



RESEARCH ARTICLE

Behavioural Finance: Exploring the Psychology and Economic Aspects of Financial Decision-Making**Ahmed Abubakar Zik-Rullahi, PhD^{1*}, Ibikunle Jide², & Emmanuel Okpe Onuh³**¹³*Department of Accounting, University of Abuja, P.M.B 117, Gwagwalada- Abuja*²*Department of Accountancy, Enugu State University of Science and Technology, Enugu State, Nigeria****Corresponding Author****ABSTRACT**

Behavioural finance is a dynamic and evolving field that examines how psychological biases, emotions, and cognitive shortcuts influence the decision-making processes of individuals and institutions in financial markets. This paradigm shift challenges the traditional assumption of rationality in finance and acknowledges the human propensity for irrational behaviour, leading to market inefficiencies. This study delved into the core concepts of behavioural finance, discussing cognitive biases, heuristics, and psychological factors that influence investment decisions. It explores prominent theories such as Prospect Theory, Mental Accounting, and Regret Aversion, shedding light on their implications for market outcomes. The review emphasizes the role of familiar concepts like Anchoring and Confirmation Bias in distorting rational decision-making. Drawing from a wealth of literature, it establishes the importance of understanding these biases and their impact on investor behaviour. By exploring these theories and their practical applications, this review provided a comprehensive overview of the behavioural finance landscape and its significance in shaping financial decision-making. By exploring the psychological biases that drive financial decisions, this study provided a comprehensive perspective on the complexities of human behaviour in financial contexts. This understanding offers a path to improved investment strategies, enhanced decision-making, and a reshaped future of financial choices. Additionally, the study discussed, how advancements in technology, data analytics, and machine learning can further amplify the potential of behavioural finance by enhancing personalized investment advice and predicting market trends based on human behaviour patterns.

Keywords: Behavioural Finance; Psychology and Economic Aspects; Psychological Biases; Financial Decision Making

Introduction

Behavioural finance is an interdisciplinary field that seamlessly intertwines insights from psychology and economics to unravel the intricate web of cognitive biases, emotional triggers, and social dynamics influencing decision-making within financial markets. Behavioural finance comes into play at the very moment an individual makes a decision. This dynamic discipline challenges the traditional bedrock of rationality in finance and embraces the notion that the intricate interplay of human psychology and behaviour significantly shapes financial choices for both individuals and institutions. In the realm of behavioural finance, the exploration of financial decisions transcends mere numerical calculations. It delves into the intricacies of human psychology, embracing the fact that individuals and institutions harbour biases, emotions, and social inclinations that fundamentally shape financial outcomes. As behavioural finance continues to flourish, it not only enriches our understanding of market behaviour but also equips us with tools to navigate the ever-evolving landscape of financial decision-making with heightened insight and nuance (Raphael, 2023; Fogaat et al., 2022).

Finance encompasses the examination of how scarce resources are allocated by individuals, and how these resources are effectively managed, procured, and strategically invested over time. Traditional finance, the cornerstone of this discipline, is rooted in four fundamental principles: the portfolio principles introduced by Markowitz, the arbitrage principles outlined by Miller and Modigliani, the capital asset pricing

model formulated by Sharpe, Lintner, and Black, and the option-pricing model pioneered by Black, Scholes, and Merton. Collectively, these principles converge to underpin the belief in market efficiency and competence. Champions of traditional finance argue that individual behaviour predominantly reflects rationality, a perspective in

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harmony with the Efficient Market Hypothesis (EMH) articulated by Samuelson. The EMH posits that people consistently act rationally, seeking to optimize their expected utility by diligently processing all accessible information. Central to this hypothesis is the assertion that stock prices inherently incorporate all available information. Consequently, the notion of consistently "beating the market" on a risk-adjusted basis is deemed implausible, given that market prices intrinsically respond to the prevailing information landscape. Nevertheless, the pragmatic reality diverges from the idealized rationality upheld by traditional finance. Investors, while equipped with rational tools, are not impervious to the sway of psychological factors such as emotional states, personal biases, trading paradigms, deeply ingrained values, and subjective interpretation of information. These elements collectively introduce a layer of complexity that can lead individuals to veer from rational decision-making. In effect, this divergence from rationality often results in investors behaving in manners that align with the attributes of irrationality. In contrast to the depiction of perfectly rational market participants, the real-world investor landscape is nuanced and marked by the interplay of both rational and irrational behaviours. Recognizing these behavioural deviations is pivotal in comprehending the intricacies of financial markets, for it acknowledges the dynamic fusion of cognitive, emotional, and psychological factors that influence investors' decisions, ultimately shaping the outcomes of financial endeavours (Kahneman & Tversky, 1972; Vaid & Chaudhary, 2022).

