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Investor Participation on the Stock Market. To What Extent Does Investor Behaviour Matter?

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Abstract

The study aims to investigate the extent to which Investor behaviour impacts Investor participation on the stock market, drawing lessons from Uganda Securities Exchange (USE), therefore providing theoretical and policy implications. The study took a quantitative and cross-sectional research design using structured self-administered questionnaires. Data were obtained from 261 local investors using a simple random sampling approach. The data were analysed using the Statistical Package for the Social Sciences (SPSS Ver. 25), in which descriptive, correlation, and regression tools were used. The study revealed that Investor behaviour has a significant positive impact on Investor participation on the stock market. The Prospect theory, Nudging, and Theory of Planned Behaviour have a significant impact in regard to explaining Investor participation on the stock market. The study provided key theoretical and policy implications by highlighting the importance of behavioural aspects of finance, including the significant explanatory power of behavioural theories for Investor participation on the stock market. The study further highlights the relevance of Prospect theory, Nudging, and Planned Behaviour and discovers that Nudging and Planned Behaviour are greater predictors of Investor participation, while Prospect theory is to a lesser extent. Though aspects of the Prospect theory, like mental accounting, remain key, as the findings reveal.

Keywords: Investor participation, Uganda Securities Exchange, Investor Behaviour, Stock Market

Introduction

Behavioural finance as a discipline has grown to prominence in the past four decades. The finance discipline was traditionally dominated by the idea of complete rationality of market actors. The onset of recurring recessions and other market anomalies has brought scholars to question why markets at times fail to perform as traditional models predict (Shiller, 2000). The efficient market hypothesis (Fama, 1970), expected utility theory (Neumann and Morgenstern, 2007), and modern portfolio theory (Markowitz, 1952) are models at the core of traditional finance, and all assume investor rationality, i.e., the investor being able to make optimal decisions in an environment of risk and return. The Dotcom bubble of the early 2000s, the credit crunch of 2008, and more recently the subprime debt crisis of the early 2010s are observed market anomalies. Likewise, the equity premium puzzle is a capital allocation issue that traditional models of finance have failed to resolve (Shirvani, Stoyanov, Fabozzi, and Rachev, 2020; Campbell, 2008; Mehra, 2003). This has led to a group of scholars, known as the Behaviourists, with expertise in human and social psychology, joining the debate about why markets fail to allocate capital efficiently. These scholars have come

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to agree that individuals never behave rationally all the time; they are affected by different emotions, have limited cognitive abilities, and time (Isler, 2021; Kahneman, 2003). This makes decision-making for individuals sub-optimal as they resort to different heuristics (cognitive rules of thumb that simplify decision-making) such as anchoring, the availability bias, mental accounting, regret, and loss aversion to navigate the terrain of complex decision-making (Kahneman et al., 2021; Thaler and Sunstein, 2021; Kahneman, 2011).

The area of investor participation on the stock market is still classified as a puzzle by modern finance scholars. This puzzle, first observed by Mehra and Prescott (1985:2003), pays attention to the fact that few individuals or households hold equity holdings on the stock market despite the superior returns of the stock market over government securities globally. In Africa, the low participation on the stock market has been observed by Ayadi and Williams (2023), in the poor nature of the equity markets characterized by illiquidity and poor turnover ratios. The advent of the internet and a migration to electronic platforms were thought to close the gap of low investor participation overtime but this has not been the case (Adamolekun, Sakariyahu, Lawalb, and Ahmed, 2023). In a more current systematic review done by Otinga, Obi, and Mugo-waweru (2024), studies on participation have focused on theories such as the efficient market hypothesis, the theory of planned Behaviour, consumer socialization theory, life cycle portfolio hypothesis, and Granovetter's theory of social interaction. In Uganda studies have focussed on a traditional explanation to the investor participation puzzle and less on the Behavioural side more over most of the studies have been done on the demand side (Listing corporation) of the puzzle and less on the supply side (Investor side) as seen in these cited below; Tumwebaze, Orobia, Bananuka, Bonareri, and Balunywa (2022) studied stock market participation of SMEs and found floatation, marketing and compliance costs to be significant predictors. Birungi and Muthoni (2021) found that the value at risk measure for portfolio optimization was the best method for portfolio valuation on the USE. Watundu, Kaberuka, Mwelu, and Tibesigwa (2015) found the USE to be a weak form of market efficiency, and the market registered low participation from investors. Omonge, Abuga, Kibirango, and Nyende (2014) found that stock market regulations enhance investor participation on the USE.

