

The Hidden Power of Emotions: How Behavioral Biases Influence Investment Decisions at Damascus Securities Exchange?

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Abstract. Behavioral biases have emerged as important influencers on investors' decisions, performance, and, consequently on, financial markets. This study examines whether behavioral biases exist in the emerging market of the Damascus Securities Exchange (DSE). It also tests whether these biases affect investors' decisions and performance at DSE. Investors' psychological biases were measured through a questionnaire containing questions that capture overconfidence, herding behavior, and a market factor that captures investors' rationality. A set of questions also captures investment decision-making and investment performance as dependent variables. We use correlation and regression analysis to address our research questions.

We find that rational factors are more dominant at DSE than behavioral biases. We illustrate that Syrian investors' decisions at DSE are affected mainly by fundamental factors and only marginally by herding behavior. Also, we find that market factors have more impact on investors' performance at DSE than behavioral biases, which is uncommon in such an emerging stock market. Among behavioral biases, overconfidence seems to be more dominant than other behavioral biases, such as herding behavior, in explaining investment performance.

Keywords: Behavioral Finance, Overconfidence, Herding Behavior, Fundamental factors, Investment Performance, Investment Decision Making, Damascus Securities Exchange

1. Introduction

It was always assumed that when it comes to investment, a very small group of investors realize the power of their emotions when making investment decisions. Traditional finance theories state that investors always reason when buying or selling securities. Ignoring the fact that other factors might affect their choices, they assume that behavioral biases do not exist. However, a wealth of evidence has accumulated (e.g., Shleifer, 2000; Shiller, 1995; Shefrin and Statman, 1994; Kahneman and Tversky, 1979) that supports irrational thinking and irregularity when human beings make decisions in the situations of uncertainty.

Behavioral finance is an evolving branch of finance that accommodates the irrational attitude of investors. Chaudhary (2013) claims that it attempts to understand how investor psychology and emotions influence their investment decision-making process. It is a study of how the general public, especially investors, make common mistakes in their financial decisions because of their emotions. Otherwise, it is all about finding out why rational people make obvious investment decisions.

According to behavioralists, people do not process information perfectly as the classical school predicts. They suggest that people do not behave with full rationality and that investors' decisions are subject to their psychological feelings. Behavioralists argue that each person has inevitable behavioral biases that impair their rationality while making investment decisions and negatively affect investors' decisions. Bakar and Yi (2016) argue that behavioral factors have a significant effect on investors' decisions. According to Bodie, Kane, and Marcus (2007), the foundation of behavioral finance is that conventional financial theory overlooks how decisions are really undertaken.

Behavioral bias refers to the fact that investors cannot evaluate information clearly and correctly because they are too attached to a certain thing, thus emphasizing only their positive feelings and disregarding its financial disadvantages. However, one cannot build her investment decisions by simply relying on gut feelings because a decision undertaken this way might end drastically badly. Thus, the phenomena of behavioral finance should be studied in every stock market in order to make investors aware of the power of their emotions when making investment decisions and their potential impact on investment performance.

The topic of behavioral finance has gained further momentum with Richard Thaler's award of the Nobel Memorial Prize in Financial Economics in recognition of his contributions to behavioral economics. The existence of certain irregularities, such as the day-of-the-week effect (Mouselli, 2018) and month-of-the-year effect (Mouselli and Al Samman, 2016) at DSE and the absence of well-documented evidence of behavioral biases at DSE lead us to ask the following research questions. First, which behavioral biases do exist at DSE? Second, what are the dominant factors influencing Syrian investors' decisions and performance at DSE?

DSE is a relatively new market that was established in 2009. It is characterized by

a small number of brokerage firms (6 active firms in 2022) and the absence of financial analysts' services, limiting fundamental information that investors can rely on. In addition, the difficult economic circumstances Syria went through because of war implied that psychology could have played a huge impact on Syrian investors in the DSE. This could have affected their investment decisions and the performance of their investments.

The performance of certain investors is poor because of their limited knowledge of the stock market as well as they are affected by behavioral biases (Chhapra, Kashif, Rehan, and Bai, 2018; Shah, Ahmad, and Mahmood, 2018). Such biases usually damage their investment performance and harm the efficiency of the market.

