

# Investigating self-efficacy and behavioural bias on investment decisions

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**Abstract:** The determinants of irrational decisions on the stock market are found in numerous empirical studies. However, self-efficacy and behavioural biases have a sturdy influence on stock market investment decisions. Behavioural biases are formed with heuristics, prospect theory and herding effect concerning stock market investments. Self-efficacy is independent of behavioural biases but is closely connected with controlling behavioural intentions in decision-making. The research was conducted to find the influence of self-efficacy and behavioural biases in the decision of stock market investment. The study was conducted with 250 individual investors and applied the SEM technique. Findings indicated that heuristics had a positive relationship with behavioural biases, but behavioural biases reported a negative relationship with the herding effect and prospect theory. Heuristics were mostly developed on the intrinsic strength of individual investors; therefore, investors believe heuristics will be a better decision-making tool than prospect theory or the herding effect. Prospect theory is shaped and influenced by regret aversion, loss aversion, self-control and mental accounting. Financial literacy, risk tolerance, and peer support profoundly develop the self-efficacy of investors to make profitable investment decisions. Self-efficacy is formed by risk tolerance, financial literacy and peer support in the stock market investment decision and identified the evidence of individual investors not making rational decisions and facing one or more behavioural biases and self-efficacy factors. The study finds the combined effect of behavioural biases and self-efficacy in stock market investment decisions, which have significant implications among individual investors, particularly in emerging markets.

**Keywords:** Heuristics, prospect theory, herding effect, self-efficacy, individual investors, stock market, investment decisions.

**JEL Classification:** G11, G40, G41.

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## Introduction

The consequent influence and control of psychology on the investor and their investment decisions is explained by behavioural finance. Behavioural finance is the recent impending domain in finance that has received a huge impact in the past two decades in India. The fusion of cognitive psychological theory with traditional economics explains the possibilities

of investment decisions and their irrationality. Unlike traditional finance, the behavioural approach presumes that there are boundaries to take and that not all investors are rational (Waweru et al., 2008); the rude assumption of the traditional approach on investors for their rational and constant mentality to capitalize on well-being by enhancing wealth. Also, extraneous factors and individuals' emotions do not

influence investors when making investment decisions. Sometimes, investors may act irrationally and make ineffective investment decisions (Chin, 2012). Instead of following laborious and lengthy estimations, investors follow general rules, resulting in friction and sub-optimal choices. The traditional approach postulates that irrational market players are removed from the market through arbitration, which can also be dared on many fronts (Onsomu, 2014).

Investors are not frequently composed and do not consider technical and fundamental examinations in investment decisions. Factual investment decisions are based on information accumulation, emotions and intelligence (Alquraan et al., 2016). Proponents of the behavioural approach argue that investors often behave irrationally when making investment decisions, exemplified by buying shares when prices rise and selling them when prices fall (Nareswari et al., 2021). Recent behavioural finance literature identifies how an emotion of individual investors and cognitive errors affect overall investment behaviour. Further studies assess the role of illusions caused by heuristics and nested illusions in prospects or mental frames to guide investment behaviour (Barberis & Huang, 2001; Caparrelli et al., 2004).

Behavioural biases like heuristics, prospects and herding influence investment decision momentum and affect the investment performance of assets (Bondt & Thaler, 1995). Behavioural biases are either intrinsic in investors' psychological or cognitive dimensions or due to emotional decisions and errors prevailing with understanding the investment environment. These biases may arise from investors' psychological or cognitive dimensions or as a result of emotional decisions or errors in understanding the investment environment (Chen, 2020). The heuristics phenomenon advocates the role of availability bias, anchoring, and representativeness in regulating investor perception about investments. Later, overconfidence and gamblers' fallacy were expanded to include heuristics. The prospect dimension concentrates on mental accounting, loss aversion, self-control and regret aversion. Herding phenomena, such as emotional distortions, social contagion, and information trustworthiness, lead to behavioural influence on investment decision-making. Further, self-efficacy aspects like risk tolerance, peer support and financial literacy directly affect investors' decisions.

