



BEHAVIORAL BIASES AND THEIR IMPACT ON INVESTMENT DECISION - AN ANALYTICAL STUDY ON A SAMPLE OF PRIVATE BANKS LISTED IN THE IRAQI STOCK EXCHANGE

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| Article history: | Abstract: |
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| Received: 10 th November 2021 Accepted: 10 th December 2021 Published: 26 th January 2022 | Financial organizations have become not only affected by decisions resulting from uncertainty, but also by behavioral biases. Thus, the main objective of the study is to find the effect of behavioral biases in the investment decision through an analytical study of private banks listed in the Iraqi Stock Exchange. After conducting field interviews and reviewing the reality of banks of the study sample, the data was collected through the use of a questionnaire distributed to (150) workers in those banks. Then, it was analyzed using the program (SPSS. 25). Based on the results of this study, a number of conclusions and suggestions were reached to fit the nature of the study. |

Keywords: Behavioral biases, Private banks, Investment decision, Iraqi Stock Exchange.

INTRODUCTION:

The Iraqi Stock Exchange provides investment opportunities for all investors to enable them to achieve growth for their wealth and increase their future expenditure. Yet these opportunities need to take an accurate investment decision by investors depending on facts and information rather than relying on behavioral biases or compliments. The behavioral biases are in four types: cognitive, emotional, social, informational. One of the negative qualities describing the investor will help making him a decision based on those biases without being indifferent to the risks that may occur in the future. From this point of view, the management of banks must address these problems through overcoming these biases and making an investment decision based on the realities of return and risk. This will enable these banks to achieve their goals and social benefits for the society in which they operate. On this basis, the current study is divided into several axes:

- The first axis: methodology of the study
- The second axis: the theoretical side
- The third axis: the field side
- Fourth axis: Conclusions and Recommendations

The first axis: methodology of the study

First: The problem of the study: The changes and crises that occur in the markets may be caused by the conditions of uncertainty of the market movement or the psychological factors related to investors. This prompted the banks to address this problem by searching for ways to solve it, and at the forefront of the solutions came the behavioral biases that must be

carefully studied to understand the psychology of investors, their motives and their personalities as a major driver of prices and investment trends, using psychological tools for attention. This is by using psychological tools in order to pay attention to the phenomenon of behavioral and cognitive errors that investors fall into by highlighting the most important biases accompanying investment decision-making suffer from:

- 1 -Do the study sample banks have a clear idea of behavioral biases?
- 2 -What are the investment decisions that banks resort to?
- 3 -Do behavioral biases affect investment decision making?

Second: The importance of the study: The importance of the study is the benefits it achieves for the study sample banks, which are:

- 1 -Helping banks to understand the nature of the impact of behavioral biases on the investment decision, by interpreting the investment behavior of individuals through the behavioral-psychological approach.
- 2 -This study provides benefits to the investment community, including practitioners, mediators and policy makers to help in understanding and interpreting the investment decisions of individuals and how they can be dealt with and directed towards achieving goals.
- 3- This study provides scientific, practical and useful advice to raise the investment awareness of individuals who represent the lifeblood of the financial markets.



Third: The aim of the study: The main objective is to find the effect of behavioral biases on the investment decision through an analytical study in the private banks listed in the Iraqi Stock Exchange. From this goal, we put the following sub-objectives:

1 -Diagnosing the obstacles that prevent overcoming behavioral biases when making investment decisions.

2 -Addressing these obstacles depending on the theoretical and practical side of the study in a way that achieves the efficiency of investment decisions in banks.

Fourth: The hypothesis of the study: The study is based on one hypothesis: the existence of a significant statistical effect of behavioral biases (in the aggregate) in the investment decision (in the aggregate), and from this hypothesis we point out the following sub-hypotheses:

The first sub-hypothesis: There is a statistically significant effect relationship to the cognitive bias in the investment decision (as a whole).

