Individual Investors and Domestic Stock Preferences: The Effects of Availability Bias, Ambiguity Aversion, and Regret Aversion at the Dar es Salaam Stock Exchange, Tanzania

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ABSTRACT

The aim of this paper was to examine how psychological biases shape domestic stock preferences of individual investors engaging in stock trading at the Dar es Salaam Stock Exchange. Cross-sectional survey research was employed to achieve the overall aim of the study. This study was informed by key behavioural finance theories. The empirical data concerning the behavioural constructs were collected from investors owning shares of the companies trading at the DSE. Using convenience and snowball sampling methods and a combination of physical and web-based techniques, a self-administered questionnaire, the researcher distributed more than 1,800 questionnaires. A final sample used for analyses consisted of 280 usable questionnaires. Furthermore, multiple regression analysis was used to examine the influence of the key variables under investigation. Overall, the findings of the study strongly support the hypotheses, demonstrating that availability bias, ambiguity aversion, and regret aversion each significantly contribute to DSP. The study concludes that recency bias and advocate recommendations drive investors toward domestic stocks, while the need for adequate information reinforces these results. Furthermore, fear of regret plays an important role in discouraging investors from diversifying into foreign stocks. Finally, the study recommends that financial literacy education, transparency, and behavioural interventions can help to counteract these cognitive biases and achieve more balanced investment strategies.

Keywords: Availability Bias, Ambiguity Aversion, Domestic Stock Preference, Individual Investors, Regret Aversion

I. INTRODUCTION

According to the traditional finance theories, investors are rational decision-makers. One of those well-established theories in this domain is modern portfolio theory (MPT). The MPT predicts that an optimal portfolio, constructed using Markowitz's mean-variance optimisation model, would be an optimal investment decision as it would maximise returns for a given level of risk. Accordingly, investors who build a globally diversified portfolio, minimise unsystematic risk and achieve the efficient frontier, where risk-adjusted returns are maximised (Markowitz, 2008). Another commonly recognised theory is the Capital Asset Pricing Model (CAPM), developed by Sharpe (1964) and Lintner (1965), which extends portfolio theory by assuming that the optimal risky portfolio for all investors is identical to the global capital market portfolio. The CAPM assumes that the optimal risky portfolio for all investors is identical to the global capital market portfolio. In other words, investors should hold the market portfolio, which includes all investable assets across the world, weighted by their market value. Holding the world market portfolio ensures optimal diversification and aligns with CAPM's core principle that systematic risk (measured by beta), determines the expected returns.

While extensive research in finance has documented the potential benefits derived from international portfolio diversification, there is still plenty of evidence indicating that both portfolios managed by professional managers and those held by individual investors, are predominantly composed of domestic assets (French & Poterba, 1991; Tesar & Werner, 1992; Tesar & Werner, 1995). This preference for local investments exposes investors to higher country-specific risks and reduces risk-adjusted returns, contradicting the fundamental principles of MPT and CAPM respectively. The tendency of investors to prefer domestic securities over foreign ones in their portfolio is commonly referred to as the *home bias effect* or *domestic asset bias* or *equity home bias puzzle* (Kumar & Goyal, 2015). In this study, we refer to this tendency as domestic stock preference (DSP) throughout our analysis.

Despite portfolio selection being a key focus of financial research since the early 1970s, the literature provides inconclusive explanations for why investors continue to prefer domestic stock over international diversification. A close examination of the literature reveals several possible reasons behind this phenomenon: (1) consistent with Coval and Moskowitz (1999), the presence of transaction costs such as brokerage fees, foreign exchange costs, taxes and differences in regulatory environments, to mention a few, amplifies DSP. The authors found that higher transaction costs acted as a strong hurdle for investors to trade foreign stocks, hence making domestic securities a more financially viable

option. A recent study by Atrous and Abaoub (2024) emphasises this finding by arguing that the transaction costs associated with acquiring and holding foreign equities remain a significant factor for retail investors, although other factors such as strong trade linkages or language may also motivate international portfolio choice over preference for domestic stocks; see also Tesar and Werner (1995). (2) Many studies (Ardalan, 2019; Cooper & Kaplanis, 1994) insinuate that domestic stocks may be preferred because they offer reliable hedging mechanisms against local economic uncertainties such as domestic inflation and currency fluctuations. (3) Information asymmetry is perhaps the most widely accepted explanation for DSP (Ahearne et al., 2004; Baltzer et al., 2015; Coval & Moskowitz, 1999). Some of the arguments in support of this reason are that investors have superior knowledge about local companies compared to foreign ones. Better access to information, lower associated costs, and the perceived reduction of risk further reinforce DSP. Given the advancements in financial markets, improved information technology and increased globalisation, one would expect economic barriers to international diversification to be significantly reduced. However, investors continue to prefer domestic stocks.

Another strand of the literature, known as behavioural finance and cognitive biases, examines the DSP puzzle through the lens of bounded rationality. This school of thought explains the DSP puzzle by exploring how psychological factors influence financial decisions, rather than assuming investors always make perfect choices, as predicted by traditional financial models (Ahearne et al., 2004; French & Poterba, 1991; Huberman, 2001; Kilka & Weber, 2000). Investors have cognitive limitations in processing information, act on incomplete data, and are influenced by behavioural factors, leading them to prefer domestic stocks over foreign ones.

