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BEHAVIORAL FINANCE: A THEORETICAL ANALYSIS OF FOUNDATIONS AND MODELS

Meriem ESSOUSSI
Université Cadi Ayyad, Marrakech, Maroc
(meriem.essoussi19@gmail.com)

Pr. My Omar ESSARDI
Université Cadi Ayyad, Marrakech, Maroc
(omar_essardi1@yahoo.fr)

Abstract:
This article examines the theoretical foundations of behavioural finance and analyses its relationship with classical financial theory, with the aim of clarifying whether it constitutes an autonomous paradigm or a complementary corrective framework to the rational-agent model.
Drawing on a narrative literature review of seminal contributions in behavioural economics and finance, the article critically examines five core theoretical pillars: prospect theory, mental accounting, overconfidence, herd behaviour, and heuristics. These frameworks were selected on the basis of three criteria: their extensive empirical validation, their comprehensive coverage of cognitive and emotional biases affecting investor decisions, and their direct practical relevance. They are systematically compared with the assumptions of standard finance across seven analytical dimensions synthesised in a comparative table.
The analysis shows that behavioural finance offers a robust explanatory framework for persistent market anomalies — excessive volatility, speculative bubbles, disposition effects — that classical models cannot adequately account for. Rather than constituting a complete theoretical replacement, behavioural finance represents a theoretically grounded extension of the rational-agent framework, introducing psychological realism without abandoning formal rigour. The comparative analysis reveals fundamental divergences in agent model, decision-making process, market functioning, arbitrage conception, and methodological orientation.
Behavioural finance has matured into a second-generation discipline integrating social, cultural and neuro-cognitive dimensions. Its complementarity with classical finance opens productive avenues for interdisciplinary research, with direct implications for portfolio management, financial advice, and market regulation. Future research perspectives include neurofinance, digital behavioural finance, and the integration of climate-related biases into investment decision models.

Keywords: Behavioral Finance; Prospect Theory; Cognitive Biases; Bounded Rationality; cognitive biases, market anomalies, classical finance.

Introduction

Modern financial theory has traditionally been built on a conceptual foundation of perfect rationality among agents and informational efficiency in markets. The seminal work of Von Neumann and Morgenstern (1944), through the theory of expected utility, and the market efficiency hypothesis formalised by Fama (1970), established a powerful normative framework in which investors are assumed to process information optimally and consistently. From this perspective, asset prices fully reflect available information, and deviations from fundamental values are temporary and quickly corrected by arbitrage mechanisms.

However, the accumulation of persistent empirical anomalies — excessive volatility, speculative bubbles, over- and under-reaction effects, herd behaviour — has gradually highlighted the explanatory limitations of the classical paradigm. These observations raise a fundamental question: can financial markets be fully understood using a model of strictly rational and optimising agents? Moreover, is the internal consistency of traditional models sufficient to guarantee their descriptive and explanatory validity?

It is in this context that behavioural finance emerged, building on behavioural economics and drawing on contributions from cognitive psychology. The decisive turning point came with Kahneman and Tversky's (1979) prospect theory, which demonstrated that decisions in risky situations do not follow the prescriptions of expected utility. Individuals evaluate gains and losses relative to a reference point and exhibit asymmetric loss aversion, challenging the assumption of substantial rationality. Based on this theoretical break, a body of work has gradually structured a new paradigm integrating heuristics, cognitive biases, excessive confidence and limits to arbitrage in financial analysis.

Behavioural finance does not merely identify marginal irregularities; it proposes a redefinition of the analytical framework by replacing homo economicus with a limited rationality agent (Simon, 1955), whose decisions are shaped by cognitive and emotional constraints. This development marks a major epistemological shift: while classical finance favours normative consistency and mathematical formalisation, behavioural finance emphasises psychological realism and empirical validation of observed behaviours.

Nevertheless, this paradigm shift raises questions of its own. Is behavioural finance a substitute for the classical model, or a complementary extension aimed at correcting its descriptive shortcomings? Does its increased explanatory power come with a predictive capacity comparable to that of traditional models? These theoretical tensions justify the need for an in-

depth conceptual analysis to clarify the respective foundations, contributions and limitations of these two approaches.

This article addresses the following research question: To what extent do the five main theoretical frameworks of behavioural finance — prospect theory, mental accounting, overconfidence, herd behaviour, and heuristics — enable us to explain the market anomalies that the traditional finance paradigm fails to account for, and what are the respective contributions and limitations of these two approaches?

