The Different Role of Mental Accounting on Optimal Portfolio Based on Speculative Bubble

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ABSTRACT

The aim of the study " The Different Role of Mental Accounting on Optimal Portfolio Based on Speculative Bubble on companies listed in the Tehran Stock Exchange" is the 10-year study period listed in the Tehran Stock Exchange during 2008-2017 were analyzed.The data of 110 firms were analyzed by using statistical softwares including Matlab, spss20, Eviews7 and Lingo in the studied years. In this research, mental accounting is based on Fernandez (2009), The speculative bubble based on the gilium pattern (2016) are used as a risk measurement indicator. The result of testing the above hypotheses showed that for the calculated returns because it is greater than the error level, the hypothesis of equality of the average returns of the portfolios is not rejected. In terms of speculation bubble (subject to speculation) based on subjective accounting there is no significant difference and efficiency based on standard deviation index is not higher. The result of the statistical test of these hypotheses shows that the significance value for the calculated returns is greater than the error level, the hypothesis of mean inequality of portfolio returns (research hypothesis) is rejected and in other words the speculative bubble portfolio returns (greater than Portfolio returns are not without bubbles.

Keywords:

Optimum portfolio,Speculative bubble,Mental accounting.

1. Introduction

Currently, firms operate in a highly volatile and competitive environment. Rapid reaction to highly volatile market conditions plays an important role in corporate positions, given the undeniable role of the securities market as the most efficient capital market, which seeks to create a The relative certainty of investors is for capital inflows. The growing importance of a financial asset market in a country requires a continuous review of this market. One of the important components of the financial markets is the stock market, since investors are looking for capital accumulation in these markets. Basically, in the history of financial markets, stock markets have always been subject to speculative fluctuations, but prices are inherent in the market, but sometimes these fluctuations they leave their normal shape and place themselves in sudden crashes and surges that lead to irreparable blows to the stock market. (2010) But the most important issue is the quality and quantity of these fluctuations. Generally, the volatility of the price of financial assets is often made up of two main parts, one of which is the conventional one, which includes fundamental price changes, including primary variables, and the other part of the abnormal sector or false price changes, which are The name of the speculative bubble is known to recognize and predict the issue of price bubble being one of the most important issues that has attracted much attention in financial markets today (2017). They showed that speculators with a short horizon are trying to learn the knowledge of other speculators. If such efforts can be followed, one can measure the propensity to speculate on the specter and its impact on asset prices. Such a measure is difficult to identify because the related efforts are not visible. Bubbles are mainly due to irrational decisions of individuals, and the formation of their bubbles is a kind of deviation of the price of the inherent value of the contribution, the fall and fall of it also creates a kind of pessimism about the bubble share or the bubble market, which itself It can lead to an outflow of capital from the capital market and lower prices due to declining demand, and this price deviation will ultimately affect all economic activity. According to theoretical debates, markets can deviate from basic and fundamental values, even if all factors are treated rationally. That is, assuming expectations and rational behavior, rational bubbles arise in the market. It is a bubble speculative that forms in the face of unrealistic expectations, market sentiment, beleaguer behaviors, and so on. In this type of investor bubble, knowingly or without knowing the true value of the share, and only because it is confident today, if at any price to buy a share, there are other investors who buy that share at a higher price, is willing to pay a sum Unreal to buy a share. There are no contributions to this type of investor bubble or any correct estimates of future earnings, or they are unattractive to these estimates. In this type of bubble, there is no rational backing (except for rumors), for a price increase (2014) It is important to note that a large part of the financial and economic theory is based on the notion that people behave rationally and consider all information in the decision-making process. On the other hand, researchers have found abundant evidence of inappropriate behavior and repeated mistakes in human judgment and judgment. One of the reasons for these irrational decisions is mental accounting. On the other hand, researchers have found abundant evidence of irrational behavior and repeated errors in human judgment and judgment. Behavioral and psychological characteristics, including mental accounting, greatly affect decision making, and these factors should be addressed. , The title of risk factors should be considered when making decisions; But Taller (2014) observed that people do not logically deal with money; contrary to the underlying assumption of the efficient market, which is a rational decision in financial and economic processes. Contrary to the principle of certainty, our decisions are not always determined by the consequential reasoning or the assessment of the potential consequences and the probability of them occurring. In other words, the findings indicate that people do not always have rational behavior and act under certain irrational conditions (2014) Therefore, this research aims to provide the optimal portfolio in the speculative bubble space based on mental accounting.