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Tanzania has a unique economic, social, political and cultural background, making the Dar es Salaam Stock Exchange PLC (DSE) an interesting setting for studying DSP. The stock exchange started its operations officially in June 1998 with the listing of a single privatised state-owned company. Further, in 2013, the DSE launched a second-tier market, the Enterprise Growth Market (EGM) and subsequently listed its first company (DSE, 2023). As of 2023, the DSE listed 28 publicly traded companies, five corporate bonds, and 29 government bonds (DSE Sustainability Report, 2023). Despite the recorded achievement and steady growth, individual investor participation at the DSE remains relatively low, even though it doubled from over 200,000 in 2014 to more than 550,000 in 2020. However, according to Mwakabumbe et al. (2022), this increase accounts for less than 2% of Tanzania's working population. Such a low participation rate raises important questions about how behavioural biases influence investment decisions, particularly in a frontier market like the DSE.

The Tanzanian political landscape can arguably explain the observed low participation of investors at the DSE. Tanzania's past adherence to Ujamaa (African socialism), which was introduced by the then, President Mwalimu Nyerere, in 1967, meant that most sectors were state-controlled, leaving private investment underdeveloped until the economic reforms of the 1990s. This can arguably be associated with the tendency of most of the citizens to lack an investment culture. Consequently, these cultural and institutional frameworks can explain their familiarity with local stocks, a key driver of DSP. Moreover, as previous studies suggest, the preference for domestic investments could be further reinforced by structural constraints such as high transaction costs, limited foreign listings at the DSE, and low liquidity, which create natural barriers to international diversification.

1.1 Statement of the Problem

Despite extensive research on domestic stock preference (DSP), see for example, Coval & Moskowitz (1999), its underlying explanations for the prevalence of the phenomenon are still inconclusive and puzzling. To the best of the researcher's knowledge, this is a pioneering study to be conducted at the DSE. The DSE, as a frontier market, faces many challenges such as low liquidity and a limited number of cross-listed stocks, which may further reinforce investors' preference for domestic securities. However, empirical evidence on the role of psychological biases in influencing DSP within the DSE context is lacking. This gap highlights the need for a dedicated study to explore the influence of availability bias, ambiguity aversion, and regret aversion in explaining investor behaviour in this unique market setting by following the approach of Graham et al. (2009).

1.2 Research Objective

The main objective of this study is to examine the role of psychological biases, namely availability bias, ambiguity aversion, and regret aversion in shaping DSP among individual investors using survey data.

II. LITERATURE REVIEW

2.1 Theoretical Background

Advocates of behavioural finance, such as Kahneman and Tversky (1979), have challenged the rationality assumption put forward by the standard finance theory, particularly in relation to how individual make judgements and decisions in real-life settings. According to this field, investors are not always rational decision-makers; rather, their decisions are influenced by behavioural heuristics and cognitive biases. More precisely, investors do not assess investment risks based exclusively on objective probabilities of returns, but instead, rely on subjective probabilities (French & Poterba, 1991). This section presents a review of three theoretical explanations for understanding DSP.

2.1.1 Availability Bias

Availability bias is one of cognitive biases that explains how individuals make judgements or decisions by overestimating the importance or likelihood of events based on how easily they can recall, imagine or predict the relevant information (Tversky & Kahneman, 1973). What's more, individuals often rely on readily available information in their memories to make decisions instead of comprehensively evaluating the situation based on all available data. There are two facets of availability bias. The first is known as familiarity bias which refers to the state of being knowledgeable about something, and how this familiarity can negatively affect one's assessment of risk by creating a false sense of security. The second is recency bias, which refers to the tendency to make decisions based recent experiences or the salient characteristics of matter in question, rather than considering the long-term historical data or broader trends (Bearden et al., 2001).

2.1.2 Ambiguity Bias

Ambiguity aversion is another important psychological bias in which individuals tend to favour situations where the probability of outcomes is known over those involving unknown risks or ambiguous, even when the known probabilities are unfavourable. This behaviour may stem from limited cognitive ability or the tendency to rely on heuristics for the sake of avoiding complexities of assessing probabilities (Ritter, 2003; Venkatraman et al., 2006). According to this theory, investors will prefer stocks with a history of proven performance and well-established profile over unproven or newly listed company (Barberis & Thaler, 2003; Benartzi, 2001).

2.1.3 Regret Aversion

Regret aversion arises from individual's anticipation of how they will feel after making a decision, whether by taking action (regret of commission) or failing to act (regret of omission), particularly when the decision results in a negative outcome (Waweru et al., 2008; Zeelenberg, 1999). Various research studies have documented this behaviour among individual investors, such as reluctance to invest in foreign stocks (Coval & Moskowitz, 1999), and the tendency to sell winning stock too soon while holding on to loss-making ones (Nofsinger, 2005; Odean, 1998; Odean, 1999).

2.2 Hypothesis Development

Previous studies have found that behavioural biases, such as availability bias, ambiguity aversion, and regret aversion, have significant relationship with domestic stock preference (DSP) among individual investors (Coval & Moskowitz, 1999; Barberis & Thaler, 2003; Benartzi, 2001; Joshi & Dash, 2023; Naeem et al., 2023; Colline, 2024). It is evident in the literature that numerous studies have examined these biases in developed financial markets, whereas limited studies have investigated their role in shaping investment decisions in frontier markets like the Dar es Salaam Stock Exchange (DSE). Given the fact that the structural and informational characteristics of the DSE are unique, it is crucial to assess whether these psychological factors influence Tanzanian investors' DSP in a similar manner. By incorporating variables that have been identified in previous literature, this study aims to evaluate their applicability in the context of an emerging market economy.