Tumwebaze, Orobia, and Kamukama (2014), in their study of information asymmetry and its constructs, like information quality and quantity, found that information asymmetry and quality significantly affect stock market participation. Sejjaaka (2011) in his work on IPOs (Initial Public Offerings) readiness found that age, level of disclosure, board legitimacy, and information asymmetry are significant determinants of IPO readiness of a firm. However, investing on the stock market in Uganda has not been widely embraced by the population. This is evidenced by the low participation rates on Uganda's stock market, the Uganda Securities Exchange (USE). These low rates of investor participation estimated at less than 1% of the population; "that is 130,000 investors (Bwiso, 2022) and about 21,834 registered as locals (Mwima, 2019)", observed on the Uganda Securities Exchange is a classic example of the participation puzzle observed in other markets elsewhere in Africa and the rest of the world (Otinga, Obi, and Mugo-waweru, 2024; James, 2019; Campbell, 2008). Even the more developed nations, such as the United States and the United Kingdom, have less than desired participation rates of 26 and 30%, respectively, amongst the locals (Giannetti & Koskinen, 2010). This has further been observed to decrease in the last decade mainly due to behavioural reasons, inertia, and personal equity risk premium (Merkoulova & Veld, 2022). Nonetheless, low investor participation rates in the African markets cannot be taken for granted as they have a serious impact on economic growth and development of the nations (Epaphra & Kiwia,

2021). This paper, therefore, makes use of Behavioural theories such as Prospect theory, the theory of Planned Behaviour, and Nudging to explain the low levels of investor participation on the Uganda Securities Exchange by posing the question, "To what extent does investor behaviour matter insofar as investor participation on the stock market is concerned?".

Conceptual Review

Investor participation is termed as the extent to which investors are involved in the activities of the stock market, and these can be indicated by trading frequency, financial sophistication of investors (Mazzuca, Panzera, & Ruberto, 2023; Jiangze, Kalok, & Wai-Ming, 2020; Muhammad, Muhammad, & Siddiqui, 2020). Trading frequency is the rate at which investors buy or sell shares on the stock market within a given period of time. Financial sophistication is the ability to process financial data and make informed financial decisions. Heuristic behaviours are cognitive rules of thumb used to simplify complex decisions. They manifest as a reliance on biases such as loss aversion, regret aversion, and mental accounting. Loss aversion is when the pain from a loss is greater than the joy from an equal magnitude of a gain. Regret aversion is the psychological pain anticipated by an individual as a result of failure due to the performance of a certain decision or non-performance thereof (Gazel, 2015; Doreleijers & Hambel, 2025). Mental accounting is a set of mental operations that individuals use to organize and evaluate financial decisions (Thaler, 1999).

Nudging is the altering of people's behaviour in predictable ways through the manipulation of choice architecture without forbidding options or changing economic incentives (Thaler & Sunstein, 2021). The paper studies this using the constructs of Constant reminders, which are messages sent to investors through the use of any communication media. Information architecture is the way information is laid out, designed, or presented in a particular communication platform. Information availability is the ease with which information can be accessed by the investor. Planned behaviour is the individual's actions that are a result of their intentions, which can be predicted by attitude, subjective norms, and behavioural controls (Ajzen, 1991). The construct of attitude looks at whether an individual wants to perform a particular behaviour, subjective norms look at societal perception regarding whether a particular behaviour is desirable, and behavioural controls look at whether an individual can perform a particular behaviour.

The Theory of Planned Behaviour:

Developed by Ajzen (1985) in its original form, the theory predicts that intention to adopt a certain behaviour can be predicted by attitude, subjective norms, and behavioural controls. The theory suggests that in order for individuals to perform a particular action or behaviour. There needs to be an intention to perform such behaviour. This theory has not seen significant iterations over the years, although scholars have gone ahead to make a difference between prior and later behaviour and have found that even without having the mediation of intent, a direct relationship can be observed between prior and later behaviour (Ajzen, 1991).