2. Literature Review

When the price of a stock differs from the expected price in the future period, the bubble will appear. The price deviation of the stock from the balanced price includes the definition of the bubble, as well as the stock price, the current value of the expected return of the stockholder's expected receipts (2008) .The existence of bubbles in the capital market causes stock returns instead of the balanced price is determined by it, so higher profits are needed to offset the viability of the shareholders. The bubble comes from a kind of expectation, so that it expects the motive for the occurrence and the formulation (2008), in fact, the motivation to maximize profits in investment as the main criterion in the Investors who go to the financial market, but in times of behaviour that are by no means based on the principles governing the market, can be viewed as a result of the behaviour of investors, because in the stock market the prices are mainly Reflect the expectations of investors from the future prediction of firms. (Same Source) Also, the bubble occurs when speculation in the stock market leads to a rise in price, and as a result of this speculation, in this situation, the market price reaches a completely unreasonable level; the consequence is usually a sharp decline in prices, which results in the collapse of the market of interpretation it is possible. The existence of rational arithmetic is considered to be the strongest theoretical foundation for market efficiency theory. When individuals and shareholders in the financial markets have a short-term perspective, bubbles may be possible, but when they have an unlimited perspective, bubbles are prevented. Therefore, Rational Arbitrage cannot completely eliminate the effects of non-rational investors on the market in the short run. That is, assuming expectations and rational behaviour, there is a rational bubble in the market. In all of the various reasons, it can be said that bubbles can be associated with high liquidity in the financial system. Therefore, in order to identify and determine indirectly the bubble, we should consider the factors associated with the fluctuation and price depression of assets and equities. The mental accounting phenomenon is referred to the process of subjective evaluation of financial transactions. Contrary to classical economic theories that people consider their wealth as a whole interchangeable, while behavioural financial theories believe that humans divide their wealth into a set of smaller accounts, and for each of the economic activities of Place one of these accounts. Investors with different currencies have different behaviours, depending on where the money comes from, where it is stored and how it is spent. And investors who, instead of evaluating the changes in wealth to the profit and loss of investment, pay attention to various factors that cause deviation of prices from their inherent value. The illusion of knowledge and the rule of the great fool are the factors that make a small price deviation from the fundamental price become a bubble.

Bucker and Wargler and Lemon and Parnj0vin showed that small stocks are more likely to be affected by emotions. Barber showed that retail sales are moving in the market. Kumar showed that individual investor options influence stock returns. Canbell showed that surplus positive returns to individuals after the purchase after a month are intensified. In an information environment such as financial markets, investors must pay particular attention to different assets before choosing portfolios. Recent studies have shown that limited attention is being paid to the dynamics of asset prices, such as market fluctuations. Voltosakis (2011) have shown that investors' attention is positively correlated with fluctuations in stock markets, volumes of transactions, and the level of risk aversion. May have investigated how speculative trade has affected the stock prices of Chinese stocks. They found that speculative trade has explained the tremendous defeat of Chinese companies. The frameworks and mental accounts are part of the theory of vision that the tendency of individuals to place special events in different mental accounts, based on apparent features, suggests the basic idea of mental accounting is that investors tend to choose different types of risks when deciding or keep the risks they face in separate accounts in their minds. In fact, subjective accounting helps to explain that in a world with no transaction costs and open tax, individuals differ in terms of dividend and capital gains (Gedberger, 2001). The issues involved in this study are whether in the

period between 2008 and 2017, Tehran Stock Exchange has a speculative bubble based on mental accounting? Secondly, what is the optimum portfolio in speculative bubble space based on subjective accounting?

Gilliam and Hassan (2011) "looked at how speculative demand impacted stock returns in China." The findings of this study have shown that speculative demand increases after high market returns. In addition, speculative demand for diversification in Returns the stock.