Behavioural finance assumes a pivotal role in the realm of decision-making, particularly within the realms of investment and financial management. This multidisciplinary field harmonizes insights from behavioural and cognitive psychology theories to unravel the intricacies surrounding individuals' financial decision-making processes, thereby shedding light on the consequential ramifications of these choices on market outcomes (Chaudhary, 2013). The primary limitation of the traditional financial model lay in its failure to recognize the profound impact of human behaviour on investment decisions. While the traditional finance theories undoubtedly revolutionized the study of finance, they left a series of enigmatic queries in their wake. For instance, why do markets sometimes exhibit over or underperformance? What prompts investors to deviate from rationality when confronted with risk? Why do investors choose to allocate their resources to the stock market? These lingering questions created a noticeable void in understanding. Experts within the realm of finance and economics found themselves grappling with the challenge of elucidating the underlying factors driving market and individual irrationality. Concurrently, researchers within the field of psychology embarked on a quest to uncover the rationale behind irrational behaviours, particularly in scenarios involving monetary transactions. The outcomes of their endeavours resonated intriguingly with the financial conundrums. They discerned that individual often displayed perplexing behaviours when money entered the equation. This revelation laid the groundwork for the inception of Behavioural Finance, a field dedicated to dissecting the intricacies of these behavioural anomalies that the conventional financial paradigms had hitherto overlooked (Vaid & Chaudhary, 2022).

Behavioural Finance stands as a novel branch within the domain of finance, characterized by its investigation into the intricate interplay of psychology and financial decision-making among individuals. This burgeoning field navigates the intriguing terrain of how human behaviour shapes financial choices and subsequently delves into the ripple effects these choices cast upon the intricate tapestry of financial markets. Central to its tenets is the profound realization that human beings are not perpetually governed by rationality; rather, their decision-making is imbued with the constraints of self-control and susceptible to the sway of biases. This field meticulously examines how these psychological nuances pave the way for systematic errors in judgment, colloquially termed "mental mistakes." It is an endeavour that traverses the realms of finance, psychology, and sociology, with financial variables intertwining harmoniously with psychological and sociological components. At its essence, behavioural finance delves into the terrain of investor behaviour that transcends mere numerical calculations. It paints a vivid canvas, where financial choices are inextricably woven with human tendencies, biases, and reactions. The scope of this interdisciplinary pursuit extends beyond the quantitative boundaries, embracing the human psyche and its interplay within a social context. The overarching narrative it weaves encompasses the "what," "why," and "how" of finance and investment, as witnessed through the prism of human behaviour and its subsequent societal implications.

Core Tenets of Behavioural Finance

Departure from Rationality: Deviating from the classical assumption of rational decision-making in finance, behavioural finance acknowledges that market participants are not impervious to the sway of cognitive biases, emotions, and social influences. This departure from rationality forms the cornerstone of understanding why financial decisions often diverge from what traditional models predict.

Origins and Motivation: The emergence of behavioural finance stems from the inherent limitations of conventional finance theories. These theories, premised on the notion of rational agents consistently seeking to maximize utility,

falter in capturing the complexities of real-world behaviour. The pursuit of a more accurate representation of decision-making dynamics catalysed the fusion of psychology and economics.

Behavioural Biases and Human Imperfections: One of the pivotal contributions of behavioural finance lies in its dissection of behavioural biases. These biases, rooted in cognitive shortcuts and emotional responses, yield decisions that at times run contrary to the principle of rationality. Common biases include loss aversion, overconfidence, and anchoring, each exerting a profound impact on investment choices.

Impact on Market Efficiency: Behavioural finance elucidates how these cognitive missteps and emotional triggers manifest in collective behaviour. Herd mentality, exemplifying a collective inclination to mirror others' actions, leads to market dynamics that defy the predictions of traditional finance. The result is market inefficiencies and the emergence of opportunities for investors to capitalize on mispriced assets.

Literature Review

The foundational works of Kahneman and Tversky (1979) with their Prospect Theory introduced the concept of cognitive biases and risk preferences, ushering in the inception of Behavioural Finance. Their pioneering research unveiled the discrepancies between actual human decision-making and the rational models of traditional finance.

Barberis & Thaler (2002) in their work on Behavioural Finance, proposing that certain financial phenomena can be effectively explained by models that acknowledge the presence of agents who do not consistently exhibit rational behaviour. In essence, their research paper offers a significant contribution to the field of Behavioural Finance by emphasizing that certain market dynamics cannot be fully explained solely through rational models. The notion of limits to arbitrage and the integration of behavioural factors underscores the need to account for the intricate interplay of rational and irrational behaviours in shaping financial outcomes. The study encourages a deeper exploration of the multifaceted influences that impact financial markets, ultimately enriching our comprehension of the complexities inherent in economic decision-making.

Mangee (2017) presents compelling econometric evidence highlighting the significant role of psychological factors in shaping the fluctuations of aggregate stock prices. The article introduces a ground-breaking metric termed the Net Psychology Index (NPI), which gauges stock market sentiment by analysing data gleaned from Bloomberg News's end-of-the-day stock market reports. This index is meticulously scrutinized through a comprehensive array of multivariate empirical analyses, shedding light on the intricate interplay between psychological considerations and stock market dynamics.