### Self-efficacy

Self-efficacy is closely linked with regulating motivation, idea processes, sentimental states and actions, or it may entail varying environmental state of affairs, depending on what investors seek to deal with. Self-efficacy plays a significant role in investment decisions (Mindra & Moya, 2017). Self-efficacy in investment decision-making contributes to a predicament due to the existing economic and social differences among investors. It can be related to risk tolerance, financial literacy and peer support in investment decisions. It can be associated with how investors handle investment decisions in terms of risk tolerance, financial literacy, and peer support (Tang et al., 2019). Behavioural biases, such as heuristics, prospect theory, and the herding effect, along with the conceptualization of investor-specific self-efficacy, determine the stimulus for indulgence in stock market investments (Farrell et al., 2016).

### Behavioural biases

The level of sophistication is better for institutional investors compared to individual investors, predominantly caused by time limit, familiarity, interest, knowledge and skills in investment. As a result, individual investors follow the rule of thumb, i.e., simple heuristics in investment decisions that would turn unsuitable in a lively market situation (Lo, 2005). The practice of decision-making by investors during risk is discussed by prospect theory. Investment decisions are mostly determined by gains and losses (Cheng & Chiou, 2008). Herding is the investors' propensity to discard beliefs and information to deduce other decision verdicts. The herding effect has different effects in the form of market failures, bubbles and augmented volatility (Shantha, 2018). Such heuristics, prospect theory and herding effect denote investors' irrationality, which is commonly called behavioural biases (Kumar & Goyal, 2015). However, such behavioural biases could give rise to share price deviation from its fundamental worth, which results in market inefficiency.

### Investment decisions

Investors' intentions are reflected in the estimation of gains that are ascertained using self-efficacy and behavioural biases in stock investment (Prawirasasra, 2016). Behavioural finance assists the investor in eliminating identical investment errors and making unique decisions (Hoffmann et al., 2015).

The present study aims to examine the association between self-efficacy and behavioural bias in stock market investment decisions using structural equation modelling. Stock market investment decisions are influenced by a combination of individual cognitive biases and psychological factors, and understanding these factors is crucial for investors and financial professionals. Through the utilization of SEM, this research provides a comprehensive and quantitative analysis of the associations between behavioural biases, self-efficacy, and decisions on investment. Integrating behavioural biases and self-efficacy makes the research novel and contributes to the knowledge of behavioural finance. It provides valuable insights that can aid investors, financial experts, and policymakers in making informed decisions to optimize investment outcomes and mitigate potential biases.

## 1. Theoretical background and hypothesis development

The development of behavioural bias, self-efficacy and investment decisions has been implemented through numerous previous studies in multiple ways. The construct behavioural biases include the aspects of the heuristics, prospects and herding effect elements. Behavioural finance dimensions exist along with self-efficacy concerning stock investment decisions among individual investors.

### 1.1 Behavioural biases

#### Heuristics

Heuristics is often called the rule of thumb; it reduces the impediment of probability evaluation during difficult times and helps to predict (Tversky & Kahneman, 1974). Heuristics can be discussed under five heads: overconfidence, representativeness, gamblers fallacy anchoring, and availability bias.

**Overconfidence.** Overvaluing the reliability of skill and knowledge that investors possess and underestimating risk in an investment indicates overconfidence. Overconfidence encourages investors to trade too much and take big risks. As a result, the depth of the market rises, expected trade volume inflates, and profit decreases.

**Representativeness.** Representativeness heuristic denotes the extent to which a sample resembles another sample in its indispensable characteristics. It is based on stereotypes. Representativeness can lead to certain biases,

such as the fact that investors place greater importance on experience and underestimate the long-term average rate (Ritter, 2003). Investors often forecast the potential value of shares based on representativeness. Based on this premise, investors will be disposed to acquire stocks that have recently increased.

**Anchoring.** It has been observed that anchoring involves the way that individual stock market investors seek to assess the particular chances of maximizing wealth and return on investment. It is an unfair evaluation of stimulus derived from the preliminary judgment of alternative stimulus and an inadequate rectification far from the earlier judgment (Esch et al., 2009).

**Availability bias.** Decision-making based on recently available information is called availability bias. In such cases, investors consider current information incorrectly than background information. It possibly impedes constructive investment gains, which could concurrently reflect poor portfolio gains (Jain et al., 2015).

**Gambler fallacy.** Gambler's fallacy is the outcome of inaccurate prediction about performing over market and movement in the market. The confidence in one's ability to perform more than the market return indicates the gambler and their market trend (Singh, 2012). Hypothesis framed based on those propositions.

