilizing the negative skewness of stock efficiency and maximum sigma). Moreover, the research findings demonstrate the positive effect of earnings management based on accruals and real earnings management on the risk of the stock market crash (utilizing bottom-up oscillation). Blot et al [7] in investigating the effect of monetary policies in creating an economic bubble in America showed that contractionary monetary policy could not reduce the economic asset bubble, while expansionary policies cause a bubble in the stock market. Also, interest rate policies increase stock economic bubbles. Chen et al [8] have investigated the relationship between income smoothing and the risk of the stock market crash and showed that the as income smoothing increases, so does risk of the stock market crash.

This relationship is positive in firms with fewer analysts, smaller investment funds, and accumulative discretionary accruals. The results also showed a negative relationship between income smoothing and efficiency by fixed effects. Gholizadeh et al [9] investigated each share's causal relationship and its future efficiency, considering the existence of an intrinsic rational bubble in firms accepted in the Tehran stock exchange. The results of showed that the number of 15 firms with an intrinsic bubble resulted from fundamental reasons, such as dividends. The results also demonstrate that firms without an intrinsic bubble, the profit of each share may predict future efficiency. Soheili and Ahmadi [21] studied the existence of a Stock price bubble in firms accepted in the Tehran stock exchange, considering income smoothing and the firms' growth opportunities. The study's findings showed that income smoothing does not influence the economic bubble significantly, and finally, investigating the effect of growth

opportunities on the Stock price bubble is demonstrative of a significant relationship between growth opportunities and Ogonna Nneji [16] showed that stock liquidity shocks increase the risk of creating a Stock price bubble, and liquidity shocks have been warning signs of the Stock price bubble's probable fall. Market liquidity has more effect on the creation of an economic bubble rather than fund liquidity. Keyghobadi et al [12] in a study entitled creating and effective factors on Stock price bubble, showed a significant relationship between information transparency in the capital market and economic bubbles. the price of the stock. Zandieh and Ghouchani [25] investigated the effect of the deals volume, and the high ratio of P/E in creating an economic bubble from 2006 to 2012, found out that the low volume of deals is effective on the emergence of the Stock price bubble.

Also, the high ratio of P/E causes a Stock price bubble. Narayan et al [15] in a study investigated determining factors of the Stock price bubble and found out that the volume of deals influences the bubble for firms with smaller sizes significantly; also, price oscillations have a negative and significant effect on the bubble. Kashanitabar et al [11] in a study entitled Prediction of stock price bubble drop in Tehran Stock Exchange (conditional Volatility approach), found that member firms in the stock center in the years under consideration have been priced bubbles that were higher in the first six months of the year. The factors that triggered price bubbles include political shocks, returns in parallel bubbles, such as oil, currency and gold. Mirashrafi in a research entitled "Study on the effect of non-disclosure on price bubble" showed that there is a significant relationship between the transparency of information and the occurrence of price fluctuations, and the transparency of information in firms that are bubbly is moderate and in no bubbled companies, information transparency is very high [4].

3 Methodology

The current study is applied in purpose, quantitative in data. It is deductive (arguing from general to specific) and inductive (arguing from specific to general) in reasoning, which means the theoretical basics and the related literature have been collected through library studies, articles and websites and inductive reasoning is used for proving or rejecting hypotheses and inductive reasoning has been used for generalizing results to the statistical population. The research method is a cross-sectional and time series (mixed) and is descriptive-correlative in nature and content. The statistical population of this study is all firms accepted in the Tehran stock exchange during 2008 to 2018 (Ten-year time period) which through screening method (systematic elimination) they are the only firms that include the set of following conditions and are selected as statistical population through convenience sampling method.

- They have been accepted until the end of March 2008 in the Tehran stock exchange.
- Their fiscal year ends on of March 19, 2008.
- They have not changed the fiscal year during the research period.
- Their data be available during the research period.
- They must not be among banks, insurance firms, and financial investment. After screening the number of 109 firms selected as the final sample.

