Research Paper

Investors' Behavioral Biases in Tehran Stock Exchange by Emphasizing the Role of Significant Weaknesses in Internal Control

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ABSTRACT

This study investigates the impact of behavioral biases, specifically herding behavior and mental anchoring, on investor decision-making with a focus on significant weaknesses in internal control. The data from 125 companies listed on the Tehran Stock Exchange during the period 2012 to 2018 were analyzed. The regression models were fitted using the generalized least squares method of panel data in Eviews software version 10. The results of univariate analysis indicate no significant difference in the level of behavioral biases between companies with and without weaknesses in internal control. However, the multivariate analysis reveals that the auditor's report on significant weaknesses in internal control strengthens the collective behavior of investors but has no effect on their mental anchoring. These findings suggest that the behavioral biases of investors are influenced by the priority and significance of market news. In the presence of negative news about a company in the stock market, positive news fails to induce behavioral biases in investors. This study highlights the importance of internal control and its role in shaping investor behavior and decision-making.

1 Introduction

Understanding the decision-making process of stock market participants is crucial for regulators and investors. Numerous studies have focused on investigating investment behavior and its impact on securities prices. According to rational human theory, individuals are expected to make rational decisions by considering all relevant aspects. However, behavioral biases can lead to irrational behavior and deviations from optimal decisions [50].

These biases stem from limitations in cognitive resources and time, which prevent individuals from fully analyzing the available data. Consequently, individuals rely on heuristics and cognitive shortcuts, which can introduce biases if used improperly. Behavioral biases are defined as systematic errors in judgment [49]. This study specifically examines two types of behavioral biases: herding be-

havior and mental anchoring. Herding behavior refers to instances where investors follow the behavior of others, disregarding their own information and opinions [27, 52]. This collective behavior can have negative consequences such as price bubbles, increased price volatility, and disruptions in price equilibrium, ultimately leading to market inefficiencies [13]. Bichandani and Sharma [7] define herding behavior as investment decisions influenced by the behavior of other investors or the overall market. Investors tend to exhibit collective behavior when they lack access to confidential information, relying on the actions of their peers instead [29]. Mental anchoring occurs when individuals rely on existing information to predict future phenomena or the value of something, but fail to make sufficient adjustments based on new information. Psychological studies have shown that individuals are highly influenced by the most recent predictions when making numerical forecasts. For instance, in the absence of more accurate information about stock prices in the capital market, individuals often consider the current price as the correct value. Subsequently, their minds anchor to the previous price, making subsequent information seem less relevant. Therefore, individuals tend to give less weight to the latest published information in their decision-making compared to earlier information. Consequently, the direction of price changes, with only minor adjustments, can significantly impact decision-making [43].

Several factors can contribute to the occurrence and reinforcement of behavioral biases. One potential factor that may influence herding behavior and mental anchoring is the presence of significant weaknesses in internal control, as indicated in audit reports. Auditors play a crucial role in assessing the validity of reported financial information, stating whether accounting standards have been properly followed and enhancing the credibility of financial statements [39]. Policymakers are deeply concerned about the quality of financial reporting and information disclosure [44]. After financial crises worldwide, including Iran, audit reports highlighting weak internal controls have gained attention [16]. The Sarbanes-Oxley Act of 2002 requires companies to publish internal control reports, and auditors must attest to the effectiveness of internal controls [23]. In Iran, the Stock Exchange and Securities Organization introduced an internal control instruction for issuers in 2012, mandating management to evaluate the effectiveness of internal control and report the results. Independent auditors are also responsible for expressing an opinion on the establishment and use of an appropriate and effective internal control system by the company, following the framework of internal controls (Securities and Exchange Organization).

This study aims to examine whether auditors' opinions on significant weaknesses in internal control can contribute to and strengthen behavioral biases, including herding behavior and mental anchoring among market investors. The presence of significant weaknesses in internal control may increase information asymmetry between managers and investors. Auditors' opinions on significant weaknesses can raise concerns about the reliability of information, and it is expected that behavioral biases will be more prevalent among investors in companies with such weaknesses. Given the increasing interest in behavioral finance globally and the limited research in this area within the Iran Capital Market, conducting research in this field is essential. Understanding investors' behavioral biases can provide financial experts and professionals with more accurate analyses, contributing to the growth and development of the capital market, which plays a crucial role in the country's economy. Previous studies have explored behavioral biases by considering variables such as social mood, spiritual intelligence, virtual support, financial literacy, company size, systematic risk, P/E ratio, and the effect of experience. However, this study aims to address the research gap by examining behavioral biases, specifically herding behavior and mental anchoring, in relation to significant weaknesses in internal con-

trols. By investigating the importance of audit reports on significant weaknesses in internal controls for various investors and creditors in the Tehran Stock Exchange, this research can shed light on the role of the audit profession in society. The existence of challenges in defining collective behavior and designing appropriate analytical tools further motivates researchers to overcome these obstacles. Hence, this study aims to answer the following questions:

Do investors exhibit more herding behavior when investing in companies with significant internal control weaknesses?