Prospect Theory:

Developed by Kahneman and Tversky (1979) in the famous paper titled "Prospect theory: An analysis of decision under risk", the theory has, over the past decades, gained renowned stature in the field of behavioural sciences. This isn't without reason because the scholars conducted a series of experiments and observed that human beings do not necessarily avert risk but rather they avert losses. This is characterized by the individual's tendency to segregate gains while integrating losses

because losses are more painful than a similar magnitude of gains. This is why investors on the stock market hold onto losses for so long and tend to sell off winning stocks, a process called the disposition effect. This theory has had later iterations, such as the cumulative preference theory (Tversky & Kahneman, 1992), which goes ahead to use weights in the process of decision making.

Nudge Theory:

Developed by James Wilk before 2005 and later brought to prominence by Thaler and Sunstein (2008), the theory's central premise is that individuals do not always make rational and economically efficient decisions, and thus, changes in choice architecture may help them improve their decisions. People do not behave as economic models, such as expected utility theory predicts, because individuals do not have the cognitive ability to hold voluminous information and therefore use it for decision making; this is termed as bounded rationality by Simon (1955). A nudge is a cheap or easy-to-avoid intervention and therefore not a mandate; for example, putting fruits at eye level in the supermarket acts as a nudge, instead of banning junk food or implementing mandatory policies (Thaler & Sunstein, 2008: 2021) . This theory can be used to bring about desired choices instead of pushing individuals' choices to what is required outright.

Theoretical analysis

Table 1 highlights the strengths and weaknesses of theories adopted for the study; the Prospect theory is used to conceptualize heuristic behaviour to include loss aversion, regret aversion, and mental accounting. These heuristics rely on the axiom of prospect theory, where individuals are risk seeking when making gains and risk-averse when making losses. They tend to segregate gains and integrate losses. This theory, however, does not recognise an individual's intention to undertake particular decisions but rather focuses on their inbuilt biases/ heuristics. The Theory of Planned Behaviour recognises the individual's intentions not only heuristic biases. This intention to perform a certain behaviour is influenced by the individual's attitudes, behavioural controls, and subjective norms. Thus, by including both prospect theory and the theory of planned behaviours in the study, the heuristic and intentional behaviours are covered. However, neither of these theories recognises that external systems can influence an individual's decision-making process by exploiting both the heuristic and intentional behaviour. The Nudge theory takes advantage of heuristic behaviour to encourage participation; little is known regarding the extent to which the theory can exploit intentional behaviour.

Table 1: Theoretical matrix

Theory	Strength	Weakness	Variable explained
Prospect theory	Theory conceptualises heuristic behaviour holistically, including loss aversion, regret aversion, and mental accounting.	The theory does not recognise an individual's intention; it mainly perceives behaviour as heuristics or biases.	Heuristic Behaviour
Theory of Planned Behaviour	The theory recognises individuals' intentions, not simply heuristic biases. These are highlighted well in attitude, behavioural	The theory does not recognise that external systems can influence an individual's decision-making process.	Planned Behaviour

	controls, and subjective norms.		
Nudge theory	The theory is meant to take advantage of heuristic behaviour to encourage participation. The theory recognises that individuals are affected by information that is generated by external systems.	The theory ignores that individuals undertake decisions intentionally.	Nudging Behaviour

Empirical Review

The relationship of Investor Behaviour with Investor participation on the stock market:

In Turkey, investor behaviour was found to have a positive relationship with Investor participation on the stock market amongst academics (Cavusoglu, Eksi, & Sit, 2023). Chowdhury, Mahdzan, and Rahman (2023) found in Bangladesh that investor behaviour, gambler's fallacy, and trust are significant drivers of investor participation on the stock market. Prospect theory highlights important heuristics such as loss aversion, regret aversion, and mental accounting. Loss aversion occurs relative to an ideal point called a reference point; therefore, individuals suffer loss aversion when they prefer the status quo in comparison to an uncertain proposition such as a change in events (Passarelli & Del Ponte, 2020). Loss aversion thus has a negative relationship with stock market performance in the United States (Ahmed & Boutheina, 2020). Regret aversion occurs when individuals experience loss aversion, but in hindsight. It is commonly exploited in marketing as the fear of missing out. (Han, Quadflieg, & Ludwig, 2023; Gabillon, 2020). Doreleijers and Hambel (2025) assert that the more regret averse and individual is, the more they use benchmarking strategies while investing, and this leads to lower participation. This is because investors tend to use the money market account as a benchmark to lessen regret and thus not fully participate in the stock market. Nakola, Ndawula, Aketch, and Sibwomu (2024) note that regret aversion leads to individuals' over-analysing decisions in an attempt to reduce anticipated regret, thus affecting decision-making.

Mental accounting observes that individuals never perceive their overall utility as a whole, but rather they categorize transactions and engage in narrow choice bracketing, focusing on a particular transaction at a time, instead of broad choice bracketing, which is in tandem with utility maximization (Webb & Shu, 2023). Mental accounting could negatively affect investor participation on the stock market because it leads to less than ideal diversification, as individuals deploy money according to imagined goals (Shalika & Buddhika, 2025). Nudging, as proposed by Thaler (2008), asserts that rules, structures, and incentives can be tweaked to achieve a better outcome for those being nudged. As investors are presented with information (reminders), the information architecture and layout could enable them to make better choices about how to participate in the stock market. Availing information to individuals in a way that can facilitate choice-making is a nudging tool that can foster better investor participation on the stock market.

Planned Behaviour proposed by (Ajzen, 1985:1991) predicts the intent for adoption of a particular service or product. The theory thus predicts that attitude, subjective norms, and behavioural controls have a way they relate to an individual's participation on the stock market.

The extent to which Investor Behaviour predicts Investor participation on the stock market: Kaur and Kaushik (2016) observed that awareness, perception, and socioeconomic characteristics of the individual investor are key to investment behaviour in their study on mutual funds. Mosalamy and Metawie (2018) suggest that creating intention may enable people to participate more in equities in the stock market; however, given investors' aversion to risk, many people in the Egyptian market prefer to invest in gold, real estate, or bank deposits that are considered safer. Scholars further suggest that there are other moderators of investor participation that are not behavioural, and they include interest rates, taxes, and transaction costs. In their research on the Zimbabwean stock market, Gumbo and Sandada (2018) concluded that predictors such as awareness, transaction costs, access to internet services, cognitive skills, and perception are significant when it comes to investors' stock market participation. Scholars further highlight that trust, transaction costs, cognitive skills, and perception have a significant effect on investor participation; notwithstanding, whether the investor is male or female, differences arose only with awareness and access to the internet.

Investors in the stock market have different ways in which they participate, mainly because of their risk preferences (Kling, Konig-Kersting, & Trautmann, 2023). Thus, investigating the activity of individuals in the market regarding their demographics could provide further insights into this dynamic. Liivamagi (2016) observed that people holding academic degrees participate more in the stock market than those without academic degrees. Barber and Odean (2008) observe that, notwithstanding the level of education and wealth, investors make mistakes while investing in the stock market because they oversimplify situations owing to heuristic biases and framing effects.

Heuristics, Nudging, Planned Behaviour, and Investor Participation on the Stock Market
Behavioural finance has come a long way, and many theories have developed within the field's existence in the past forty years. Theories like Prospect theory (Kahneman & Tversky, 1979) and even those before the field's inception, like bounded rationality (Simon, 1955) and Cognitive dissonance (Festinger, 1957) have been studied in the area of finance without much attention being given to investor participation on the stock market, especially in a sub-Saharan African context.

The prospect theory has had much more visibility and attention from behavioural scholars worldwide, but theories like Planned Behaviour have not had as much attention, especially in the area of investor participation. The concept of Nudging is more recent and has had even less attention when it comes to its impact in the general area of behavioural finance, not to mention investor participation on the stock market. It is clear from the literature that these concepts do have a relationship with and predict investor participation, but more attention needs to be given to their levels of predictability, especially when it comes to investor participation on the stock market.