Overconfidence is one of the behavioral biases that make investors believe and depend on their judgments and abilities to predict more than they depend on the recent information that the market provides. According to (Kirera and Mburugu, 2019), overconfidence leads people to overrate their knowledge while miscalculating risk and overstate their ability to manage events. Some economists have suggested the possibility that overconfidence leads to a negative impact on investment decisions. Chaudhary (2013) argues that overconfident investors also trade more than others as they believe they have higher market timing skills, thus causing these investors to become slow in updating their information leading to underperforming the market. Baker and Ricciardi (2014) show that overconfident investors most often underperform in comparison to other investors. Herding behavior can be defined as the propensity for individuals to copy the actions of other investors in the stock market regardless of their rationality (Devenow and Welch, 1996). Hirshleifer and Teoh (2003) define it as investors' behavior of mimicking others' actions or activities instead of following their own knowledge and beliefs. Herding behavior is a common explanation of seasonalities in financial markets, particularly during periods of financial crises (Christie and Huang, 1995). (Chari and Kehoe, 2004) argue that the prevalent herding causes financial crises among investors. Devenow and Welch (1996) argue that there is widespread herding behavior among traders in the financial markets.

Al-Zrair and Aldeki (2018) argue that the observed underreaction of investors at DSE may be due to their overconfidence. However, neither overconfidence nor herding behavior has been directly examined at DSE, and consequently, their impact on investment decision-making and investment performance has not yet been clarified. No prior study attempts to run a horse race between rational and irrational biases at DSE, so it is unobvious which are dominant. Therefore, this study aims to determine if psychological biases exist in the DSE and if they impact investment decisions making and investment performance.

The remaining of our paper is organized as follows. Section two reviews the literature on behavioral biases and their influence on investors' decision-making and investment performance. Section three explains our sample and research

methodology. Section four presents the results from correlation and regression analysis. Section five provides conclusions and recommendations.

2. Literature Review

A wealth of evidence exists on the influence of behavioral biases on investment decisions and performance. Ogunlusi and Obademi (2021) investigate the impact of certain behavioral biases on customers' investment decisions of four investment banks in Nigeria. Overall their empirical findings suggest a positive effect of behavioral finance on investment decisions. They find that there is an important link between heuristics and individual investment decisions. In addition, they report a negative and significant impact of heuristics and prospect theory on investment decisions.

Cao, Nguyen, and Tran (2021) clarify the linkage between behavioral biases and investment decisions and their impact on investment outcomes. They investigate the impact of behavioral elements on the investment decisions of individual investors and their investment performance in the Vietnamese stock market. They find that heuristics, prospects, market, and grazing positively and directly affect investment decisions. In addition, the elements of the prospectus have the strongest impact on investment decisions and investment performance. They support a significant role of heuristics, prospects, markets, and herding on investors when making decisions and on investment performance. From an investment performance perspective, prospect factors have a greater impact than heuristic and herding.

Demirer and Zhang (2019) examine the impact of herd thinking and behavior on economic investment. They argue that investors with herd behavior are expected to achieve lower returns than investors without this behavior. He finds that this hypothesis is wrong because swarm investors do not always have low returns. Simple grazing leads to a higher return on investment, while blind grazing only curbs profits. Herd behavior is rooted in investor anxiety about information. They conclude that Human psychology and human behavior have a non-negligible impact on the economic investment process.

Angle, Konidala, Ujwal, Vishnu, and Misra (2019) examine the existence of mental accounting at Tehran Stock Exchange (TSE). They find that mental accounting exists at TSE as individuals base their investment decisions on the purpose of their investment and their preference for stock selection. Investors at TSE do not use the logic behind investment-related decisions, which may bias their decisions according to their tastes and interests.

Griffith, Najand, and Shen (2019) examine the impact of emotions on market return as proxied by the returns on the S&P 500 index. They find a positive correlation between market returns and changes in joy and a negative correlation with changes in fear, gloom, and stress. They illustrate a positive relationship between positive sentiment (joy) and S&P 500 returns, while an adverse relation exists between

negative sentiments (fear, gloom, and stress) and S&P 500 returns. They conclude that the emotional gap, which is being controlled by feelings, has a negative effect on the market.

Qasim, Hussain, Mehboob, and Arshad (2018) argue that Investor decision-making is subject to behavioral biases. They investigate whether herding behavior and overconfidence effect Pakistani investor decision-making. They find that Pakistani investor decisions were affected by both herding behavior and overconfidence. Herding and overconfidence seem to positively and significantly affect investment decisions.

Waweru, Munyoki carried out a study, and Uliana (2008) at Nairobi Stock Exchange (NSE) investigated whether psychological biases affect investors' decisions. They find that behavioral biases affect investors' decisions. Heuristics and prospect biases exist at NSE, with heuristics having more impact than prospect theory in explaining institutional investors trading at NSE.

Based on the previous literature review and theoretical background, we propose the following null hypotheses:

H01: There are no Behavioral biases at DSE.

H02: Behavioral biases do not affect investors' decision-making.

