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EFFECT OF PROFIT SMOOTHING ON FORMATION OF TEHRAN STOCK PRICING BUBBLE

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ABSTRACT

The research investigates the effect of profit smoothing on the formation of the pricing bubble, through the assessment of three hypotheses including profit smoothing and operating profit as independent variables while the pricing bubble as a dependent variable. Research population in this study is 856 corporations accepted in Tehran Stock Exchange and the sample size is 128 accepted corporations from 2012 to 2016 that have been sampled using Eckel model (coefficient of changes distribution for periodic of profit/sale). The research methodology is descriptive-measuring and relationships between variables are correlative-casualty. The research aim is application oriented. The F statistic test is used to simultaneously evaluate multiple model terms, at 5% significant level. It is found that profit smoothing, margin profit, and proceed profit do not have meaningful effects on the formation of a pricing bubble. Based on the received conclusions of the hypotheses it is suggested that managers shouldn`t use the methods of falsifications because it will cause pricing bubble creation and impair balance in the stock exchange market and shareholders and stock purchasers should consider falsification and profit smoothing by managers to invest in a stock.

1. INTRODUCTION

One of the effective potential factors is profit smoothing. Profit smoothing is an advertency action. In profit smoothing in term of change in incomes and costs, the profit of one or several durations is changed and set. So, it can be said that the aim of profit smoothing is the creation of consistent growth flow in profit. The main motivation of managers' behaviors of the smooth profit reports is showing the dynamism of the corporation status and operation in the capital market. The reason for this behavior is that managers know that investors are looking for more consistent corporations in the capital market to avoid risk and receive their expected return, (Etemadi et al., 2008).

One of the important indicators in each market is a mass of transactions that have been performed

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in that market. In fact, while the market of production is important in economic that owns a bigger share of that economic. However, the stock exchange market has a main difference with a market of other goods. In the market of other goods, consumers are the main part of production buyers who buy the goods because of their needs. Each commodity has a demand attraction and the consumer must buy and consume his needed commodity or a replaced one while its price has been increased. Although, in the stock exchange market no one needs mainly to the stock exchange. While the price of a kind of stock exchange is unbalanced, it will have fewer buyers, so the price in the stock exchange is the main factor, (Ghaemi, 1999).

Mass of transaction investigates consistency subject and price correctness and the researches that do not consider mass transaction along with price, they, in fact, do not consider price correctness subject. Based on the mentioned factors, it can be said that prices are correct that in it all individuals need their money and present their stocks in the other words, normal transaction mass is transacted at that price. In this condition, price change is less and the stock price will have relative consistency. In the condition that transactions are less or more than the number of normal transactions, it needs more demand and presentation that will cause a change in price. Economist believe that when there are more presentation and demanders in market and masses of transactions are more in the market, the price will be more transpicuous in the otherwise, more transactions will be performed in the market. So, price change needs transaction performance, it means that if more price change happens, more transactions should be done, (Ghaemi, 1999).

Price change in Tehran Stock Exchange will be done by the business. If transactions guide stock price of a corporation toward increase and decrease, that corporation stock price will change. So, this question is introduced: what kind of transaction mass should be done to perform each price change? Based on the mentioned factors, and the importance of stock price change in this research this questioned is suggested that: whether profit smoothing has an effect on the formation of a pricing bubble or not?

2. RESEARCH BACKGROUND

Mahmoodi (2015) investigated pricing bubble recognition of usual stock in Tehran Stock Exchange. The research findings indicated that there was no long term integration between stock price and cash return which represented the existence of the rational pricing bubble.

Mohammadi (2015) investigated the existence of pricing bubble in Tehran stock market by use of LLPL approach which investigated the existence of pricing bubble and downfall anticipation of price indicator and cash return and good estimation conclusions of data had been indicated by this model. Moreover, spectral analysis of Lomb affirmed the existence of logarithm periodicity. So, it could be concluded that data have a behavior correspondent to the LPLL model and had recognized the model in a time period of the bubble, then it had introduced rational anticipation from crisis time of this bubble.

Saghafi & Khani (2015) investigated profit smoothing through a total overview on concepts by emphasis on internal and external researches and their research results represented that accounting profit had been known as one of the most important criterions of operational evaluation and value determination of economic agency which had been used by users such as; investors, bourse activists, and others. Calculation of economic agency profit was the result of accounting methods and estimations, so profit might be changed by management. Based on profit importance, smoothing subject had been considered by researchers and accounting professional activists. Profit smoothing aim was constant profit creation and decrease in profit fluctuations.

Pinghsum et.al. (2017) studied the relationship between profit smoothing by use of capital return, property and stock price. They reported the negative meaningful relationship between capital market and property with profit smoothing and found that having consistent and more smooth profit by considering corporation profit growth rate could increase investors' satisfaction. This subject might decrease investment risk in corporation and increase the stock price.