2.2.1 Availability Bias and Domestic Stock Preference

The review of the literature has shown that availability bias directly affects DSP by influencing how investors recall and process investment information. Prior studies (e.g., Joshi & Dash, 2023; Naeem et al., 2023; Colline, 2024) suggest that recency bias, advocate recommendations, and social influence, make individual investors more likely to choose domestic over foreign stocks because locally listed companies are always in the news, social circles, and financial discussions. So, it is this ease of access to information that creates a perception of safety and profitability, even when

stocks of foreign companies offer better diversification benefits (Tversky & Kahneman, 1973; Ritter, 2003, Naeem et al., 2023; Colline, 2024). Therefore, it is hypothesised that:

H1: Investors exhibiting higher availability bias (recency bias, advocate recommendations, and social influence) are more likely to prefer domestic stocks over foreign stocks.

2.2.2 Ambiguity Aversion and Domestic Stock Preference

Empirical evidence in financial markets research (e.g., Graham et al., 2009, Stella et al., 2024) suggests that ambiguity aversion strongly explains DSP. Ambiguity-averse investors amplify the possibilities of unfavourable events happening; hence they will prefer investments whose probabilities are well-defined while avoiding uncertain or complex financial decisions (Barberis & Thaler, 2003; Ritter, 2003; Chowdhury & Mahdzan, 2024). Building on existing studies, it can safely be argued that belief in principles, need for adequate information, and wariness of uncertainty are strongly associated with DSP (Barberis & Thaler, 2003; Benartzi, 2001; Colline, 2024). According to this bias, investors may often avoid foreign stocks because they carry regulatory, political, and currency risks (Benartzi & Thaler, 2001). Therefore, it is hypothesised that:

H2: Investors exhibiting higher ambiguity aversion (belief in principles, need for adequate information, and wariness of uncertainty) are more likely to prefer domestic stocks over foreign stocks.

2.2.3 Regret Aversion and Domestic Stock Preference

The literature has extensively documented the relationship that exists between DSP and an individual's fear of making poor investment decisions and the anticipation of negative emotions associated with such decisions (Coval & Moskowitz, 1999; Odean, 1998; Odean, 1999; Naeem et al., 2023; Joshi & Dash, 2023). Empirical evidence has shown that investors seek assurance, remain adamant in their investment choices, and exhibit a fear of regret, which influences their likelihood of avoiding foreign stocks (Zeelenberg, 1999; Odean, 1998). This tendency is particularly relevant in emerging markets, where market volatility and economic uncertainty can amplify regret-averse behaviour. Therefore, it is hypothesised that:

H3: Investors exhibiting higher regret aversion (assurance, adamance, and fear of regret) are more likely to prefer domestic stocks over foreign stocks.

III. METHODOLOGY

3.1 Research Approach and Design

Cross-sectional survey design was considered suitable for undertaking this study, as it allowed for the collection of data at a single point in time to examine how psychological biases shape DSP among individual investors engaged in stock trading at the DSE.

3.2 Study Area and Population

The study was conducted in the context of the Dar es Salaam Stock Exchange (DSE), the principal securities market in Tanzania. The population comprised individual investors who own shares in companies listed on the DSE, regardless of their physical location. It is important to note that, these shareholders are geographically dispersed across various regions of Tanzania and abroad. The main reason for targeting this group of investors, is their direct involvement in stock trading activities, hence its relevance to the focus of the research.

3.2 Sampling and Sample Size

Owing to the uncertainty regarding the number of retail investors participating in stock trading at the DSE, the researcher adopted a combination of non-probability sampling techniques. First, a convenience sampling approach was used to select only shareholders of companies listed at the DSE, as they were the target of the study (Zikmund, 2003). Additionally, a snowball (or chain) sampling technique was employed, whereby initial respondents who own stocks were requested to identify and recommend their colleagues, friends, and family members who held shares, informing them about the study. This approach helped to increase the number of potential respondents by leveraging social networks (Malhotra, 2008).

These techniques were deemed appropriate since the researcher could not obtain contact details from the register of shareholdings in the Central Depository System (CDS). As a result of these strategies, more than 1,800 questionnaires were distributed to stock market participants using different channels. A total of 280 usable questionnaires were returned, resulting in a 19 per cent response rate. This sample size was considered sufficient for proceeding with analysis, as it met the acceptable observations-to-variable ratio suggested by Hair et al. (2006).

3.3 Data Collection Methods

The study used a self-administered questionnaire as the primary tool for data collection. The researcher employed a combination of physical, and web-based methods to administer the instrument, ensuring broad participation (Saunders et al., 2009). Since the questionnaires were developed from scratch, this approach ensured consistency in the presentation of questions, thereby, reducing interviewer bias (Fowler, 2002). The questionnaires comprised both, newly developed questions, based on extensive review of the literature, as well as items adopted from previous studies. Before full deployment, the survey instrument was pre-tested in the field to refine its clarity and reliability (Malhotra, 2008). The final instrument consisted of closed-ended, Likert-scale questions structured to ensure comparability and ease of analysis. Table 1 defines the constructs.