To answer this question, this article pursues three complementary objectives. First, it aims to provide a structured and critical reading of the theoretical foundations of behavioural finance, tracing its intellectual evolution and analysing its main conceptual contributions, with particular emphasis on the five selected frameworks. Second, it seeks to conduct a systematic comparison between behavioural finance and classical finance across seven key dimensions — agent model, decision-making process, preferences, market functioning, arbitrage, methodology and objectives — as synthesised in Table 1. Third, it intends to derive concrete practical implications from this theoretical analysis for financial practitioners, including portfolio managers, financial advisors and regulators.

The choice to focus on these five theoretical frameworks is not arbitrary. It is grounded in three criteria. First, these five models represent the most extensively tested and empirically validated contributions in the behavioural finance literature (Barberis & Thaler, 2003; Subrahmanyam, 2008). Second, they offer a relatively comprehensive coverage of the main cognitive and emotional biases affecting investor decision-making, ranging from individual information processing (heuristics, overconfidence) to social interactions (herd behaviour) and choice structuring (prospect theory, mental accounting). Third, they have each generated significant applications in portfolio management, financial advice and regulation, thereby offering direct practical relevance. Other relevant approaches — such as regret theory, behavioural corporate finance, or social psychology perspectives on finance — are mentioned in the discussion but fall outside the scope of the present analysis.

The article proceeds as follows. Section 1 presents the methodology underpinning this narrative review. Section 2 traces the historical development of behavioural finance. Section 3 develops the five theoretical frameworks in turn. Section 4 offers a comparative analysis between standard and behavioural finance across the seven dimensions. Section 5 discusses practical implications and limitations. Section 6 concludes by synthesising the main findings and outlining future research perspectives.

1. Methodology

1.1 Type of Review and Methodological Approach

This article adopts the framework of a narrative literature review. Unlike systematic reviews, which follow a predefined and replicable inclusion protocol — such as PRISMA-style approaches — or meta-analyses, which aggregate quantitative findings from multiple empirical studies, a narrative review aims to trace the conceptual architecture of a theoretical field and critically analyse its internal structure and external boundaries (Baumeister & Leary, 1997; Snyder, 2019). This methodological choice is justified by the predominantly theoretical nature of the research question, which calls for a conceptual synthesis rather than a statistical aggregation of results.

The narrative approach is particularly suited to the objectives pursued here: mapping the intellectual evolution of behavioural finance, identifying the epistemological tensions between competing paradigms, and deriving practical implications from theoretical models. It allows for the integration of heterogeneous sources — foundational theoretical articles, experimental studies, comparative frameworks and review chapters — that would be difficult to combine within a strict systematic protocol.

This methodological choice is not without limitations. A narrative review is inherently selective and cannot claim exhaustiveness. The interpretation of sources involves an element of subjectivity in framing and emphasis. These limitations are acknowledged and partially addressed through the explicit justification of source selection criteria and theoretical scope, as detailed below.

1.2 Source Selection and Scope

The sources mobilised in this review were selected according to three criteria. First, academic influence: priority was given to articles and works that are widely cited in the behavioural finance literature and that have contributed to shaping the field's theoretical foundations. Second, disciplinary relevance: sources were drawn from financial economics, cognitive psychology, and behavioural economics, in line with the interdisciplinary nature of the subject. Third, temporal breadth: while emphasis was placed on foundational contributions (Simon, 1955; Kahneman & Tversky, 1974, 1979; Thaler, 1985; Fama, 1970; Shiller, 1981), more recent works were incorporated to account for the second-generation developments of the discipline (Statman, 2019; D'Acunto, Prabhala & Rossi, 2019).

The scope of this review is explicitly limited to theoretical and conceptual contributions. Empirical studies are referenced insofar as they provide foundational validation for the theoretical frameworks analysed, but the review does not aim to provide a comprehensive inventory of empirical findings. Similarly, applied fields such as behavioural corporate finance, household finance, and neurofinance are acknowledged but not developed in depth, as they represent distinct sub-domains warranting separate treatment.