Methodology and Approaches
The study design followed a quantitative cross-sectional approach using self-administered structured questionnaires. The Uganda Securities Exchange has a population of 21,834 local investors (Mwima, 2019), and according to Krejcie and Morgan (1970), it is sufficient to use a sample of 379 respondents. The study included 261 local investors, constituting a valid response rate of 69% after considering properly filled questionnaires. Data were collected following a simple

random sampling approach where questionnaires were given to local investors through the agency of the brokers, giving an equal chance for investors to participate in the study. Table 2 shows investor characteristics of the sample.

Investor demographic characteristics

Table 2 below highlights the demographic characteristics of investors who participated in the study, including characteristics such as broker mostly traded with, major security traded, gender, age, and nature of occupation.

Table 2: Investor Characteristics

Variable (n =261)	Category	Frequency	Percent
Broker mostly traded with	Baroda Capital Markets Uganda Limited	27	10.3
	Standard Bank Group	29	11.1
	Equity Stock Brokers Uganda Limited	32	12.3
	Dyer and Blair	17	6.5
	Crested Capital	122	46.7
	UAP Financial Services	34	13.0
	Total	261	100.0
Major Security traded	Shares	190	72.8
	Bonds	29	11.1
	Treasury Bills	33	12.6
	Unit Trusts	9	3.4
	Total	261	100.0
Gender	Male	166	63.6
	Female	95	36.4
	Total	261	100.0
Age	20-25 years	42	16.1
	26-30 years	78	29.9
	31-35 years	71	27.2
	36-40 years	32	12.3
	41 years and above	38	14.6
	Total	261	100.0
Nature of occupation	Business Owner	76	29.1
	Engineer	25	9.6
	Health Services	33	12.6
	Educational Services	27	10.3
	Accountant	50	19.2
	Security Services	8	3.1
	Others	42	16.1
	Total	261	100.0

Source: Primary data (2022)

Data was collected using a structured questionnaire with a five-point Likert scale on a continuum of 1-5 reflecting responses from strongly disagree, disagree, neutral, agree, to strongly agree. Creswell (2014) says that such a scale is an appropriate tool for large samples. The scale was

selected because it allows a respondent to register the degree of agreement with each statement (Likert, 1961).

Operationalisation of variables:
Variables were operationalised as in Table 3, highlighting their latent constructs and measurements as per various scholars.

Table 3: Operationalisation of variables

Main Variable	Latent Constructs	Measurements
Heuristic Behaviour	Loss aversion, Regret aversion, Mental accounting	Kahneman and Tversky (1979), Thaler (1999)
Nudging Behaviour	Constant reminders, Information availability, Information architecture	Thaler and Sunstein (2021), Thaler and Sunstein (2008)
Planned Behaviour	Attitude, Subjective norms, Behavioural controls	Ajzen (1991), Azjen (1985)
Investor Behaviour	Heuristic Behaviour, Nudging Behaviour, Planned Behaviour	Kahneman and Tversky (1979), Thaler and Sunstein (2021), Ajzen (1991)
Investor participation	Financial sophistication, Trading frequency	Mazzuca, Panzera, and Ruberto (2023); Muhammad, Muhammad, and Siddiqui, (2020); Jiangze, Kalok, and Wai-Ming (2020)

Exploratory factor analysis
An EFA was done on all items of the variables, and only items that met a threshold of 0.5 were considered for further analysis. The variables were generated as a computation of the mean of retained items for that particular variable, and the variable of Investor Behaviour was generated by computing the mean of Planned, Nudging, and Heuristic Behaviour. Validity and reliability were assessed, and variables were found to meet the reliability and validity criteria of 0.6 (Creswell, 2014) as shown in Table 4.

Table 4: Reliability and Validity

Variable	No. of items	Reliability (Cronbach's alpha)	Validity (Content validity index)
Investor Participation	9	0.800	0.692
Planned Behaviour	13	0.809	0.738
Nudging Behaviour	13	0.845	0.700
Heuristic Behaviour	12	0.703	0.662

Source: Primary data (2022)

Descriptive statistics:
Table 5 reveals the minimum, maximum, mean, standard deviation, skewness, and kurtosis statistics for the sample. It is noteworthy that according to the skewness and kurtosis statistics. The data is normally distributed because the skewness lies within -0.5 and +0.5, and the Kurtosis is a normal univariate distribution, which is between -2 and +2 for all variables (George & Mallery, 2010; Field, 2013).

