

From Bias to Better Capital: A Behavioral-ESG Framework for Sustainable Investment Decision-Making

Dr. Lily Vats

Abstract

Sustainable investment has evolved from a niche ethical practice into a central component of contemporary financial decision-making. However, the assumption that investors process Environmental, Social and Governance (ESG) information consistently and rationally remains theoretically and empirically contested. This paper develops an integrated Behavioral-ESG Decision Framework explaining how psychological mechanisms shape the interpretation of sustainability information and portfolio allocation. Drawing on behavioral finance, sustainable investment, information-processing and ESG-measurement research, the study synthesizes evidence on overconfidence, herding, loss aversion, anchoring, representativeness, disposition effects, confirmation bias and framing. It also considers ESG-rating disagreement, disclosure quality, financial literacy, investor sentiment, social norms and emerging digital technologies. The review demonstrates that sustainable investment decisions are not determined by ESG information alone; investors filter such information through behavioral mechanisms and perceptions of risk, return, credibility and social responsibility. The paper repositions behavioral biases as decision filters between ESG information and capital allocation and proposes a four-stage framework with implications for investors, advisers, regulators, asset managers and future research.

Keywords: Behavioral Finance, ESG, Sustainable Investment, Investor Behavior, Cognitive Bias, Financial Literacy, ESG Ratings, Sustainable Portfolios

Corresponding author (s):

ITM School of Business and Leadership, ITM University, Gwalior, Madhya Pradesh, India- 475001

Email: lilyvats.som@itmuniversity.ac.in

1. Introduction

The transformation of financial markets toward sustainability has fundamentally altered the information set available to investors. Environmental, Social and Governance (ESG) indicators are increasingly incorporated into investment analysis, portfolio construction, stewardship and corporate evaluation. Sustainable investment consequently represents not only a financial strategy but also a mechanism through which private capital may support broader environmental and social objectives. The growth of responsible investment has been reinforced by institutional commitments, regulatory initiatives and rising demand for investments aligned with climate, social and governance objectives (Eurosif, 2022; Global Sustainable Investment Alliance [GSIA], 2023; PRI, 2023).

However, the availability of ESG information does not guarantee rational investment behavior. Traditional finance generally assumes that investors process available information objectively and maximize expected utility. Behavioral finance challenges this assumption by demonstrating that investment decisions can systematically deviate from rationality because of cognitive limitations, emotions, heuristics and social influences (Kahneman & Tversky, 1979; Barberis & Thaler, 2003; Hirshleifer, 2015). Investor attention, sentiment and limited

processing capacity can affect both the interpretation of information and the timing and direction of trading decisions (Barber & Odean, 2008; Da, Engelberg, & Gao, 2011; Shiller, 2003).

This issue becomes particularly important in sustainable investment because ESG information is multidimensional, difficult to standardize and frequently characterized by uncertainty. Investors must evaluate financial performance alongside environmental and social consequences, long-horizon risks and non-financial preferences. Such complexity creates opportunities for heuristics and biases to influence decision-making. The recent literature identifies overconfidence, herding, loss aversion, anchoring, representativeness and framing among the behavioral mechanisms affecting investment decisions (Kumar & Goyal, 2015; Zahera & Bansal, 2018; Pompian, 2012). The uploaded bibliometric study further demonstrates that behavioral finance and sustainable investment have developed into an increasingly interconnected research domain, with seven major thematic clusters emerging from 398 Scopus-indexed studies.

A particularly important challenge is the inconsistency of ESG ratings. ESG-rating providers may differ substantially in their definitions, measurement scopes, data sources, weighting schemes and assessments, producing divergent

evaluations of the same firm (Berg, Kölbel, & Rigobon, 2022; Billio et al., 2021; Chatterji et al., 2016; Gibson Brandon, Glossner, Krueger, Matos, & Steffen, 2021). Thus, investors may not respond to an objective and uniform measure of sustainability; instead, they respond to information interpreted through individual cognitive and emotional filters. Rating disagreement can increase ambiguity, weaken confidence in ESG products and encourage reliance on salient signals, labels or social cues.