1.3 Justification for the Selection of Five Theoretical Frameworks

The decision to focus on five theoretical frameworks — prospect theory, mental accounting, overconfidence, herd behaviour, and heuristics — reflects a deliberate analytical choice grounded in three arguments. First, these frameworks collectively represent the foundational pillars of behavioural finance as a discipline. They appear consistently across the most influential reviews and handbooks of the field (Thaler, 1993, 2005; Barberis & Thaler, 2003; Subrahmanyam, 2008), and each has generated a substantial body of follow-up research. Second, together they provide a relatively comprehensive coverage of the main dimensions of bounded rationality: individual information processing (heuristics, overconfidence), the structure of preferences and reference-dependence (prospect theory), cognitive segmentation of financial decisions (mental accounting), and social dynamics in markets (herd behaviour). Third, each of these frameworks has produced direct practical applications in portfolio management, financial advice and market regulation, which justifies their selection in light of the article's third objective.

Other theoretical approaches — notably regret theory (Bell, 1982; Loomes & Sugden, 1982), behavioural corporate finance (Baker & Wurgler, 2013), and social psychology perspectives on financial markets — are recognised as relevant but fall outside the scope of this foundational analysis. Their exclusion reflects a deliberate focus on investor-level decision-making and market-level anomalies, rather than on corporate financial decisions or broader sociological dynamics.

2. Definition and Historical Development of Behavioural Finance

2.1.Definition

Behavioural finance is an interdisciplinary field of research that emerged in the 1980s at the intersection of modern finance, cognitive psychology and behavioural economics. It aims to analyse the influence of cognitive biases, emotions and social factors on investment decisions and the functioning of financial markets (Ricciardi & Simon, 2000; Ritter, 2003). Unlike

traditional finance, which is based on the assumptions of perfect rationality of agents and informational efficiency of markets (Fama, 1970), behavioural finance posits that investors have limited rationality and that their decisions may systematically deviate from the normative predictions of traditional models (Thaler, 1999).

Theoretically, this approach is based on two complementary foundations. The first comes from cognitive psychology, notably the work of Kahneman and Tversky (1979), who developed prospect theory in response to expected utility theory, showing that individuals evaluate gains and losses asymmetrically, display loss aversion and use heuristics that can generate systematic biases. The second pillar concerns the limitations of arbitrage, according to which market mechanisms do not necessarily and instantly correct valuation errors caused by irrational behaviour (Shleifer & Vishny, 1997; Barberis & Thaler, 2003).

Behavioural finance operates at two levels of analysis. At the microeconomic level, it examines the biases affecting individual investment decisions, such as overconfidence, the disposition effect and loss aversion (Shefrin, 2001; Pompian, 2006). At the macroeconomic level, it focuses on market anomalies — speculative bubbles, stock market crashes, or persistent deviations in prices from fundamentals — which call into question the market efficiency hypothesis defended by Fama (1970).

2.2.Historical Development

The evolution of behavioural finance is part of a progressive intellectual process that ranges from philosophical criticism of economic rationality to the formalisation of an alternative theoretical framework in modern finance. Its development can be structured around three main stages: the intellectual precursors, the cognitive foundations of behavioural economics, and the emergence of behavioural finance as a response to the empirical limitations of standard financial theory.

The precursors: an age-old questioning of perfect rationality

Although behavioural finance became institutionalised in the 1980s, its intellectual roots go back to earlier reflections on the nature of human behaviour in economics. Adam Smith (1759), in The Theory of Moral Sentiments, already emphasised the role of emotions and sympathy in human decisions, implicitly challenging a strictly utilitarian view of the individual. Similarly, John Maynard Keynes (1936) introduced the notion of 'animal spirits', highlighting the importance of subjective expectations and psychological factors in economic fluctuations.

At the same time, less academic but equally influential essays helped raise awareness about the role of collective psychology in markets. In his Extraordinary Popular Delusions and the Madness of Crowds (1841), Charles Mackay documented speculative bubbles and the herd

behaviour that fuels them. Financial journalist George Selden, in The Psychology of the Stock Market (1912), applied psychological concepts to stock market fluctuations, anticipating academic work on the subject by several decades.

Cognitive foundations: the birth of modern behavioural economics

The real scientific breakthrough came with Herbert Simon (1955), who introduced the concept of bounded rationality, showing that economic agents adopt satisfactory rather than optimal solutions due to their limited cognitive abilities. This framework was further developed by Kahneman and Tversky (1974, 1979), who demonstrated through the study of heuristics and cognitive biases that individuals evaluate gains and losses asymmetrically and that their decisions systematically deviate from the predictions of expected utility theory. Richard Thaler (1985) enriched this approach by introducing the concept of mental accounting, illustrating how individuals cognitively segment their financial decisions.