Psychological research has unearthed a significant divergence from the rationality often assumed by economists in human behaviour. The manifestation of abnormalities in the stock market and empirical investigations conducted by Babajide & Adetiloye (2012) and Bashir et al. (2013) have uncovered a stark reality: investors do not consistently exhibit the rationality they are conventionally portrayed to possess. These anomalies find resonance in the realm of a burgeoning field known as behavioural finance. Behavioural finance serves as an illuminating lens through which these anomalies can be comprehended. This emerging discipline delves into the intricate ways in which diverse psychological traits shape the actions of individuals or groups functioning as investors, analysts, and portfolio managers. Its purview extends to the examination of how emotions and cognitive biases wield influence over the behaviours of individual investors (Kengatharan & Kengatharan, 2014). Moreover, behavioural finance endeavours to elucidate the reasons behind and mechanisms through which investors often transcend the confines of rationality, diverging from conventional expectations. The convergence of psychological insights and financial behaviours forms the bedrock of behavioural finance, enriching our understanding of the intricate dynamics that drive market deviations from rational norms. This paradigm shift underscores that market participants are not always governed solely by rational considerations, paving the way for a more nuanced comprehension of the complexities inherent in financial decision-making.

Behavioural finance emerges as a compelling framework to unravel the intricacies of investors' decision-making in investment scenarios. This paradigm attributes investors' behavioural biases and the emergence of stock market anomalies to underlying psychological concepts (Grinblatt & Keloharju, 2009; Trinugroho & Sembel, 2011; Venkata et al., 2018). While investors make decisions, they often overlook the behavioural facets of finance, leaning on traditional firm performance measures like EPS, DPS, past performance, and external factors such as market conditions, brokerage advice, and input from family and friends (Akhter & Ahmed, 2013). Notably, a persistent tendency among individuals to react excessively to unexpected and dramatic news engenders substantial

inefficiencies in the stock market's weak form efficiency. This phenomenon underscores the substantial impact of psychological aspects on market outcomes. The realm of behavioural finance intersects with psychological accounting, which encompasses cognitive processes used by households and individuals to organize, evaluate, and track financial activities (Amar, 2013; De Bondt & Thaler, 1985). Ritter (2003) challenged conventional finance assumptions, in his research refuted the traditional premise of rational, utility-maximizing investors within an efficient market context. Behavioural finance pivots on two foundational pillars: cognitive psychology, exploring how individuals think, and the limits of arbitrage, probing the circumstances under which market inefficiencies arise. Traditionally, investment theories upheld rationality, emphasizing risk-reward optimization. However, recent theories contest these assumptions, acknowledging that human thinking isn't always logical and markets don't perpetually adhere to efficiency. Psychological factors like greed and fear exert influence over investment choices. For instance, even if rational analysis advocates investing in the stock market, the fear of losses, influenced by peers' negative experiences, can sway decisions (Islam et al 2019). Overconfidence is a notable behavioural bias; research by Chen et al. (2007) revealed investors' tendencies to overestimate their decision-making prowess, which adversely impacted returns. Dewri and Islam (2015) delved into how investors' behavioural attributes and dividend preferences shape investment decisions. Behavioural finance emerges as a holistic framework that transcends traditional assumptions of rationality. Its insights delve into the amalgamation of psychological factors, market anomalies, and investor behaviours, fostering a more comprehensive comprehension of financial decision-making dynamics.

Birau (2012) conducted an observation that underscores the significant influence of psychological and emotional factors on investment decisions. Their findings highlight that a substantial proportion of investment choices are shaped by these cognitive and emotional considerations. In a related study, Chan et al (2004) investigated the concept of anchoring, a central subjective bias that forms the foundation of numerous behavioural finance theories. This bias serves as a pivotal cognitive element that underlies behavioural phenomena within financial decision-making. Anchoring pertains to individuals latching onto certain pieces of information or reference points, thereby impacting subsequent judgments and decisions. Furthering this notion, researchers emphasize that anchoring bias tends to manifest when individuals meticulously monitor transactions within the capital market. The process of anchoring plays a pivotal role in influencing how people assess the value and potential outcomes of financial investments. The work of Chen et al. (2007) adds another dimension to the discussion. Their study accentuated the presence of the Conservatism bias among investors. This bias underscore a tendency to exhibit cautious decision-making tendencies and an inclination to give excessive weight to existing information while undervaluing new information. Consequently, this behaviour can lead to suboptimal investment decisions and lacklustre returns. Collectively, these insights from various researchers accentuate the intricate interplay of psychological biases and emotional responses in shaping investment decisions. Anchoring and Conservatism biases, along with other behavioural factors, contribute to deviations from rational decision-making and highlight the importance of considering human psychology within the realm of finance.

Theoretical Framework

The framework provides a comprehensive overview of the key theories within behavioural finance.

Before the emergence of behavioural finance, numerous financial and economic theories sought to elucidate the decision-making processes of investors and the functioning of financial markets. Notably, the theory of expected utility took centre stage in understanding investor behaviour. Pioneered by Von Neumann and Morgenstern (1944), this theory offered insights into how individuals make choices in uncertain scenarios. They postulated that individuals evaluated risk in a logical manner, guided by rationality, with a consistent goal of maximizing their utility. The theory of expected utility proposed by Von Neumann and Morgenstern was founded on the premise that individuals engaged in thoughtful decision-making under conditions of uncertainty. This involved assigning subjective values to potential outcomes and assessing probabilities of different scenarios. Their work laid a foundational framework for understanding risk preferences and the choices individuals make to optimize their personal satisfaction or utility. While this traditional economic perspective was influential and provided a useful foundation for analysing decision-making, it did not fully capture the complexities of human behaviour and the psychological factors that often steer individuals away from purely rational decisions. The rise of behavioural finance signalled a departure from this strict rationality assumption, acknowledging that emotional biases, cognitive limitations, and social influences profoundly impact decision-making in financial contexts. This shift highlighted that investors may not always act in accordance with expected utility theory, as behavioural finance shed light on the many ways in which psychological aspects shape financial decisions and market dynamics (Valcanover, 2020).