Does investors' reaction to companies with significant internal control weaknesses differ when they receive positive financial information based on management earnings predictions (i.e., do they exhibit stronger mental anchoring)?

To achieve these objectives, this study presents theoretical foundations, a review of the research background, and the hypotheses. The research methodology, models, and definitions of research variables are subsequently discussed, followed by the presentation of findings, discussion, and conclusions. Understanding the behavioral biases of investors, particularly in the context of significant weaknesses in internal controls, can provide valuable insights to financial experts and professionals. It can contribute to a more comprehensive analysis of market dynamics, leading to the expansion and development of the capital market as a vital component of the national economy. Additionally, this research aims to highlight the significance of audit reports on significant weaknesses in internal controls, emphasizing the importance of reliable financial reporting and enhancing stakeholders' confidence in the financial statements.

2 Theoretical fundamentals and research background

2.1 Theoretical

According to efficient market theory, investors have similar expectations based on available information, because they know that others use this publicly available information in the same way, and all of these people are people who are reasonably seeking the maximum. Are to their advantage. The formation of herding behavior of investors is another description of how investors make decisions from different options [56]. When discussing stock market behavior, behavioral financial approaches pay more attention to the reaction of investors in the capital market. Behavioral studies on investor reactions to corporate news have covered a wide range of core financial literature. Behavioural research in accounting studies that how people behave and respond to specific information. The study of the behaviour of accountants or those whose behaviour is affected by accounting functions and accounting reports are included in the field of behavioural research in accounting [45].

Behavioral finance theory states that investor behavior is not rational in most cases and that many behavioral biases influence investors when making decisions. Behavioral biases make it difficult to predict financial decisions [46]. behavioral financial knowledge is based on realistic assumptions such as non-rational behavior and limited interests [34]. Another issue addressed in this study is significant weaknesses in internal control. Thanks to the separation of ownership from control and the problem of representation in the modern business world, it has become necessary to control the institutional governance system in order to reduce representation costs and align shareholder benefits with investors. One of the most important control mechanisms that leads to effective control of firms are strategies called internal control [53]. Internal control is a process performed by managers and other employees of the firm and aims to create reasonable assurance in achieving goals and operational efficiency by thoroughly evaluating the company's resources and costs, confidence in financial report-

ing by increasing the quality of accounting information and Obligation to observance of current regulations [48]. Also Internal control is designed to manage and prevent certain situations that can result in abuse on the part of managers and employees[1]. On the other hand, integrated financial reporting and internal control are provided by managers and independent auditors, and the target audiences are the company's foreign investors. These reports are useful for investors who play an important role in preventing and detecting financial fraud, including fraud. Because the conflict of interests between shareholders and managers and lack of oversight of managers, can lead managers' efforts to optimize personal interests [45].

Also, according to signaling theory, managers issue and market reports of internal control weaknesses in order to maintain their legitimacy and to run the firm properly. Reporting and disclosure of information by companies is a tool for the dynamism and efficiency of the capital market, and therefore companies prepare and provide information through financial statements and other reports in order to protect the rights of stakeholders based on mandatory and optional requirements. One of these reports, which is prepared based on legal requirements in Iran and may be optional or mandatory in other countries, is the report of weak internal controls [16]. The question is, can reporting significant internal control weaknesses lead to and strengthen investor behavioral bias?. One of the most common behavioral biases is the phenomenon of herding behavior that investors, regardless of personal analysis and beliefs, follow the decisions of other investors in the market, resulting in similar behaviors[5,22]. Herding behavior in the capital market can lead to Herding Behavior such as bubbles and price falls, increase in price fluctuations in the market and, in general, the lack of balance in the market and cause the formation of this expectation The market should be similarly biased when reporting internal controls[55]. This possibility, due to the ambiguity of the effect of internal control on the company's performance from the investors 'point of view, can increase the severity of behavioral bias, and it is possible that due to investors' alignment with the market, the actual reaction will be overlooked by the researcher. Examining the severity of the phenomenon of herding behavior in market reactions at the time of publication of reports of weak internal controls. The first question that arises is whether investors in investing in companies with weak internal controls follow the phenomenon of more herding behavior?