The emergence of modern behavioural finance

Behavioural finance as a specific sub-discipline truly emerged following the debates sparked by Fama's (1970) efficient market hypothesis. Robert Shiller (1981) highlighted excessive volatility in financial markets incompatible with economic fundamentals. The observation of persistent anomalies — calendar effects, overreaction and underreaction, speculative bubbles — suggested that market mechanisms do not always immediately correct valuation errors.

Two collective works marked the academic recognition of this field: Advances in Behavioural Finance (Thaler, 1993) and Advances in Behavioural Finance, Volume II (Thaler, 2005) brought together the seminal contributions. As Statman (2019) points out, behavioural finance has now reached its 'second generation'. While the first generation focused mainly on demonstrating cognitive biases and market anomalies, the second generation more systematically integrates social and cultural dimensions of financial behaviour, explores the neural foundations of decision-making (neurofinance) and focuses on practical applications in a rapidly digitising financial environment (D'Acunto, Prabhala & Rossi, 2019).

3. Theoretical Foundations of Behavioural Finance

Behavioural finance draws on psychological, sociological and cognitive insights to better understand investment behaviours that deviate from the perfect rationality assumed by classical models. The five frameworks analysed below collectively constitute its theoretical core.

3.1. Prospect Theory

Prospect theory, formulated by Kahneman and Tversky (1979), forms the conceptual cornerstone of behavioural finance. Unlike expected utility theory (Von Neumann & Morgenstern, 1944), which assumes that individuals evaluate risky choices according to a concave and stable utility function, prospect theory argues that decisions are made relative to a reference point rather than in terms of absolute wealth.

Two key mechanisms underpin this theory. First, the principle of loss aversion: individuals attach greater psychological weight to losses than to gains of the same magnitude. This asymmetry explains why investors may hold on to loss-making assets for too long (disposition effect) or adopt excessively cautious strategies in the face of risk. Second, non-linear probability weighting: individuals tend to overestimate low probabilities and underestimate high probabilities, which may explain certain speculative behaviours. The theory was extended by Cumulative Prospect Theory (Tversky & Kahneman, 1992), which refines the treatment of cumulative probabilities and strengthens the empirical robustness of the model.

3.2. Mental Accounting Theory

Mental accounting theory, developed by Thaler (1985; 1999), posits that individuals mentally segment their financial decisions into separate accounts, rather than integrating them into a comprehensive and consistent view of their wealth. This segmentation sometimes leads to decisions that are inconsistent from the point of view of economic rationality.

For example, an investor may behave very cautiously in an account dedicated to safety savings, while taking excessive risks in a speculative account. Mental accounting also explains why investors evaluate realised gains and unrealised gains differently, influencing their propensity to sell or hold certain assets. This theory is particularly relevant for understanding decisions regarding volatile or innovative assets, where the psychological perception of risk plays a central role.

3.3. Overconfidence and Self-Attribution Models

Daniel, Hirshleifer and Subrahmanyam (1998) show that investors tend to overestimate the accuracy of their private information and analytical skills. This overconfidence leads to excessive trading activity, under-diversification of portfolios and overexposure to risk. Self-attribution bias complements this analysis: successes are attributed to personal skills, while failures are attributed to external factors. This mechanism gradually reinforces overconfidence, creating a cumulative dynamic. Odean (1998) and Gervais and Odean (2001) empirically demonstrate that these biases lead to below-market performance, despite strong individual conviction.

3.4.Herd Behaviour Theory

The theory of herd behaviour analyses collective decisions where investors imitate the actions of others, regardless of their private information. Banerjee (1992) and Bikhchandani, Hirshleifer and Welch (1992) formalised models of information cascades, in which individuals ignore their own signals in order to follow majority decisions. Hong and Stein (1999) propose a dynamic model combining bounded rationality and informational heterogeneity, distinguishing between 'information seekers' and 'trend followers'. Their interaction generates price distortions and mutually reinforcing behavioural effects, contributing to financial market instability (Zhang, 2006). Herding behaviour thus explains certain persistent anomalies, including bubbles, crashes and collective panic.