Second sub-hypothesis: There is a statistically significant effect of emotional bias in the investment decision (overall).

The third sub-hypothesis: There is a statistically significant effect of social bias in the investment decision (in general).

The first sub-hypothesis: There is a statistically significant effect of informational bias in the investment decision (overall).

Fifth: Study Method: The descriptive analytical method has been adopted by the study, and it is the method most appropriate to the nature of the study.

Sixth: Methods of data collection: This part is subdivided into two parts:

1- The theoretical side: the theoretical side was covered on what is available from foreign language sources such as periodicals and magazines.

2- The field side: the field side relied on the questionnaire form that was designed based on several sources (Nguyen & Pham, 2021; Saens & Tigero, 2021), as the form was designed according to

the triple Likert scale (agree - neutral - disagree) and with a hypothetical ability.

Seventh: The limits of the study: The study discussed the behavioral biases and the investment decisions in a number of banks operating in the Iraqi Stock Exchange from 1/6/2021 to 10/1/2021.

THE SECOND AXIS: THE THEORETICAL SIDE

Behavioral biases are called behavioral finance in which the science of finance and cognitive psychology intersect. It helps to know the investors accurately, as well as to know and understand the models of their investment decisions. From this point of view, this axis is divided into two parts:

FIRST, BEHAVIORAL BIASES:

1- The concept of behavioral biases: Writers and researchers are different in understanding the concept of behavioral biases, which were described as a set of personal phenomena that an individual carries and that may affect the behavior in the investment field. The analysis and verification of psychological approaches are reflected on the behavior of the investment investor(Hsu, 2021). This indicate that it is the pursuit that achieves integration between financial decisions and science of the cognitive psychology in order to reach a more comprehensive model of investor behavior in the decision-making process(Moore & Slemrod, 2021). explain It is an entrance to the study of investment from the gateway to psychological behavioral biases and its impact on the effect of those in achieving prosperity or not (Durand, Patterson, & Shank, 2021; Hsu, 2021). It is the internal psychological forces that push the investor to make a decision without referring to information and facts.

2- Dimensions of behavioral biases: There are many behavioral dimensions that affect the investment decision-making process, and the dimensions of behavioral biases are as follows:

A- Cognitive and remedial bias: This type of bias shows the firm conviction of the individual that makes him adhere to it, and if different information is available from reality. It is characterized by rationality, which is one of the most important behavioral patterns that affect the rationality of the individual when making an investment decision, and facing the change in events, meaning that the individual makes a



decision based on perceptual and inferential rules (Hsu, 2021).

B- Emotional bias: It is the bias that results from making a decision in the light of the emotions and feelings of the individual without relying on real data or probability theory. The individual in this type is affected by a set of values and emotions that he possesses, and investors are affected by the value system. In addition, the emotional bias generates wrong decisions as a result of psychological and social problems in the individual's mind, which makes the individual inclined to a particular decision without real reasons, and one of the most important types of behavioral biases emotional (Hsu, 2021):

- Optimism: It means the optimism of individuals about the correctness of the decision taken by them. It makes them expect a better future for their investment situation, without being indifferent to the changes facing their work.

-Confidence: It is related to the individual's excessive confidence in the investment decision based on the personal view that he sees as better than the views of others.

- Avoiding ambiguity: It is the investor's attempt to avoid all the by not paying attention to the events that surround an amateur who is ignorant of dealing with them.

Avoiding regret: The wrong decision will make the investor feel remorse, especially when there are better strategic alternatives than this wrong decision.

Loss avoidance: It is related to the investor making a profit-related decision while ignoring the loss that may occur as a result of his incorrect decision.

C - Social bias: It is the investor's tendency towards the investment community, meaning that the investor takes information and advice from other investors, or the tendency to imitate the investment community in all the procedures followed despite the difference in investment from one community to another. It is based on collective information rather than private social bias which is due to the social pressure that makes the individual identical in terms of ideas with society instead of being perverted or ostracized by society. This matter is based on the principle that the

ideas of society are better than the idea of the individual(Durand et al., 2021).