Malpens and Wachcher (2002) focused on the role of speculation in creating fluctuations in the housing market. They have outlined a simple dynamic equilibrium model based on inventory modalities to look at speculation in the housing market. In their study, price expectations are the most important reason for speculative behavior in the housing market, hence, it is included in the calculation of the equilibrium price component of the price expectation (coefficient of housing price changes in two successive periods) that reflects the speculation in the housing market. The simulation is based on the price elasticity of supply and the coefficient of housing price changes. The results indicate that speculation in the real estate market is causing fluctuations in the market, and also speculation depends on the conditions of the supply. The general terms of demand, in particular the demand for speculation, can lead to an explosion or a cyclic explosion in the real estate market, which can be controlled by price elasticity in supply.

Nali Lansawa and Wolfing (2011) have identified "the identification of bubbles using space status models of the space status model with Marco Switcher to identify bubbles in stock price data". To do this, we use a current value model of stock exchange in the state of space using it offers filtering. This method enables us to estimate a Marco Switching two-regime specification of the invisible bubble process. Marco's regimes show a two-stage distinction in the bubble process, one in which the bubble stays stable and the other fades away. Finally, the bursting of the bubble of stock prices is identified by the statistical separation of the two Marco regimes. In a practical analysis, our methodology applies to a set of information and has two findings: First, in the real price bubble,

the Marco Switching structure is meaningful Findings. In our stock market survey, our identification method correctly identified the reported bubble courses.

Haras and Sorrento(2011) in an article entitled How to Create a Bubble: The Mioaphic Composite Broker Model states that we provide a simple axis-based agent model for creating bubbles and bursting, and examines how an approximate start factor They are related to their basic mechanism. Operators, based on their opinions on future prices, invest based on information from three sources: (2010) public information, news (2) information from friends' networks (3), and private information. The evaluation of information resources adapts their methodology and finds that the bubble of positive information is due the rejection of these news starts for brokers. After falling to its highest level on the cold, bursting the bubble even falls below its fundamental value. These components provide a simple mechanism for the volatility of financial markets. In contradiction, this is an attempt by investors to adjust the market situation, which results in a dramatic increase in price fluctuations. With two imitation and adaptive mechanisms, a positive feedback loop is created, which will occur by strengthening the bubble and bursting the bubble. Falls this model provides two reciprocal proposals for bubbling and bursting and justifies the presence of two populations in the distribution of return on investment, and explains the concept of bursting the bubble qualitatively as opposed to the rest of the price movements.

Fernandez et al (2009) categorized behavioral superstitions into two groups: cognitive superstitions and emotional bouts, both of which lead to irrational decisions of the human being. Emotional rebirths are as much a mischievous loss in sight and emotion, and their correction is not easily feasible. Cognitive fluctuations, such as the availability of roots, are mistaken in the argumentation, and information can improve and mitigate the decision error, but Shefrin (2000) showed that portfolio selection with a theoretical perspective is different from portfolio selection within the framework of the utility theory (2010).

kuhenman and Turski (2000) explained the theory of the prospect and its newer model of a

new conceptual perspective on financial behavior of investors: Investors make investment decisions on the basis of profits, not the final value of investment (Mental accounting), people are more than out of harm (more than pleasing to profit) (the same source)

Kalyova and Kuskinaina (2015), "Stock market bubbles, inflation, and investment risk offer a regime-changing regimen of exchange rate dynamics, in which a pricing bubble process is created in a regime, while In the second, the errors are corrected. In the bubble regime, the price of the stock depends on the inflation. In the regimen of error, the error depends on the ratio of dividends to the price. We found that the likelihood of a regime change depends on inflation and the price of growth. This model is compatible with Schiffler and Modiglian models. The results emphasize the importance of inflation and the ratio of dividends to prices. The results emphasize the importance of inflation and the ratio of dividends to prices when assessing investment risk.

Saberi (2017) studied the "behavioral factors in choosing the optimal portfolio in Iran's capital market". In order to reach this goal, the relationship between behavioral and dominant factors of loss and choice of optimal portfolios in comparison with the Markowitz model (standard) using The data of 96 companies accepted in Tehran Stock Exchange during the 5-year period of 2009-2014, and regression analysis and analysis of variance were measured. The results of the research showed that the expected returns of the selected portfolio of behavioral models with the emphasis on the parasitic margin (as a behavioral indicator) of the expected returns of the Markowitz model (the standard model is higher and the hypothesis is accepted, but the lower risk is the selected portfolio of behavioural models with emphasis on marginalization (As an indicator of behavioural factors) of the expected risk of the standard model was not approved.