3.5.Heuristics and Cognitive Biases

Behavioural finance is also based on the theory of heuristics developed by Tversky and Kahneman (1974). Individuals use simplifying mental rules — representativeness, availability, anchoring — to make decisions in complex contexts. Although these heuristics facilitate decision-making, they can lead to systematic errors. Representativeness bias leads to extrapolating recent trends; availability bias leads to giving more weight to readily accessible information; anchoring influences asset valuation based on arbitrary reference values. These cognitive mechanisms help explain the persistent gaps between market prices and fundamental values.

Together, these five frameworks constitute an integrated theoretical structure for explaining market anomalies, excessive volatility and deviant investment behaviour. Prospect theory explains asymmetry in the face of risk; mental accounting highlights cognitive segmentation; overconfidence models analyse the overestimation of skills; herd behaviour theory sheds light on collective dynamics; and heuristics reveal the underlying cognitive mechanisms operating at the individual level (Barberis & Thaler, 2003).

4. Comparative Analysis: Standard Finance and Behavioural Finance

The distinction between classical finance and behavioural finance is not limited to a simple methodological divergence; it is based on profoundly different ontological, epistemological and analytical foundations. The following analysis examines these differences across seven key dimensions, as synthesised in Table 1.

Table 1. Comparison between Standard Finance and Behavioural Finance

Dimension	Standard Finance	Behavioral Finance
Agent Model	*Homo economicus* (perfect rationality)	*Homo sapiens* (bounded rationality)
Decision Making	Expected Utility (Von Neumann & Morgenstern, 1944)	Prospect Theory (Kahneman & Tversky, 1979)
Preferences	Stable and exogenous	Contextual and sensitive to framing
Markets	Efficient prices reflect all information (Fama, 1970)	Subject to anomalies (Shiller, 1981), prices deviate from fundamentals (Shiller, 1981)
Arbitrage	Perfect and risk-free — errors corrected instantly	Limited and risky (Shleifer & Vishny, 1997) — institutional constraints prevent full correction (Shleifer & Vishny, 1997)
Methodology	Deductive (theory → test)	Inductive (observation → model)
Objective	Normative (how rational agents should decide)	Descriptive (how decisions are made)
Strength	Predictive power; mathematical elegance; parsimony	Psychological realism; explains anomalies; empirical richness
Weakness	Cannot explain persistent anomalies; unrealistic agent assumptions	Lack of unified model; lower predictive power; fragmented biases
Relationship	Historical paradigm— dominant normative framework	Contemporary complementarity— corrective and enriching extension

Source: authors

4.1. Agent Model: From Homo Economicus to Homo Sapiens

Classical finance conceives of the economic agent as a homo economicus: a fully rational being capable of maximising utility under constraints, endowed with stable and transitive preferences, and equipped with unlimited information-processing capacity (Von Neumann & Morgenstern, 1944). This idealised agent forms the normative cornerstone of asset pricing models, portfolio theory and the efficient market hypothesis. The internal logical consistency of this model is its primary strength: given its assumptions, its theoretical implications follow with mathematical rigour.

Behavioural finance challenges this conception by replacing the homo economicus with a psychologically realistic agent whose rationality is bounded (Simon, 1955). This agent operates under cognitive limitations, emotional influences and social pressures that systematically distort decision-making relative to the normative ideal. Tomer (2007) emphasises that this substitution

is not merely a correction of a technical assumption but reflects a deeper epistemological commitment: the recognition that financial decisions cannot be adequately modelled without reference to the psychological architecture of the human mind. The concept of homo sapiens — cognitively limited, emotionally reactive, socially embedded — thus represents a more descriptively accurate but analytically more complex starting point.

4.2.Decision-Making: Expected Utility versus Prospect Theory

The divergence in agent models translates directly into a divergence in theories of decision-making under risk. Expected utility theory (Von Neumann & Morgenstern, 1944) assumes that individuals assign consistent probability-weighted utilities to outcomes and choose the option with the highest expected utility. This framework is normatively powerful but empirically fragile: numerous experimental studies have demonstrated systematic violations of its axioms, including the Allais paradox and the Ellsberg paradox.

Prospect theory (Kahneman & Tversky, 1979) provides an empirically grounded alternative by demonstrating that decisions are made relative to a reference point, that losses loom larger than equivalent gains (loss aversion), and that probabilities are subjectively distorted rather than linearly weighted. This framework does not merely describe anomalies in expected utility theory — it provides a systematic account of why they occur and under what conditions. The extension to cumulative prospect theory (Tversky & Kahneman, 1992) further strengthened the formal apparatus and improved the model's ability to handle complex multi-outcome gambles. This shift from normative to descriptive modelling of choice under uncertainty represents one of the most consequential theoretical developments in twentieth-century economics.