D- Informational bias: It means the investor's tendency towards obtaining information to make a decision on a specific topic, even if the information is inappropriate. The huge amount of information may be necessary in the success of the investment decision as well. Therefore, investors are affected and influenced by the investment decision in the labor market(Moore & Slemrod, 2021).

1- Strategies to avoid bias: There are many strategies that can be used to avoid these biases, which are (Nguyen & Pham, 2021):

A - Education and knowledge: Education enhances the process of knowledge and enables the individual to develop his skill to understand events and make future decisions without making mistakes or minimizing them to the maximum extent possible.

B - Setting goals: Setting clear and not vague goals facilitates the process of achieving them accurately and quickly.

C - Mathematical methods: The use of mathematical methods in the decision-making process results from emotion and emotion, and this contributes to enhancing the quality of the information used in making the investment decision.

D- Diversification: It means diversification in investment instead of relying on investment in a particular aspect, which is reflected well on the investment situation of the individual.

E - Control of the environment: The investment environment is controlled through periodic monitoring of the investment portfolio, and this will have a direct impact on controlling the buying and selling operations and not bias towards excessive confidence.

Second: The investment decision: It includes the following:

1- The concept of investment decision: Saens and Tigero (2021) defined it as the investment of the investor's resources with the aim of achieving the highest returns in the future with bearing a small risk margin. Some of the money owned by the investor in an investment project enable to achieve the best returns in the future as a result of the money and the time incurred to implement that project. Liu, Zhang,



and Zhang (2022) explain that a decision is related to operating the investor's material, human and financial capabilities with the aim of achieving a pivotal role in leading and serving the economic process in the country.

2- Principles of the investment decision: There are many principles that operate according to the investment decision (El-Gebeily, Guermat, & Vendrame, 2021):

A - Choice: The investor must identify many investment opportunities so that could help to choose the appropriate opportunity for capabilities.

B - Comparison: When many excellent investment alternatives are available, the investor is required to move towards comparing these alternatives in terms of returns, time and risks, so that he can choose the best and implement it on the ground.

C - Appropriateness: Appropriateness is related to the characteristics and features that describe the investor, such as income, and these things are what push the investor to choose the appropriate project.

D- Distribution: Investment projects or opportunities vary in terms of returns, risks, and the time required to complete the project. These opportunities must be diversified to determine the risk and increase the returns.

3- Types of investment decision: Financial organizations work according to three types of decisions:

A- Purchase decision: This decision is related to the investor's desire to buy or own a financial project, and the investor turns to this type of decision when it becomes clear that the cash flows have an expected financial value higher than the market value. This generates a great motivation for the investor towards achieving financial gains (Liu et al., 2022).

B- Decision not to trade: It means the risk of the investor in buying or acquiring a financial asset whose market value is equal to the expected cash flows with its financial value. Selling depends on that. Here the decision is not to trade because the investor has a distorted picture of profits and risks and he cannot make the decision to buy and sell (Khedmati, Sualihu, & Yawson, 2021).

A- Selling Decision: The investor makes the decision to sell the financial asset when its market value is higher than the financial value of the expected cash flows (Saens & Tigero, 2021).

1 -Factors affecting the investment decision: They include (Khedmati et al., 2021):

A- Learning: The goal of education is to increase investor awareness to improve his investment behavior and achieve his desired goals.

B - Motivation: It is a set of processes that enable or encourage the investor towards achieving the desired goal and sustaining and maintaining the goals to prevent their deterioration.

C- Personality: It is the factors that describe or carry the investor and that result from a genetic, cultural, environmental and social aspect. These characteristics, in addition to learning, enable the investor to understand the environment in which he works and enables him to make an investment decision without fear or hesitation.