H03: Behavioral biases do not affect investors' performance.

3. Sample and Methodology

Our target respondents are Syrian investors at DSE. We design our questionnaire to collect data on DSE behavioral biases and whether they affect investors' decisions and performance. Questions related to investigated variables are sourced from Cao, Nguyen, and Tran (2021). We distribute the questionnaire through social media platforms, such as LinkedIn, Facebook, and WhatsApp, to investors trading in the DSE specifically. We have collected valid responses from 103 Syrian investors.

All items in the questionnaire are closed questions and constructed on the basis of a 5-point Likert scale. Scale 1 represents strongly disagree, while scale 5 represents strongly agree unless otherwise stated. The questionnaire comprised of two sections. In the first section, the respondents answered a question about the intermediary company they deal with. The questions of the second section correspond to psychological biases variables, investment decision-making, and investment performance.

We analyzed the surveyed questions using the Statistical Package for the Social Sciences (SPSS). We use Cronbach's alpha to examine the internal consistency of the questions related to each variable, then correlation tests and Ordinary Least Squares regression (OLS) to examine the relations and impact.

Table 1 reports Cronbach's alpha for the psychological factors: Overconfidence, Market Variables, Herding Behavior, Investment Decision Making, and Investment Performance. It shows that Cronbach's alphas for the variables range between 0.743

for herding behavior and 0.571 for the investment decision-making variable.

Table 2 illustrates the descriptive statistics of the examined variables. It shows that the average values of the answers to our independent variables were between 3.0364 and 3.5712. The results indicate that investors at DSE are affected by market factors and not by psychological biases at DSE.

Table 1: Cronbach's Alpha for the Examined Variables

Overconfidence		Market Variables		Herding Behavior		Investment Performance		Investment Decisions Making	
Cronbach's Alpha	Items	Cronbach's Alpha	Items	Cronbach's Alpha	Items	Cronbach's Alpha	N of Items	Cronbach's Alpha	Items
.652	2	.656	6	.743	4	.676	3	.571	3

Table 2: Descriptive Statistics of Investigated Variables

Variable	N	Mean	Std. Deviation	Std. Error Mean
OV	103	3.1068	1.00648	.09917
MA	103	3.5712	.70076	.06905
HE	103	3.0364	.85277	.08403
IDM	103	3.6181	.82764	.08155
IP	103	3.3074	.86406	.08514

4. Results

The correlation coefficient measures the relation between every two variables. A strong correlation is considered to be above 80%; in our study, the correlations range between -0.096 and 0.525. The correlation coefficients between the three independent variables (OV, HE, MA) are insignificant, satisfying the necessary condition of conducting regression analysis, which is the absence of multicollinearity.

The results from Table 3 show that there is an important correlation between the dependent variable investment performance (IP) and the independent variables overconfidence (OV) and market variable (MA). It also shows that there is a significant correlation between the dependent investor decision-making (IDM) and the independent variables market variable (MA) and herding behavior (HE). This indicates that investor decision-making moves with the market variable more than it moves with herding behavior. Dependent variables IDM, IP have a positive and significant relationship with each other which means that if investors make proper decisions, their performance will turn out to be good.

Next, our regression analysis examines if there is an impact of the psychological biases or market factors on Investment decision-making and Investment performance. These tests are necessary to decide whether to accept or reject our second and third hypotheses.

To investigate if behavioral biases affect the investment decision-making of

investors at DSE, we run the following regression:

$$IDM = \alpha + \beta_1 OV + \beta_2 MA + \beta_3 HE + \varepsilon \quad (1)$$

Table 3: Correlation Coefficients of Variables

		OV	MA	HE	IDM	IP
OV	Pearson Correlation	1	.191	-.096	.083	.430**
	Sig. (2-tailed)		.054	.335	.406	.000
	N	103	103	103	103	103
M A	Pearson Correlation	.191	1	.138	.525**	.507**
	Sig. (2-tailed)	.054		.165	.000	.000
	N	103	103	103	103	103
HE	Pearson Correlation	-.096	.138	1	.238*	.074
	Sig. (2-tailed)	.335	.165		.016	.455
	N	103	103	103	103	103
ID M	Pearson Correlation	.083	.525**	.238*	1	.388**
	Sig. (2-tailed)	.406	.000	.016		.000
	N	103	103	103	103	103
IP	Pearson Correlation	.430**	.507**	.074	.388**	1
	Sig. (2-tailed)	.000	.000	.455	.000	
	N	103	103	103	103	103
**. indicates significance at the 0.01 level (2-tailed).						
*. indicates significance at the 0.05 level (2-tailed).						