4.3.Preferences: Stability versus Context-Dependence

In standard finance, preferences are assumed to be stable, exogenous and context-independent. An investor's utility function is a fixed property of their psychological constitution, unaffected by how choices are presented or by the historical path of past outcomes. This assumption is essential to the tractability and predictive power of classical models: it allows preferences to be inferred from revealed choices and used to generate stable predictions across contexts.

Behavioural finance dismantles this assumption by demonstrating that preferences are highly sensitive to framing, context and reference points. Mental accounting (Thaler, 1985) illustrates how the same objective financial outcome is evaluated differently depending on the cognitive account to which it is assigned. Framing effects — demonstrating that logically equivalent

presentations of a choice can produce systematically different decisions — directly contradict the classical assumption of preference stability. These findings imply that investor behaviour cannot be reliably predicted from a fixed preference function; it must be understood in relation to the specific informational environment and psychological context in which decisions are made.

4.4.Market Functioning: Efficiency versus Anomalies

The efficient market hypothesis (Fama, 1970) holds that asset prices fully and instantaneously incorporate all available information, leaving no systematic opportunity for excess returns. Under this view, observed price patterns are random walks and apparent anomalies are statistical artefacts or the result of measurement error. The hypothesis has served as the empirical benchmark of classical finance and has significantly shaped regulatory and investment practice.

The empirical evidence accumulated since the 1980s has substantially challenged this view. Shiller (1981) demonstrated that stock market volatility far exceeds what could be justified by variation in fundamental values, suggesting the influence of psychological and social factors. Subsequent research documented a range of persistent anomalies — the January effect, momentum and reversal patterns, the equity premium puzzle, post-earnings announcement drift — that are difficult to reconcile with the strong form of the efficiency hypothesis. Behavioural finance reinterprets these anomalies not as random deviations but as systematic expressions of the cognitive biases and emotional dynamics identified in experimental and theoretical work. In this framework, anomalies are endogenous features of markets populated by boundedly rational agents, not external disturbances to an otherwise efficient system.

4.5.Arbitrage: Perfect Correction versus Structural Limits

In the classical paradigm, arbitrage is the self-correcting mechanism that guarantees market efficiency. If prices deviate from fundamental values, rational investors exploit the resulting profit opportunity, driving prices back to equilibrium. This mechanism is assumed to be frictionless, instantaneous and self-financing.

Shleifer and Vishny (1997) challenge this idealised view by demonstrating that real-world arbitrage is costly, risky and institutionally constrained. Arbitrageurs face synchronisation risk (other rational investors may not act simultaneously), noise trader risk (irrational investors may push prices further from fundamentals before they converge), and fundamental risk (the mispricing may worsen before it corrects). These frictions can deter arbitrage activity and allow

mispricings to persist over long periods. This insight is theoretically decisive: it shows that market efficiency cannot be guaranteed simply by the existence of rational investors, because the conditions under which arbitrage is effective are often not met in practice. Limits to arbitrage thus transform behavioural anomalies from temporary disturbances into potentially durable features of financial markets.

4.6.Methodology: Deductive versus Inductive Approaches

As Sefil and Çilingiroğlu (2011) point out, classical finance models are generally constructed deductively: they start from strong theoretical assumptions — rationality, efficiency, equilibrium — and derive predictions that are subsequently subjected to empirical testing. The theoretical model precedes and structures the empirical investigation. This approach yields parsimonious, mathematically tractable models with clear testable implications.

Behavioural finance adopts a more inductive approach: it begins with the observation of actual investor behaviour and market anomalies, and constructs theoretical models to explain these empirical regularities (Barberis & Thaler, 2003). Theory is thus built upward from data rather than downward from axioms. This approach sacrifices some theoretical elegance and generalisability in exchange for descriptive accuracy and empirical fit. The tension between these two methodological orientations reflects a deeper disagreement about the relationship between theoretical rigour and empirical adequacy in financial science.

4.7.Objective: Normative versus Descriptive Science

Perhaps the most fundamental distinction between the two approaches lies in their scientific objectives. Classical finance is essentially normative: it aims to prescribe how rational agents should behave in order to make optimal financial decisions. Its models serve as benchmarks against which actual behaviour is evaluated. Deviations from these benchmarks are treated as errors to be corrected rather than regularities to be explained (Statman, 2014).