D- Ethics: It is represented by many values and principles that help the individual to achieve success because he believes in excellence and avoids mistakes.

E- Attitudes: It is the fixed trend that the investor consistently shows when dealing with others, and this enhances credibility when dealing with investment projects.

F - Decision making: It requires the investor to possess a lot of skills, intellectual, cognitive and knowledge to make a correct decision that enables reaching the pre-set goals.

G- Pressure: When the investor is exposed to a specific internal or external event, s/he will be exposed to psychological and material pressures as a result of the problems resulting from that pressure.

The third axis: the field side

The study sample was a number of Iraqi banks listed in the Iraq Stock Exchange (Bank of Baghdad, Commercial Bank of Iraq, Middle East Bank, Iraqi Investment Bank, National Bank, Credit Bank, Gulf Commercial Bank). Also (160) questionnaire forms were distributed to a number of individuals working in these banks, and (150) questionnaires were retrieved, with a response rate of (93.7%).

First: Describing and diagnosing the results related to behavioral biases:

1- Cognitive and inferential bias: The results of Table (1) refer to the answers of individuals in the study sample banks to this dimension that includes items (X1 - X4). These answers tended towards agreement at a rate of (69%), with an arithmetic mean (2.241) and standard deviation (1.031) with a scale of neutral answers (10.6%). Also, the measure of disagreement was obtained a percentage of (20.1%), as the ratio of response to the scale area reached (74.7%), which means that the level of perception of the respondents



has become at the third level of scale area (high level of perceived state). This shows that the respondents have a high awareness of understanding the cognitive

and inferential biases practiced by the administrative leaders in banks.

Table (1): Percentages, Arithmetic Means, Standard Deviations, and Response Rate for Cognitive Bias

| Items | Scale of answers | | | Arithmetic mean | Standard deviation | Ration of answers |
|---------|------------------|---------|----------|-----------------|--------------------|-------------------|
| | Agree | Neutral | Disagree | | | |
| X1 | 0.69 | 0.0735 | 0.235 | 2.238 | 1.007 | 0.746 |
| X2 | 0.672 | 0.117 | 0.205 | 2.09 | 1.059 | 0.696 |
| X3 | 0.705 | 0.161 | 0.131 | 2.4 | 1.052 | 0.8 |
| X4 | 0.69 | 0.0735 | 0.234 | 2.238 | 1.007 | 0.746 |
| Average | 0.689 | 0.106 | 0.201 | 2.241 | 1.031 | 0.747 |

2-Emotional bias: Table (2) shows the results to the answers of the respondents in the banks of the study sample to the items of this dimension of items (X5 - X8). These answers agreement was (66.1%), and with an arithmetic mean (2.112) and a standard deviation of (1.062), and the scale of neutral answers of (16.1%).Yet the scale of disagreement got a percentage of (17.5%), in addition to that the ratio of

response to the scale area reached (70.4%), which indicates that the respondents' level of perception reached the third level of the scale space (an indicator of the high level of the perceived state). This shows that individuals are aware of the impact of emotional bias in making investment decisions in the banks in which they work.

Table (2): Percentages, Arithmetic Means, Standard Deviations, and Emotional Bias Response Ratio

| Items | Scale of answers | | | Arithmetic mean | Standard deviation | Ration of answers |
|---------|------------------|---------|----------|-----------------|--------------------|-------------------|
| | Agree | Neutral | Disagree | | | |
| X5 | 0.632 | 0.132 | 0.234 | 2.002 | 1.007 | 0.667 |
| X6 | 0.558 | 0.147 | 0.293 | 2.216 | 1.116 | 0.738 |
| X7 | 0.764 | 0.176 | 0.058 | 2.125 | 1.022 | 0.708 |
| X8 | 0.69 | 0.191 | 0.117 | 2.108 | 1.103 | 0.702 |
| Average | 0.661 | 0.161 | 0.175 | 2.112 | 1.062 | 0.704 |