The Cognitive Biases and Heuristics Theory

This Theory posits that individuals often rely on mental shortcuts (heuristics) and fall prey to systematic patterns of thinking (cognitive biases), leading to deviations from rational decision-making. Heuristics are simple, efficient rules of thumb that have been anticipated to elucidate how people arrive at decisions, form judgments, and resolve problems, particularly when confronted with intricate scenarios or incomplete information. These rules generally function effectively across most situations; however, they can lead to systematic cognitive biases under certain circumstances." - Daniel Kahneman (Parikh, 2011). The pioneering work of Tversky and Kahneman significantly contributed to the recognition of the impact of human heuristics on the decision-making process. Tversky's characterization of heuristics aligns with their adaptability, offering strategies that can be employed to address a spectrum of problems, often yielding correct solutions although not invariably. Frequently, individuals resort to heuristics, also referred to as shortcuts, to distil complex problem-solving into more straightforward judgmental procedures (Tversky and Kahneman, 1981). In essence, heuristics serve as valuable cognitive tools that facilitate decision-making and problem-solving, particularly in challenging or ambiguous contexts. Yet, it is crucial to acknowledge that while heuristics expedite these processes, their utilization can introduce systematic cognitive biases that may influence judgments and decisions in predictable ways. This understanding of the dual nature of heuristics - their efficacy and their potential for bias - has significantly contributed to the development of behavioural finance.

Heuristic decision theory represents the approach through which investors independently acquire knowledge, often through trial and error, resulting in the formulation of practical rules of thumb. In essence, this theory refers to the utilization of rules of thumb by individuals to make decisions within intricate and uncertain environments (Brabazon, 2000). Given the overwhelming volume of information encountered daily, humans are limited in their capacity to process all available data. Through experiential learning, individuals gather insights into the workings of various situations. These accumulated experiences give rise to practical guidelines, or rules of thumb, which individuals can then apply when encountering similar circumstances. This phenomenon is commonly referred to as the use of heuristics. This concept holds particular relevance in contemporary trading environments, where the proliferation of information sources has escalated significantly. Heuristics serve the crucial purpose of simplifying the decision-making process by enabling individuals to employ a specific set of predefined criteria for evaluation (Bikas et al., 2013).

In the realm of behavioural finance, heuristics assume significance as they capture the ways in which individuals navigate complex decision-making scenarios. Kahneman and Tversky's introduction of the availability bias in 1974 marked an important addition to the heuristics theory, illustrating how individuals' decisions are influenced by the salience and accessibility of information. Subsequently, researchers like Waweru et al. (2008) incorporated factors like overconfidence into the heuristic framework, further expanding our understanding of how heuristics influence decision-making processes.

Overconfidence

Refers to the tendency of individuals to possess an excessive degree of confidence in their abilities, judgments, and predictions, leading them to overestimate the accuracy of their forecasts. This cognitive bias emerges from various psychological factors, including what can be termed as the "illusion of knowledge." This phenomenon highlights that the human mind strives to extract as much information as possible from available sources. However, individuals often fail to recognize that the information at hand might not be sufficient to formulate accurate forecasts, especially in situations characterized by uncertainty. In the context of behavioural finance, overconfidence plays a pivotal role in shaping decision-making and investment behaviours. Investors may demonstrate overconfidence in their assessments of future market movements, economic trends, and individual stock performance. This exaggerated confidence can result in an underestimation of risks and an overestimation of potential returns, leading to suboptimal investment choices. The concept of overconfidence underscores the intricate interplay between psychological biases and financial decision-making. While self-assuredness can be beneficial in certain circumstances, unchecked overconfidence can lead to misguided investment strategies and contribute to market inefficiencies (Rabin & Schrag, 1999; Odean, 1998; Barber & Odean, 2000 & Gervais & Odean, 2001)

Understanding and acknowledging the prevalence of overconfidence is essential for both individual investors and financial professionals. By recognizing this bias, individuals can take steps to temper their confidence levels, critically evaluate their forecasts, and incorporate a more measured and rational approach to decision-making.

Representativeness

The representativeness heuristic is a cognitive bias through which individuals categorize a situation based on patterns of past experiences or existing beliefs. It revolves around the notion of how closely an event aligns with essential characteristics of its parent population and the prominent features of the process that generated it. This heuristic often leads individuals to make judgments or decisions by relying on stereotypes or perceived similarities to previously encountered scenarios. Representativeness heuristic holds that an observation is deemed more representative when it conforms to established patterns. This can lead to the overestimation of the likelihood of an event occurring based on how well it fits a particular pattern. In the realm of behavioural finance, the representativeness heuristic has significant implications for decision-making, particularly in the evaluation of financial assets like stocks. Investors may assess the potential of a stock based on its perceived similarity to a prior successful investment, regardless of underlying fundamentals. This bias can lead to irrational market behaviours, such as overreaction or the formation of market bubbles, as individuals make judgments based on perceived resemblances rather than a thorough analysis of relevant data. Scholars like Shefrin (2000) have linked the representativeness heuristic to judgments rooted in stereotypes. Researchers have also explored the effects of this bias on investor behaviour and market dynamics, with studies by Barberis et al. (1998), Bloomfield and Hales (2002), Frieder (2004, 2008), Kaestner (2006), Alwathainani (2012), and Boussaidi (2013) delving into its impact on investor overreactions and market survival. Guo (2013) further investigated the interaction between heuristic and rational traders in competitive securities markets, highlighting the potential vulnerability of heuristic traders to rational competitors.