Behavioural finance is primarily descriptive: it seeks to understand how agents actually behave, with their cognitive limitations, emotional biases and social influences. Rather than prescribing an ideal of rationality, it seeks to map the systematic patterns of deviation from that ideal and to explain their determinants. This difference in scientific ambition partly explains why the two approaches have often been seen as competing: they are, in a fundamental sense, trying to answer different types of questions. Recognising this complementarity — rather than treating them as rival paradigms — is one of the most important insights of contemporary financial research (Thaler, 2016).

Taken together, this seven-dimensional analysis reveals a major paradigm shift: from ideal rationality to psychologically grounded rationality. Where traditional finance favours normative consistency and mathematical elegance, behavioural finance favours empirical plausibility and cognitive complexity. This evolution does not constitute a complete theoretical rupture, but rather a productive reconfiguration aimed at bringing financial modelling closer to the behaviour actually observed in markets.

5. Practical Implications and Limitations

5.1.Implications for Portfolio Managers

For portfolio managers, behavioural finance offers a set of diagnostically powerful tools that can directly improve investment processes. Prospect theory and the disposition effect have concrete implications for rebalancing discipline: the documented tendency of investors to hold losing positions too long and sell winning positions too early suggests the value of rule-based rebalancing frameworks that remove discretionary judgment from sell decisions. Incorporating stop-loss mechanisms and systematic portfolio reviews at regular intervals can counteract the emotional inertia generated by loss aversion.

Mental accounting has implications for portfolio construction. The tendency to manage separate sub-portfolios — a conservative 'safety' account and a speculative 'lottery' account — independently of one another leads to sub-optimal overall allocation and inefficient risk management. Portfolio managers who are aware of this bias can design integrated allocation frameworks that present the portfolio as a unified structure, reducing the compartmentalisation that drives irrational trade-offs between accounts. Similarly, overconfidence bias — particularly prevalent among experienced managers with successful track records — warrants systematic performance attribution processes that distinguish skill from luck and prevent self-attribution dynamics from driving excessive concentration or leverage.

5.2.Implications for Financial Advisors

Financial advisors operate at the interface between financial theory and client behaviour, and behavioural finance offers particularly direct applications in this context. Heuristics research (Tversky & Kahneman, 1974) demonstrates that clients systematically use availability bias — weighting recent or emotionally salient events more heavily than statistically appropriate — in their risk assessments. Advisors who understand this bias can design communication strategies that contextualise recent market events within longer historical distributions, reducing the likelihood of panic-driven decisions during downturns.

Overconfidence bias in clients — the tendency to overestimate the reliability of one's own financial judgments — calls for structured advisory frameworks that introduce systematic uncertainty quantification into investment conversations. Rather than simply presenting expected returns, advisors can use scenario-based presentations that make uncertainty visible and reduce clients' tendency to anchor on optimistic central estimates. Framing effects suggest that the presentation of the same investment option can significantly influence client acceptance: losses framed relative to a reference portfolio may be more salient than equivalent absolute losses, and advisors can use this understanding both to communicate risk more honestly and to avoid inadvertently triggering disproportionate emotional reactions.

5.3.Implications for Regulators

For financial regulators, the theoretical insights of behavioural finance have implications for both market design and investor protection policy. Herd behaviour theory (Banerjee, 1992; Hong & Stein, 1999) provides a theoretical basis for macro-prudential interventions designed to prevent self-reinforcing price dynamics from escalating into systemic crises. Circuit breakers — temporary trading halts triggered by extreme price movements — can be understood as institutional mechanisms for interrupting information cascades before they generate irreversible market dislocation. The theoretical literature suggests that such interventions are most effective when they provide time for information to be reassessed rather than simply postponing the cascade.

Limits to arbitrage (Shleifer & Vishny, 1997) have implications for the design of market microstructure. If rational arbitrageurs are deterred from correcting mispricings by synchronisation risk and noise trader risk, regulatory frameworks that reduce friction costs and increase the transparency of short-selling activity may partially address the structural conditions that allow anomalies to persist. At the retail investor level, the insights from prospect theory and mental accounting support the case for mandatory disclosure requirements that present financial product risks in formats designed to counteract common cognitive biases — for example, presenting cumulative rather than annual return distributions to reduce optimism bias.