Roodposhti and Masui (2015) reviewed the review of psychological theories in management accounting research; although theories of other social sciences are used to describe and predict behaviour in management accounting research, but the psychology of them is different It focuses on individual phenomena rather than organizational

and objective phenomena. This research is a qualitative research based on theoretical studies related to the subject, which is summarized by identifying and identifying the literature related to psychology research and their application in management accounting. Based on this research, psychological theories in management accounting are grouped in most of the motivational effects and information effects. In the literature, the effects of motifs on the effects of reference points, internal contradictions, or inconsistency between subjective representation and behavior in the dominant theorizing theories, ideal level, organizational justice, perspective, cognitive anomaly, documentation, and cognition of the environment have been analyzed and analyzed. The information dimension also addresses the effects of providing information on decisions, judgments, the way of searching and processing with limited logic, as well as the mental accounting of individuals from the environment and organization, which is expressed within the framework of theories of social and cognitive psychology. The results show that psychological theories can be used to explain and analyze the causes and effects of management accounting methods, with the focus and deeper understanding of the subjective phenomena of individuals, rather than the objective organizational phenomena, and also the effect of a particular type of management accounting method On the behavior of individuals does not depend solely on how the formal and objective objectives for action and factors affect the well-being of individuals, but how they perceive people from practical ways and how they stimulate attention, cognition or motivation. Is effective As a result, it becomes increasingly clear that multiple psychology theories have potential links to any of the management accounting methods.

Zanjirdar & Saberi (2014), "Human Behavioral Factors in Selecting the Optimal Portfolio Compared to Standard Financial", explains the 8-year intervals of the companies listed in the Tehran Stock Exchange during the years 2007-2014. In the 118 years of the study, the effect of behavioral and dominant subjective factors on stock investment and the optimal portfolio selection with higher returns and lower returns

compared to the standard financial one, were compared using the statistical comparison method, regression and analysis of variance. . This study included two main hypotheses, which in the first hypothesis claimed that the expected returns of the selected portfolio of behavioral models were higher than expected expectations of the standard model, which was not confirmed by the measurements. The second hypothesis was based on the assertion that Expected risk of selected portfolio of behavioral model is less than risk the result is a standard model that was accepted in light of the results obtained.

Roghanian (2014) has investigated the speculative bubbles in the Tehran Stock Exchange. In this research, we first studied the nature of the bubble and its constituent causes. Then, using Brooke and Wattsariz (2010) e bubble in the Tehran Stock Exchange Index and Index 5 The industry of basic metals, cement, metal minerals, automobiles, and coke production and oil refining products was identified during the years 2004 to 2009. The key factors in detecting this type of bubble are the relative size of the bubble and the abnormal volume of transactions.

KarbasiYazdi and Bonabi (2014), "The Application of Theory of Mental Accounting". Many studies have proved the irrationality of individuals in investment and monetary affairs. Most economic theories are based on the fact that individuals act reasonably in dealing with economic events and consider all available information in the investment process. This hypothesis is the cornerstone of the market hypothesis. But researchers have questioned this fundamental hypothesis and discovered evidence that reflects the lack of logical behavior in the investment. Selection theory, along with mental accounting, can explain the effect of this change. In this study, after presenting a framework for the theory of mental accounting, the objective applications of mental accounting in the field of financial reporting are analyzed in such a way that its objective uses are made by the users of financial information, the formulators of the accounting standards, and the providers of the forms and Financial reports are being reviewed.

3. Methodology

First hypothesis: Average portfolio yield under bubble conditions, taking into account standard deviation as risk criterion, is greater than return on non-bubble portfolio based on subjective accounting.

Second main hypothesis: The average portfolio yield under bubble conditions is greater than the bubble-free portfolio based on subjective accounting, considering the value at risk as a risk measure.

The third main hypothesis: Average portfolio returns under bubble conditions, taking Sharp, Trainer, and Jensen as risk measures, are greater than returns without bubble based on subjective accounting

Fourth hypothesis: Average portfolio returns under bubble conditions, taking into account variance as a risk measure, are greater than returns without bubble portfolio based on subjective accounting

The fifth hypothesis: The average portfolio risk under bubble conditions, considering the standard deviation as the risk measure, is at a certain level greater than the risk-free portfolio risk based on subjective accounting.