In addition to the phenomenon of herding behavior, the phenomenon of mental anchor is also one of the behavioral biases that lead to the ignorance of some revealed facts. According to Behavioral Financial Findings, anchoring is one of the cognitive factors and behavioral disorders that influence investors' decisions [6] and indicates that individuals, when quantitative estimates, are unreasonably influenced by previous estimates with existing numbers in the expression. Problems arise and show little reaction to new information. In fact, it is a kind of conservatism [40].The phenomenon of anchoring was first introduced by Torski and Kahneman in such a way that people generally make complex decisions in uncertain situations, based on a certain amount. They do the initial, which is gradually adjusted to the final value. Basically, the decisions of individuals in conditions of uncertainty tend to certain values, these values are called anchors [4]. According to the above definitions, it can be hypothesized that in companies that have comprehensible and verified financial information, the investor will make decisions and react based on the same information, regardless of the reported weakness in internal controls [12].One of the important pieces of information that influences investor decisions is the predicted management earning. If this figure is higher than the average expected profit of companies operating in the same industry or higher than the real profit of previous years, we expect a positive reaction[9].Therefore, on the one hand, according to the phenomenon of mental an-

chor, it is expected that in companies where the weakness of internal control has been exposed and reported by auditors, investors will anchor to their mental background due to their inability to analyze its effects [20]. But on the other hand, we know that if internal control is not weak in the general sector and is strongly embedded, it will lead to reliable financial reporting [17,35]. Therefore, the existence of significant weaknesses in internal control leads to a decrease in the reliability of financial statements and a decrease in its reliability.

In this case, it is expected that in companies with weak internal controls, according to audit reports, investors will consider the management profit forecast unreliable and will not rely on it, and ultimately very little positive or even negative reaction to this positive information will be revealed. This is because significant weaknesses in internal control call into question the validity of information. onsidering the above two cases, the second question arises as to whether the reaction of investors to companies with significant weaknesses in internal control is ultimately influenced by positive financial information based on predicted management earning (they involve in more mental anchor)?

2.2 Research background

Vares et al. [51]. in a study, studied the mass behavior in the Tehran Stock Exchange with the Chiang and Zheng model and according to the coefficients obtained from the regression equations and the type of mass behavior, in terms of incidence in The times of rise or fall of the market, concluded that in general, investors in the Tehran Stock Exchange have had a mass behavior; But in times of market downturn, they have acted somewhat more rationally and reduced the intensity of their mass behavior in investments. Hahn [25] tested the CSI-300 index and its constituent stocks with the criterion of absolute cross-sectional deviation and concluded that the sample was not affected by mass behavior at growth times; But when the market collapses, its mass behavior is evident. Saedi & Rezaian [47] in a study entitled The study of the effect of CEO's overconfidence on return and unsystematic stock risk due to the dual role of CEO: Evidence from Tehran Stock Exchange, found that CEO's overconfidence , Whether he is a member of the board or not, has a positive effect on the company's stock returns; Because most of these managers make better use of the company's growth opportunities. In contrast, the CEO's overconfidence, if he is not a member of the board, increases the systematic risk of the company and if he is a member of the board, reduces the systematic risk for the company. Jafari [31] in a study entitled Investigating the intensity and weakness of mass behavior with a new method based on stock market value in the Tehran Stock Exchange.

Findings of the study, while confirming the existence of mass behavior in all years of research, has shown the distribution of severity and weakness of this behavior on a daily basis with effective observations and with the help of effective point recognition technique, strong periods of herding behavior have been extracted. The results also show that mass behavior occurs in descending trends with more intensity than uptrends. Jokar et al. [34] Investigating the Effect of Investors' Behavior and Management on the Stock Returns: Evidence from Iran. The purpose of their study is to investigate the effect of behavioral variables on overconfidence in management, herding behavior and investors' emotional tendency on stock return. Their research findings showed that the behavioral variables studied in the research has a significant and inverse effect on the stock return of the companies. Jacoby et al. [30] in a study examined the weakness of internal control, investment and valuation of companies. Their findings show that weak corporate internal controls reduce their investment and experience poorer stock performance. Therefore, they concluded that the decrease in investment as a result of internal control weaknesses could be due to financial frictions associated with internal control weakness.

Bashiri Manesh et al. [3] in a study examined the emotional behavior of investors and management of accounting profits. Findings indicate that there is a positive and significant relationship between momentum effect and value consumption variables from the perspective of price to earnings per share with accounting earnings management. As a result, it can be said that short-term investors' attitudes affect the degree of manipulation of discretionary accruals. The findings also showed that there is no significant relationship between investors' emotional behavior and real profit management. Dastgir and Saedi [11] in a study entitled The Impact of Major Weaknesses in Internal Controls and Controlling Shareholder Gaps on Investment Inefficiency concluded that poor internal control increases corporate investment inefficiency.