Table 1

Definition of Factors

Constructs	# Items	Definition of constructs and sources
Domestic stock preference	3	DSP refers to investors' tendency to favour domestic stocks in their portfolios (Barberis & Thaler, 2003; Benartzi, 2001; Coval & Moskowitz, 1999; French & Poterba, 1991)
Recency bias	4	RB refers to the tendency to place strong weight to recent information or events when making decisions e.g., overreactions to recent performance trends (Bearden et al., 2001; Ritter, 2003; Tversky & Kahneman, 1973)
Advocate recommendation	2	AR is defined as the tendency to make decisions based on trust in information received from others e.g., stock analysts, and experts (Bearden et al., 2001; Kliger & Kudryavtsev, 2010; Shiller & Pound, 1989)
Social influence	3	SI refers to the perceived influence of information from social interactions e.g., advertisements and news on TV, friends, and colleagues (Bearden et al., 2001; Hong et al., 2004; Kaustia & Knüpfer, 2012)
Belief in principles	3	BP refers to the inclination to rely on established structures, order, financial principles and rules in decision-making and solving problems in uncertain situations, e.g., investing only in blue-chip stock (Barberis & Thaler, 2003; Benartzi, 2001; Graham et al., 2009)
Need for adequate information	2	NI refers to investors' propensity to seek complete, sufficient, and detailed information before making investment decisions (Budner, 1962; Buhr & Dugas, 2002; Venkatraman et al., 2006)
Wary of uncertainty	2	WU refers to investors' reluctance to engage in decision-making under unpredictable situations, e.g., currency fluctuations (Budner, 1962; Buhr & Dugas, 2002; Venkatraman et al., 2006)
Assurance	3	AS suggests investors' tendency to take a cautious approach in decision-making, e.g., seeking historical evidence or expert validation (Benartzi & Thaler, 1995; Odean, 1998; Waweru et al., 2008; Zeelenberg, 1999)
Adamant	2	AD suggests a tendency to be firm or resistant to changing investment approaches, e.g., holding onto underperforming stocks (Benartzi & Thaler, 1995; Odean, 1998; Waweru et al., 2008; Zeelenberg, 1999)
Fear of regret	3	FR suggests a strong aversion to regret in investment decision-making due to the anticipation of disappointment or loss, e.g., delays in selling a declining stock (Benartzi & Thaler, 1995; Waweru et al., 2008; Zeelenberg, 1999)

3.4 Data Analysis

The data analysis stage involved several stages. First, it was the screening of the questionnaires for completeness and consistency. This was followed by coding and entering all collected data into the Statistical Package for Social Sciences (SPSS) version 16. Thereafter, several analyses were conducted to provide a general description of the sample, assess construct reliability, and perform factor analysis using Principal Component Analysis (PCA). Furthermore, multiple regression analysis was conducted to examine the key variables under investigation. For the regression analysis, the DPS was the response variable, while the explanatory variables included the constructs of the key psychological biases (availability bias, ambiguity aversion, and regret aversion) as presented in Table 1.

IV. FINDINGS & DISCUSSION

4.1 Descriptive Statistics

The composition of respondents by gender shows that only 31.4 per cent of the 280 respondents were females, while the remaining were males (see Table 2). The composition of respondents by gender shows that only 31.4 per cent of the 280 respondents were females, while the remaining were males. What's more, our survey instrument included a question that requested respondents to rate their level of financial literacy, particularly in stock market investment matters. The findings in

Table **2** indicate that about 38 per cent were moderately knowledgeable, representing a large proportion of respondents. Noticeably, only 20 per cent assessed themselves as very knowledgeable. Generally, a large proportion of respondents are aware of stock market matters. Concerning investment experience, the findings show that more than 57 percent had experience of more than five years, thus suggesting that they know better their investing abilities. In terms of age, Table 2 further portrays those 110 respondents (39.3 per cent) out of 280 who belonged to the 31-40 years age group, which formed the largest response category. The 41-50 years age group was the second largest category, with 24.6 per cent of responses. The least responsive category was individuals below 20 years, with 1.1 per cent, while the proportion of over-60 years category was 4.3 per cent.

Table 2

Demographic Attributes of Respondents

Demographic profiles	Category	Frequency	Percent
Gender	Male	192	68.6
	Female	88	31.4
Stock investment self-assessment	Completely uninformed	4	1.4
	Limited understanding	12	4.3
	Reasonably knowledgeable	101	36.1
	Moderately knowledgeable	107	38.2
	Very informed	56	20
Age group	Below 20	3	1.1
	20 to 30	30	10.7
	31 to 40	110	39.3
	41 to 50	68	24.3
	51 to 60	57	20.3
	Over 60	12	4.3
Stock market experience (in years)	0 - 1 year	22	7.9
	1 to 3 years	45	16.1
	3 to 5 years	52	18.5
	More than 5 years	161	57.5

4.2 Reliability and Construct Validity Test

The internal consistency of the measures of constructs specified in Table 1 was assessed using a reliability test known as Cronbach's alpha. According to Hinton et al. (2004), Cronbach's α value cut-off points are; excellent reliability (0.9 and above), high reliability (0.70 – 0.90); moderate reliability (0.50 – 0.70), and low reliability (0.50 and below). Straub et al. (2004) elucidates further that the recommended cut-off point reliability for exploratory studies is 0.60 or above. A closer examination of Table 3 reveals that Cronbach's coefficient alpha values of various constructs in varied between 0.61 and 0.81. Cronbach's α value for DSP was 0.66 The findings further demonstrate that seven out of the nine constructs, namely - *need for adequate information, recency bias, advocate recommendation, social influence, belief in principles, wary of uncertainty, and assurance* - possessed high reliability. Both *adamant* and *fear of regret* illustrated moderate reliability value of 0.62 and 0.61 respectively. None of the constructs possessed reliability below the recommended level of 0.60, implying that all constructs are internally consistent.