### 1.2 Prospect theory

Kahneman and Tversky (1979) conceived prospect theory research on human behaviour, which is considered peculiar and paradoxical in decision-making. Managing uncertainty and risk in investment is explained in prospect theory. It distinguishes the framing and evaluation phase in the process of decision-making. In short, it reveals that investors' tendency to be irrational will be more unenthusiastic to risk profit than loss. Under loss situations, investors will tend to be more disposed to tolerate the risk than in successful circumstances.

#### Loss aversion

Investors tend to experience a greater psychological impact during a loss compared to an equivalent gain. Pleasure, enthusiasm, and anxiety are felt by the investor more during profit and loss made by them (Aini & Lutfi, 2019). Furthermore, individual investors who hold negative investments tend to reduce risk (Livanas, 2011).

### **Regret aversion**

Regret aversion is a bias felt by investors who realize that mistakes have been made in the judgment process. Investors regret certain steps in making investment decisions in non-attainment of expected returns. Investors feel pain in the absence of returns if investments perform badly and feel guilty for their bad decisions (Zeelenberg & Pieters, 2007).

### **Mental accounting**

Grouping particular event information as compartments reflects the bias of mental accounting. It consists of two scenarios: investing money and receiving excess returns is one scenario, and investing money and receiving normal returns is another. The investor then normally evaluates scenarios in which the response will be uncertain to arrange normal returns investments. Thus, excess returns inspire investors, owing to the evaluation information in a compartment, to stay till more returns are realized (Jagongo & Mutswenje, 2014).

### **Self-control**

Self-control indicates that investors in the stock market are subjects to temptation concerning price movements. Reducing such temptation is called self-control (Pompian, 2016).

### **Herding effect**

Herding is recognized as a tendency in investor behaviour to use the actions of other investors (Setiawan et al., 2018). Herding behaviour was found in both bearish and bullish phases; high market volatility and more trading volume are the consequence of the herding effect (Kanojia, et al., 2022; Ouarda et al., 2012). Herding behaviour was not an effective aspect in determining asset returns (Douagi et al., 2013). Herding happens when an investor's decision fails to represent sufficient information (Botsvadze, 2013).

### **Emotional distortions**

Emotional distortions are the outcome of irritation, regret, worry, enthusiasm, hope, panic, fault and mood of investors, which are reflected in price movements and behavioural bias (Mand et al., 2018). Emotional distortions posit that without emotions, sensible decisions are unattainable (Kourtidis et al., 2010).

### **Social contagion**

Social contagion scrutinizes the social events and situations that create possible crowd

behaviour (Aslam et al., 2021). If an investor is contaminated with infectious thoughts, behaviour becomes irrational, and the investor make wrong decision (Hwang & Salmon, 2004). Social contagion had extensive control over the volatility in the stock market (Kumar, 2009). Significant price fluctuations happen due to the contagion of irrational errors (Cipriani & Guarino, 2008).

### **Information trustworthy**

Investors may ignore their information irrespective of trustworthiness and blindly follow herding behaviour, even though the herd might be wrong (Bekiros et al., 2017). In such circumstances, the group decision goes wrong consequently, and the attempt to attain personal satisfaction is based on whole herd mistake, not personal mistake (Bikhchandani & Sharma, 2000; Rahayu et al., 2020).

### **1.3 Self-efficacy**

Self-efficacy is the strength of investors' faith in their competence to complete tasks and attain objectives. Self-efficacy beliefs influence how investors perceive, motivate, and behave (Lown, 2011). Self-efficacy is a situational rather than a constant attribute (Fisher, 2011).

### **Risk tolerance**

Risk tolerance makes a consistent framework for building effective investment decisions and ensuring risk and return trade-offs based on the risk perception of investors (Baghani & Sedaghat, 2016). Risk tolerance may be high or low, and it is based on investor personality traits, demographic phenomena, and the nature of financial instruments (Grable, 2000). Risk tolerance may influence the self-efficacy levels of investors in the stock market (Gilliam et al., 2010). Quantum of risk can be tolerated by the investors classified into conservative, moderate, and aggressive (Mak & Ip, 2017).

### **Financial literacy**

Financial literacy plays a supporting role by allowing investors to take charge of financial aspirations (Rothwell et al., 2016). Investors have been observed to increase their understanding of risk to access gain (Xia et al., 2014). The financial literacy of investors shapes their aspirations, intentions and inclinations (Raza et al., 2015).