3.1. Research variables

Independent variable:

Speculative bubble (SVIit-1):

The livestock variable, which if there is a speculative bubble in the total stock index, is equal to one and other wise, is equal to zero. The analysis and analysis performed in this study includes the implementation of three regression equations on the total stock index and the survey. The condition of speculation is the bubble on it.

$$r_{t+1} = \beta_{s,0} + \beta_{s,b}B_t + \beta_{s,v}V_T + U_{t+1}^s \qquad (1)$$

$$r_{t+1} = \beta_{c,0} + \beta_{c,b}B_t + U_{t+1}^c \qquad (2)$$

$$r_{t+1} = \beta_{q,0} + \beta_{q,b}|B_t| + \gamma_{q,v}V_t \qquad (3)$$

In the above equations, the abnormal volume of transactions and the relative size of the bubble are both variables that increase their risk of asset holdings for investors, so more yields require that in the above equations:

r_{t+1}: is the gross index in the round t + 1, which is obtained from the relation.

B_t: is the bubble size calculated as follows:

$$B_t = \frac{b_t}{p_t} = \frac{p_t - p_t^f}{p_t} = 1 - \frac{\int d_t}{p_t} \tag{4}$$

In this regard:

$$\int = \frac{1 + r}{e^{(a + \frac{\sigma^2}{2})} - 1} \tag{5}$$

This is, of course, used to approximate the mean P / E of the samples.

Also, the fundamental price P_t^f is the index obtained from the relationship and P_t the value of the index at time t. The fundamental price of the weighted average $\left(\frac{P}{E}\right) * d_t$ is based on the capital of all the companies that make up the index.

V_t: is the abnormal volume of the transactions, "the abnormal volume of the equations is determined by the deviation of the volume of the equations from its P_t^f mean value plus its $(\mu + \delta)$ standard deviation."

3.2. Theoretical foundations of the abnormal volume of equations:

As long as the market is symmetrical in the information view and traders have similar information, it can be said that the trading volume of companies and their transaction prices remain in equilibrium, but if some traders get confidential information then It can be expected that the share trading volume will be out of balance due to a group action that holds confidential information and may increase the volume of trading volumes. Traders who have sensitive information can buy or sell shares and earn extra returns before disclosing confidential information and before changing share prices in an appropriate manner. So the abnormal volume of one-share deals in some days, which has not yet been released, has revealed significant secrets to some of the traders, which has increased the volume of trading on that day. There is another reason to justify the change in share price due to the abnormal variation in the volume of the transaction. In stock exchanges such as Tehran Stock Exchange, in which there are no active market makers and no possibility to sell borrowings, the high willingness to buy shares from holders of confidential, positive information and a large volume of purchases can have information for some other traders. In fact, the second group of traders, with the knowledge of the large volume of a large share of the transaction, is due to increased liquidity of the share, or because of the suspicion of the existence of confidential positive news, the incentive to enter the purchasing market is contributed. Therefore, the actions of this group of investors should lead to an increase in volume and share price changes. With regard to the two above arguments, it can be concluded that the unusual volume of a share transaction would probably have the information content, so that some traders can use it to obtain abnormal returns. Therefore, it can be expected that with the assumption of confidential information and the occurrence of abnormal trading volume, there will be abnormal returns on the day of the transaction and thereafter. (2016)

The feature of this model is that if the following conditions are met, the promise of the bubble can be verified. These conditions are derived from the expansion of the first Tyler series in the extended model:

Table 1: Bubble speculation

Item	Conditions
1	$\beta_{s,0} \neq \beta_{c,0}$
2	$\beta_{c,b} < 0$
3	$\beta_{s,b} > \beta_{c,b}$
4	$\beta_{q,b} < 0$
5	$\gamma_{q,v} < 0$
6	$\beta_{s,v} > 0$

The first condition indicates that the average returns are in two different ways. Therefore, we face two distinct probabilistic conditions, even if their exact correlation is not clear. The second condition implies that in the event of a collapse, the rate of returns will be negative. The third condition implies that if there is a positive (negative) bubble, then greater efficiency (less) in rescue mode is observed compared to the loss condition. The fourth condition indicates that the likelihood of bubble survival in the next period is reduced by increasing the relative size of the

bubble. The fifth condition indicates that the abnormal volume of transactions is a warning for the rapid bubble burst. The sixth condition implies that with an increase in abnormal volatility of transactions, investors will incur more risk in the market and therefore expect more returns.