Table 4 illustrates the results from running the above regression equation. The coefficient of overconfidence (OV) on investment decision-making (IDM) is 0.003, which means that overconfidence positively impacts investment decision-making. Yet, this coefficient is insignificant, with a p-value far higher than 5%. Hence, we can conclude that overconfidence does not impact investment decision-making. Similarly, the coefficient between herding behavior (HE) and investment decision making is 0.169, and the significance is $p=0.051$ which also implies that herding behavior has a positive impact. Still, because the significance level is 0.051, we can conclude that herding behavior has a marginally significant impact on investment decision-making.

The coefficient of market variable (MV) on investment decision making is 0.501 with a p-value of 0.000. This means that the market variable has a positive and very significant impact on the investment decision-making of investors at DSE. The standardized coefficient column indicates the relative impact of each independent variable. It shows that the importance of market variables is around 2.5 times higher than the importance of herding behavior. Hence, we conclude that investors at DSE are rational as they value market information more than behavioral biases. Overall, the results from Table 4 lead us to accept the second null hypothesis that psychological biases do not affect investment decisions as they only affect investment

decisions marginally. On the contrary, market (rational) factors affect DSE investment decision-making.

Table 4: Regression Analysis Results of Equation (1)

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.997	.448		2.224	.028
	OV	.003	.071	.003	.039	.969
	MA	.592	.102	.501	5.795	.000
	HE	.164	.083	.169	1.977	.051

Dependent Variable: IDM

To investigate if behavioral biases affect investment performance at DSE, we run the following regression:

$$IP = \alpha + \beta_1 OV + \beta_2 MA + \beta_3 HE + \varepsilon \quad (2)$$

Table 5 reports the results from the regression analysis of behavioral and market factors on investment performance. The coefficients of overconfidence on the dependent variable investment performance are 0.302, which means that overconfidence positively impacts investment performance. The p-value is 0.000, which is below 0.05 and means that overconfidence has a positive and significant impact on investment performance. This is expected because overconfident investors would not consider their choices wrong and continue doing what they think is correct. The coefficient of a market variable on investment performance is 0.534, which is positive and significant at a 5 percent level. This indicates that the market variable has a positive and significant impact on investment performance.

Table 5: Regression Analysis Results of Equation (2)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.313	.444		.705	.482
	OV	.302	.070	.352	4.310	.000
	MA	.534	.101	.433	5.278	.000
	HE	.049	.082	.049	.600	.550

Dependent Variable: IP

Lastly, the coefficient of herding behavior on investment performance is 0.049 but is insignificant with a p-value of 0.55. This implies that herding behavior does not affect performance. Hence, we do not accept the third null hypothesis and state that investors' performance is affected by both rational and irrational variables. However, standardized coefficients column shows that the impact of overconfidence bias is

smaller than the impact of the market variable on investors' performance at DSE.

5. Conclusion and Recommendations

This study explores the existence and impact of psychological biases on the decisions and performances of individual investors operating at the DSE. In order to achieve this research objective, we collected data from a questionnaire in which closed questions were asked. The hypotheses were tested through the application of correlations and the regression analysis method.

The results of this study indicate that investors at DSE are mainly affected by market variables, but rational and behavioral variables both had a positive impact on the performances of those individual investors. Surprisingly, this means that investors reason while taking on their investment performances. These results are inconsistent with the evidence from emerging markets that prove the dominance impact of behavioral biases in investment decision-making (Ogunlusi and Obademi, 2021; Qasim, Hussain, Mehboob, and Arshad, 2018; Waweru, Munyoki, and Uliana, 2008)

The idea of psychological biases of overconfidence positively affecting investment performance might be unfamiliar to investors, particularly if investors do not understand how their emotions affect their behavior and investment decision-making process. We may attribute this positive impact of psychological biases on investment performance to the overall positive performance of DSE in the last five years.

Based on our findings, we encourage individual investors to understand and control the impact of overconfidence on their performance. They need to identify what behavioral biases affect their personality, uncover them and try to avoid them. Moreover, they should continue using market variables instead of their psychology when making investments. This can be achieved through conducting an appropriate analysis of investment opportunities, and developing quantitative investment criteria that minimize the impact of emotions, help make better investment decisions, and exploit proper investment opportunities. Furthermore, we encourage brokerage firms to provide more fundamental analysis and disclose relevant information to investors to guide them in their decision-making process.

This article explores the impact of only two behavioral biases on investment decision-making and investment performance. Future research should widen the tested behavioral biases to consider other biases such as mental accounting, anchoring, and prospect variables. Research could also expand our research by studying moderator variables such as gender and age.

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