### **Peer support**

Peer support has tremendous influence in determining the decisions on individual investors'

investments. Participation in the stock market links with behavioural control and self-efficacy in terms of investments across the peer network (Busztyn et al., 2014). Based on the investigations, the study proposed the following hypotheses:

*H1: Representativeness, overconfidence, anchoring, gamblers fallacy, and availability bias together constitute heuristics on stock market investments.*

*H2: Loss aversion, regret aversion, mental accounting and self-control together constitute prospect theory on stock market investments.*

*H3: Emotional distortions, social contagion and information trustworthy together constitute a herding effect on stock market investments.*

*H4: Risk tolerance, financial literacy and peer support together constitute self-efficacy in stock market investments.*

*H5: Heuristics, prospect theory and herding effect have a significant impact on behavioural biases.*

*H6: Heuristics on stock market investment have a significant impact on prospect theory.*

*H7: Behavioural biases and self-efficacy have a significant impact on investment decisions.*

## 2. Research methodology

The research aimed to determine how behavioural biases and self-efficacy affect individual investors' stock investment decisions. The unit of analysis consisted of 390 individual investors randomly selected in different parts of Tamil Nadu state in South India. Accordingly, questionnaires were circulated, but only 250 responses were usable. Investors possessing at least two years of experience in stock trading and from diverse demographic and social-economic status were considered. The questionnaire had been formulated with 5-point Likert scale with a score of 5 for strongly agree and 1 for strongly

disagree. Further, to increase content validity, it was pre-tested with investment advisors, academicians, and experts in the capital market. The study used simple random sampling and employed descriptive research design to formulate the research.

The research employed a structural equation model (SEM) to concurrently estimate and investigate in what way investment decisions were related to self-efficacy and behavioural biases. Multiple-factor confirmatory factor analysis (CFA) and path analysis SEM drawn by AMOS 22.0 software were employed. Data analysis was carried out in two stages. At first, overall measurement quality was assessed by using CFA, and it also measured the validity and reliability of the instrument. Thereafter, structural equation modelling finds whether the model would fit the results of the proposed theoretical models. The model fit was measured using comparative fit index (CFI), Tucker-Lewis index (TLI), normed-fit index (NFI), parsimony comparative fit index (PCFI), parsimonious normed fit index (PNFI), relative fit index (RFI), incremental fit index (IFI), root mean square error of approximation (RMSEA) and CMIN/DF. In addition, the independent relationship among the different variables was also measured.

## 3. Results and discussion

Contrary to the traditional finance approach, the modern approach advocates investment decisions are not rational and inconsistent. Investment decisions are subject to three behavioural biases – heuristics, prospect theory and herding effect. Behavioural biases and self-efficacy dimensions have a stringent impact on the decision of investment.

Heuristics, prospect theory, herding effect and self-efficacy of investors are key factors

**Tab. 1: Correlation analysis**

Substances	1	2	3	4
Heuristics	1			
Prospect theory	0.895*	1		
Herding effect	0.878*	0.933*	1	
Self-efficacy	0.746*	0.868*	0.873*	1

Note: \*Significant at 0.01 level.

Source: own

of investment behaviour. Behavioural biases are fundamentally involving the conscious intellectual activity of investors to involve or not involve behavioural inclination. Decisions of investment are formed by the presence of behavioural biases and self-efficacy. Thus, actual investment decisions are consequential action, and it is intended to test the proposed hypotheses. To measure the model to fit, CFA is performed. Cronbach alpha estimated ranging from 0.81 to 0.91 for all factors. Correlation among the main variables, ranging from 0.746 to 0.933, indicates no multicollinearity and its result is presented in Tab. 1.

### 3.1 Measurement model

The exogenous construct's impact on the decision of investment is determined through SEM because it establishes a path for concurrent inspection of the whole model that covers several hypothetical relationships. The hypothesized latent constructs, such as heuristics, prospect theory, herding effect and self-efficacy, are formed from 15 observed variables. Four latent variables are developed to measure the validity and reliability of the latent variable measurement model (Fig. 1).