Table 3 further presents the results of the factor analysis, which was performed to verify construct validity using Principal Component Analysis (PCA) with the oblique rotation method. A careful inspection of the table reveals that the results meet the criteria for both the discriminant validity (loading of at least 0.40, no cross-loading of items above 0.40) and convergent validity (eigenvalues of 1, loading of at least 0.40, and items loading on their posited constructs), as suggested by Straub et al. (2004). The results in Table 3 confirm that the survey instrument used for data collection is valid; hence, the findings obtained from this instrument are reliable.

Table 3
Rotated *Component Matrix* and *Reliability Test* (N = 280)

Items/Measures	Components								
	RB	**AR**	**SI**	**BP**	**NI**	**WU**	**AS**	**AD**	**FR**
RB2	0.780								
RB3	0.768								
RB4	0.738								
RB1	0.697								
AR1		0.912							
AR2		0.897							
SI2			0.840						
SI3			0.827						
SI1			0.742						
BP1				0.854					
BP2				0.851					
BP3				0.599					
NI1					0.925				
NI2					0.908				
WU1						0.903			
WU2						0.825			
AS2							0.877		
AS3							0.804		
AS1							0.762		
AD2								0.851	
AD1								0.819	
FR1									0.820
FR2									0.756
FR3									0.596
Eigenvalues	33.38	19.94	12.30	37.20	21.72	15.54	35.97	16.99	13.66
Cronbach's Alpha	0.74	0.78	0.74	0.70	0.81	0.70	0.78	0.62	0.61

Extraction method: principal component analysis; **Rotation method**: oblique
DSP: Domestic stock preference; **RB**: Recency bias; **AR**: Advocate recommendation; **SI**: Social influence; **BP**: Belief in principles; **NI**: Need for adequate information; **WU**: Wary of uncertainty; **AS**: Assurance; **AD**: Adamant; **FR**: Fear of regret

4.3 Regression Analysis

Three separate multivariate regression analyses were performed to analyse the effect of behavioural biases (availability bias, ambiguity aversion and regret aversion) on DSP.

Table **4** shows that the overall significance (F-tests) of three regression models significantly explains variations in DSP. In addition, all VIF values are less than 1.5, indicating that there are no multicollinearity concerns, making the models useful for analysis. A breakdown of the key elements for each model is provided below.

For the availability bias model, the constant term is statistically significant at the 1 per cent level. Examinations of RB and AR constructs indicate they have strong positive influence on DSP with probability values of less than 0.01. These findings suggest that investors who are influenced by recent trends and tend to rely on recommendations are more likely to prefer domestic stocks. Social influence, on the other hand, is not significant. Table 4 further indicates that the model has a moderate explanatory power, explaining 16.1 per cent of the variance in DSP.

Table 4
Behavioural Biases and Domestic Stock Preference: Multiple Linear Regression Analysis

Availability Bias			**Ambiguity Aversion**			**Regret Aversion**		
		VIF			**VIF**			**VIF**
Intercept	**2.256*** **		Intercept	**2.283*** **		Intercept	**3.176*** **	
RB	**0.333*** **	**1.252**	**BP**	**0.144** **	**1.227**	AS	0.054	1.259
AR	**0.173*** **	**1.080**	**NI**	**0.163*** **	**1.044**	AD	**(0.079)***	1.058
SI	-0.020	1.173	**WU**	**0.183*** **	**1.209**	**FR**	**0.261*** **	**1.222**
R - square	0.161			0.124			0.089	
F-test	**17.643*** **			**13.048*** **			**9.011*** **	
Observations	280			280			280	

Notes: This table presents the results of regressions DSP on various behavioural bias constructs. * p < 0.10, ** p < 0.05, ***p < 0.01. VIF = Variance Inflation Factor

Likewise, the intercept for the ambiguity aversion model in Table 4 is statistically significant ($p<0.01$). The coefficients of all predictors for ambiguity aversion are positive and strongly significant. Notably, NI and WU are significant at the 1 per cent level, while BP is at the 5 per cent level. The model's r-square is 12.4 per cent, indicating a relatively lower explanatory power than the availability bias model. Examination of the predictors of the regret aversion model gives mixed interpretations. FR has a strong positive effect on DSP ($P<0.01$). The coefficient of AD is negative ($p<0.10$), suggesting a weak relationship with DSP. On the other hand, the coefficient for AS is not significant, meaning that the need for assurance does not affect DSP. In terms of r-squared, the model explains only 8.9 per cent of the variance, making it comparatively the weakest model among the three.