Anchoring

The anchoring bias is a cognitive bias that influences decision-making under uncertainty. Individuals tend to rely on a starting point or reference point (anchor) and then make insufficient adjustments to that anchor when forming judgments or reaching conclusions. The anchoring effect is particularly relevant when individuals are faced with uncertain situations, and it was identified and described by Tversky and Kahneman in 1974. The reference point in the context of financial decisions is often the stock value that investors use as a basis for comparison against the current stock price. Investors can be significantly influenced by historical price movements, as past movements serve as anchors that shape their expectations. The anchoring bias is marked by the tendency to focus on a specific value and interpret other information in relation to that anchor. This bias often leads individuals to make estimates or judgments by starting from an initial value and then adjusting it to arrive at a final answer. However, these adjustments are typically inadequate, and people tend to under adjust from the anchor. In the domain of financial markets, the anchoring bias can have substantial effects. For instance, if the closing value of a stock on the previous day is higher than the opening value, investors might anchor to this information and predict upward movements for the next day. This can lead to overestimations of expected returns and suboptimal investment decisions. It's worth noting that anchoring can drive irrational investment decisions, as individuals place undue importance on mentally determined "anchors" and statistically irrelevant data. This bias demonstrates how even numeric data might not accurately represent the underlying value and significance of an investment (Benartzi & Thaler, 1995; Törnngren & Montgomery, 2004; Chang et al 2011; Reikik & Boujelbene, 2014 & Duclos, 2015)

The anchoring bias underscores the importance of being aware of how initial reference points can influence subsequent judgments, and the need to make more appropriate adjustments when faced with uncertainty.

Confirmation Bias

Confirmation bias is a cognitive bias in which individuals tend to seek out, interpret, and remember information that confirms or supports their pre-existing beliefs or views, while simultaneously ignoring or downplaying information that contradicts those beliefs. This bias can lead to the reinforcement of existing opinions and the avoidance of information that challenges one's viewpoints.

In the context of investment decisions, confirmation bias can play a significant role in shaping how investors process and interpret information. Investors who are affected by confirmation bias may exhibit the following behaviours: **Selective Information Gathering:** Investors may actively seek out information that aligns with their existing beliefs while avoiding information that challenges those beliefs. **Interpretation of Data:** Individuals may interpret data and news in a way that reinforces their preconceived notions, even if the information is ambiguous or open to multiple interpretations. **Memory Bias:** People are more likely to remember information that confirms their views and may forget or dismiss information that contradicts them. **Overemphasis on Supporting Evidence:** Investors might give

more weight to information that supports their investment choices, even if the evidence is limited or unreliable. Confirmation bias can result in poor investment decisions because it prevents individuals from considering a balanced range of viewpoints and information. By focusing only on information that supports their views, investors might miss critical details that could influence their decision-making process (Nickerson, 1998; Baron & Hershey, 1988; Gilovich, 1991; Pious, 1993)

To counteract confirmation bias, it's essential for investors to consciously seek out diverse sources of information, consider opposing viewpoints, and critically evaluate their own beliefs. Engaging in open-minded analysis and decision-making can lead to more informed and rational investment choices.

Availability

The availability bias is a cognitive bias that causes people to overestimate the frequency or likelihood of events based on how easily they can recall instances of those events. This bias occurs when individuals give more weight to information that is readily available in their memory, leading them to make judgments or decisions that might not be accurate representations of reality. Here are some references that discuss the availability bias:

The availability heuristic is a mental shortcut that assesses the likelihood of an event based on the ease with which related instances or associations come to mind. When events are easily recalled, people tend to overestimate their frequency or likelihood, leading to an overestimation bias. The availability bias occurs when individuals make decisions based on recent and readily accessible information. This bias leads them to disproportionately focus on specific facts instead of considering the entire context, solely because these particular facts are more vividly remembered (Nofsinger & Varma, 2013). For example, people might rely on recent news reports when making judgments, even if they don't provide a comprehensive overview of the situation. Research conducted by Qureshi et al. (2012) demonstrates a noteworthy positive impact of the availability bias on investors' decision making. This suggests that investors are significantly influenced by recently acquired, easily obtainable information when making investment choices. Similarly, Luong & Thu Ha (2011) found that the availability bias moderately affects investors' decision making. This indicates that while the bias does play a role in influencing decisions, its impact might not be as pronounced as in other situations. Furthermore, Nofsinger and Varma (2013) discovered a strong impact of the availability bias on investor repurchase decisions in the United States. This underscores how investors' inclination to rely on readily recalled information can significantly shape their decisions to repurchase investments. The availability bias is a cognitive tendency with far-reaching implications, particularly in financial decision making. The referenced studies shed light on its influence, highlighting its various degrees of impact on investors' choices and decision-making processes.