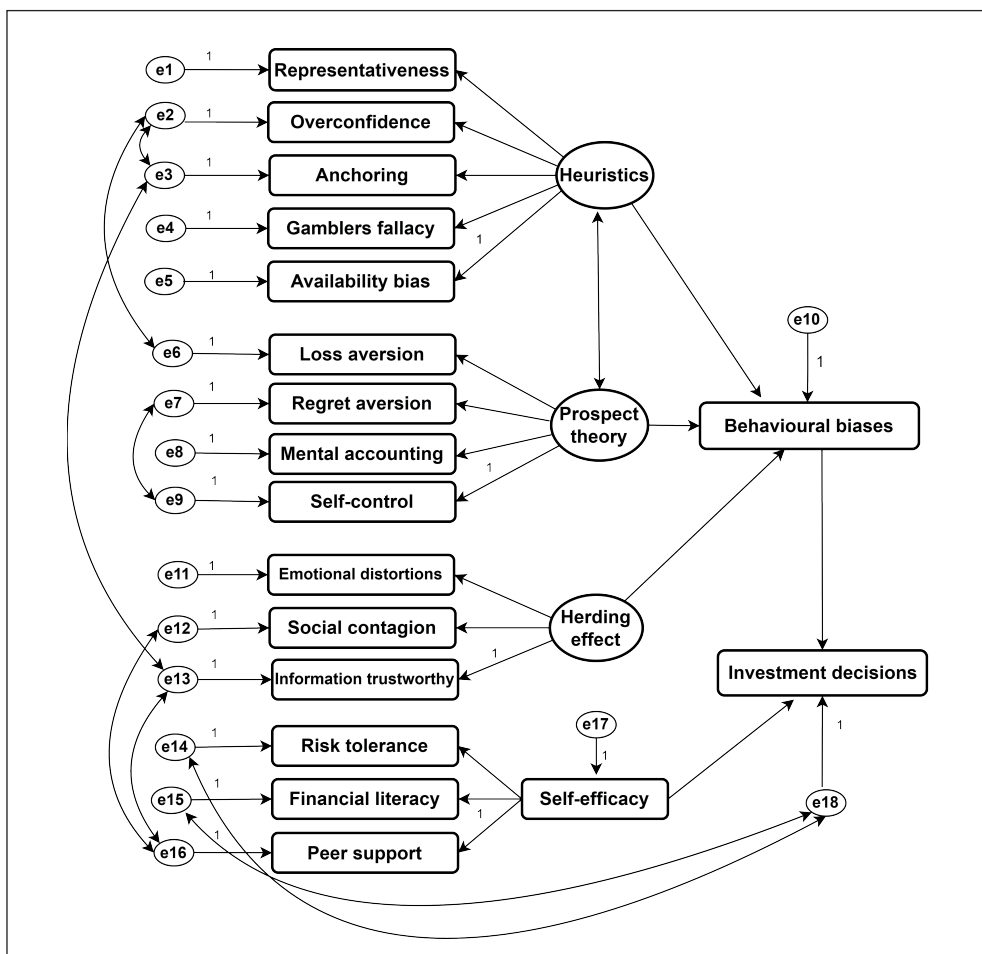


Fig. 1: Measurement model

Source: own

Tab. 2: CFA Results of measurement model

Latent constructs	Variables	Factor loadings	Cronbach alpha	Composite reliability	Average variance extracted
Heuristics	Representativeness	0.928	0.911	0.925	0.752
	Overconfidence	0.903			
	Anchoring	0.899			
	Gamblers fallacy	0.921			
	Availability bias	0.894			
Prospect theory	Loss aversion	0.899	0.856	0.898	0.719
	Regret aversion	0.923			
	Mental accounting	0.905			
	Self-control	0.878			
Herding effect	Emotional distortions	0.924	0.821	0.853	0.684
	Social contagion	0.891			
	Information trustworthy	0.749			
Self-efficacy	Risk tolerance financial	0.931	0.812	0.845	0.673
	Literacy	0.916			
	Peer support	0.776			

Source: own

Tab. 3: CFA Results – model fit

Chi-squared	df	<i>p</i>	CMIN/df	CFI	RMSEA
258.170	124	0.000	2.082	0.911	0.066

Source: own

Tab. 2 explains the construct validity strongly supported by the loading of factor measures 0.749 to 0.93 on the latent construct. Heuristics, prospect theory, herding effect and self-efficacy are above the standard level of 0.50. High internal reliability of latent construct is exhibited as composite reliability co-efficient are more than 0.6.

Authorization of the measurement model in first-order is depicted in Tab. 3. The chi-square score is 258.170, with  $p = 0.000$ , RMSEA = 0.066, and CFI = 0.911. Thus, the goodness of fit recommends a high-fitting model.

### 3.2 Structural equation modelling

The measurement model proposed is data-consistent; the hypotheses are tested accordingly.

The connection among constructs shown in Fig. 2 confirms that the hypothesis framed having path significant at  $p = 0.05$  level has a direct and positive relationship.