Table 5: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
Variable	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Investor Participation	261	1.13	5.00	3.3421	.81476	-.016	.151	-.877	.300
Planned Behaviour	261	2.22	5.00	3.8807	.55619	-.497	.151	-.021	.300
Nudging Behaviour	261	1.47	5.00	3.4798	.68912	-.290	.151	-.316	.300
Heuristic Behaviour	261	1.92	4.73	3.4188	.59172	.042	.151	-.457	.300

Multicollinearity

Table 6 highlights the collinearity statistics of tolerance and VIF (Variance Inflation Factors), which are within the required thresholds of Tolerance values greater than 0.2 and the VIF below 5 (Field, 2013). This shows that the independent variables are free from multicollinearity.

Table 6: Test for multicollinearity

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistic	
		B	Std. Error	Beta			Tolerance	VIF
	(Constant)	0.183	0.332		0.550	0.583		
	Nudging Behavior	0.525	0.072	0.444	7.330	0.000	0.698	1.433
	Heuristic Behavior	0.044	0.078	0.032	0.565	0.573	0.803	1.246
	Planned Behavior	0.305	0.084	0.208	3.619	0.000	0.774	1.292

a. Dependent Variable: Investor Participation

Findings

The relationship of Investor Behaviour and local Investor participation on the stock market:

The findings in Table 7 reveal that Investor Behaviour have a significant positive correlation with investor participation (r = 0.55**, p<0.01), Nudging Behaviour had the highest correlation (r = 0.553**, p<0.01) with Investor participation, followed by Planned Behaviour (r = .422**, p<0.01) and Heuristic Behaviour had the lowest correlation (r = .285**, p<0.01). Behavioural constructs for Heuristic Behaviour such as loss aversion, regret aversion, and mental accounting have correlations of (r = .166**, .061, and .376**, p<0.01) respectively with investor participation, while those of Nudging Behaviour such as constant reminders, information availability and information architecture have correlations of (r = .390**, .473** and .446**, p<0.01) respectively with investor participation. Constructs for Planned Behaviour, such as attitude, subjective norms, and behaviour controls, had correlations of (r = .305**, .176** and .470**, p<0.01) respectively, with investor participation.

Table 7: Correlation of predictor and criterion variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Loss Aversion	1															
2. Regret Aversion	.282**	1														
3. Mental Accounting	.226**	.138*	1													
4. Heuristic Behavior	.698**	.721**	.650**	1												
5. Constant Reminders	.452**	0.115	.357**	.431**	1											
6. Information Availability	.150*	.144*	.335**	.302**	.422**	1										
7. Information Architecture	.256**	0.076	.254**	.274**	.425**	.450**	1									
8. Nudging Behavior	.363**	.143*	.402**	.427**	.785**	.798**	.781**	1								
9. Attitude	.128*	0.008	0.116	0.116	.124*	.217**	.432**	.322**	1							
10. Subjective Norms	.263**	.329**	.237**	.403**	.180**	.201**	.147*	.224**	.130*	1						
11. Behaviour Controls	0.053	-0.081	.183**	0.067	.264**	.367**	.509**	.479**	.554**	.132*	1					
12. Planned Behavior	.227**	.155*	.257**	.305**	.261**	.355**	.480**	.460**	.750**	.670**	.720**	1				
13. Investor Behavior	.553**	.428**	.564**	.740**	.660**	.649**	.678**	.839**	.496**	.537**	.540**	.738**	1			
14. Financial Sophistication	.174**	-0.008	.255**	.194**	.417**	.421**	.434**	.537**	.281**	0.113	.439**	.364**	.482**	1		
15. Trading Frequency	0.109	0.117	.396**	.299**	.246**	.389**	.328**	.407**	.241**	.191**	.365**	.360**	.461**	.472**	1	
16. Investor Participation	.166**	0.061	.376**	.285**	.390**	.473**	.446**	.553**	.305**	.176**	.470**	.422**	.550**	.868**	.847**	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The extent to which Investor Behaviour predict Investor participation on the stock market Endogeneity

Table 8 shows a regression analysis of control variables with Investor participation, the findings reveal that control variables such as Age, Level of Education, Working Experience, Name of broker mostly traded with, Nature of occupation, Major security traded and Gender do not have a significant relationship with Investor participation on the USE as seen from the *p-values* above. Only the control variable of Investment Experience shows a significant relationship with Investor participation. This shows that the problem of endogeneity is largely catered for in the regression models.