The central argument of this paper is therefore that ESG information does not directly produce sustainable investment decisions. Behavioral processing occurs between information availability and capital allocation. This paper conceptualizes intermediate process and develops a Behavioral-ESG Decision Framework.

2. Literature Review

2.1 Behavioral Finance and Investment Decisions

Behavioral finance emerged partly as a response to the limitations of purely rational models of financial decision-making. Prospect theory established that individuals evaluate gains and losses asymmetrically and may display loss aversion when faced with uncertain outcomes (Kahneman & Tversky, 1979). The theory also emphasizes reference dependence, diminishing sensitivity and probability-weighting, all of which can influence how investors evaluate uncertain financial and sustainability-related outcomes.

Subsequent research has documented systematic behavioral patterns in financial markets. Barber and Odean (2000) found that excessive trading can substantially reduce individual-investor performance, while Barber and Odean (2001) demonstrated the role of overconfidence in trading behavior. Barber and Odean (2008) further showed that investor attention can shape stock-selection decisions, particularly when investors face a large and complex information set. Chen et al. (2007) identified disposition effects, overconfidence and representativeness among emerging-market investors. Odean (1998) showed that investors tend to sell winning investments too readily while retaining losing positions, a pattern that may also affect the management of sustainable portfolios.

Behavioral biases are not limited to individual cognition. Social interaction, information cascades and reputational concerns can generate herding and collective mispricing (Bikhchandani, Hirshleifer, & Welch, 1992; Devenow & Welch, 1996; Hirshleifer & Teoh, 2003). Investor sentiment can also influence asset prices and trading behavior, particularly when valuation is difficult and information is ambiguous (Baker & Wurgler, 2006; Shiller, 2003). These mechanisms are highly relevant to ESG markets,

where thematic narratives, media attention and social identity may amplify demand for particular funds, sectors or sustainability labels.

Systematic reviews have established that behavioral biases constitute a major stream within investment-decision research (Kumar & Goyal, 2015; Zahera & Bansal, 2018). The uploaded study confirms the continuing prominence of these themes, identifying behavioral biases, investor behavior and financial decision-making as major thematic clusters. Nevertheless, the literature remains fragmented regarding how specific biases operate when investors evaluate multidimensional sustainability information.

2.2 Sustainable Investment and ESG

Sustainable investment integrates financial objectives with environmental, social and governance considerations. Its expansion reflects increasing awareness that investment decisions can affect climate risks, social welfare, labor conditions, corporate accountability and long-term economic resilience. Institutional investors increasingly incorporate ESG factors through screening, integration, thematic investment, active ownership, impact investment and portfolio decarbonization (PRI, 2023; GSIA, 2023).

Empirical literature does not support a simplistic conclusion that ESG investments always outperform conventional portfolios. Cunha et al. (2020), using sustainability indices across several global regions, found heterogeneous performance but also evidence of opportunities for superior risk-adjusted returns in some markets. Such heterogeneity is consistent with the broader literature, which emphasizes that ESG-performance relationships depend on asset class, geography, sector, measurement methodology, time horizon and model specification (Friede, Busch, & Bassen, 2015; Gillan, Koch, & Starks, 2021; Whelan, Atz, Van Holt, & Clark, 2021).

Friede et al. (2015), through an aggregation of more than 2,000 empirical studies, provided substantial evidence concerning the relationship between ESG and financial performance. Their findings suggest that sustainability and financial objectives are not necessarily contradictory, although the relationship is neither uniform nor mechanically causal. More recent reviews similarly indicate that ESG integration may affect financial outcomes through channels such as risk management, operational efficiency, innovation, stakeholder relations and access to capital (Gillan et al., 2021; Whelan et al., 2021).

Sustainable investment also involves non-financial preferences. Investors may derive utility from contributing to environmental or social objectives, expressing identity and values, or avoiding investments perceived as harmful. This broader conception of utility is consistent with research on

socially responsible investment, ethical consumption and values-based financial behavior (Riedl & Smeets, 2017; Nilsson, 2008; Gutsche, Ziegler, & Zwick, 2021). Consequently, sustainable investment decisions may reflect both expected financial performance and intrinsic or social preferences.