To check the robustness of the results, the research performed forward stepwise regression analysis to test the proposed study hypotheses and assess the most significant predictors of DSP among behavioural biases (Hair et al., 2006). The findings of the stepwise model estimation presented in Table 5 highlight the most influential variables that emerged in the final stepwise model. The r-squared indicates that the model explains more than 21.4 per cent of the variance of DCP, suggesting moderate explanatory power which is higher than those of separate cases. Additionally, the F-statistic result ($F(4) = 18.685$, $p < 0.000$) strongly indicate that the model is highly significant implying that the included predictors collectively explain DSP better than random variations.

Table 5

Behavioural Biases and Domestic Stock Preference: Stepwise Estimation

Construct	Independent Variable	Beta Coefficient	Beta	VIF
Availability Bias	RB	0.271***	0.282	1.135
Ambiguity Aversion	NI	0.126***	0.152	1.093
Regret Aversion	FR	0.142***	0.148	1.144
Availability Bias	AR	0.151***	0.128	1.075
	Intercept	1.556***		
	$R^2 = .214$, ANOVA: $F(4) = 18.685$, $p < .000$			

Note: VIF - Variance Inflation Factor

According to the findings, availability bias has the strongest impact on DSP, as investors seem to rely heavily on recent market trends (RB) and recommendations (AR) when making stock investment decisions. The results also portray that ambiguity aversion plays a role, as it appears that investors who require complete and detailed information (NI) before making decisions are more likely to prefer domestic stocks due to the perceived certainty. Furthermore, the findings show that fear of regret, a construct of regret aversion, strongly influences DSP. This implies that investors avoid foreign stocks, as they may anticipate disappointment from uncertain outcomes.

4.4 Discussion

This study investigated how behavioural biases influence investors' tendency to prefer domestic stocks over foreign ones. The findings provide strong empirical evidence that behavioural biases significantly influence Domestic Stock Preference (DSP) among retail investors at the Dar es Salaam Stock Exchange (DSE). The results from both descriptive statistics, and the main regression estimations confirm that availability bias, ambiguity aversion, and regret aversion each play a role in shaping investor decision-making.

Demographic profiles of the respondents: The demographic composition of respondents provides valuable insights into investors behaviour at the DSE. The disparity in gender distribution supports the existing literature (e.g., Graham et al., 2009, Barber & Odean, 2001) that men are more likely than females to participate in stock markets due to higher levels of confidence, greater risk tolerance, and better financial literacy. According to the literature, social-cultural and structural barriers, such as limited access to investment education and lower disposable income, further hinder female participation in stock trading, particularly in developing economies like Tanzania. Wang et al., (2017), on the other hand, asserts that women tend to exhibit greater caution when making financial decisions in uncertain environments. These behavioural differences align with regret aversion and ambiguity aversion biases.

Financial literacy also emerged as a key factor influencing investment behaviour at the DSE. This finding supports Van Rooij et al. (2011), who emphasise that financial literacy is one of the personal attributes that influences investing behaviour. Investment experience is another personal attribute that was examined. The current findings support the argument put forward by Gervais and Odean (2001) that experienced investors have greater self-awareness of their investing abilities. In terms of age distribution, the study reveals that stock market participation is highest among middle-aged individuals. The reasons behind this behaviour are well explained by Barber and Odean (2001). These authors argue that middle-aged investors are more financially stable, have higher risk tolerance, and are motivated by long-term wealth accumulation. Conversely, the proportion of young and older investors is significantly low, suggesting lower engagement with stock market activities.

Availability Bias and Domestic Stock Preference: The results indicate that recency bias (RB) and advocate recommendations (AR) significantly impact DSP. These findings align well with the literature (e.g., De Bondt and Thaler, 1985, 1987; Barber & Odean, 2001) who show that investors who place greater weight on recent market trends and rely on recommendations from financial experts, friends, or media sources are more likely to favour domestic stocks over foreign alternatives. Based on these findings, it can safely be argued that hypothesis one (H1), which proposed that higher availability bias leads to a greater preference for domestic stocks is supported. In the context of the DSE, this should be more pronounced with domestic stocks, because they are most traded in. This evidence suggests that the DSE and other stakeholders should institute investor education initiatives that focus on enhancing financial literacy, as over-reliance on recent information and third-party recommendations, as previous researchers have documented may limit portfolio diversification and increase exposure to country-specific risks.

Ambiguity Aversion and Domestic Stock Preference: This research also reports that the need for adequate information (NI) has a strong and significant positive association with DSP, implying that investors who require comprehensive, detailed, and well-structured information prefer domestic stocks due to the perceived certainty and familiarity. Likewise, the wariness of uncertainty (WU) construct further supports this notion, as investors avoid foreign investments due to concerns over political risks, currency fluctuations, and regulatory differences. Barberis & Thaler (2003) report similar findings when they assert that investors who exhibit this bias prefer stable, familiar and well-documented investments. This means that investors at the DSE do not hold cross-listed shares because they do not have enough information about them. These findings confirm H2, which suggested that higher ambiguity aversion leads to a stronger preference for domestic stocks. This highlights the need for more transparent and accessible financial information about international markets to encourage greater global investment participation.