Fig. 2 demonstrates all the path hypotheses of the investment decisions model have a significant value of  $p < 0.05$ , the model fit of SEM measured by chi-square is tough as it is sensitive to the sample size. All the path hypotheses in the model (Fig. 2) are significant at a 0.05  $p$ -value. The model fit of SEM measured by chi-square is tough as it is sensitive to the size of the sample. Tabs. 4–5 represent the goodness of fit and connection between different hypotheses.

Various indices were used to measure the fit of the model. CFI (comparative fit index; 0.911),





Tab. 4: Goodness of fit test

Serial No.	Goodness-of-fit	Statistics
1	CFI (>0.90)	0.911
2	NFI (>0.90)	0.909
3	TLI (>0.90)	0.923
4	PNFI (>0.90)	0.926
5	PCFI (>0.90)	0.920
6	RFI (>0.90)	0.915
7	IFI (>0.90)	0.906
8	RMSEA (<0.08)	0.066

Source: own

Tab. 5: Testing of hypothesis

Hypotheses		UC		SC	t-value	p
		Beta	Std. error			
H1	Representativeness → heuristics	0.725	0.077	0.373	5.248	***
	Overconfidence → heuristics	0.705	0.081	0.332	4.362	***
	Anchoring → heuristics	0.783	0.084	0.360	4.653	***
	Gamblers fallacy → heuristics	0.978	0.086	0.535	3.824	***
	Availability bias → heuristics	1.000	0.087	0.606	5.481	***
H2	Loss aversion → prospect theory	1.085	0.128	0.501	5.426	***
	Regret aversion → prospect theory	1.153	0.113	0.520	4.128	***
	Mental accounting → prospect theory	1.028	0.128	0.430	3.157	***
	Self-control → prospect theory	1.000	0.109	0.357	5.981	***
H3	Emotional distortions → herding effect	2.288	1.229	0.479	4.305	***
	Social contagion → herding effect	0.862	0.324	0.076	3.793	***
	Information trustworthy → herding effect	1.000	0.866	0.168	5.878	***
H4	Risk tolerance → self-efficacy	0.044	0.058	0.002	2.512	***
	Financial literacy → self-efficacy	-0.107	0.062	0.012	4.924	***
	Peer support → self-efficacy	-0.087	0.052	0.008	2.416	***
H5	Heuristics → behavioural biases	1.006	1.426	0.841	3.365	***
	Prospect theory → behavioural biases	-1.211	1.840	-0.781	3.056	***
	Herding effect → behavioural biases	-0.203	0.269	-0.064	2.740	***
H6	Heuristics → prospect theory	0.623	0.052	0.972	2.784	***
H7	Behavioural biases → investment decisions	0.053	0.049	0.060	3.022	***
	Self-efficacy → investment decisions	0.051	0.064	0.050	5.902	***

Note: \*\*\*Significant at 0.05 level; UC – unstandardized coefficient; SC – standardized coefficient.

Source: own

availability bias can collectively influence their decision-making processes.

The coefficient for prospect theory to loss aversion is 0.501, 0.520 for regret aversion, 0.430 for mental accounting, and 0.357 for self-control. Its antecedents' prospect theory construct has a considerable and positive relationship, and it actively contributes to form framing effect, therefore, hypothesis (*H2*) is validated. The findings are akin to (Kengatharan & Kengatharan, 2014). The framing effect is formed by loss aversion, regret aversion, mental accounting, and self-control and has a direct relationship with behavioural biases. The positive coefficients observed for each antecedent in the prospect theory construct signify that these factors contribute positively and significantly to decision-making on investment. It infers that the tendency of investors to be influenced by regret aversion, loss aversion, self-control, and mental accounting can collectively impact their process of decision-making.

The coefficient of herding effect was 0.479 for emotional distortions, 0.076 for social contagion and 0.168 for information trustworthiness. The antecedents, including emotional distortions, social contagion, and information trustworthiness, are significantly related to the manifestation of the herding effect in stock investment decisions, thereby confirming the validation of hypothesis (*H3*) similar to the results of Tan et al. (2008). The occurrence of the herding effect can indeed lead investors to follow the movements of others in their stock investment decisions. It highlights the impact of psychological and social factors in shaping investors' behaviour and in stock market decision-making. The positive coefficients observed for emotional distortions, social contagion, and information trustworthiness indicate that these factors positively contribute to the emergence of the herding effect.