3- Social bias: The results shown in Table (3) refer to the answers of the respondents to this dimension in all its items (X9 - X12), in which the agreement answers was the highest percentage (76.3%), with an arithmetic mean (2.438) and a standard deviation (1.069). The percentage of neutral answers was (10.8%), while the disagreement constituted a percentage of (12.5%). The percentages of the scale area amounted to (81.2%) indicating that the level of

perception of the respondents has reached the third level of scale area (high level of the perceived state). This leads us to the fact that the individuals have full awareness about what some workers in the management of banks do in making financial decisions based on the values of the society in which the banks operate when dealing with banking operations problems.

Table (3): Percentages, Arithmetic Means, Standard Deviations, and Response Rate to Social Bias

| Items | Scale of answers | | | Arithmetic mean | Standard deviation | Ration of answers |
|---------|------------------|---------|----------|-----------------|--------------------|-------------------|
| | agree | neutral | Disagree | | | |
| X9 | 0.749 | 0.2 | 0.049 | 2.012 | 1.05 | 0.670 |
| X10 | 0.867 | 0.102 | 0.028 | 2.555 | 1.021 | 0.851 |
| X11 | 0.778 | 0.044 | 0.175 | 2.532 | 1.204 | 0.844 |
| X12 | 0.661 | 0.088 | 0.249 | 2.656 | 1.003 | 0.885 |
| Average | 0.763 | 0.108 | 0.125 | 2.438 | 1.069 | 0.812 |



4. Informational bias: According Table (4), the answers of the study sample individuals to this dimension were items (X13 - X16). These answers were directed towards agreement with a percentage of (67.9%), an arithmetic mean (2.187) and a standard deviation (1.057). However, neutral answers composed (17.6%), and the scale of disagreement

reached (14.2%). The ratio of the response to the scale area reached (72.9%), which indicates that the level of perception of the respondents at the third level of the scale area (high level of perceived state). This means the individuals' awareness of informational bias that has a negative impact when making decisions related to all banking operations.

Table (4): Percentages, Arithmetic Means, Standard Deviations, and Percentage Response to Information Bias

| Items | Scale of answers | | | Arithmetic mean | Standard deviation | Ration of answers |
|---------|------------------|---------|----------|-----------------|--------------------|-------------------|
| | Agree | Neutral | disagree | | | |
| X13 | 0.778 | 0.029 | 0.19 | 2.133 | 1.036 | 0.711 |
| X14 | 0.72 | 0.073 | 0.205 | 2.178 | 1.009 | 0.726 |
| X15 | 0.573 | 0.323 | 0.102 | 2.304 | 1.104 | 0.768 |
| X16 | 0.646 | 0.279 | 0.073 | 2.133 | 1.079 | 0.711 |
| Average | 0.679 | 0.176 | 0.142 | 2.187 | 1.057 | 0.729 |

Second: Description and diagnosis of the results of the study related to the investment decision:

It includes the following paragraphs:

1- Purchasing Decision: The results of Table (5) show the answers, of the study sample individuals to the items after the observation (X17 - X20), were agreed upon at a rate of (71.2%), with an arithmetic mean (2.163) and a standard deviation (1.099). The rate of neutrality was (9.9%), while the scale of disagreement

was (18.7%), and the percentage of response to the scale area reached (72.1%) entailing a perception of the respondents at the third level of the scale area (high level of Perceived situation). This result indicates that banks realize the importance of making a purchase decision for financial assets in a way that guarantees obtaining the highest assets at the lowest costs, to reflect this on their future profits and market share.