2.3 Behavioral Biases in Sustainable Investment

The integration of behavioral finance with sustainable investment creates a more realistic explanation of investor behavior. Investors may choose sustainable assets because of financial expectations, ethical identity, social norms, personal values, perceived transition risks or reputational considerations. These motives can interact with behavioral biases and information constraints.

Overconfidence may cause investors to overestimate their ability to evaluate ESG information, identify greenwashing or select superior sustainable funds. Overconfident investors may trade more frequently, underweight uncertainty and rely excessively on their own interpretations (Barber & Odean, 2001; Odean, 1998).

Herding may lead investors to follow popular ESG funds, sustainability narratives or institutional investment trends without independently assessing underlying assets. Herding can arise from informational uncertainty, reputational concerns or the belief that other investors possess superior information (Bikhchandani et al., 1992; Devenow & Welch, 1996).

Loss aversion may discourage investors from choosing sustainable investments perceived as financially uncertain, particularly when sustainable strategies involve sector exclusions, tracking error or exposure to emerging technologies. Investors may also react more strongly to short-term underperformance than to long-term sustainability benefits (Kahneman & Tversky, 1979).

Anchoring may cause investors to rely excessively on historical returns, existing ESG scores, familiar benchmarks or initial sustainability labels. Anchoring can be especially problematic when ESG performance changes rapidly or when firms transition from high-emission business models.

Representativeness can encourage investors to generalize from a firm's recent sustainability performance, a highly visible environmental initiative or a recognizable brand. Investors may infer long-term ESG quality from limited or salient evidence, even when underlying performance is mixed.

Framing effects may cause identical ESG information to generate different decisions depending on whether it is presented as a gain, loss, risk reduction, impact contribution or compliance requirement (Tversky & Kahneman, 1981). The framing of climate risk, carbon intensity and social outcomes may therefore influence investor preferences independently of the underlying data.

Confirmation bias may lead investors to search for and overweight ESG information that supports pre-existing political, ethical or financial beliefs. This mechanism can contribute to polarized interpretations of sustainability controversies and reduce the effectiveness of disclosure.

Recent literature also suggests that financial literacy can influence the relationship between behavioral tendencies and investment outcomes. Financially literate investors may be better able to evaluate risk, distinguish correlation from causation and interpret ESG metrics, although literacy alone may not eliminate emotional or social biases (Lusardi & Mitchell, 2014; Fernandes, Lynch, & Netemeyer, 2014). The uploaded study identifies financial literacy and behavioral decision-making as a distinct research cluster.

Table 1. Behavioral Mechanisms and Possible ESG-Investment Consequences

Behavioral mechanism	Possible ESG-investment consequence
Overconfidence	Excessive confidence in ESG evaluation
Herding	Following popular ESG funds or narratives
Loss aversion	Avoiding perceived sustainable-investment risk
Anchoring	Excessive reliance on historical ESG scores
Representativeness	Generalizing from recent sustainability events
Disposition effect	Selling profitable ESG holdings too early
Framing	Different decisions from differently presented ESG information
Confirmation bias	Selecting ESG information supporting existing beliefs

2.4 ESG Information Quality, Rating Disagreement and Greenwashing

ESG information is not a homogeneous or neutral input. It may be derived from corporate disclosures, third-party databases, alternative data, media reports, controversies and proprietary estimation models.

Differences in scope, materiality assumptions, weighting and data treatment can produce substantial disagreement among ESG-rating providers (Berg et al., 2022; Billio et al., 2021; Chatterji et al., 2016).