Table 8: Controlling for other factors that may affect investor participation

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	2.875	.300		9.579	.000
Age	.047	.068	.074	.694	.488
Level of Education	.154	.063	.160	2.435	.016
Working Experience	-.194	.073	-.315	-2.644	.009
Investment Experience	.268	.074	.302	3.612	.000
Name of the broker you mostly trade with	-.040	.031	-.078	-1.288	.199
Nature of occupation	-.011	.023	-.028	-.468	.640
Major security traded	.071	.059	.073	1.196	.233
Gender	-.054	.103	-.032	-.528	.598

a. Dependent Variable: Investor Participation

Source: Primary data (2022)

The findings from Table 9 in Model 4 indicate that the adjusted $R^2 = .300$ (sig. $p<.001$), indicating that 30% of changes in investor participation can be explained by a unit change in Investor Behaviour, which is also significant. However, it's worth noting that when Heuristic Behaviour is regressed against Investor participation (Model 1), Heuristic Behaviour and Nudging Behaviour are regressed against Investor participation (Model 2). Heuristic Behaviour, Nudging and Planned Behaviour against investor participation (Model 3), the following results are obtained respectively ($R^2 = 7.8\%$ $p < .001$; $R^2 = 30.4\%$ $p < .001$ and $R^2 = 33.5\%$ $p < .001$), therefore indicating that the model grows as these theories of Prospects, Nudging and Planned Behaviour are employed together.

Table 9: Regression analysis for Investor Behaviour and Investor Participation

Independent Variables	**Dependent variable: Investor Participation**			
	Model 1	**Model 2**	**Model 3**	**Model 4**
Constant	2.001	.890	.183	-.042
Heuristic Behaviour	.285	.059	.032	
Nudging Behaviour		.528	.444	
Planned Behaviour			.208	
Investor Behaviour				.550
R	.285	.556	.585	.550
R^2	.081	.309	.342	.302
Adjusted R^2	.078	.304	.335	.300
Sig(P)	.000	.000	.000	.000

i. Predictors: (Constant), Heuristic Behaviour
ii. Predictors: (Constant), Heuristic Behaviour, Nudging Behaviour

iii. Predictors:(Constant), Heuristic Behaviour, Nudging Behaviour, Planned Behaviour
iv. Predictors: (Constant), Investor Behaviour

Source: Primary data (2022)

Heuristics, Nudging, Planned Behaviour, and Investor Participation on the Stock Market

The findings from Table 10 reveal that when the three variables of Heuristic Behaviour, Nudging Behaviour, and Planned Behaviour are regressed individually against investor participation, the following results are obtained. Heuristic Behaviour has an adjusted R-squared of 7.8%, Nudging Behaviour has 30.3%, and Planned Behaviour has 17.5%, which are all significant. The models reveal standardized betas of $\beta = .285$ $p < .001$ for Heuristic Behaviour, $\beta = .553$ $p < .001$ for Nudging Behaviour, and $\beta = .422$ $p < .001$ for Planned Behaviour. The models further reveal that Heuristic Behaviour predicts investor participation by 7.8%, Nudging predicts investor participation by 30.3%, and Planned Behaviour by 17.5%.