4 Research variables

Price Bubble (PB): to measure the Stock price bubble, the model in a study by Vakilifard et al [23] has been used. According to the model, to test a bubble's existence, the serial correlation of returns is used. Serial correlation is related to the correlation of consecutive returns during the time. The sequence test is one of the instruments for identifying serial correlation. To do the sequence test, first, the average

stock return is measured for the return series. The return, which is higher than average, is positive, and the negative sign recognizes those who are less than the average. Then the number of sequences resulted from positive and negative signs is counted; for example, if the average return is 12% in one period, then the return higher than 12% is positive and returns less than 12% are considered negative. The following formula calculates the number of expected sequences in one random string:

$$E(R) = \frac{2(n_1)(n_2)}{n_1 + n_2} + 1 \quad (1)$$

In which E(R) is the number of expected sequences, n_1 is the number of positive returns, and n_2 is the number of negative returns. For instance, a random sequence of 100 positive returns and 90 negative returns must be 95.74; it shows that the duration of a specific sequence related to a series is longer than a thing that is expected from a random series. Therefore, by calculating the SD of sequences, this issue is considered whether there is a significant relationship between the number of sequences and the expected number of returns sequence or not. SD is measured through the following formula:

$$\sigma = \sqrt{\frac{2n_1 n_2[2(n_1 n_2) - n_1 - n_2]}{(n_{1+} n_2)^2 (n_1 + n_2 - 1)}} \quad (2)$$

Suppose changes in stock prices are correlated with each other. In that case, when there is a stock bubble, it can be expected that longer sequences, and due to this reason with fewer numbers than the independent observations may exist. In this study, to do sequence tests, the average of firms' weekly returns time series measured and then the returns of every week compared with the obtained average. Each week's return, which is less than average, takes a negative mark, and the return of each week bigger than average receives a positive mark. Hence, a series of + and – marks created for the weekly returns of firms. Then the number of whole formed sequences is counted. Now the number of all positive and negative marks is counted in time series. After this stage, the number of expected sequence and their SD are measured through the related formula.

Next, the significance of the difference in the number of counted sequences is compared with the number of investigated sequences, in the case that is expected to be in critical region +1.96 to -1.96 for random variable through test statistic (that is the difference between the number of counted sequences and the number of expected sequences of dividing by sequences SD). So the number of sequences does not differ from the number of expected sequences significantly. As a result, there is no difference sequence length and random and independent sequence; thus, no bubble exists. But when the test statistic is not in the critical region, it means that the number of counted sequences is significantly less than the number of expected sequences, so it is concluded that the length of time series is so long that it doesn't correspond to random and independent data and bubble exists [23].

Earnings Management (EM): in this study, discretionary accruals are considered a criterion from earnings management. To measure discretionary accruals, the Modified Jones Model was used, represented by Kouthari et al [13].

$$TA_{it} = E_{it} - CFO_{it} \quad (3)$$

In which TA_{it} is the sum of discretionary accruals; E_{it} is the net income before extraordinary items, and CFO_{it} is cash resulted from company i operations before year t. to measure optional discretionary accruals, first, the non-optional discretionary accruals are measured, and finally, it is deducted from the

total sum of discretionary accruals. To measure non-optional discretionary accruals, first, the following relation is evaluated by Eviews software:

$$TA_{it} / A_{it-1} = \alpha_0 + \beta_1(1/A_{it-1}) + \beta_2[(\Delta REV - \Delta REC)/A_{it-1}] + \beta_3(PPE_{it}/A_{it-1}) + \beta_4 ROA_{it} \quad (4)$$

In which TA_{it} is the sum of discretionary accruals; A_{it} is the Total assets at the beginning of the firm period in year t; Δ REC is changed in receivable accounts, and Δ REV is change in net income of firm i between years t-1 and t and PPE_{it} is the amount of property, machinery and equipment of firm i in year t and also ROA_{it} demonstrates the ratio of net income to the total assets in year t. Finally, by estimating the above model, the model's remainders reveal optional discretionary accruals or the same earnings management.

Leverage (LEV): leverage or the ratio of debt, which is obtained by dividing the total debts by the toal assets of the firms at the end of the year.

Retune On Investment (ROI): it is the ratio of the net profit to the total assets.

Firm size (SIZE): the log of firms' sales amount.

Inflation rate (INF): the percentage of the change of consumer price index which is received from Central Bank website.

Exchange rate volatility (ΔExRaVol): the percentage of American dollar rate changes in time t, which is equal to the natural log of the equality rate of the American dollar against the Iranian rial in time t divided by that rate in time t-1.

Firm age (Age): it is a virtual variable equal to the difference of the company's admission year in the Tehran stock exchange and the end of the year.

