

Behavioral Finance: Investor Psychology, Cognitive Biases, and Market Mispricing

Liu Yang

Henan University of Science and Technology, China

ABSTRACT

Behavioral finance integrates insights from psychology into finance, relaxing the assumption of full rationality to explain asset pricing patterns that are inconsistent with efficient market predictions. Two foundational pillars support behavioral finance: (1) investor psychology—systematic cognitive biases and heuristics that cause investors to make predictably irrational decisions; and (2) limits to arbitrage—structural and institutional barriers that prevent rational arbitrageurs from fully exploiting and eliminating mispricing. Kahneman and Tversky's (1979) Prospect Theory, published in *Econometrica* (47(2): 263–292), provided the psychological foundation by demonstrating that decisions under uncertainty systematically deviate from expected utility maximization, with loss aversion, probability weighting, and reference dependence all implying behavior inconsistent with rational investor models. This paper reviews the behavioral finance literature, examining key psychological biases and their financial market implications, limits to arbitrage that allow mispricing to persist, and the integration of behavioral insights into asset pricing models.

Keywords: Behavioral Finance; Prospect Theory; Loss Aversion; Cognitive Biases; Limits to Arbitrage; Market Sentiment; Noise Traders; Shleifer

1. INTRODUCTION

Classical finance theory assumes rational investors who maximize expected utility of consumption, process all available information correctly, and form unbiased expectations about future returns. In a world of rational investors and competitive markets, prices should reflect all available information (efficient market hypothesis), expected returns should reflect only systematic risk (CAPM), and arbitrage should eliminate any temporary mispricing. The anomalies documented in the empirical asset pricing literature—momentum, value, size, and numerous others—challenged these predictions and motivated the development of behavioral finance as a research program explaining how investor irrationality can systematically affect asset prices.

Shiller (1981) in the *American Economic Review* (71(3): 421–436) demonstrated that stock price volatility substantially exceeds what dividend news can justify under rational expectations—‘excess volatility’ that suggested investor overreaction to information. De Long, Shleifer, Summers, and Waldmann (1990) in the *Journal of Political Economy* showed formally that ‘noise traders’ (irrational investors who trade on sentiment rather than information) can survive in competitive markets and move prices away from fundamentals if arbitrage is limited—establishing the theoretical possibility that systematic mispricing can persist even with rational arbitrageurs present. These contributions established behavioral finance as a coherent research agenda rather than a collection of anomalous findings.

2. PROSPECT THEORY AND LOSS AVERSION

Kahneman and Tversky (1979) identified three systematic deviations from expected utility maximization in decisions under uncertainty: (1) Loss aversion: losses loom larger than equivalent gains (the value function is steeper for losses than gains, with a loss aversion coefficient of approximately 2–2.5); (2) Diminishing sensitivity: the value function is concave for gains and convex for losses, producing risk aversion for gains and risk seeking for losses (explaining why people buy both lottery tickets and insurance); (3) Probability weighting: small probabilities are overweighted and large probabilities underweighted, explaining why people choose certain small gains over risky large gains and prefer small certain losses to large risky losses. These findings have been applied in finance to explain the disposition effect (investors sell winners too early and hold losers too long), the equity premium puzzle, the underpricing of initial public offerings, and numerous other financial market phenomena.

3. KEY COGNITIVE BIASES IN FINANCIAL MARKETS

Table 1. Key cognitive biases and their financial market manifestations.

Bias	Description	Financial Market Manifestation
Overconfidence	Investors overestimate their information quality and forecasting skill	Excessive trading; gender differences in trading performance; analyst overoptimism
Representativeness	Judging probabilities by similarity to stereotypes rather than base rates	Overreaction to earnings surprises; extrapolation of growth rates
Anchoring	Over-reliance on initial information when updating beliefs	Insufficient earnings forecast revisions; IPO anchoring to offer price
Herding	Imitating others' investment decisions due to information or social pressure	Analyst herding; momentum crashes; financial crisis contagion
Home bias	Over-investment in domestic stocks relative to international diversification	Under-diversification; portfolio risk concentration

4. LIMITS TO ARBITRAGE

Shleifer and Vishny (1997) in the *Journal of Finance* (52(1): 35–55) formalized limits to arbitrage—the institutional and risk barriers that prevent rational arbitrageurs from fully exploiting and eliminating mispricing. Three categories of limits are most important: (1) Fundamental risk: even if a security is mispriced, its price may diverge further before converging, exposing arbitrageurs to losses; (2) Noise trader risk: irrational investor sentiment may amplify mispricing in the short run before correction, creating timing uncertainty; (3) Implementation costs: transaction costs, short-selling constraints, and borrowing costs make arbitrage unprofitable or impossible for many mispricings. These limits explain why documented anomalies—momentum, value, long-short strategies—are real but difficult to fully exploit, and why mispricing can persist even after academic publication (though Post-publication decay suggests gradual arbitrage: McLean and Pontiff, 2016).

5. CONCLUSION

Behavioral finance has transformed asset pricing theory and financial economics by providing psychological microfoundations for anomalies that rational models cannot explain. Prospect theory's loss aversion, probability weighting, and reference dependence provide a psychologically realistic description of how investors actually make decisions. Limits to arbitrage explain why sophisticated rational investors cannot quickly eliminate all mispricing. The integration of behavioral insights into formal asset pricing models—Barberis and Huang (2001) incorporating prospect theory into equilibrium models—represents the frontier of behavioral finance. Future research should examine how artificial intelligence and algorithmic trading affect limits to arbitrage and the persistence of behavioral biases in institutional investor decision-making.

REFERENCES

- [1] De Long, J. B., Shleifer, A., Summers, L. H., & Waldmann, R. J. (1990). Noise trader risk in financial markets. *Journal of Political Economy*, 98(4), 703–738.
- [2] Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263–292.
- [3] McLean, R. D., & Pontiff, J. (2016). Does academic research destroy stock return predictability? *Journal of Finance*, 71(1), 5–45.
- [4] Shiller, R. J. (1981). Do stock prices move too much to be justified by subsequent changes in dividends? *American Economic Review*, 71(3), 421–436.
- [5] Shleifer, A., & Vishny, R. W. (1997). The limits of arbitrage. *Journal of Finance*, 52(1), 35–55.
- [6] Thaler, R. H. (1993). *Advances in behavioral finance*. Russell Sage Foundation.