Bouwman (2017), investigated management overconfidence and profit smoothing. He used managers` investment decisions and actions of stock purchase as overconfidence criterions. The research findings indicated that there was a positive meaningful relationship between managers` overconfidence and profit smoothing. Otherwise, overconfident managers would perform more profit smoothing than other managers. Moreover, these findings indicated that corporation size, market value ratio to a clerical value of shareowners' rights, financial leverage, information asymmetry, and corporation guideline could had an effect on profit smoothing.

3. RESEARCH VARIABLES

3.1 INDEPENDENT VARIABLES

Pure Profit Smoothing

It is knowingly voluntary performance and actions that have been done by management to decrease profit changes by use of definite techniques of accounting, (Badri, 2007).

Margin Profit

It is defined as the difference of all incomes and finished price of sold goods of one institute during one financial duration of margin profit.

Operational Profit

It is defined as the difference of all incomes and costs of one institute during a financial duration (incomes will be more than costs) and it is called proceed profit.

3.2 DEPENDENT VARIABLE

Pricing Bubble

Ascendant movement of properties prices will be ended by downfall, (Chalz Kingelberger, 2008). Based on another definition, pricing bubble is the main deviation of property price from the basic value (Abasian et.al. 2009).

3.3 RESEARCH HYPOTHESES

First Hypothesis: Margin profit smoothing has a meaningful effect on the pricing bubble.
Second Hypothesis: Operational profit smoothing has a meaningful effect on the pricing bubble.
Third Hypothesis: Pure profit smoothing has a meaningful effect on the pricing bubble.

3.4 OPERATIONAL DEFINITIONS OF THE RESEARCH VARIABLES

3.4.1 PROFIT SMOOTHING

A corporation is known as smooth that its changes of dispersion coefficient of impure,

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operational and pure profit of one period on changes of dispersion coefficient of one sale period will be less than one and it is calculated based on

$$CY = CYI - CYS \quad (1),$$

where

CY: dispersion coefficient of corporation profit changes,

CYI: dispersion coefficient of corporation operational and pure profit changes,

CYS: dispersion coefficient of corporation sale changes,

CY< 1: the corporation has smoothed its profit,

CY>1: the corporation has not smoothed its profit,

The lesser the CY, the lower the probability of profit smoothing.

3.5 PRICING BUBBLE

In the model estimation, data of six months before the bubble happening (sudden change of stock price in the market) have been used. The regression model is based on Ebrahimi *et al.* (2013):

$$Z_i = \beta_0 + \beta_1 HP_{it} + e_{it} \quad (2),$$

where

β_0 : Coefficient of constant,

β_1 : Coefficient of independent and control variables,

e_{it} : error of company model *i* in year *t*,

i: corporation model,

t: year being considered,

HP_{it} : profit smoothing indicator of the corporation *i* in year *t*.

3.6 RESEARCH PATTERN

Research pattern is multi-variable regression, with a model:

$$PB_{it} = \beta_0 + \beta_1 HP_{it} + \beta 2\ UNP_{it} + \ e_{it} \quad (3),$$

where

PB: pricing bubble indicator of the corporation *i* in year *t*,

UNP: margin profit smoothing indicator of the corporation *i* in year *t*,

SIZE: operational profit smoothing indicator of *i* corporation in year *t*,

β_0 : Coefficient of constant,

β_1, β_2 : Coefficient of independent and control variables,

e_{it}: error of company model *i* in year *t*.

4. METHODOLOGY

The research methodology is a collection of rules, instruments, and credit organized methods to investigate, discover and access to solutions for the problems. The research is application-oriented because relative data of corporation information are real and their conclusions can be solutions for the activists' decisions in the capital market. Moreover, there are causality and reasoning relationships between research dependent and independent variables. The research is a casualty after happening.

There were 856 accepted corporations in Tehran Stock Exchange from 2010 to 2014. Based on the limitations 128 corporations have been chosen as the research statistic sample. Totally, all the research information and data have been gathered by both library and organizing documents.

F statistic test allows multiple model terms to be simultaneously evaluated. This study sets 5% significant level. Statistical software has been used as a research tool to analyze data.

5. FINDING

Description of all gathered information is one of the research processes in the research data analysis that their reports are important in the research. Research data has been gathered and classified by second-hand information sources. Descriptions of information and statistical data have been chosen based on measuring standards. So, in this part statistic sample characteristics and relative indicators of sampling member financial statements have been discussed and investigated. Totally, methods descriptive statistic is all the methods that can be estimated and summarized gathered information. It should be mentioned that, after deletion of extra data and categorization data, numbers of corporation years of the research variables will be faced by a decrease.