Table (5): Percentages, Arithmetic Means, Standard Deviations, and Response Rate to the Purchase Decision

| Items | Scale of answers | | | Arithmetic mean | Standard deviation | Ration of answers |
|---------|------------------|---------|----------|-----------------|--------------------|-------------------|
| | Agree | Neutral | Disagree | | | |
| X17 | 0.734 | 0.117 | 0.146 | 2.077 | 1.072 | 0.692 |
| X18 | 0.587 | 0.088 | 0.323 | 2.228 | 1.018 | 0.742 |
| X19 | 0.719 | 0.088 | 0.19 | 2.128 | 1.212 | 0.709 |
| X20 | 0.808 | 0.102 | 0.087 | 2.221 | 1.096 | 0.740 |
| Average | 0.712 | 0.099 | 0.186 | 2.163 | 1.099 | 0.721 |

1- The decision not to trade: The results of table (6) show the answers of the respondents in the banks of the study sample to the paragraphs of this dimension in total (X21 - X24), which were agreed upon at a rate of (81.9%), with an arithmetic mean (2.189) and a standard deviation (1.068). As for the scale of neutral answers, it was (6.2%), while the disagreement scale got (11.6%), and the ratio of

response to the scale area reached (72.9%) at a level of perception at the third rank of the area of the scale. The scale (the high level of the perceived situation) shows that the bank's management and its employees have a high awareness of the necessity of making a decision not to trade when the market values are equal with the cash flows or when the profits and risks are unknown.



Table (6): Percentages, Arithmetic Means, Standard Deviations, and Response Rate for Non-trading

| Items | Scale of answers | | | Arithmetic mean | Standard deviation | Ration of answers |
|---------|------------------|---------|----------|-----------------|--------------------|-------------------|
| | Agree | Neutral | Disagree | | | |
| X21 | 0.793 | 0.073 | 0.132 | 2.107 | 1.102 | 0.702 |
| X22 | 0.779 | 0.102 | 0.117 | 2.511 | 1.113 | 0.837 |
| X23 | 0.911 | 0.044 | 0.043 | 2.133 | 1.046 | 0.711 |
| X24 | 0.793 | 0.029 | 0.175 | 2.005 | 1.014 | 0.668 |
| Average | 0.819 | 0.062 | 0.116 | 2.189 | 1.068 | 0.729 |

3-Selling Decision: Table (7) indicates the results of the answers of the respondents in the banks of the study sample to the items of this dimension in total (X25 - X28). These answers consisted of an agreement at a rate of (72.3%), with an arithmetic mean (2.141) and a standard deviation (1.051), while the scale of neutral answers constituted (6.2%), while the measure of disagreement scored (21.2%). The ratio of response

to the scale area reached (71.3%) at the third level of perception of the respondents of the scale space (the high level of the perceived state). It is clear that the bank's management realizes that making the decision to sell some of the stock it owns may enhance its profits, provided that the market price is higher than the cash flows and demand is higher than the supply.

Table (7) Percentages, Arithmetic Means, Standard Deviations, and Response Rate to the Decision to Sell

| Items | Scale of answers | | | Arithmetic mean | Standard deviation | Ration of answers |
|---------|------------------|---------|----------|-----------------|--------------------|-------------------|
| | agree | neutral | Disagree | | | |
| X25 | 0.793 | 0.029 | 0.175 | 2.006 | 1.002 | 0.668667 |
| X26 | 0.587 | 0.088 | 0.323 | 2.331 | 1.003 | 0.777 |
| X27 | 0.749 | 0.029 | 0.22 | 2.213 | 1.156 | 0.737667 |
| X28 | 0.764 | 0.102 | 0.1328 | 2.015 | 1.044 | 0.671667 |
| Average | 0.723 | 0.062 | 0.212 | 2.141 | 1.051 | 0.713 |

Third: The effect relationships between the study variables: The results of Table (8) show that there is an impact relationship for behavioral biases in the investment decision (in total), according to the (B) test, estimated at (22.3%) and with the calculated T-test value of (17.1). It is greater than its tabular value (1.658) at a significant level (0.05) and two degrees of freedom (1.148). This means that changing the behavioral biases of one unit will affect the investment decision at a rate of (22.3%), and to prove the validity of this. The value of (R^2) gives us another indication of the existence of an impact relationship of the behavioral biases in the investment decision (total) at a rate of (72.7%). This result indicates the significance of the effect relationship according to the (F) test whose calculated value is (28.3) and is greater than its tabular value (1.35) and at a level of significance (0.05). This shows that the behavioral biases affect is (67.7%) in the investment decision. The rest is due to random variables that cannot be controlled or are outside the study model at all.