Zhang and Zheng [57] using the LSV method, investigate the phenomenon of herding behavior among institutional investors in the Chinese capital market. Evidence from this study shows that significant herding behavior is observed in the Chinese stock market. Fakhari and Kabiri [16] in a study examined the moderating effect of the audit report on the relationship between disclosure of internal control weakness and information asymmetry and stated that there is a significant relationship between internal control weakness disclosure report and companies' information asymmetry. Pakdel et al. [43] in their study identified the effective factors of subjective accounting in portfolio formation by inexperienced investors with the help of confirmatory factor analysis. The results showed that the factors of anchoring and adjusting, information access error, information confirmation error, projection error, halo effect, market sentiment, optimistic perceptions, alas theory, the effect of price anomalies, limited perspective, have the greatest impact on investors' decisions. Ohaness et al. [42] examined the relationship between financial literacy and behavioral bias among US college students. According to the study, there are many reasons for the lack of a strong relationship between financial education and financial behavior, including the difficulty of changing financial behaviors, the inconsistency of financial education programs with local environments, or irrelevance, lack of awareness and attractiveness. These programs are for the people in question, it is difficult to find specialized professors to teach people and so on. The results of this study indicate that the primary reason for the inefficiency of savings and retirement planning is behavioral bias and lack of financial literacy. Jlassi, M., Naoui [33] studied the effect of herding behavior on US stock volatility and concluded that on days with high trading volume, herding behavior is more likely.

Lashgari et al. [37] in an article examined the weakness of internal control and the quality of companies' accruals and stated that the quality of accruals is strongly related to the weakness of internal control and the quality of accounting information (accruals) is highly dependent on the information environment and information resources is. Companies with poor internal control and lower quality of financial information. Gol Arzi and Ziachi [22] in a study examined the herding behavior of investors in the Tehran Stock Exchange with an approach based on trading volume and showed that herding behavior has been done continuously in the Tehran Stock Exchange during the review period. Lin and Lin [38] examined the herding behavior of investors using daily trading data in the Taiwan stock market. Their research findings show that herding behavior depends on market conditions, type of investor and company characteristics. Bashir [2] in a study examined Impact of Behavioral Biases On Investor Decision Making: Male Vs Female and showed there is no significant difference between the responses of male and female decision making regarding overconfidence bias. Gavriilidis at el [21] with consideration of conscious industry and herding behavior, concluded that most herding behaviors are conscious and that market returns affect this behavior. Hamersley et al. [24] in a study examined the market reaction to exposing the weakness of internal control and the characteristics of weak-

nesses. They found that the market reaction was strongly related to the weakness of internal control and that the adjusted daily returns at the time of disclosure of the weakness in internal control were significantly negative. At the same time, investors are deeply concerned about the weaknesses of internal controls. Thus, they concluded that the existence of weaknesses in internal controls would lead to a negative market reaction.

3 Research Methodology
3.1 Research Hypotheses

Hypothesis 1: Investors follow the phenomenon of herding behavior to invest in companies with significant weaknesses in internal control.
Hypothesis 2: Investors' reaction to companies with significant internal control weaknesses is influenced by positive financial information based on predicted management earnings (they involve in more mental anchor)?

3.2 Research methodology
Due to the requirement to submit an audit opinion from 2018 and the lack of such information for previous years, the period of the present study is from 2012 to 2018 and the statistical sample of the study has been selected from companies listed on the Tehran Stock Exchange. Their number was equal to 125 companies. This sample is based on the restriction and elimination of designated companies that do not have a specific statement about internal controls, at the time of publication of audited reports and opinions on internal controls were in a state of suspension and are part of the financial intermediation industry. Banks, insurance companies and mutual funds. It is noteworthy that the data analysis was performed in EViews version 10 software and in order to fit the regression models, the generalized least squares method of panel data was used.

3.3 Hypothesis test model
Hypotheses were tested using least squares regression analysis method and in order to test the hypotheses, regression pattern fitting was used.

3.3.1 Test model of the first hypothesis
Equation (1) examines the bias of (mass) market behavior among firms reporting significant weaknesses in internal control.

$$
\begin{aligned}
CAR_{-1,+1} = \beta_0 &+ \beta_1 ICW_{i,t} + \beta_2 h_{m,t} + \beta_3 (ICW_{i,t} \times h_{m,t}) + \beta_4 Size_{i,t} + \beta_5 \Delta EPS_{i,t} \\
&+ \beta_6 AO_{i,t} + \varepsilon_{i,t}
\end{aligned}
\tag{1}
$$

$CAR_{-1,+1}$: cumulative abnormal return from one day before to one day after the date of publication of the auditor's report [36]. Since the market reacts negatively to bad news and the spread of bad news in the market causes a negative adjustment of stock prices, which in the financial literature is referred to as falling stocks price [28] and falling stocks price. , Leads to a sharp decline in stock returns [19]. Significant weaknesses in internal control, which are inherently negative news, are expected to provoke a negative market reaction, leading to lower stock prices and unusually negative returns.