Prospect Theory

The prospect theory challenges traditional economic assumptions about how people make decisions under uncertainty. It explains why individuals often deviate from rational decision-making and make choices that appear inconsistent with standard utility theory. This theory has had a profound impact on the field of behavioural economics and has provided insights into a wide range of behaviours, including investment decisions, risk-taking behaviour, and other choices involving uncertainty.

Prospect theory, developed by Kahneman and Tversky in 1979, examines how cognitive illusions impact individual decision-making. It addresses how people navigate risk and uncertainty, elucidating consistent behavioural patterns in assessing uncertainty.

The Certainty Effect and Decision-Making:

Kahneman and Tversky's research underscores the "certainty effect," a cognitive bias where individuals assign greater importance to certain outcomes over merely probable ones. This departure from traditional models challenges utility theory.

Evolution of Utility Theory:

Bernoulli's Model: Utility theory's roots trace back to Daniel Bernoulli's work. His model blended descriptive and normative elements, aiming to explain risk-based decision-making. Bernoulli linked risk aversion to attitudes about payoff values.

von Neumann and Morgenstern: In the 20th century, von Neumann and Morgenstern introduced "revealed preferences," altering the utility framework. Their axiomatic approach derived utility from observed preferences, reshaping utility theory.

Tversky and Kahneman's controlled experiments revealed that individuals frequently deviate from the axioms of subjective expected utility theory. These findings conflict with classical utility theories' normative expectations.

Tversky and Kahneman proposed an empirically supported model—prospect theory. This theory provides a more accurate portrayal of decision-making by accounting for cognitive biases and real-world behaviours.

Prospect theory marks a significant shift in understanding decision-making amid uncertainty. Acknowledging cognitive biases, like the certainty effect, it furnishes a framework for explaining human behaviour when confronted with risk and uncertainty.

Mental Accounting

Mental accounting is a behavioural finance concept that refers to the psychological tendency of individuals to categorize and compartmentalize their financial resources into separate mental accounts based on specific criteria, such as the source of income, purpose of funds, or time frame. These mental accounts influence how people perceive and make decisions about their money, often leading to irrational behaviours that deviate from traditional economic models. Key aspects of mental accounting include: **Segregation of Funds:** Individuals mentally segregate their money into different accounts, even if the underlying economic reality doesn't necessarily justify such separation. For instance, people might have different accounts for everyday expenses, savings, and entertainment, each with its own rules and constraints. **Framing Effects:** The way financial choices are framed can influence decision-making. People might spend money more freely from one mental account but be more cautious when dealing with funds from another, even if the total money remains unchanged. **Budgeting and Spending:** Mental accounting can lead to suboptimal budgeting and spending decisions. People might overspend from one account and underspend from another, even if it's more logical to optimize resource allocation across accounts. **Sunk Cost Fallacy:** Individuals tend to consider sunk costs—expenses that cannot be recovered—as separate mental accounts. This can lead to irrational behaviour, where people continue to invest in a losing endeavour because they've already spent money on it. **Inconsistent Behaviour:** Mental accounting often leads to inconsistencies in decision-making. People may avoid spending from a savings account with high interest, but they'll spend the same amount from a checking account with low interest. Mental accounting can influence various financial decisions, such as spending habits, investment choices, and even debt management. Being aware of these cognitive biases can help individuals make more rational financial decisions. Mental accounting is a fascinating aspect of behavioural finance, revealing how our minds organize and perceive financial resources in ways that sometimes deviate from traditional economic rationality (Thaler, 1985; Matsumoto et al. 2012 & Goldberg & Nitsch, 2001).

Regret Aversion

Regret aversion is a behavioural finance phenomenon that examines how individuals make decisions with the goal of avoiding future feelings of regret. This concept suggests that people tend to select options that minimize the likelihood of experiencing regret, even if those choices do not lead to optimal economic outcomes. Regret aversion is a crucial concept in behavioural finance that highlights how individuals are motivated to make decisions that minimize the potential for experiencing regret. This psychological bias can lead to choices that prioritize avoiding regret, even at the expense of achieving optimal economic outcomes. Regret aversion plays a significant role in shaping various financial decisions and behaviours. Key Aspects of Regret Aversion: **Emotional Impact:** Regret is a powerful emotion that can heavily influence decision-making. Individuals often choose options that minimize the likelihood of feeling regret, even if those choices don't result in the best financial outcomes. **Sunk Costs and Regret:** The concept of sunk costs—investments that cannot be recovered—interacts with regret aversion. People may continue investing in a failing endeavour due to the fear of regretting their past investments. **Frame Dependence:** The framing of choices can influence regret aversion. When decisions are framed in terms of potential losses,

individuals may choose the safer option to avoid future regret. Practical Implications: Investment Choices: Regret aversion can influence investment decisions. Investors may avoid making bold investment choices to prevent potential regret if the investment doesn't perform well, even if there's a higher expected return. Asset Allocation: Individuals might choose conservative asset allocations to reduce the possibility of regretting losses, even if a more aggressive allocation could lead to better long-term returns. Debt Management: Regret aversion can affect decisions related to paying off debts. People may prioritize paying off small debts first to avoid the regret of having unpaid balances, even if it's financially wiser to address higher-interest debts first (Kahneman & Tversky, 1979; Zeelenberg, & Pieters, 2007). Regret aversion sheds light on how emotions and cognitive biases can influence financial decisions. By understanding this bias, individuals and financial professionals can make more informed choices that balance emotional considerations with optimal economic outcomes.