Berg et al. (2022) decompose ESG-rating divergence into differences in measurement, scope and weighting, demonstrating that disagreement is not

merely statistical noise but a consequence of methodological choices. Billio et al. (2021) similarly shows that rating disagreement can affect portfolio composition and benchmark construction. Gibson Brandon et al. (2021) find that ESG ratings may influence investor behavior and portfolio outcomes in ways that are not fully explained by underlying sustainability performance. Information ambiguity can intensify behavioral reliance on heuristics. When investors cannot determine which rating is credible, they may anchor on the most visible score, follow the rating used by a trusted platform or rely on fund labels. This creates a potential link between ESG-rating disagreement and herding, framing and confirmation bias.

Greenwashing further complicates the information environment. When sustainability claims are exaggerated, selective or weakly verified, investors may misallocate capital despite good intentions. Regulatory initiatives increasingly emphasize disclosure comparability, product classification and substantiation of sustainability claims (European Commission, 2022; International Sustainability Standards Board [ISSB], 2023). From a behavioral perspective, credible verification may reduce ambiguity and limit the influence of superficial labels.

3. Research Gap

Existing literature provides substantial evidence on behavioral biases and sustainable investment, but three important gaps remain.

First, behavioral finance and ESG research are frequently examined as parallel streams rather than as a single decision mechanism. Bibliometric evidence demonstrates that the two fields are converging, but thematic convergence does not necessarily provide a clear explanation of how ESG information is transformed into an investment decision.

Second, ESG information itself is not always consistent. The disagreement among rating agencies documented by Berg et al. (2022), Billio et al. (2021) and Chatterji et al. (2016) means that investor behavior may be influenced by the credibility, presentation and interpretation of ESG information rather than simply by underlying sustainability performance. This issue is particularly important because ambiguity may activate heuristics and social learning.

Third, much behavioral research identifies individual biases but does not sufficiently connect them to a complete investment-decision pathway involving information quality, risk perception, financial literacy and final portfolio allocation. Accordingly, this paper addresses the following research question:

RQ: How can behavioral mechanisms be integrated with ESG information processing to explain sustainable investment decision-making?

4. Research Objectives

The study has four objectives:

To synthesize the relationship between behavioral biases and sustainable investment decisions.

To examine ESG-information characteristics as potential triggers of behavioral responses.

To develop an integrated Behavioral-ESG Decision Framework.

To identify mechanisms through which investors, advisers and regulators can reduce behavioral distortions in sustainable investment.

5. Proposed Behavioral-ESG Decision Framework

The central contribution of this paper is a four-stage framework:

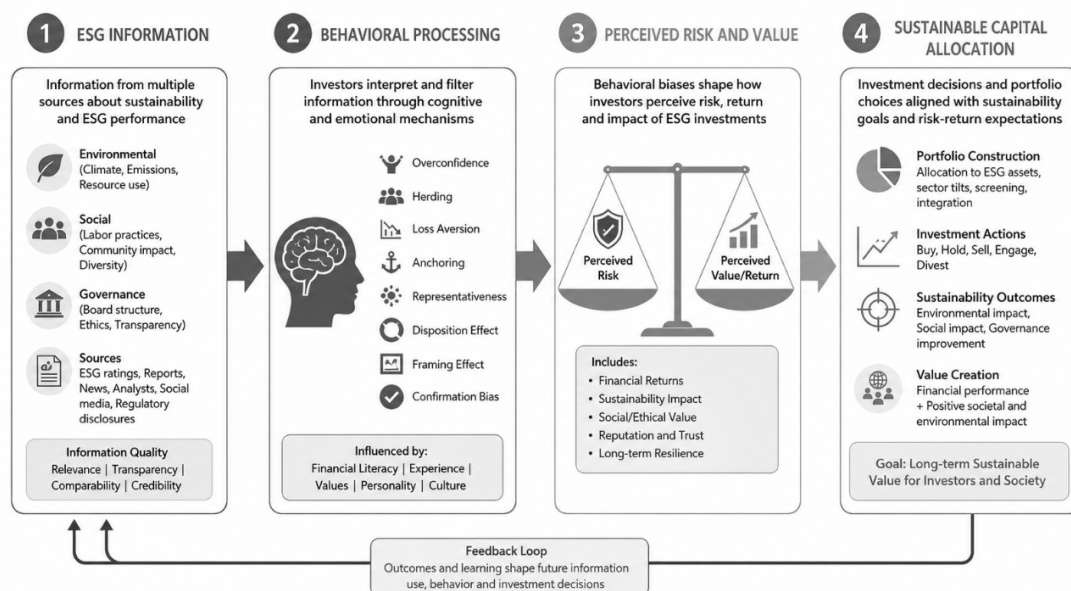


Figure 1. Behavioral-ESG Decision Framework

Stage 1: ESG Information

Investors receive information through ESG ratings, corporate sustainability reports, media, financial platforms, analysts, social networks and digital investment applications. Information quality, comparability and transparency determine the initial information environment. ESG-rating disagreement is particularly important because different providers may assign substantially different assessments to the same company. Berg et al. (2022), Billio et al. (2021) and Chatterji et al. (2016) show that methodological divergence can affect the composition of sustainable portfolios and benchmarks. Consequently, the first stage should be understood as an information environment characterized by varying degrees of quality, ambiguity and credibility rather than as a single objective ESG signal.

Stage 2: Behavioral Processing

Investors do not process information identically. Their interpretation is influenced by cognitive and emotional mechanisms. This stage explains why identical information may produce different investment choices.

Stage 3: Perceived Risk and Value

Behavioral processing influences investors' perceptions of expected return, risk, credibility and social value. Sustainable investment therefore involves both financial utility and non-financial utility. An investor may accept a lower expected short-term return because sustainability generates ethical or social utility. Riedl and Smeets (2017) show that socially responsible investors may accept financial trade-offs because of social preferences and trust. Conversely, an investor who strongly prioritizes financial security may reject an ESG asset perceived as risky despite positive sustainability characteristics. Perceived risk may include conventional financial risk, transition risk, physical climate risk, regulatory risk, reputational risk, greenwashing risk and tracking-error risk. Perceived value may include expected return, downside protection, impact contribution, identity expression and alignment with personal or institutional values. These perceptions need not correspond perfectly to objective risk or impact.

Financial literacy can act as an important conditioning mechanism by improving the ability to distinguish information from interpretation and by reducing dependence on simple heuristics. However, literacy should not be treated as a complete solution because highly informed investors may remain susceptible to overconfidence, confirmation bias and motivated reasoning.

Stage 4: Sustainable Capital Allocation

The final stage is the portfolio decision. Investors may select, retain, overweight, underweight or reject sustainable assets. Aggregated decisions influence capital flows toward firms and sectors. The framework therefore suggests that sustainable finance cannot be evaluated solely through ESG scores. The behavioral pathway connecting information with allocation must also be considered.

6. Theoretical Propositions

Based on the framework, the following propositions are advanced for future empirical testing.

P1: Greater exposure to ESG information is positively associated with sustainable investment intention, but the strength of the relationship depends on behavioral processing.

P2: Overconfidence and confirmation bias weaken the quality of ESG information processing by increasing investors' reliance on subjective judgments.

P3: Herding strengthens the relationship between ESG-market attention and sustainable asset allocation.

P4: Loss aversion weakens sustainable-investment adoption when ESG assets are perceived as having greater financial uncertainty.

P5: ESG-rating disagreement increases uncertainty and may reduce investors' confidence in sustainable investment choices.

P6: Financial literacy moderates the relationship between behavioral biases and sustainable investment decisions.

P7: Transparent ESG disclosure and technology-assisted decision support can reduce behavioral distortions in sustainable investment.

These propositions transform the literature from a descriptive discussion of biases into a testable research agenda.

7. Discussion

The proposed framework provides several theoretical insights. First, behavioral finance should not be viewed merely as an explanation for irrational investment. In sustainable finance, behavioral mechanisms can also explain why investors prioritize long-term social and environmental outcomes that conventional models may not fully capture. Non-financial utility, identity and moral preferences may represent legitimate components of investor welfare rather than deviations from rationality (Riedl & Smeets, 2017).