To measure the reaction of investors at the time of publication of the auditor's report, the cumulative daily abnormal return are used, which cumulative daily abnormal return are calculated using the adjusted market model (Equation 3) [18]. In this model, it is assumed that market return represents the expected return of companies' stocks in each period of time, and stock risk is considered equal to

market risk. Therefore, the difference between the real return of the stock and the return of the market in the period in question indicates an abnormal return. cumulative daily abnormal return are calculated based on Equation(2).

$$CAR_i = \sum_{t=-1}^{1} AR_{i,t} \qquad (2)$$

The daily abnormal return on a stock (AR) is the difference between the actual return on a stock and the expected return on that stock on the day under review, calculated based on the adjusted market model (Equation 3):

$$AR_{i,t} = R_{i,t} - R_{m,t} \qquad (3)$$

$AR_{i,t}$: Abnormal return of company i on day t.
$R_{i,t}$: The actual return of Company i on day t obtained from Equation (4):

$$R_{i,t} = \frac{P_{i,t} - P_{i,t-1}}{P_{i,t-1}} \qquad (4)$$

$R_{m,t}$: Market return on day t, which is calculated as follows:

$$R_{m,t} = \frac{TEDPIX_t - TEDPIX_{t-1}}{TEDPIX_{t-1}} \qquad (5)$$

$TEDPIX_t$: Total price index and cash dividend (total stock index) on day t.
$TEDPIX_{t-1}$: The total price index and cash dividend on day t-1.

ICW ~it~: Significant weakness in internal controls: According to the checklist of internal controls governing financial reporting approved by the Tehran Stock Exchange since 2012, the company's auditor is required to review the company's internal controls and the cases that indicate Disclose non-compliance or improper implementation of internal controls in the audit report [14].Considering that in the audit report, only the weaknesses with the importance of the company's internal controls are presented as a condition clause and all the weaknesses that the auditor has previously reported in the management letter are avoided, so in the present study, all clause clauses related to Weaknesses in internal controls are considered important weaknesses. Therefore, the focus of the present study is on the following sections of the legal responsibilities of corporate audit reports. Therefore, similar to previous research in this field [23,24,41]. if the company has at least one significant weakness in the internal control system, the number One and otherwise considered zero.

h~m,t~: is the phenomenon of herding behavior (mass) which, according to Equation (6), determines the relationship between the trading volume of stocks and the market.

$$V_i = a_i + \beta_i V_m + \varepsilon_i \qquad (6)$$

Where V_i and V_m are respectively volume of shares traded i and trading volume of market ، a_i is y-intercept and βi is y-intercept and the slope of the line. Equation (6) is based on the assumption that the volume of transactions can contain significant information about the company; This means that an

increase or decrease in trading volume can include information that encourages people to buy or sell. In equilibrium position based on the CAPM model, the equilibrium relationship of risk volume will be as follows

$$V_{i,t} = \beta_{i,m,t}.V_{m,t} \tag{7}$$

Where $V_{i,t}$ and $V_{m,t}$ are respectively the trading volume of stock i and the market at time t, and $\beta_{i,m,t}$ is the sensitivity of stock trading i to the total market trading at time t.

Assuming that investors follow the market performance, it can be claimed that the volume-risk balance is distorted and will be as follows:

$$V_{i,t}^b = \beta_{i,m,t}^b \times V_{m,t}^b \tag{8}$$

Where $V_{i,t}^b$ and $V_{m,t}^b$ are respectively the biased volume of stock trades i and market trades in period t and $\beta_{i,m,t}^b$ is the biased beta coefficient of stock i in period t. supposing that $\delta_{i,t}$ and $\delta_{m,t}$ are respectively the standard deviation of the trading volume of stock i and the market and market transactions, respectively, then the volume of biased transactions of stock i and the market as $V_{i,t}^b = V_{i,t} + \delta_{i,t}$ and $V_{m,t}^b = V_{m,t} + \delta_{m,t}$ are calculated. By division Standard deviation on trading volume indicates The investor's feeling towards stock i and the market in the form of $S_{i,t} = \frac{\delta_{i,t}}{V_{i,t}}$ and $S_{m,t} = \frac{\delta_{m,t}}{V_{m,t}}$, that $S_{i,t}$ represents the investor's feeling towards stock i and $S_{m,t}$ represents the investor's feeling towards the market. with having the inclination of investors to stock i and the market, the biased beta coefficient of stock i is obtained according to Equation(9).