Framing

In behavioural finance, framing refers to the set of words that are used to frame a particular problem/ solution at hand. When investors are faced with different choices for investing their money, they will prefer ones that talk about probable gains rather than the ones which are expressed in terms of probable losses. Individuals are more distressed by probable losses rather than probable gains. Framing, within the context of behavioural finance, refers to the strategic use of language and presentation to shape how individuals perceive and make decisions about a specific problem or solution. In investment scenarios, framing involves presenting information in a way that influences investors' choices and preferences. Investors tend to exhibit a preference for options framed positively in terms of potential gains rather than negatively in terms of potential losses. This bias is rooted in the psychological phenomenon that individuals are more sensitive to potential losses than to equivalent gains.

Levin and Schneider (1998) offer a comprehensive perspective on framing by categorizing it into three distinct forms:

Risky Choice Framing: This form of framing involves presenting a choice between two options in terms of either potential gains or potential losses. For instance, when individuals are confronted with a decision that involves saving lives, they are more likely to choose an option framed as saving a higher percentage of lives rather than an option framed as losing lives. This reflects the tendency to emphasize potential losses, which drives decision-making in a risk-averse manner.

Attribute Framing: Attribute framing focuses on how information about attributes is presented to individuals. People tend to respond differently to information framed positively versus negatively. For example, individuals are more inclined to choose a product described as containing 75% lean meat rather than one described as containing 25% fatty meat. This showcases how framing attributes can influence perceptions and decisions.

Goal Framing: Goal framing involves aligning decisions with particular goals or objectives. People may be more willing to give up gain if it contributes to a greater common good, as opposed to accepting a loss for the same purpose. This indicates that framing decisions within the context of goals can impact the perceived value of gains and losses.

The role of framing in behavioural finance underscores the significance of language and presentation in shaping individuals' financial choices. By understanding how framing impacts decision-making, financial professionals and investors can become more aware of their biases and make more informed choices. Recognizing the power of framing enables individuals to critically assess how information is presented to them and consider decisions from a more balanced perspective.

Loss Aversion

Loss aversion, a fundamental concept in behavioural finance, explores how individuals' decision-making is influenced by their discomfort with potential losses compared to their pursuit of gains. This psychological phenomenon, first proposed by Kahneman and Tversky (1979) in their influential prospect theory, reveals that people exhibit a stronger inclination to avoid losses than to pursue gains. Key Aspects of Loss Aversion: Dual Risk Profile: Investor behaviour exhibits a dual risk profile. When faced with the possibility of losses, individuals tend to become risk-seekers, embracing higher risk in hopes of avoiding losses. Conversely, when potential gains are at stake, they become risk-averse, prioritizing the preservation of gains. Loss Aversion and Discomfort: The term "loss aversion" implies the emotional discomfort or dislike associated with potential losses. This feeling is more pronounced than the pleasure derived from equivalent gains. Foundation in Prospect Theory: Kahneman and

Tversky's prospect theory underscores loss aversion's role. People ascribe greater significance to losses compared to equivalent gains, reflecting their aversion to negative outcomes. Financial Decision-Making: Loss aversion shapes financial choices, such as investment decisions and portfolio management. Individuals may take higher risks to mitigate potential losses or opt for safer choices to avoid the discomfort of loss.

Variations and Research Findings:

Schmidt and Zank (Year): Building upon Kahneman and Tversky's views, Schmidt and Zank discussed the integration of loss aversion theory with risk aversion, emphasizing the heightened importance individuals place on losses compared to gains.

Olsen (2000): Olsen's research indicated that individuals aren't inherently averse to volatility; rather, they strongly dislike incurring losses.

Coval and Shumway (2005): Proprietary traders adjust their risk-taking behaviour to cover losses, suggesting that loss aversion plays a role in shaping trading patterns.

Gill and Prowse (2012): Loss aversion is evident when individuals make decisions in competitive environments, where they assign more significance to losses based on their reference points.

Ert and Erev (2013): In various scenarios, individuals exhibit weaker risk aversion when choosing between mixed prospects, indicating a pattern more aligned with risk neutrality than risk aversion.

Summarily, loss aversion significantly influences financial decisions, demonstrating how psychological factors can deviate from traditional economic rationality. By understanding this cognitive bias, individuals can make more informed choices that balance the emotional impact of potential losses with their financial goals.

Impact of Behavioural Finance on Investment Strategies

Behavioural finance's insights offer profound implications for investment strategies, acknowledging that investors are susceptible to cognitive biases, emotional influences, and social pressures that shape their decisions. Recognizing these behavioural factors can lead to more informed and effective investment approaches. The following key implications demonstrate how behavioural finance influences investment strategies:

Acknowledging Behavioural Biases: Behavioural finance highlights cognitive biases such as overconfidence, anchoring, and loss aversion. Being aware of these biases encourages investors to cultivate self-awareness and consider alternative perspectives, fostering more rational decision-making (Tversky & Kahneman, 1974).