Table 10: Regression Analysis

Independent Variables	**Dependent variable: Investor Participation**		
	Model 1	**Model 2**	**Model 3**
Constant	2.001	1.066	.943
Heuristic Behaviour	.285		
Nudging Behaviour		.553	
Planned Behaviour			.422
R	.285	.553	.422
R^2	.081	.306	.178
Adjusted R^2	.078	.303	.175
Sig(P)	.000	.000	.000

i. Predictors: (Constant), Heuristic Behaviour
ii. Predictors: (Constant), Nudging Behaviour
iii. Predictors:(Constant), Planned Behaviour

Source: Primary data (2022)

Discussion of Findings

Investor Behaviour has a significantly positive correlation with investor participation on the stock market of 0.55**. Therefore, Nudging Behaviour has a significant relationship with investor participation levels in the stock market, as observed by the correlation coefficient of 0.55**, implying that policy geared towards nudging investors will yield increased participation rates on the stock market. Such a policy should focus on enhancing constant reminders, availing information, and information architecture, which all have significant correlation with investor participation of .390**, .473**, and .446** respectively. Planned Behaviour has a positive and significant relationship with investor participation because it accounts for a correlation of 0.422**, meaning that investors need to have the right attitude, subjective norms, and behavioural controls to participate more on the stock market. Still, it is worth noting that subjective norms have a weak positive correlation of .176** with investor participation. This indicates that they matter to a lesser extent in comparison to attitude and behavioural controls, with correlations of 305^{**} and 470^{**}

respectively. Heuristic Behaviour, on the other hand, has the lowest correlation with investor participation (0.285**). This is because constructs like loss and regret aversion have low correlations with investor participation of (.166** and .061), respectively, and consequently matter less; however, mental accounting, a component of Heuristic Behaviour, has a significant correlation with investor participation of .376**. This indicates that investors rely on mental accounting when undertaking investment decisions on the stock market. This is consistent with the observations of Thaler (1985) and Kahneman and Tversky (1979).

Investor Behaviour accounts for 30% of the changes in investor participation, and this statistic is significant as seen in Table 9 model 4, in the adjusted R-squared statistic. Therefore, Investor Behaviour, as conceptualized by Heuristic Behaviour, Nudging Behaviour, and Planned Behaviour have a substantial effect on investor participation. This implies that Investor Behaviour should not be taken for granted when it comes to theories proposed by scholars and policies made by policymakers when it comes to investor participation on the stock market. It is worth noting that these theories better predict investor participation when applied holistically instead of individually. This is because model 1 of Heuristic Behaviour in Table 9 has only a predictive power of 7.8%, while model 2 of Heuristic Behaviour and Nudging Behaviour combined has an increased predictive power of 30.4%, while model 3, which has Heuristic Behaviour, Nudging Behaviour, and Planned Behaviour together, has an increased predictive power to 33.5%. These findings suggest that Investor Behaviour matters when it comes to explaining investor participation on the stock market.

Considering the impact of these three Behaviour i.e., Planned, Heuristic, and Nudging, on investor participation as already discussed, Nudging Behaviour is the best predictor of investor participation on the stock market. In their work on improving decisions about health, wealth, and happiness, Thaler and Sunstein (2021) and Thaler and Sunstein (2008) recognize the use of cheap and easy suggestions with the right choice architecture to enable positive decision-making. This Behaviour should be taken into greater account to positively influence investor participation on the stock market. However, nudging could have greater results when nudges are targeted towards investors who have the intention to invest (Planned Behaviour) and are faced with Heuristic Behaviour, as already determined.

Conclusion and Implication

Behavioural finance has come a long way as a discipline; the field has the potential to make relevant predictions regarding investor participation on the stock market. This is evidenced in this paper as theories adopted, like prospect, nudging, and planned behaviour, as conceptualised in Investor Behaviour, have an impact on participation on the stock market. Nudging Behaviour is the greater predictor for investor participation, though Planned and Heuristic Behaviour still play a significant role. This implies that, as investors may have the intention to invest on the stock market notwithstanding inherent Heuristic Behaviour, nudges will go a long way to foster actual investor participation on the market. Theoretically, it implies that the theory of Planned Behaviour, prospect theory, and nudging theory are relevant insofar as investor participation on the market is concerned. Policy-wise, it means that creating intention to invest among investors is key, and this can be complemented by nudges to foster actual participation on the stock market. Practically, it also means that heuristic Behaviour is part and parcel of the investors' decision-making process regarding participation on the stock market. These can be positively exploited through the use of nudges such as reminders, information availability, and keen attention paid to the information

architecture to enable investors to participate on the market. It is therefore important to note that Investor Behaviour does matter regarding investor participation on the stock market based on the evidence from this paper.

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