In light of this, we will accept the first main hypothesis, and after we seen on the relationship of the total effect between the two main variables of the study. Thus, we discussed the influence relationship to remove the behavioral biases (individually) in the investment decision (as a whole), as shown in the following paragraphs:

1-The impact relationship of cognitive bias in the investment decision: According to Table (8), there is a significant effect relationship of cognitive bias in the investment decision (in total), according to the value of the test (B), which constituted a percentage of (35.3%) Also, the calculated (T) amounted to (20.8) which is greater than its tabular value (1.658) and at a level of significance (0.05) and two degrees of freedom (1.148), meaning that an increase in cognitive bias by one unit will negatively affect the investment decision (35.3%). The validity of this result is supported by (R^2) to prove the existence of a relationship of the effect of cognitive bias in the



investment decision (total) at a rate of (69.7%). This result indicates the significance of the impact relationship according to the (F) test whose calculated value is (31.2) greater than its tabular value (1.35) and at the level of significance (0.05) with a cognitive bias affects (69.7%) in investment. The rest is due to uncontrollable or outside the study scope random variables. Thus, the first sub-hypothesis emanating from the first main hypothesis is accepted.

2- The impact relationship of emotional bias in the investment decision: In Table (8), there is a significant effect of emotional bias in the investment decision (in total), according to the value of (R^2) at a percentage of (66.2%) referring to the significance of the effect, according to the (F) test whose calculated value is (34.1) which is greater than its tabular value (1.35) and at the level of significance (0.05). This means that emotional bias affects (66.2%) of the investment decision, while the rest is due to random variables that cannot be controlled, or it is outside the study model at all, and to enhance the validity of the effect of emotional bias in the investment decision. The value of the (B) test constituted (32.1%), which is a significant value according to the calculated (T) test value of (22.9) being the larger than its tabular value (1.658) at a level of significance (0.05) and two degrees of freedom (1.148). This increases the emotional bias by one unit will make the investment decision ratio decrease to (37.8%), and thus we will accept the second sub-hypothesis stemming from the first main hypothesis.

3- The impact relationship of social bias in the investment decision: The results of Table (8) show the existence of a significant influence relationship of social bias in the investment decision (in total), and this is according to the value of the (B) test at a percentage of (28.6%), which is a significant value in significance. The calculated T-test value of (21.6) is greater than its tabular value (1.658) and at a

significant level (0.05) and two degrees of freedom (1.148). This means an increase in the social bias for one unit will negatively affect the investment decision by (28.6%). To support the validity of this result, the value of (R^2) proves the existence of an impact relationship for social bias in the investment decision (in total) at a rate of (68.1%). This indicates the significance of the influence relationship according to the (F) test whose calculated value (31.4) is greater than its tabular value (1.35) and at the level of significance (0.05). Thus, the social bias affects are (68.1%) in the investment decision, and the rest is due to random variables that cannot be controlled, or outside the study scope. Thus, we will accept the third sub-hypothesis resulting from the first main hypothesis.

4- The impact relationship of informational bias in the investment decision: The results of table (8) show that there is a significant effect of information bias on the investment decision (in total), according to the value of (R^2) with a percentage of (67.4%). This percentage is the significance of the effect according to the (F) test whose calculated value is (32.6), which is greater than its tabular value (1.35) and at a level of significance (0.05). This means that the informational bias effects are (67.4%) in the investment decision, while the rest is due to random variables that cannot be controlled or are outside the study model originally. To enhance the validity of the effect of informational bias in the investment decision, the value of the (B) test constituted (39.8%). This value is a significant value according to the calculated (T) test value of (21.4), which is greater than its tabular value (1.658) and at a level of significance (0.05) and two degrees of freedom (1.148). Thus, this increases the information bias by one score will make the investment decision wrong by (39.8%), and with this result, we will accept the fourth sub-hypothesis emanating from the first main hypothesis.