Type of industry (Ind): the virtual variable of studied industry.

The statistical model of testing hypothesis has been prepared utilizing research models of Vakilifard et al [23] and Kothari et al [13]:

$$PB_{i,t} = \beta_0 + \beta_1 EM_{i,t} + \beta_2 Roi_{i,t} + \beta_3 Lev_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 Inf_{i,t} + \beta_6 \Delta ExRaVol_{i,t} + \beta_7 Age_{i,t} + \beta_8 Ind_{i,t} + \varepsilon \quad (5)$$

5 Research Findings

To investigate and analyze data preliminary, the descriptive statistics of the research variables are measured and are represented in table 1. Descriptive statistics include changes range, mean, minimum, maximum, median, SD, and coefficient of variation, skewness, and kurtosis. According to Table 1, the mean of Stock price bubble equals to 5.062 with 1.054 SD. The mean of earnings management equals to 0.117 with 0.107 SD. The mean of profitability ratio equals to 0.114 with 0.149 SD. The mean of leverage equals to 0.581 with 0.186 SD. The mean of size equals to 6.087 with 0.644 SD. The mean of inflation equals to 18.42 with 9.444 SD. The mean of exchange changes equals to 2810.6 with 4030.21 SD. The mean of age equals to 32.82 with 16.35 SD. The mean of industry effects equals to 122 with 59.44 SD. Based on the (Phillis-Perron) test, as the p-value of all variables has been less than 5%, all independent, dependent, and control variables have been reliable during the study period. Reliability means that the mean and variance of research variables during time and variables covariance have been fixed during

different years. According to Table 2 all variables are durable, so the problem of regression won't exist in estimated coefficients.

Table 1: Descriptive Statistics of the Research Variables

Variable name	symbol	Average	Middle	Maximum	At least	Standard deviation
Price bubble	BP	5/062	5/200	6/000	1/000	1/054
Earnings manage-	*EM*	0/117	0/093	0/993	0/002	0/107
Profitability ratio	*Roi*	0/117	0/103	0/626	-1/063	0/149
Financial Leverage	Leverage	0/581	0/593	0/993	0/102	0/186
Firm size	*Size*	6/087	6/013	8/414	4/380	0/644
Inflation	*Inf*	18/426	15/600	37/700	8/800	9/441
Currency changes	$\Delta ExRaVol$	2801/601	1366	14031	220	4031/216
firm life	*Age*	32/821	35	51	3	16/354
Industry effects	*Ind*	122/007	90	200	10	59/446

Table 2: Results of Research Variables Durability Test

Variables	symbol	Philip-Peron Statistics	Probability
Price bubble	*BP*	-7/468	0/000
Earnings management	*EM*	-13/749	0/000
Profitability ratio	*Roi*	-16/686	0/000
Financial Leverage	*Leverage*	-11/013	0/000
Firm size	*Size*	-9/771	0/000
Inflation	*Inf*	-94/192	0/000
Currency changes	$\Delta ExRaVol$	-125/77	0/000
Firm life	*Age*	-9/526	0/000
Industry effects	*Ind*	-5/765	0/000

Table 3: Results of F-Limer and Hausman Test

Description	Statistics F	*P-Value*	Test result	Method
Research model	22/352	0/000	H_0 *is rejected*	Combined -Panel
Research model	729/5	0/454	H_0 *is rejected*	Random effects

F-Limer test was used to choose between the panel and combined data methods. In F-Limer test, H_0 hypothesis, the homogeneity of y-intercept (combined data) are opposed to the opposite hypothesis H_1, the heterogeneity of y-intercepts (panel data method). The result of this test shows that combined data methods are better. The summary of F-Limer test results is represented in Table 3. According to the Table 3, to estimate the research model, the panel method is used. Hausman test statistic, which is measured to recognize whether the differences of sectional units are fixed or random has chi-squared distribution with degree of freedom equal to the number of independent variables. The result of Hausman shows that random effects were used to estimate the model. In this hypothesis, because The F-Test

of Limer has been significant, the panel method and generalized least squares are used to estimate the model. The adjusted coefficient is 77.90%, which means that the model reports about 78% of the variations in the dependent variable (price bubble).