Regret Aversion and Domestic Stock Preference: The other hypothesis in this study, dealt with the susceptibility to regret aversion bias. The findings show that fear of regret (FR) has a significant positive effect on DSP, while adamant behaviour (AD) has a weaker but notable impact. Investors who fear making poor financial decisions or experiencing losses prefer domestic stocks, where they feel a greater sense of control and assurance. This finding complements the preceding observation that lack of sufficient information aggravates the possibility of undesirable outcome (Coval and Moskowitz, 1999). Based on these results our third hypothesis (H3), which hypothesised that higher regret aversion leads to a preference for domestic stocks, is partially supported. The implication here is that investors may benefit from behavioural finance interventions, such as nudging strategies, to help them overcome excessive risk aversion and improve portfolio diversification strategies.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

The aim of this study was to investigate the influence of behavioural biases on domestic stock preference among retail investors at the Dar es Salaam Stock Exchange (DSE). As a champion study to investigate this phenomenon in the context of frontier markets, the findings provide strong evidence in support of the study's hypotheses that availability bias, ambiguity aversion, and regret aversion significantly contribute to the prevalence of the DSP. In terms of the contributions of individual biases, the study concludes that availability bias has the strongest influence on investors' decisions-making at the DSE, suggesting that they place undue weight on recent market trends, easily available information, and recommendations they receive from experts and even colleagues, when making their decisions. The influence of regret aversion appears not to be very strong in explaining the investors' tendency to mainly hold local company shares rather than cross-listed ones. Only one construct, fear of regret, seems to play a critical role in discouraging investors from international diversification. Finally, the findings also show ambiguity aversion also plays a significant role in explaining investors' tendency to favour local stocks over foreign ones at the DSE.

5.2 Recommendations

To address these behavioural biases, this study provides the following recommendations. First, there is a need for deliberate efforts to enhance financial literacy for the citizens. Academic institutions, policymakers and financial institutions (e.g., UTT Asset Management and Investor Services (UTT-AMIS) PLC) should be at the forefront to develop investor education or personal finance programmes that address cognitive biases, in the case of DES in particular, recency bias and overreliance on expert recommendations. These two biases have strongly emerged as the ones which limit portfolio diversification. Another area that needs attention is access to financial information. Regulatory bodies such as the Bank of Tanzania, Capital Market and Securities Authority (CMSA), and other players in the market like the DSE should increase transparency and dissemination of information, e.g., financial data about cross-listed and foreign shares, to reduce ambiguity aversion and the effects of direct barriers to international investment. Information asymmetries are due to the poor quality and low credibility of financial information in many developing countries and frontier markets. Finally, since the findings have shown that investors rely on recommendations, particularly of experts,

it is recommended that financial advisors, such as UTT-AMIS PLC, should incorporate behavioural interventions such as default international investment options to reduce ambiguity aversion and encourage international diversification.

REFERENCES

Ahearne, A. G., Griever, W. L., & Warnock, F. E. (2004). Information costs and home bias: An analysis of US holdings of foreign equities. *Journal of International Economics, 62*(2), 313–336.

Ardalan, K. (2019). Equity home bias: A review essay. *Journal of Economic Surveys, 33*(3), 949–967.

Atrous, R., & Abaoub, E. (2024). The home bias: Evolution, determinants, and financial crises. *International Journal of Economics and Finance, 16*(7), 1–60.

Baltzer, M., Stolper, O., & Walter, A. (2015). Home-field advantage or a matter of ambiguity aversion? Local bias among German individual investors. *The European Journal of Finance, 21*(9), 734–754. https://doi.org/10.1080/1351847X.2013.877514

Barberis, N., & Thaler, R. H. (Eds.). (2003). A survey of behavioural finance. In G. M. Constantinides, M. Harris, & R. Stulz (Eds.), *Handbook of the economics of finance*. Elsevier.

Bearden, W. O., Hardesty, D. M., & Rose, R. L. (2001). Consumer self-confidence: Refinements in conceptualization and measurement. *Journal of Consumer Research, 28*(1), 121–134.

Benartzi, S. (2001). Excessive extrapolation and the allocation of 401(k) accounts to company stock. *The Journal of Finance, 56*, 1747–1764.

Benartzi, S., & Thaler, R. H. (1995). Myopic loss aversion and the equity premium puzzle. *The Quarterly Journal of Economics, 110*(1), 73–92.

Budner, S. (1962). Tolerance for ambiguity scale. *Journal of Personality, 30*(1), 29–50.

Buhr, K., & Dugas, M. J. (2002). The intolerance of uncertainty scale: Psychometric properties of the English version. *Behaviour Research and Therapy, 40*(8), 931–945.

Chowdhury, S., & Mahdzan, N. S. (2024). Do behavioral biases influence investors in frontier markets? Evidence from Bangladesh. *Qualitative Research in Financial Markets, 16*(1), 112–129.

Colline, A. R. (2024). Availability heuristics and ambiguity aversion in investor decision-making: Evidence from Indonesia. *Accounting and Finance Studies, 5*(1), 40–55.

Cooper, I., & Kaplanis, E. (1994). Home bias in equity portfolios, inflation hedging, and international capital market equilibrium. *The Review of Financial Studies, 7*(1), 45–60. https://doi.org/10.1093/rfs/7.1.45

Coval, J. D., & Moskowitz, T. J. (1999). Home bias at home: Local equity preference in domestic portfolios. *The Journal of Finance, 54*(6), 2045–2073.

DSE. (2023). *Sustainability report.* Retrieved from https://dse.co.tz/.

Fowler, F. J. (2002). *Survey research methods* (3rd ed.). SAGE Publications.