Contrarian Investing: Herd behaviour can lead to market inefficiencies. Contrarian investing exploits market sentiment extremes by capitalizing on mispriced assets, thus benefiting from overreaction or underreaction to information (De Bondt & Thaler, 1985).

Value Investing: Behavioural finance supports value investing, leveraging biases like the disposition effect. By identifying undervalued assets overlooked by the market, investors can capitalize on potential mispricing (Shefrin & Statman, 1985).

Behavioural Portfolio Management: Emotional biases impact portfolio decisions. Behavioural portfolio management integrates risk management, diversification, and periodic rebalancing to align with long-term goals and mitigate biases (Kahneman & Tversky, 1979).

Goal-Based Investing: Aligning investments with individual goals and preferences mitigates behavioural biases. Framing decisions within a goal-based context helps investors manage biases and make rational choices (Thaler & Sunstein, 2008).

Systematic Investment Plans: Dollar-cost averaging mitigates emotional biases by consistently investing regardless of market conditions. This strategy harnesses the benefits of lower average purchase prices and minimizes market timing errors (Dollar & Kraay, 2004).

Behavioural Risk Management: Integrating risk controls and scenario analysis counteracts behavioural biases' impact on excessive risk-taking. Behavioural risk management ensures effective risk mitigation aligned with investor behaviour (Statman, 2002).

Investor Education and Communication: Investor education combats behavioural pitfalls. Clear communication helps clients comprehend biases, set realistic expectations, and make informed decisions (Mullainathan & Thaler, 2000).

Long-Term Perspective: Behavioural finance underscores maintaining a long-term view. By focusing on goals and avoiding reactionary behaviour, investors benefit from compounding returns (Benartzi & Thaler, 1999).

Continual Monitoring and Adaptation: Investment strategies must evolve with changing behaviour and markets. Regular adjustments align strategies with evolving goals (Barber & Odean, 2001).

Regulatory Considerations

Protecting investors stands as a paramount goal for regulators. Behavioural finance underscores the susceptibility of investors to cognitive biases, emotional sway, and societal pressures. Regulators prioritize investor safeguarding by advocating transparency and demanding comprehensive disclosure of risks, fees, and potential conflicts of interest. Financial institutions are obligated to offer clear and accurate information, enabling investors to make well-informed decisions. Through enforcement of rules and guidelines, regulators ensure that financial advisors and institutions evaluate the suitability and appropriateness of investment recommendations in line with individual investors' characteristics. Factoring in risk tolerance, financial objectives, and investment horizons, regulators aim to prevent unsuitable investments that may subject investors to undue risks or diverge from their unique needs and circumstances (Statman 2002; Mullainathan & Thaler 2000)

Practical Applications

Practical implementations of behavioural finance have found significant traction in domains like retirement savings and sustainable investing. Understanding and addressing individuals' behavioural biases and emotional influences can lead to more effective strategies in these spheres. In the realm of retirement savings, behavioural finance provides insights into surmounting obstacles and fostering adequate retirement preparation. Behavioural nudges, such as automatic enrolment in retirement plans and simplified investment options, have proven successful in augmenting retirement savings participation. By capitalizing on behavioural biases like inertia and loss aversion, these tactics steer individuals towards positive choices with minimal exertion. Personalized communication and tailored messaging aligned with specific circumstances motivate actions congruent with long-term retirement aspirations. Behavioural finance also underscores the importance of feedback and periodic reminders to sustain engagement and motivation in retirement savings. Sustainable investing, integrating environmental, social, and governance (ESG) aspects into investment decisions, benefits from behavioural finance principles. Biases such as the framing effect and social norms shape perceptions and preferences about sustainable investments. By framing sustainable investments in terms of favourable outcomes, investors perceive them as appealing prospects. Social norms also influence sustainable investing, as individuals are more inclined if it aligns with accepted practices among peers. Behavioural finance guides investment product design that resonates with investors' values and offers lucid information on ESG attributes, facilitating informed decisions in sustainable investing (Thaler & Sunstein 2008; Statman 2002).

Conclusion

The horizon of behavioural finance holds captivating potential for advancing our comprehension of financial decision-making and refining investment strategies. The integration of cutting-edge technology, such as fintech and machine learning, introduces avenues to bolster personalized investment counsel and harness behavioural insights on a broader scale. Through harnessing the capabilities of big data and sophisticated algorithms, behavioural finance can become more accessible and impactful in mitigating investor biases and fostering superior financial outcomes. Furthermore, strides in neurofinance and biometric technologies offer the promise of delving deeper into the fundamental cognitive and emotional processes that steer financial choices. By assimilating inputs from neuroscience and biometrics, behavioural finance models can be elevated, leading to more precise predictions and sophisticated investment approaches.

Behavioural finance has risen as an invaluable domain that acknowledges the significance of psychological biases and emotional sway in financial decision-making. By assimilating insights from behavioural finance, stakeholders including investors, financial experts, and regulators can construct a more holistic grasp of individual behaviour and its reverberations in financial markets. While behavioural finance is not devoid of limitations and critiques, it presents an auspicious framework for enhancing investment strategies, augmenting investor safeguarding, and fostering more streamlined and sustainable financial markets. As the field's evolution continues, amalgamating technology, exploring dynamic behavioural strategies, and embracing sustainable investing will fundamentally shape the trajectory of behavioural finance and its pragmatic applications across the financial sector.

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