Table 1: Descriptive indicators of the studied variables (Based on million Rials)

Research variables	Symbol	Number	Average	Mode	SD	Maximum	minimum
Profit smoothing	HP	600	0.387	0.361	0.167	5.294	-0.826
Margin profit smoothing	UNP	600	0.188	0.165	0.112	1.01	-1.41
Operational profit smoothing	OP	600	0.201	0.194	0.200	3.77	-1.82
Pricing bubble	PB	600	14.65	14.30	1.13	62.84	8.60

Table 1, the average amount of profit smoothing is 0.387 and mode of this variable is 0.361. Totally, dispersion standards are the standards investigate and compare observation dispersions of average. One of the most important dispersion standards is standard deviation and amount of this standard is 0.167. Amounts of average and mode of pricing bubble variable are 14.65 and 14.30. Maximum and minimum amounts of this variable are 62.84 and 8.000 and descriptive statistics of other research variable have been mentioned.

The research estimation method is based on paneling data. This method is a mixture of time serial information (2012-2016) and sectional data of 148 accepted corporations in Tehran Stock Exchange. All the calculated amounts for the research variables are based on million Rials. The used software program in the research is Eviews 9. Estimated models of the research variables have been exhibited based on multi-regression models. The test result is given in Table 2.

Table 2: Statistic result.

PBit = β0 + β1HPit + eit					
Variable	symbol	Coefficient	SD	t statistic	Prob.
Constant (fixed) amount	C	0.637	0.105	6.061	0.0001
Profit smoothing	β1(HP)	0.007	0.005	1.419	0.096
Margin profit smoothing	β2(UNP)	0.715	0.169	4.233	0.199
Operational profit smoothing	β3(OP)	0.214	0.060	3.560	0.303
F statistic Meaningfulness level (Prob.)				41.137 (<0.001)	
Watson – Durbin statistic				1.854	
Determination coefficient (R^2) Adjusted determination coefficient (Adj.R^2)				0.733 0.687	

Based on the test conclusions of the research model, F statistic of meaningfulness level (<0.001) is less than the error level, so all regression model is meaningful. Watson-Durbin statistic amount is

1.854 and it is situated from 1.5 to 2.5, so there are not any correlations among model error members. While t statistic of P-Value is higher than accepted error level for the coefficients of the research variables, conclusion test indicates that pure profit smoothing, margin profit, and operational profit do not have any meaningful effects on pricing bubble. So, Research H0 cannot be rejected at 5 percent of error level. Determination coefficient and the adjusted determination coefficient indicate that entered variables in regression can describe 75 percent of dependent variables changes.

6. DISCUSSION

The bubble is a part of property price flow and it can`t be described by basic factors and principals that are used as the change reason for property price. A bubble happens when the price of property suddenly and irrationally increases and then, falls. The bubble is the most mixed subject that obsesses capital markets and has a great effect on economic indicators. The stock exchange is one of the markets that effects a lot on pricing bubble. Moreover, there are other factors that affect the pricing bubble creation. Accounting profit has been recognized as one the most important operational evaluation criterions and determination of economic agency value and it has been used by a lot of users such as; investors, shareholders, bourse active and others. While the estimated profit of economic agency is the result of accounting estimations and methods, profit can be changed by management.

7. CONCLUSION

The research aim is investigating the effect of profit smoothing on the formation of a pricing bubble, with three hypotheses to assess the research aim. Research statistic population include all the accepted corporations in Tehran Stock Exchange and its statistic sample consists of 120 accepted corporations 2012 to 2016 that has been sampled by using Eckel (1981) model. Received conclusions of the research first hypothesis indicates that profit smoothing doesn`t have a meaningful effect on the formation of a pricing bubble. Received conclusions of the research second hypothesis indicates that margin profit doesn`t have a meaningful effect on the formation of a pricing bubble. Received conclusions of the research third hypothesis indicates that proceed profit doesn`t have a meaningful effect on the formation of a pricing bubble. Based on the received conclusions of the hypotheses it is suggested that managers shouldn`t use the methods of falsifications because it will cause pricing bubble creation and impair balance in the stock exchange market and shareholders and stock purchasers should consider falsification and profit smoothing by managers to invest in a stock. So, profit smoothing can be defined as a method that is reported by management to decrease changes in the reported profit items that is used by real or unreal falsification. Equipment and division of country financial sources will be encountered by problems because of the problem and vast deviation in financial strategic importance and financial market economy. One of the reasons for the mentioned problem is pricing bubble. While the price of a stock is different from the future expected price, the bubble will be introduced in the market. Profit smoothing emphasizes on profit and falsification and it does not meaningful effect on the stock price process.

From hypotheses testing, it is suggested that managers should not use the methods of falsifications because it will cause pricing bubble creation and impair balance in the stock exchange market and shareholders and stock purchasers should consider falsification and profit smoothing by managers to invest in a stock.

8. DATA AVAILABILITY STATEMENT

The used or generated data and the result of this study are available upon request to the corresponding author.

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