3.3. Moderator variable
Mental Accounting:

$$X = (1-\theta)\, RF + \theta\, Rm \tag{6}$$

In the above equation based on the behavioral model of Fernandez et al. (2009):

X: Mentality accounting is the changes in returns to the previous period (changes in wealth)

RF: Risk-free return rate.

In this research, the rate of participation bonds is considered, which is announced annually by the central bank.

Rm: Market Ratio.

θ: The weight of the asset is risk.

The portfolio selection model and investor behavior are presented using the theory of the Kuhenman and Tourski prospects, therefore, the investor's decision on the weight of the risk asset depends on the reference point and the changes in the wealth can be explained. The asset's weight is the equivalent of the investor's gain or loss (return on investment over the previous period).

3.3.1. The dependent variable
Stock returns:

Returns to the investment process are the driving forces that generate incentives and rewards for investors. Investment returns are important for investors, in order for the entire investment game to be realized in order to achieve returns.

Stock Returns = (End-of-Sale Price -First Period) + Profitability / Starting Price

Risk (beta): The variability in the total returns of securities, which is directly related to the general changes in the market or economy, is derived from the division of covariance of return on equity and market returns into the market yield variance.

3. 3.2. Control variable
Market Downswing - in the event of market downturn, the number is one and otherwise zero.

Market BOOM - if the market boom is equal to one and otherwise zero.

Downswing and BOOM: Based on market share returns, in periods (during the 10 years of research, from 2008 to 2017), the market with the highest returns, the era of economic prosperity, and in the times when the market has The lowest return (market) is the period of economic downturn. Since the goal is to select the optimal portfolios in the investment portfolio, in summary, the implementation of the research is that for the ten-year period, the average return on the market has been achieved if the return on the company is higher than the average market for risk assets. Efficiency and risk indexes are calculated for each year as risk asset portfolios. Then, the average return and risk plus risk-free returns are used as input of two speculative bubble models based on subjective and non-bubble accounting based on the portfolio accounting portfolio mentality. Then, the efficiency and risk of generating portfolios from the two models are compared and evaluated by the speculative bubble model.

4. Results
The purpose of the present study is to apply because it can be used in the decision making process. The purpose of applied research is the development of applied knowledge in a particular context. The present study is based on the classification of research based on the method and nature of correlation research, because the goal is to determine the relationship between variables.

4.1. Study population and statistical sample
The statistical population of the study includes all companies admitted to the stock exchange for the period of 2008 to 2017, and the following conditions are considered in order to determine the statistical society of the research:

It is not part of banks, financial institutions, investment, holding and leasing. Because of the nature of their particular activity, the relationship between the components studied in this research is

different for such institutions and cannot be generalized to others.

The company has been admitted to the Stock Exchange by the end of 2005 and has not been removed from the Stock Exchange during the years 2008 to 2017.

For compliance, the fiscal year of the company will end on March 29th each year.

The company will not change the fiscal year over the years under review.

At least two consecutive years in the research period.

There are no more than three months of trading interruptions during each year on the exchange. Corporate info is available.

As a result of applying the conditions in a systematic knockout sampling, 110 companies were selected from the statistical community to conduct the tests.

4.2. Method of data analysis

To analyze the data of this research in the first stage, the data are analyzed descriptively. This section contains statistics on the centralization and dispersion of data. To test the hypotheses, the means comparison test has been used. All tests were performed by software such as Matlab,

Spss20, Eviews7 and Lingo. The main central indicator is the mean, which represents the equilibrium point and the distribution center, and is a good indicator of the centrality of the data. In general, the scattering parameters are a criterion for determining the degree of dispersion from one another or their dispersion rate relative to the average. The most important parameter of dispersion is standard deviation. The rate of asymmetry of the curve is called skewness. If the skewness coefficient is zero, the society is completely symmetric, and if this is a positive coefficient, then the skewness is right and, if it is negative, the skewness to the left has skewness. It is true that the distribution of the chute is to the right. Scattering parameter the amount of stretch or bursts of the curve is called protrusion or stretching relative to the standard normal curve. If the stretch is about zero, that is, the tensile curve is normal and normal, if this value is positive, the curve is prominent and if it is negative, the curve is broad. The last level also shows the observations.