$$\beta_{i,m,t}^b = \beta_{i,m,t}\left(\frac{1 + S_{i,t}}{1 + S_{m,t}}\right) \tag{9}$$

And according to the beta definition, the biased beta can be calculated by the method $\frac{V_{i,t}^b}{V_{m,t}^b} = \beta_{i,m,t}^b$ and the relationship between beta The equilibrium ($\beta_{i,m,t}$) and the biased beta ($\beta_{i,m,t}^b$) are also expressed as follows:

$$\beta_{i,m,t}^b = \beta_{i,m,t} - h_{m,t}(\beta_{i,m,t} - 1) \tag{10}$$

where h(m,t) indicates herding behavior that changes over time. It is expected that the phenomenon of herding behavior, while the auditors' report has a significant weakness in internal controls, is more than other companies, So we expect to have in relation (1): $|\beta_3| > |\beta_2|$ [22]. Also in relation (1) **Siz** $_{i,t}$ the size of the company is considered as one of the factors affecting the abnormal return in the form of a control variable in the model that the size of the company is : has been defined as the natural logarithm of the market value of equity equal [26]. **ΔEPS** $_{i,t}$ is the percentage change in earning per share and is obtained from the ratio of the difference between earning per share in this year with the last earning per share disclosed to the last earning per share disclosed [8]. **AO** $_{i,t}$ is The Audit Opinion audit. If the auditor has an acceptable opinion, the number 1 and otherwise the number zero is considered for it.

3.3.2 Test model of the second hypothesis

Given that the second hypothesis of the study examines the anchor bias of shareholders at the time of reporting significant weaknesses in internal controls, according to the previous questions, the accumulated return due to the reaction of investors is measured from one day before to one day after publica-

tion. The regression model tested to answer this hypothesis is equation (11).

$$
\begin{aligned}
CAR_{-1,+1} = \beta_0 &+ \beta_1 ICW_{i,t} + \beta_2 CAF_{i,t} \\
&+ \beta_3(ICW_{i,t} \times CAF_{i,t}) + \beta_4 Size_{i,t} \\
&+ \beta_5 \Delta EPS_{i,t} + \beta_6 AO_{i,t} + \varepsilon_{i,t}
\end{aligned} \tag{11}
$$

So that **CAF $_{i,t}$** is equal to the difference between the forecasted dividends of the company by the management and the average forecasted dividends of the industry divided by the absolute value of the average forecasted dividends of the industry. This variable is a description of the mental anchor phenomenon according to the study of Cen et al [10] and therefore $ICW_{i,t} \times CAF_{i,t}$ is an interactive variable that indicates the extent of the mental anchor phenomenon when significant weaknesses are propagated Internal control. Since there is an expectation of anchoring phenomenon among investors, β_3 is expected to be greater than β_2, in other words, we expect the intensity of the mental anchoring phenomenon to increase among investors when significant weaknesses in internal controls are reported. If β_2 is not significant, it indicates the absence of the mental anchor phenomenon among investors.

4 Analysis and Findings

4.1 Descriptive statistics

Table 1 shows the results of descriptive statistics of research variables. According to the results of the first panel of this table, which shows the average, median, standard deviation, minimum and maximum information of the quantitative variables of the research, it is observed that the average abnormal stock return in one-day periods before and after the auditor's report is equal to 0.025 has been obtained. The average index of herding behavior of investors is estimated to be -0.0119 and the average of the mental anchor index (the ratio of dividends predicted by the company by the management and the average dividends of the industry) is equal to 0.018 which shows the excess of forecast dividends. Management has an attitude towards the industry and in other words, managers are optimistic about future profits.

Table 1: Descriptive statistics of research variables

	Continuous variables					
	number of observations	Average	Middle	Standard deviation	Maximum	At least
CAR	875	0.025001	0.024852	0.139970	-0.08978	0.068243
h	875	-0.01195	-0.00701	0.002861	-0.11105	0.015816
CAF	875	0.014801	0.016398	0.109848	-0.07996	0.055022
Size	875	13.71819	13.66730	16.29840	11.20430	1.472152
ΔEPS	875	0.116224	0.126434	0.459275	-0.2494	0.204842
	Dummy variables					
		0 (%)			1 (%)	
ICW		572 (65.38)			303 (34.62)	
AO		168 (19.20)			707 (80.80)	

Source: Research Findings

Also, the size of companies on average and on a logarithmic scale is equal to 13.718 and the percentage of changes in dividends of companies is on average equal to 0.116. In the second panel of the table, which shows the information about the frequency and frequency of the qualitative variables of

the model, it is observed that 34.62% of the observations showed a significant weakness in the internal controls of the company and also 80.8% of The observations also show the auditor's acceptable report on the financial statements. These results reflect the fact that although a significant proportion of companies have an acceptable audit report, approximately one-third of the observations show signs of significant weaknesses in internal controls and therefore significant overlap in audit reports. There are significant reports and weaknesses, and this can be attributed to weaknesses in audit control systems and financial reporting laws in the country.