French, K. R., & Poterba, J. M. (1991). Investor diversification and international equity markets. *American Economic Review, 81*(2), 222–226.

Graham, J. R., Harvey, C. R., & Huang, H. (2009). Investor competence, trading frequency, and home bias. *Management Science, 55*(7), 1094–1106.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis.* Pearson Prentice Hall.

Hinton, P. R., Brownlow, C., McMurray, I., & Cozens, B. (2004). *SPSS explained.* Routledge.

Hong, H., Kubik, J. D., & Stein, J. C. (2004). Social interaction and stock market participation. *The Journal of Finance, 59*, 137–163.

Huberman, G. (2001). Familiarity breeds investment. *The Review of Financial Studies, 14*(3), 659–680.

Joshi, P., & Dash, S. (2023). Behavioral finance in emerging markets: Evidence of regret and availability biases. *Yadda.ICM Management Journal, 8*(2), 72–89.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. In *Handbook of the fundamentals of financial decision making: Part I* (pp. 99–127). World Scientific.

Kaustia, M., & Knüpfer, S. (2012). Peer performance and stock market entry. *Journal of Financial Economics, 104*(2), 321–338.

Kilka, M., & Weber, M. (2000). Home bias in international stock return expectations. *The Journal of Psychology and Financial Markets, 1*(3–4), 176–192.

Kliger, D., & Kudryavtsev, A. (2010). The availability heuristic and investors' reaction to company-specific events. *Journal of Behavioural Finance, 11*(1), 50–65.

Kumar, S., & Goyal, N. (2015). Behavioural biases in investment decision-making: A systematic literature review. *Qualitative Research in Financial Markets, 7*(1), 88–108.

Lintner, J. (1965). The valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets. *The Review of Economics and Statistics, 47*(1), 13–37. https://doi.org/10.2307/1924119

Malhotra, N. K. (2008). *Marketing research: An applied orientation* (5th ed.). Prentice-Hall.

Markowitz, H. M. (2008). *Portfolio selection: Efficient diversification of investments.* Yale University Press.

Mwakabumbe, C., Temu, S., & Kazungu, I. (2022). Individual investors' awareness and participation in the Dar es Salaam Stock Exchange, Tanzania.

Naeem, A., Fareed, Z., Meo, M. S., & Rehman, M. U. (2023). Heuristics and prospect theory-based biases among Pakistani investors during market downturns. *International Journal of Business and Management Studies, 15*(1), 45–61.

Nofsinger, J. R. (2005). Social mood and financial economics. *The Journal of Behavioral Finance, 6*(3), 144–160. https://doi.org/10.1207/s15427579jpfm0603_4

Odean, T. (1998). Are investors reluctant to realize their losses? *The Journal of Finance, 53*(5), 1775–1798. https://doi.org/10.1111/0022-1082.00072

Odean, T. (1999). Do investors trade too much? *The American Economic Review, 89*(5), 1279–1298. https://doi.org/10.1257/aer.89.5.1279

Ritter, J. R. (2003). Behavioral finance. *Pacific-Basin Finance Journal, 11*(4), 429–437. https://doi.org/10.1016/S0927-538X(03)00048-9

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (5th ed.). Pearson Education.

Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *The Journal of Finance, 19*(3), 425–442. https://doi.org/10.2307/2977928

Shiller, R. J., & Pound, J. (1989). Survey evidence on diffusion of interest and information among investors. *Journal of Economic Behavior & Organization, 12*(1), 47–66.

Stella, M., Zakaria, N., & Ayub, M. (2024). Cognitive framing in financial decisions and the role of ambiguity aversion: Evidence from developing economies. In *Behavioral Finance and Wealth Management* (pp. 97–114). Virtus Interpress.

Straub, D. W., Boudreau, M. C., & Gefen, D. (2004). Validation guidelines for IS positivist research. *Communications of the Association for Information Systems, 13*(1), 380–427. https://doi.org/10.17705/1CAIS.01324

Tesar, L. L., & Werner, I. M. (1992). Home bias and the globalization of securities markets. *National Bureau of Economic Research*. https://doi.org/10.3386/w4218

Tesar, L. L., & Werner, I. M. (1995). Home bias and high turnover. *Journal of International Money and Finance, 14*(4), 467–492. https://doi.org/10.1016/0261-5606(95)00023-8

Tversky, A., & Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. *Cognitive Psychology, 5*(2), 207–232. https://doi.org/10.1016/0010-0285(73)90033-9

Venkatraman, S., Aloysius, J. A., & Davis, F. D. (2006). Multiple prospect framing and decision behavior: The mediational roles of perceived riskiness and perceived ambiguity. *Organizational Behavior and Human Decision Processes, 101*(1), 59–73.

Waweru, N. M., Munyoki, E., & Uliana, E. (2008). The effects of behavioural factors in investment decision-making: A survey of institutional investors operating at the Nairobi Stock Exchange. *International Journal of Business and Emerging Markets, 1*(1), 24–41.

Zeelenberg, M. (1999). Anticipated regret, expected feedback, and behavioral decision making. *Journal of Behavioral Decision Making, 12*(2), 93–106. https://doi.org/10.1002/(SICI)1099-0771(199906)12:2<93::AID-BDM311>3.0.CO;2-S

Zikmund, W. G. (2003). *Business research methods* (7th ed.). Thomson South-Western.