Second, ESG information should be treated as a behavioral stimulus rather than a neutral input. The existence of rating disagreement illustrates that information quality, measurement choices and

interpretation matter. Investors respond not only to sustainability performance but also to the credibility, salience and framing of sustainability information.

Third, sustainable investment is multidimensional. Financial return, perceived risk, environmental impact, social identity and ethical preferences can coexist within a single decision. This makes behavioral finance particularly relevant. The same investor may be financially risk-averse but willing to accept sustainability-related tracking error or may support ESG investment in principle while reacting strongly to short-term underperformance.

Fourth, the framework highlights the importance of ambiguity. Traditional risk models assume that probabilities can be estimated, whereas ESG decisions often involve uncertainty regarding future regulation, technological change, climate impacts, social outcomes and measurement validity. Ambiguity may increase reliance on trusted intermediaries, salient labels and social signals.

The uploaded bibliometric study indicates that recent research has expanded toward ESG mutual funds, behavioral portfolio theory, ESG performance, artificial intelligence, personal finance and green investment. This evolution suggests that the next generation of research should move beyond identifying individual biases toward examining behavioral ecosystems, where information technology, social influence, financial literacy, ESG disclosure and institutional incentives jointly shape investment decisions.

The framework also has implications for the interpretation of sustainable-finance performance. If capital allocation is influenced by attention, framing and herding, observed flows may reflect both underlying sustainability characteristics and behavioral demand. This distinction is important for researchers seeking to identify whether ESG investment affects prices, corporate behavior and real-world environmental outcomes.

8. Managerial and Policy Implications

For individual investors, the framework suggests using structured investment checklists rather than relying solely on intuition, market popularity or ESG labels. For financial advisers, behavioral profiling should complement conventional risk profiling. Advisers should identify whether an investor is particularly susceptible to loss aversion, herding or overconfidence. For asset managers, ESG products should provide transparent information regarding rating methodology, portfolio construction and sustainability objectives. Rating disagreement makes comparability especially important. For regulators, standardized sustainability disclosures and clearer ESG terminology can reduce information ambiguity. The growing concern regarding greenwashing also

makes verification mechanisms essential. For fintech and AI platforms, technology can potentially serve as a debiasing mechanism by presenting alternative scenarios, risk-adjusted comparisons and standardized ESG information. However, algorithmic recommendations should themselves be transparent because technology may amplify rather than eliminate behavioral biases.

9. Future Research Agenda

The framework opens several avenues for empirical research. First, researchers can test the proposed propositions using Structural Equation Modeling to examine relationships among ESG information quality, behavioral biases, perceived risk, financial literacy and investment intention. Second, experimental studies can manipulate ESG information framing to determine whether identical sustainability information produces different investment choices. Third, machine-learning models can be used to predict behavioral-bias patterns from investor characteristics and transaction data. The uploaded study specifically identifies machine learning and artificial intelligence as promising directions for future behavioral-finance research. Fourth, cross-country research can examine how cultural and institutional differences influence behavioral responses to sustainable investment. Finally, future studies should investigate whether financial literacy, standardized ESG reporting and AI-enabled advisory systems genuinely reduce behavioral distortions or simply create new forms of digital herding.

10. Conclusion

Sustainable investment represents an important transformation in financial markets, but the effectiveness of this transformation depends not only on the availability of ESG information but also on how investors interpret and act upon it. Behavioral finance provides a critical explanation for this missing link. This paper develops a Behavioral-ESG Decision Framework in which ESG information passes through behavioral processing before influencing perceived risk, value and ultimately capital allocation. The framework integrates cognitive biases, emotional responses, ESG-information quality and financial literacy into a unified decision pathway. The principal theoretical insight is that the sustainability of an investment decision depends not only on the sustainability characteristics of the asset but also on the quality of the investor's decision process. This distinction is important because investors can make unsustainable choices from good information or sustainable choices from imperfect information.

Future sustainable-finance research should therefore move from the question "Which ESG assets should investors select?" toward the more fundamental question "How do investors transform ESG

information into capital-allocation decisions?" Answering this question can help create a more behaviorally informed, transparent and credible sustainable financial system.