Inferential analysis of data has started by conducting an average comparison test between two groups of companies with significant weaknesses in internal control and companies without these weaknesses. This test is used to compare the values of herding behavior and mental anchor of investors. Non-confirmation of the normality of the distribution of the values of the variables. To perform this comparison, the non-parametric Mann-Whitney test was used. The results of this test in Table 2 show that there is a significant difference between any of the values of abnormal returns, mental anchor and herding behavior of investors in the two groups of companies that had a significant weakness in the auditor's report and companies without this weakness. Does not exist. Also, the comparison of model control variables between these two groups shows that there is no significant difference between the dividend growth rates and the size of the company between the two groups.

Table 2: Univariate analysis of the relationship between auditors' opinions and main variables

	ICW	Mean	tandard deviation	z-statistic	p-value
CAR	0	0.020	0.068	-0.729	0.466
	1	0.030	0.069		
CAF	0	0.010	0.054	-0.659	0.510
	1	0.020	0.056		
h	0	-0.010	0.015	-0.148	0.882
	1	-0.010	0.016		
Size	0	13.690	1.460	-0.701	0.483
	1	13.770	1.497		
ΔEPS	0	0.110	0.204	-1.640	0.101
	1	0.0130	0.207		

Source: Research Findings

4.2 Inferential statistics

4.2.2 Test the first hypothesis

In order to test the research hypotheses and estimate the regression models related to them, based on the results of the Chao test, the fitting of the least squares regression models generalized to the combined data method has been used. Table 3 shows the fitting results of this model to test the effect of herding investor behavior in companies with significant weaknesses in internal control.

According to the results of Table 3, it can be seen that the phenomenon of herding behavior of investors has had an inverse effect (-0.276901) and a significant effect on abnormal returns and stock market reactions. The interaction of weakness with the importance of internal control and herding behavior of investors in the model through the ICW*h variable was also significant and shows that abnormal stock returns in companies with significant weakness in internal control are influenced by the herding behavior of capital. Investors, in other words, investors in investing in companies with significant weaknesses in internal controls follow market transactions, and this result confirms the claim of the first hypothesis of the research. However, the negative impact factor of this factor in the model (-

2/349001) shows that in companies with significant weaknesses in internal control, by increasing the herding behavior of investors, we can expect abnormal stock returns to decrease significantly. Comparing the effect of herding behavior on abnormal returns as well as its interaction with the auditor's report that there is a significant weakness in internal control shows that if there is a significant weakness in the company's internal control, the herding behavior of investors has a stronger effect on Has abnormal stock returns.

Table 3: Regression analysis of the first hypothesis

	Beta coefficient	The standard deviation	t-statistic	p-value	Inflation of variance
ICW	-0.026875	0.004974	-5.403590	0.0000	1.561962
h	-0.276901	0.133073	-2.080825	0.0377	1.611173
ICW*h	-2.349001	0.232611	-10.09843	0.0000	2.166996
SIZE	-0.011444	0.001461	-7.834405	0.0000	1.003525
DEPS	-0.148145	0.009554	-15.50543	0.0000	1.003622
AO	0.016951	0.009415	1.800451	0.0721	1.005623
C	0.209417	0.022518	9.300183	0.0000	-
R-squared	0.4349				
F-statistic	111.3552				
Heteroskedasticity	0.8132				
Serial Correlation	0.6171				
Jarqu-Bra	0.1604				

Source: Research Findings

Table 4: Regression analysis of the second hypothesis

Panel A: coefficients estimates					
	Beta coefficient	The standard deviation	t-statistic	p-value	Inflation of variance
ICW	0.015712	0.003557	4.416978	0.0000	1.083288
CAF	0.377196	0.045077	8.367864	0.0000	1.572220
ICW*CAF	0.362341	0.054620	6.633824	0.0000	1.659150
SIZE	-0.014267	0.001421	-10.03630	0.0000	1.001582
DEPS	-0.039892	0.013473	-2.960964	0.0032	1.006509
AO	0.013159	0.009109	1.444600	0.1489	1.002074
C	0.229146	0.021696	10.56166	0.0000	-
Panel B: Goodness of fit					
R-squared	0.4733				
F-statistic	130.0017				
Heteroskedasticity	0.8969				
Serial Correlation	0.5885				
Jarqu-Bra	0.0941				

Source: Research Findings

In other words, the condition $|\beta_3| > |\beta_2|$ The results of this model are approved. These results indicate that the auditor's report that there is a significant weakness in internal control not only creates a herding behavior of investors, but also as bad news for the company can reduce the stock return relative to market return. This is where the auditors' report on the weakness of internal control seems to be able to affect the degree of conditional conservatism of companies. However, the confirmation or disapproval of this claim requires more detailed assessments.