5.4.Limitations of the Present Analysis

This article is subject to several limitations that should be acknowledged. First, as a narrative review, it is inherently selective and cannot claim to provide an exhaustive account of the behavioural finance literature. The emphasis on five foundational frameworks, while justified by the criteria outlined in the methodology, necessarily leaves other relevant approaches — regret

theory, ambiguity aversion, cultural finance — outside the scope of the analysis. Second, the article focuses predominantly on theoretical contributions and does not provide a systematic review of the empirical evidence for or against each framework. The evidentiary base for some of the models discussed remains contested, and the external validity of laboratory-based findings to real financial markets is a subject of ongoing debate (Fama, 1998). Third, the comparative analysis between standard and behavioural finance, while structured across seven dimensions, reflects the state of the literature at a particular point in time. The boundary between the two paradigms is increasingly blurred by recent attempts at theoretical integration, including asset pricing models that incorporate psychological features (Barberis, Mukherjee & Wang, 2016).

6. Conclusion

This article set out to examine the extent to which the five core theoretical frameworks of behavioural finance — prospect theory, mental accounting, overconfidence, herd behaviour, and heuristics — provide a coherent explanatory account of market anomalies that the classical paradigm fails to accommodate, and to assess the respective contributions and limitations of the two approaches. The analysis developed across the preceding sections allows a substantive answer to be offered.

Behavioural finance does provide a theoretically coherent and empirically grounded framework for explaining the systematic deviations from rational behaviour and market efficiency observed in financial markets. The five frameworks examined are not a disparate collection of biases but a set of analytically complementary models that together address the main dimensions of bounded rationality: individual information processing, preference structure, social dynamics and the institutional limits of arbitrage. In this sense, behavioural finance constitutes more than a corrective footnote to classical theory — it represents a substantive theoretical alternative to the homo economicus model of financial decision-making.

However, the research question also asks whether behavioural finance constitutes an autonomous paradigm or a complementary framework. The evidence of this analysis points clearly toward the latter conclusion. Classical finance retains its analytical relevance and predictive power in conditions approximating its theoretical assumptions — stable institutional environments, liquid markets, professional investors with clearly defined mandates. Behavioural finance enriches the theoretical toolkit by providing explanations for the systematic failures of classical models in conditions of uncertainty, cognitive complexity and informational heterogeneity. Rather than a Kuhnian paradigm replacement, the relationship

between the two approaches is better described as theoretical complementarity, with each addressing different aspects of the financial reality. As Thaler (2016) argues, the goal is not to reject classical finance but to build a more comprehensive financial science capable of integrating formal rigour with descriptive realism.

The seven-dimensional comparative analysis formalised in Table 1 provides an original synthesis of this complementarity. By mapping the two paradigms across agent model, decision-making, preferences, market functioning, arbitrage, methodology and scientific objective, it reveals that the differences between the two approaches are not merely technical but epistemological — they reflect distinct commitments about what financial science should explain and how it should proceed. This framing may serve as a useful reference for researchers and practitioners seeking to navigate the interface between the two paradigms.

From a practical standpoint, the theoretical insights reviewed here carry concrete implications for financial practitioners. Portfolio managers can use behavioural insights to design rebalancing rules and performance attribution frameworks that counteract documented biases. Financial advisors can apply research on heuristics and framing effects to improve client communication and reduce emotionally driven decision errors. Regulators can draw on herd behaviour theory and limits to arbitrage to design market mechanisms and disclosure requirements that address systemic vulnerabilities and protect retail investors.

Finally, this analysis points to three productive directions for future research. First, neurofinance — which applies neuroscientific methods to the study of financial decision-making — promises to provide a deeper mechanistic account of the cognitive processes underlying the biases identified by behavioural models (Peterson, 2007). Second, digital behavioural finance examines how algorithmic platforms, social media and artificial intelligence are reshaping the informational environment in which investment decisions are made, potentially amplifying or attenuating traditional biases (D'Acunto, Prabhala & Rossi, 2019). Third, climate behavioural finance investigates how cognitive biases — temporal discounting, availability bias, ambiguity aversion — shape investor responses to climate-related risks and opportunities, with significant implications for the alignment of financial markets with sustainability objectives. These three frontiers represent the most promising avenues through which the second generation of behavioural finance will extend and deepen the theoretical legacy of its founders.

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