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Baker, M., & Wurgler, J. (2006). Investor sentiment and the cross-section of stock returns. *The Journal of Finance*, 61(4), 1645–1680. <https://doi.org/10.1111/j.1540-6261.2006.00885.x>
- Barber, B. M., & Odean, T. (2000). Trading is hazardous to your wealth: The common stock investment performance of individual investors. *The Journal of Finance*, 55(2), 773–806. <https://doi.org/10.1111/0022-1082.00226>
- Barber, B. M., & Odean, T. (2001). Boys will be boys: Gender, overconfidence, and common stock investment. *The Quarterly Journal of Economics*, 116(1), 261–292. <https://doi.org/10.1162/003355301556400>
- Barber, B. M., & Odean, T. (2008). All that glitters: The effect of attention and news on the buying behavior of individual and institutional investors. *The Review of Financial Studies*, 21(2), 785–818. <https://doi.org/10.1093/rfs/hhm079>
- Barberis, N., & Thaler, R. (2003). A survey of behavioral finance. In G. M. Constantinides, M. Harris, & R. Stulz (Eds.), *Handbook of the Economics of Finance* (Vol. 1, pp. 1053–1128). Elsevier. [https://doi.org/10.1016/S1574-0102\(03\)01027-6](https://doi.org/10.1016/S1574-0102(03)01027-6)
- Berg, F., Kölbel, J. F., & Rigobon, R. (2022). Aggregate confusion: The divergence of ESG ratings. *Review of Finance*, 26(6), 1315–1344. <https://doi.org/10.1093/rof/rfac033>
- Bikhchandani, S., Hirshleifer, D., & Welch, I. (1992). A theory of fads, fashion, custom, and cultural change as informational cascades. *Journal of Political Economy*, 100(5), 992–1026. <https://doi.org/10.1086/261849>
- Billio, M., Costola, M., Hristova, I., Latino, C., & Pelizzon, L. (2021). Inside the ESG ratings: (Dis)agreement and performance. *Corporate Social Responsibility and Environmental Management*, 28(5), 1426–1445. <https://doi.org/10.1002/csr.2177>
- Chatterji, A. K., Durand, R., Levine, D. I., & Touboul, S. (2016). Do ratings of firms converge? Implications for managers, investors and strategy researchers. *Strategic Management Journal*, 37(8), 1597–1614. <https://doi.org/10.1002/smj.2407>
- Chen, G., Kim, K. A., Nofsinger, J. R., & Rui, O. M. (2007). Trading performance, disposition effect, overconfidence, representativeness bias, and experience of emerging market investors. *Journal of Behavioral Decision Making*, 20(4), 425–451. <https://doi.org/10.1002/bdm.561>
- Cunha, F. A. F. D. S., de Oliveira, E. M., Orsato, R. J., Klotzle, M. C., Cyrino Oliveira, F. L., & Caiado, R. G. G. (2020). Can sustainable investments outperform traditional benchmarks? Evidence from global stock markets. *Business Strategy and the Environment*, 29(2), 682–697. <https://doi.org/10.1002/bse.2397>
- Cunha, F. A. F. D. S., Meira, E., & Orsato, R. J. (2021). Sustainable finance and investment: Review and research agenda. *Business Strategy and the Environment*, 30(8), 3821–3838.
- Da, Z., Engelberg, J., & Gao, P. (2011). In search of attention. *The Journal of Finance*, 66(5), 1461–1499. <https://doi.org/10.1111/j.1540-6261.2011.01679.x>
- Devenow, A., & Welch, I. (1996). Rational herding in financial economics. *European Economic Review*, 40(3–5), 603–615. [https://doi.org/10.1016/0014-2921\(95\)00073-9](https://doi.org/10.1016/0014-2921(95)00073-9)
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, 133, 285–296. <https://doi.org/10.1016/j.jbusres.2021.04.070>
- European Commission. (2022). Commission Delegated Regulation (EU) 2022/1288 supplementing Regulation (EU) 2019/2088 with regard to regulatory technical standards. Official Journal of the European Union.
- Fernandes, D., Lynch, J. G., Jr., & Netemeyer, R. G. (2014). Financial literacy, financial education, and downstream financial behaviors. *Management Science*, 60(8), 1861–1883. <https://doi.org/10.1287/mnsc.2013.1849>
- Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: Aggregated evidence from more than 2,000 empirical studies. *Journal of Sustainable Finance & Investment*, 5(4), 210–233. <https://doi.org/10.1080/20430795.2015.1118917>
- Gibson Brandon, R., Glossner, S., Krueger, P., Matos, P., & Steffen, T. (2021). Do responsible investors invest responsibly? *Review of Finance*, 25(6), 1389–1432. <https://doi.org/10.1093/rof/rfab012>
- Global Sustainable Investment Alliance. (2023). Global sustainable investment review 2022. GSIA.
- Gillan, S. L., Koch, A., & Starks, L. T. (2021). Firms and social responsibility: A review of ESG and CSR research in corporate finance. *Journal of Corporate Finance*, 66, 101889. <https://doi.org/10.1016/j.jcorpfin.2021.101889>
- Gutsche, G., Ziegler, A., & Zwick, L. (2021). Information barriers and investment decisions—A