4.2.2 Test of the second hypothesis

In order to test the second hypothesis of the research, regression model estimation was used using integrated data method and generalized least squares, the results of which are presented in Table 4. According to the results of Table 4, it can be seen that the phenomenon of mental anchor of investors has also shown a direct impact (0.377196) and a significant effect on the abnormal return on stocks. The study of the interaction of these two factors, ie significant weakness in internal controls and mental anchor of investors shows the significance of this effect in the research model. Its positive impact factor (0.362341) in the model shows that in companies that have significant weaknesses in internal controls, increasing the phenomenon of mental anchor leads to an increase in abnormal stock returns, and therefore stock returns in these companies if Faced with the phenomenon of mental anchor, it will be expectedly higher than market returns.

A comparison of the direct effect of subjective anchorage and its interaction with the imaginary variable of internal control weakness shows that subjective anchorage occurs less frequently when the auditor's report indicates a significant weakness in internal controls. Therefore, it can be concluded that the reaction of investors to companies with weak internal control is less affected by positive financial information, and therefore the auditor's report on internal controls is more important than the good news of the company based on high predicted earning. In other words, the condition $| \beta_3 |> | \beta_2 |$ The results of this model were not approved. Therefore, the second hypothesis of the research has not been confirmed.

5 Conclusions

In the present study, an attempt was made to investigate the phenomenon of herding behavior and mental anchor of investors emphasizing the role of significant weaknesses in internal control of companies listed on the Tehran Stock Exchange. Previous studies have not made accurate assessments of how investors react to this significant weakness in internal controls with their behavioral bias assessment approach. Previous studies have also shown that investor behavioral biases are mainly based on the good and bad news of the company. While the publication of the audit report, the existence of a significant weakness in internal control that weakness in internal controls indicates high agency costs in the company, has not been considered. The findings of this study showed that investors in the Tehran Stock Exchange experience the phenomenon of herding behavior, and also in situations where there is evidence of significant weakness in internal control, herding behavior is strengthened and abnormal stock returns that show Give an overall market reaction to corporate news, in which case it has a stronger impact on investor behavior that is consistent with the results of previous research, including Wong et al. [54] and Ji et al. [32]. While the results of the second hypothesis show that the auditors' report on significant weaknesses in internal control can not strengthen the mental anchor of investors. Although the results of some studies such as Korniotis, G.M. and Kumar [35], Gao and Jia [20] and Bushman and Smith [9] are inconsistent with the findings of this hypothesis, but it should be noted that comparing the results of this hypothesis with the previous hypothesis shows the importance of news. Good and bad company.

These results show that the bad news of the company causes more behavioral distortions of investors and investors in the Tehran Stock Exchange pay less attention to the good news of the company and the predictions of managers. Accordingly, it seems that the behavioral biases of investors are also influenced by conservative practices. This result, considering that the reports of profit forecasting show the anchoring of investors, confirms that Investor behavior will not be affected by good news as

long as the auditor opinion that the company has bad news. Perhaps these results can be considered as a sign of conditional behavioral bias in investors and it should be noted that various individual and environmental factors are effective in the occurrence of behavioral bias and therefore the evaluation of behavioral bias and market reaction to company news, Good and bad happen together. Therefore, it seems that it is better for investors to evaluate the good and bad news of the company together in their decision to allocate a portfolio in order to avoid significant losses due to behavioral biases.

The results of this research can be useful for investors, creditors and analysts, and all individuals and organizations that are somehow involved in investing in the stock market. Therefore, the following suggestions are presented:

- Investors should evaluate the good and bad news of the company together in their decision to allocate a portfolio to avoid significant losses due to behavioral bias.

- Company managers can help increase the positive market reaction by reducing internal control weaknesses.

- Shareholders should pay more attention to the role of institutional shareholders in examining the financial status and quality of financial reporting of companies and include it in their financial decisions so that decision makers are aware of market reactions.

- Due to the fact that companies have been required to report internal control since 2012, a number of companies still do not comply with this law. Therefore, market watchers are advised to follow up on this issue and take the necessary measures.

Researchers are also suggested the following topics:

Investigating the role of significant weaknesses in internal control over other behavioral biases;

Measuring and comparing herding behavior and mental anchor among real and legal investors to report weaknesses in internal controls;

Measuring and comparing the herding behavior and mental anchor in the stocks of small and large companies compared to the report of weakness in internal controls;

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