4.2.1. Descriptive analysis of research variables

Table 2: Results of descriptive analysis of research variables in the total level of observations

Variable	BOOM	Downswing	SVI	Xi	Risk	Return
Mean	0.141484	0.328297	-0.176109	0.3229	0.3131	0.154123
Max	1.000000	1.000000	0.429738	9.69	7.55	7.117954
Min	0.000000	0.000000	-0.512433	1.08	-4.48	6.7105
Stv	0.348759	0.469916	0.131376	1.08842	1.31671	0.562970
Skidding	2.057368	0.731285	1.147908	4.337583	1.147908	8.362002
Drown	5.232761	1.534778	5.548774	20.837700	5.548774	87.19759
Observations	1100	1100	1100	1100	1100	1100

4.2.2. Results of testing hypotheses

Comparison of risk and return based on standard deviation index:

A) Efficiency (standard deviation)

The hypothesis is that the average portfolio return under speculative bubble conditions is not at a certain level of risk greater than the bubble-free portfolio based on subjective accounting. The hypothesis is that the average portfolio yield under speculative bubble conditions is at a certain

level of risk greater than that of the bubble-free portfolio based on subjective accounting.

B) Risk (standard deviation)

The hypothesis is that portfolio risk under speculative bubble conditions (speculation) is not at a certain level of return greater than risk-free portfolio based on subjective accounting.

The hypothesis is that portfolio risk in terms of speculative bubble (speculation) is at a certain level of return greater than risk-free portfolio

based on subjective accounting.

The results of statistical calculations for testing the above hypotheses based on standard deviation are as follows.

Table 3: based on standard deviation index

	Group	Mean	Std. Deviation	Std. Error Mean
ReSSD	1.00	4.4338	2.20491	.24499
	2.00	4.3536	1.81266	.20141
RiSSSD	1.00	10.4409	3.72684	.41409
	2.00	8.5311	3.14485	.34943

Table 4: based on standard deviation index

Levene's Test for Equality of Variances				t-test for Equality of Means					
								95% Confidence Interval of the Difference	
		F	Sig.	t	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ReSSD	Equal variances assumed	1.387	0.241	.253	0.801	0.08025	0.31715	-.54609	0.70659
	Equal variances not assumed			.253	0.801	0.08025	0.31715	-.54627	0.70677
RiSSSD	Equal variances assumed	1.861	0.174	3.525	0.001	1.90975	0.54182	0.83970	2.97980
	Equal variances not assumed			3.525	0.001	1.90975	0.54182	0.83947	2.98003

As can be seen, the Levin test for equality of variances shows the values of 0.224 and 0.174, respectively, since it is greater than the error level of 0.05 it can be deduced that the variance of the two communities is equal, thus assuming equality of variances, the equality of means is examined.

A) Returns status

The results of the calculations with SPSS software show that the significance level for the comparison test is 0.801 and because it is greater than the error level is 0.05, so the hypothesis is not rejected as well as the different lower bound (-0.55460) and upper limit (0.70659) indicate that according to the data analyzed at 95% probability level of mean yields based on both speculative and non-bubble models based on subjective accounting with standard deviation index. They don't.

B) Risk status

The results show that the significance of the standard deviation test is equal to 0.001 and because it is below 0.05 error

level, so the hypothesis is rejected as well as the lower bound (0.83970) and upper bound (2/97980) indicates that according to the data analyzed at 95% probability level of average risks obtained by considering the bubble phenomenon (speculation), based on subjective and non-bubble accounting, there is a significant difference and The upper and lower bounds are positive, which means that the average risk of speculative bubble (speculation) is lower than the bubble-free portfolio based on subjective accounting and with consistent results. Corresponds to Saberi (2014).

Comparison of return and risk based on Value at risk index:

A) Efficiency:

The hypothesis is that the average return on portfolio with speculative bubble (speculative) is not greater than the return on non-bubble portfolio based on subjective accounting.

The hypothesis is that the average yield of portfolio with speculative bubble (speculative) is greater than the yield of portfolio without bubble based on subjective accounting.