- survey-based experiment. *Journal of Behavioral and Experimental Finance*, 30, 100498. <https://doi.org/10.1016/j.jbef.2021.100498>
- Hirshleifer, D. (2015). Behavioral finance. *Annual Review of Financial Economics*, 7, 133–159. <https://doi.org/10.1146/annurev-financial-092214-043752>
- Hirshleifer, D., & Teoh, S. H. (2003). Limited attention, information disclosure, and financial reporting. *Journal of Accounting and Economics*, 36(1–3), 337–386. <https://doi.org/10.1016/j.jacceco.2003.10.002>
- International Sustainability Standards Board. (2023). IFRS S1 general requirements for disclosure of sustainability-related financial information and IFRS S2 climate-related disclosures. IFRS Foundation.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263–291. <https://doi.org/10.2307/1914185>
- Kumar, S., & Goyal, N. (2015). Behavioral biases in investment decision making—A systematic literature review. *Qualitative Research in Financial Markets*, 7(1), 88–108. <https://doi.org/10.1108/QRFM-07-2014-0022>
- Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, 52(1), 5–44. <https://doi.org/10.1257/jel.52.1.5>
- Nilsson, J. (2008). Investment with a conscience: Examining the impact of pro-social attitudes and perceived financial performance on socially responsible investment behavior. *Journal of Business Ethics*, 83, 307–325. <https://doi.org/10.1007/s10551-007-9621-z>
- Odean, T. (1998). Are investors reluctant to realize their losses? *The Journal of Finance*, 53(5), 1775–1798. <https://doi.org/10.1111/0022-1082.00072>
- Pompian, M. M. (2012). *Behavioral finance and wealth management: How to build optimal portfolios that account for investor biases* (2nd ed.). Wiley.
- Principles for Responsible Investment. (2023). Annual report 2023. PRI Association.
- Riedl, A., & Smeets, P. (2017). Why do investors hold socially responsible mutual funds? *The Journal of Finance*, 72(6), 2505–2550. <https://doi.org/10.1111/jofi.12547>
- Shiller, R. J. (2003). From efficient markets theory to behavioral finance. *Journal of Economic Perspectives*, 17(1), 83–104. <https://doi.org/10.1257/089533003321164967>
- Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, 211(4481), 453–458. <https://doi.org/10.1126/science.7455683>
- Whelan, T., Atz, U., Van Holt, T., & Clark, C. (2021). ESG and financial performance: Uncovering the relationship by aggregating evidence from 1,000 plus studies published between 2015–2020. NYU Stern Center for Sustainable Business.
- Zahera, S. A., & Bansal, R. (2018). Do investors exhibit behavioral biases in investment decision making? A systematic review. *Qualitative Research in Financial Markets*, 10(2), 210–251. <https://doi.org/10.1108/QRFM-04-2017-0028>