The self-efficacy construct has a coefficient of 0.002 for risk tolerance, 0.012 for financial literacy and 0.008 for peer support. The findings indicate that financial literacy, peer support, and risk tolerance have a positive effect on the formation of self-efficacy in investment decisions, thereby validating the hypothesis (*H4*). Further, the outcome suggests higher levels of financial literacy and support from peer groups play a crucial role in maximizing self-efficacy among investors. The positive coefficients observed for risk tolerance, financial literacy, and peer support signify that these variables have a positive

effect on the development of self-efficacy in investment decision-making. It entails that investors with higher risk tolerance, better financial knowledge, and stronger support networks are more likely to exhibit increased self-efficacy.

The coefficients associated with the variables: heuristics, prospect theory, and herding effect concern behavioural biases. The coefficients are 0.841 for heuristics,  $-0.781$  for prospect theory, and  $-0.064$  for the herding effect. Indicate prospect theory, heuristics, and herding effect have an impact on behavioural biases, thereby validating the hypothesis (*H5*). The positive coefficient of heuristics suggests that heuristics influence behavioural biases among investors. The negative coefficient of prospect theory indicates that the presence of prospect theory, characterized by regret aversion, mental accounting, self-control and loss aversion, has a negative impact on behavioural biases. Prospect theory may help investors overcome certain behavioural biases, as it takes into account their attitudes towards potential losses and gains, leading to more nuanced decision-making. The negative coefficient of the herding effect implies that the investors' tendency to track the other's actions in decision-making does not strongly contribute to behavioural biases. Instead, herding behaviour might have a relatively minor effect on investors.

Heuristics have a coefficient of 0.972, with prospect theory indicating heuristics substantially impacting prospect theory in investment decisions, thereby validating the hypothesis (*H6*). The high coefficient of 0.972 suggests that heuristics strongly influence how investors approach prospect theory in their decision-making process. Prospect theory, which takes into account investors' attitudes towards potential gains and losses, is heavily influenced by these cognitive biases and heuristics. The active connection between heuristics and prospect theory and behavioural biases further supports the idea that these psychological factors significantly influence stock market investments.

Behavioural biases have a coefficient of 0.060, and self-efficacy has a coefficient of 0.050 concerning investment decisions. These coefficients indicate that both behavioural biases and self-efficacy impact decisions on investment, thereby validating the hypothesis (*H7*). The positive coefficients suggest both behavioural biases and self-efficacy influence how investors make their decisions

Tab. 6: Estimates of independent factors

Dependent variables	Independent variables	Estimate	Std. error	C.R.	R <sup>2</sup>	p
Heuristics	Prospect theory	0.620	0.088	7.009	0.972	***
Anchoring	Overconfidence	0.345	0.062	5.552	0.404	***
Overconfidence	Loss aversion	0.133	0.046	2.896	0.193	0.004
Financial literacy	Investment decisions	0.452	0.066	6.896	0.477	***
Risk tolerance	Investment decisions	0.167	0.050	3.339	0.190	***
Anchoring	Information trustworthy	0.147	0.043	3.402	0.202	***
Information trustworthy	Peer support	0.271	0.050	5.372	0.371	***
Social contagion	Peer support	0.288	0.066	4.365	0.292	***
Self-control	Regret aversion	0.217	0.060	3.592	0.293	***

Note: \*\*\*Significant at 0.05 level.

Source: own

on investment. Behavioural biases, which are cognitive and emotional biases that can lead to irrational decision-making, have a measurable effect on investors' choices in the stock market. The results emphasize the importance of investor education and awareness in mitigating behavioural biases and fostering self-efficacy among investors. Enhancing financial literacy, encouraging rational thinking, and building confidence in investors' decision-making abilities can lead to more informed and objective investment choices.

Tab. 6 explains the association and variations between the variables in the context of stock investment decisions. The findings indicate that both heuristics and prospect theory play unique roles in shaping behavioural biases among investors. The anchoring heuristic shows a significant relationship with the overconfidence heuristic in creating behavioural biases. Overconfidence decreases the anchoring bias by 40%, implying that more confident investors have less influence by anchoring. Moreover, the overconfidence heuristic contradicts the loss aversion framing effect of investors. Loss aversion anticipation may decrease investors' overconfidence by 19%, suggesting that when investors anticipate potential losses, their overconfidence tendencies may be reduced. Financial literacy has a 48% variation in making investment decisions, indicating that higher financial knowledge investors tend to make

realistic stock investment choices. Similarly, risk tolerance accounts for a 19% variation in investment decisions, suggesting risk tolerance levels influence their decision-making process.