B) Risk assessment based on Value at risk index:

The hypothesis is that portfolio risk with speculative bubble (speculation) is not less than risk-free portfolio based on subjective accounting.

The hypothesis is that portfolio risk with speculative bubble (speculation) is lower than risk-free portfolio based on subjective accounting.

Table 5: by Risk Value Index

	group	Mean	Std. Deviation	Std. Error Mean
ReBARPSD	1.00	4.4128	1.44969	.16208
	2.00	4.6553	2.37152	.26514
RiBARPSD	1.00	7.8375	2.30347	.25754
	2.00	12.7566	3.02820	.33856

Table 6: by Risk Value Index

Independent Samples Test									
Levene's Test for Equality of Variances				t-test for Equality of Means					
				95% Confidence Interval of the Difference					
		F	Sig	T	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ReBLASD	Equal variances assumed	9.463	0.002	-0.780	0.436	-0.24250	0.31076	-0.85628	0.37128
	Equal variances not assumed			-0.780	0.437	-0.24250	0.31076	-0.85726	0.37226
RiBLASD	Equal variances assumed	2.086	0.151	-11.564	0.000	-4.91913	0.42538	-5.75929	-4.0789
	Equal variances not assumed			-11.564	0.000	-4.91913	0.42538	-5.75976	-4.0784

5. Discussion and Conclusion

In this research, we tried to present an optimal portfolio model in the field of bubble speculation based on mental accounting. The evaluation of the speculative portfolio of hypothetical portfolio based on mental accounting and Tehran Stock Exchange data suggest that the concept of mental accounting leads to the creation of portfolios in which the difference in the returns of the two models is meaningful. The stock price deviation from the balanced price includes the definition of the bubble. Also, the stock price is the current value of the expected returns of the stockholder. The existence of bubbles in the capital market causes the stock return rate to be determined instead of the balanced price; thereby higher profit is needed to offset the riskiness of the shareholders. The bubble originates from a kind of expectation which expects the motive for the occurrence and disintegration. In fact, the incentive to maximize profits in investment as the main criterion in the decision making of investors in the financial market, but in some cases, behaviors that are by no means based on the principles governing the market is not the stock market bubble The result is the investors 'attitude to subjective accounting, because in stock markets, prices largely reflect investors' expectations of future corporate prospects. In this research, the subjective accounting of the moderating variable and the Sharp, Trainer and Jensen criteria are considered as indicators of risk measurement. The result of testing the above hypotheses showed that for the calculated returns because it is greater than the error level, the hypothesis of equality of the average returns of the portfolios is not rejected. In terms of speculation bubble (subject to speculation) based on subjective accounting there is no significant difference and efficiency based on standard deviation index is not higher. However, the significant value for calculated risks is less than the error level of the research hypothesis, and according to the data

analyzed at the 95% probability level of speculative bubble-based portfolio risk, less than the risk-free portfolio risk. Being based on mental accounting. The result of the statistical test of these hypotheses shows that the significance value for the calculated returns is greater than the error level, the hypothesis of mean inequality of portfolio returns (research hypothesis) is rejected and in other words the speculative bubble portfolio returns (greater than Portfolio returns are not without bubbles. The results also show that the significant value for the calculated risks is smaller than the hypothesis error level and the portfolio risk inequality is not ruled out, better than 95% probability level by considering the bubble phenomenon. Speculation based on mental accounting is less than portfolios without speculation bubble based on mental accounting.

5.1. Therefore it is recommended:

A) Considering the economic developments in the financial and monetary sector, it is recommended that other financial and economic indicators be used for calculations.

B) It is suggested that other indicators of risk assessment be used in future research using more stable indicators data.

(C) Changes in time selection periods for data and calculation of returns and risks can also lead to different results and other findings to explain and develop portfolio selection models in the financial markets of the country.

D) Given that the bubble is mainly due to lack of information transparency in the time to implement the Exchange Transparency Law.

And also the creation and development of advisory and analytical institutions will have an effective role in market performance and preventing the development of bubblesmarket, it is suggested that greater emphasis be placed on the promotion of the capital market information system.

E) The stock exchange should consider the more stringent punitive mechanisms for

firms that do not provide their stock information on.

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