Table 4: Research Model Estimation Results

$$PB_{i,t} = \beta_0 + \beta_1 EM_{i,t} + \beta_2 Roi_{i,t} + \beta_3 Lev_{i,t} + \beta_4 Size_{i,t} + \beta_5 Inf + \beta_6 \Delta ExRaVol_{i,t} + \beta_7 Age_{i,t} + \beta_8 Ind_{i,t} + \varepsilon$$

Variable	Estimation coefficient	standard error	Statistics t	Probability
EM	-8/466	0/042	-198/695	0/000
Roi	-0/192	0/030	-6/344	0/000
$Leverage$	0/148	0/018	8/065	0/000
$Size$	0/018	0/005	3/184	0/0015
Inf	0/001	0/0003	3/631	0/0003
$\Delta ExRaVol$	-1/710	8/010	-2/140	0/0326
Age	-0/001	0/0001	-6/116	0/000
Ind	0/0006	4/860	13/948	0/000
C	5/820	0/036	160/174	0/000
Adjusted coefficient of determination	0/78			
Dorbin-Watson	1/65			
Statistics F	6257/911			
Probability (Statistics F)	0/000			

One of the assumptions of independence regression is errors; if the hypothesis of independence of errors is turned down and the errors correlate with each other, there is no possibility of using regression. Watson camera statistics are used to investigate the independence of errors. According to the table, the Camera-Watson statistics are 1.65, and this number shows that the errors are independent of each other, and there is no correlation between the errors themselves. On the other hand, the fisher test error rate less than 5% can be said that the hypothesis model is significant and can be interpreted. The table results show that the significant level for-profit management variable is less than 0.05 (0.000), which shows that the dependent variable has been affected by it, so this hypothesis is confirmed.

5.1 Results and Discussion

To test the research hypothesis, profit management has a significant relationship with creating Stock price bubble of the firms listed in the stock exchange. The prerequisites have been observed (linearity, normality of remaining, analysis of variance, reliability, etc.). According to table 4, the significance level (error rate) of the test for-profit management variable is less than 5%. Therefore, it can be say that the independent variable can influence and relationship with the dependent variable and this hypothesis is confirmed. As a result, profit management has a significant relationship with creating price bubbles of the stock exchange firms. This finding is insignificant with similar internal researches in this field. In many internal and external types of research Vakili Fard et al [23]; Zandieh and Ghouchani [25]; Ogonna, Nneji [16] which have investigated various factors influencing bubble creation, no effect has

been observed on addressing the impact of profit management on bubble creation. However, this study's results achieved a new finding and accepted the role of profit management in bubble creation. On the other hand, the existence of control variables (exchange rate fluctuations, inflation rate fluctuations, size, and company life and industry type) all indicated their significant effect on creating price bubbles in the studied firms. Currently, the most important factors in creating bubbles in Iran's capital market are psychological factors of the market. Transactions based on unrelated information have a significant effect on the structure of price bubbles. When such transactions are significantly increased in the market, we can wait for bubbles to be formed in the market.

Publishing false news and creating rumors, as well as news about mixing, fraud, and corruption in creating psychological transactions, cause psychological factors. Over-optimism of investors can also be effective in creating bubbles. This usually happens when the country's economic situation improves and a positive outlook abroad. The increase in the price begins with a step up the initial rise, and investors, who are optimistic about the future, are rushing on the market to gain profit and buying stocks, and thus the volume of demand increases. Most of the investors at this level are looking for short-term profit, and they intend to buy shares, sell it at the first opportunity to the next investors at a higher price. In general, bubbles can have real effects by affecting the fundamental market factors and further modifying price behavior. For example, the price bubble of one asset may also affect the price of other assets. However, those assets do not have bubbles. The increase in the price of an asset susceptible to the price bubble swells both the value of that part of the portfolio in which the investment assets are invested and increases the wealth. Future researchers should be advised to study the impact of other factors affecting the stock price bubble such as management policies, audit quality, etc. in different industries of firms' activities .To prevent the price bubble in the capital market or reduce its adverse impact, the following items are suggested:

Improving an efficient market and reducing information asymmetry

Smart prevention of money that is invested solely for the purpose of speculation

The most important limitation of the present study can be the nature of the statistical population of the research in the time domain that generalizing the results to other time periods and different industries should be done with caution

5.2 Suggestions for future work

For Future researchers recommended studying the impact of other factors affecting the stock price bubble such as management policies, auditing quality, etc. in different industries of firms' activities

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