Furthermore, the anchoring heuristic has a 20% variation in the information trustworthy element of the herding effect. It implies that investors who rely heavily on anchoring may be more susceptible to following information from trusted sources. Peer support strongly influences information trustworthiness by 37% and social contagion by 29%. It reveals that investors' interactions with peers can significantly impact their trust in information sources and their tendency to follow the crowd. Finally, regret aversion has a 29% variation in the self-control of individual investors in investment decisions. It suggests that investors who are more averse to regret may exhibit higher levels of self-control. It asserts that understanding these relationships can help investors, financial professionals, and policymakers in developing strategies to manage biases and enhance decision-making effectiveness.

## Conclusions

Overconfidence, representativeness, anchoring, availability bias, and the gambler's fallacy guide the investment decisions based on past incorrect experiences. Based on heuristic information, individual investors tend to form decisions which are speculative and could delay

potential gains. Prospect theory is the dominant bias among investors and is shaped and influenced by regret aversion, loss aversion, self-control and mental accounting. Investors often administer their own hunches and techniques to purchase or sell shares rather than analyze the fundamental factors connected with the economy, industry and company. Herding effect is shaped by emotional distortions, social contagion and trustworthy information. However, emotional distortions and social contagion furnish enough trustful information to follow herding behaviour in investment decisions. Self-efficacy is formed by risk tolerance, financial literacy and peer support in the stock market. Investment decisions are largely influenced by the risk tolerance. Moreover, financial literacy transforms their behaviour concerning the selection of stocks, timing, and quantum of risk perception and return expectation. Peer group support guides in extreme market conditions to make effective investment decisions.

Heuristics provides some pitches to stock trade and actively maintains a positive impact on behavioural biases. Herding effect and prospect theory have a negative impact on behavioural biases. It confirms that individual investors often follow heuristic biases rather than framing biases or herding effects in investment decisions. Heuristics are mostly developed in the intrinsic strength of individual investors; therefore, investors believe heuristics will be a better decision-making tool than prospect theory or the herding effect. Investors make certain calculations or estimations based on their understanding of prospect theory, which is easier than following the herding effect in the stock market. Heuristics dynamically engage direct and positive relationships with prospect theory. Behavioural biases, which are the mix of heuristics, prospect theory and herding effect, positively impact stock investment decisions among individual investors. The presence of risk tolerance, financial literacy, and peer support develop the self-efficacy of investors to make profitable investment decisions. SEM analysis portrays several independent relationships between financial literacy and investment decisions, prospect theory and heuristics. Anchoring and overconfidence have significant impacts on decision-making among individual investors. Individual investors do not make rational decisions since they face one or more behavioural biases and self-efficacy factors. In summary,

this research sheds light on the behavioural factors that drive decisions on investment. Understanding these psychological influences can help investors and financial professionals develop strategies to mitigate biases and enhance decision-making effectiveness.

### Limitations and contributions

The study relies on self-reported data and may have response bias. The cross-sectional design may limit the ability to establish causal relationships between behavioural biases, self-efficacy and investment decisions. SEM allows for the simultaneous examination of multiple variables and their interrelationships, providing a more robust and sophisticated analysis. Understanding the role of self-efficacy and behavioural biases in investment decisions can lead to developing targeted interventions and educational programs to improve decision-making and financial outcomes. As a result of identifying the impact of self-efficacy and behavioural biases, the study enriches the existing literature in this field and contributes to a deeper understanding of investor behaviour in the stock market.

### Research implications

The findings highlight the importance of investors' education focusing on enhancing self-efficacy and mitigating behavioral biases. Educating investors on psychological factors influencing decision-making can empower them to make more rational and informed decisions. Recognizing the impact of self-efficacy and behavioural biases can lead to the development of tailored investment strategies. Financial advisors and experts can design personalized approaches that align with individual investors' risk tolerance, financial literacy, and peer support, optimizing their investment outcomes. Further research can explore investor behaviour to understand decision-making processes. Regulators and policymakers can benefit from understanding how self-efficacy and behavioural biases impact investment decisions. Investors can be encouraged to focus on fundamentals rather than short-term market fluctuations, leading to more sustainable and profitable investment decisions.

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