Table (8) Impact Relationships of Behavioral Bias in the Investment Decision (Overall and Individually)

| dependent Independent | R^2 | Decision of investment | | | | | | | |
|--------------------------|---------|------------------------|---------|------|-------|-------|--------|------|-------------------|
| | | F | | T | | B | sample | mean | Degree of freedom |
| calculated | tabular | calculated | Tabular | | | | | | |
| behavioral biases | 0.727 | 28.3 | 1.35 | 17.1 | 1.658 | 0.223 | 150 | 0.05 | 1.148 |
| perceptual space | 0.697 | 31.2 | 1.35 | 20.8 | 1.658 | 0.353 | 150 | 0.05 | 1.148 |
| emotional bias | 0.662 | 34.1 | 1.35 | 22.9 | 1.658 | 0.321 | 150 | 0.05 | 1.148 |



| | | | | | | | | | |
|--------------------|-------|------|------|------|-------|-------|-----|------|-------|
| social bias | 0.681 | 31.4 | 1.35 | 21.6 | 1.658 | 0.286 | 150 | 0.05 | 1.148 |
| Informational bias | 0.674 | 32.6 | 1.35 | 21.4 | 1.658 | 0.398 | 150 | 0.05 | 1.148 |

FOURTH AXIS: CONCLUSIONS AND RECOMMENDATIONS

First: Conclusions: The study reached a number of conclusions, the most important of which are:

- 1- The study revealed that the behavioral biases that characterize some investors will negatively affect the efficiency of the investment decision taken by them.
- 2-The results of the study, which were agreed upon by the study sample members, revealed that some investors are characterized by cognitive biases in the Iraqi stock market, and this affects their investment behavior, which reflects negatively on the efficiency of the market.
- 3- The study found that there are investors who make their investment decisions based on emotional or social behavior, which makes them exposed to problems when implementing the investment project.
- 4-The study showed that some investors are characterized by informational bias by relying on a certain information without the other information, even if their information is incorrect.
- 5- The response rate revealed that the individuals in the study sample banks have a high awareness about the behavioral biases that characterize some of the administrative leaders in the banks.
- 6- The investment decisions work with all Iraqi banks, and this is according to the results of the agreement of individuals working in those banks. This showed that the banks take the decision to buy, not to trade and sell according to the market value, supply and demand, and the value of cash flows.
- 7- The results of the impact relationships of behavioral biases in the investment decision found that investment decisions are negatively affected by all kinds of behavioral biases, and thus all the hypotheses of the study were accepted.

Second: Recommendations: In light of the conclusions, the researcher recommended:

- 1- The need for investors to pay attention and realize the effects of behavioral biases on their behavior, investment decision and capital market performance, taking into consideration the comparison between the price trend, profitability and abnormal conditions in the market.
- 2-Using programs to analyze the investor's personality, identifying psychological condition, and determining its impact on the public and investment behaviors, by

educating the investor through awareness and education programs are important.

- 3- The necessity for the management of the Iraqi Stock Exchange in agreement with the Iraqi universities to provide modern psychological and administrative studies so that it can analyze the behavior of investors in their light.
- 4- The necessity for the members of the board of directors of banks to agree to abandon prejudices, whatever the role and position of the person who characterizes them, in order to make a successful investment decision.
- 5- The Iraqi Stock Exchange must work to provide financial information in an accurate and transparent manner and oblige all the formations affiliated with it to disclose their financial information. This will reflect positively on the investor's ability to make a decision to buy or sell or not.

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