

ESG Disclosure and Investment Decision-Making: A Mediated-Moderation Analysis of Risk Perception and Market Uncertainty

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Abstract:

The growing importance of environmental, social, and governance (ESG) considerations has significantly influenced investment decision-making. This study empirically examines the impact of ESG disclosure on investment decisions among institutional and retail investors, focusing on the mediating role of risk perception and the moderating role of market uncertainty. Grounded in Signalling Theory and Stakeholder Theory, the research adopts a quantitative design, using structured questionnaires for primary data collection. Structural equation modelling (SEM) is employed to analyze direct, indirect, and interaction effects. The findings indicate that ESG disclosure positively influences investment decisions, both directly and indirectly through reduced risk perception. Additionally, market uncertainty strengthens this relationship, highlighting the increased reliance on ESG information during volatile conditions. Despite these advantages, challenges such as green washing and lack of standardized reporting persist. The study emphasizes the need for improved ESG disclosure frameworks to enhance transparency, reliability, and sustainable investment outcomes.

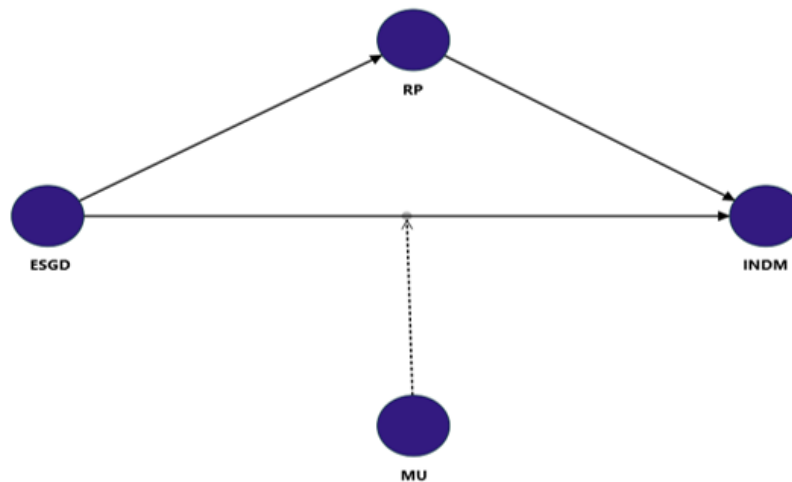
Keywords-ESG Disclosure, Investment Decision-Making, Risk Perception, Market Uncertainty, Sustainable Finance, Green washing

Introduction

In recent years, ESG disclosure has gained significant attention in financial markets as investors increasingly consider environmental, social, and governance factors alongside traditional financial metrics when making investment decisions. Companies across the globe are now expected to disclose their ESG-related activities transparently, enabling investors to assess corporate sustainability, ethical practices, and long-term financial viability. However, despite the growing importance of ESG disclosure, the way it influences investment decision-making is not always straightforward and depends on several intervening factors that shape how investors interpret and respond to ESG-related information. One of the most important factors influencing this relationship is risk perception. When investors receive ESG disclosure information, they do not directly translate it into investment decisions. Instead, they first evaluate the financial risks associated with that information, including concerns about earnings volatility, regulatory penalties, reputational damage, and credit risk exposure. This evaluation process, known as risk perception, acts as a mediating variable in the relationship between ESG disclosure and investment decision-making. In other words, ESG disclosure influences investment decisions indirectly through the level of risk investors perceive from the disclosed information. Understanding this mediating role is essential for explaining why the same ESG disclosure may lead to different investment responses among different investor groups. Furthermore, the broader market environment in which investors operate also plays a critical role in shaping this relationship. Market uncertainty, characterized by macroeconomic volatility, regulatory ambiguity, ESG rating inconsistency, and capital market instability, acts as a moderating variable that strengthens or weakens the influence of ESG disclosure on risk perception and ultimately on investment decisions. When market uncertainty is high, investors tend to rely more heavily on ESG disclosure signals to guide their decisions, whereas during periods of lower uncertainty, the influence of ESG disclosure may be comparatively reduced. This study investigates the relationship between ESG disclosure and investment decision-making by incorporating risk perception as a mediating variable and market uncertainty as a moderating variable within a mediated-moderation framework. The study follows a quantitative research approach, collecting primary data from institutional investors, fund managers, and financial analysts through a structured questionnaire. By integrating Signaling Theory, Prospect Theory, and Information Asymmetry Theory, this study aims to provide a comprehensive understanding of how ESG disclosure shapes investment

behavior in Indian capital markets and contributes meaningful insights for investors, corporate managers, and financial regulators seeking to improve ESG reporting quality and market efficiency.

Conceptual Framework



Literature Review

ESG disclosure has emerged as a fundamental determinant of investment decision-making in modern financial markets. Empirical evidence consistently demonstrates that superior ESG disclosure quality significantly enhances long-term firm financial performance and strengthens investor confidence in corporate sustainability practices. Transparent ESG reporting effectively reduces information asymmetry between firms and capital providers, resulting in improved access to finance and lower cost of capital. Institutional investors increasingly treat ESG factors as financially material considerations in portfolio construction, asset allocation, and risk management strategies. In emerging markets, particularly India, ESG disclosure quality has been positively associated with greater institutional investor participation and improved capital market efficiency.

ESG Disclosure and Investment Decision-Making

ESG disclosure has emerged as a critical determinant of investment decision-making in contemporary financial markets. Eccles, Ioannou, and Serafeim (2014) demonstrated that firms with high sustainability disclosure standards significantly outperformed their counterparts in long-term stock market performance and accounting-based financial measures. Friede, Busch, and Bassen (2015) conducted a comprehensive meta-analysis of over 2,000 empirical studies and established that approximately 90 percent of studies reported a non-negative relationship between ESG performance and corporate financial performance, providing robust empirical support for ESG-driven investment behavior. Cheng, Ioannou, and Serafeim (2014) further argued that superior ESG disclosure reduces information asymmetry between firms and investors, resulting in improved access to capital and lower financing costs. In the Indian context, Sahay and Thakur (2019) found that higher ESG disclosure quality among BSE-listed firms was positively associated with institutional investor participation and reduced cost of equity capital, reinforcing the financial relevance of ESG reporting in emerging markets.

ESG Disclosure Dimensions

Climate-related financial risk disclosure, structured under the TCFD framework, represents a material dimension of ESG reporting with direct financial implications. Krueger, Sautner, and Starks (2020) found that institutional investors consider climate risks financially material, significantly influencing portfolio construction and engagement strategies. Bolton and Kacperczyk (2021) demonstrated that firms with higher carbon emissions command higher equity returns, reflecting investor compensation for unpriced climate transition risk. Sautner, Van Lent, Vilkov, and Zhang (2023) further established that greater climate risk exposure is associated with higher equity risk premiums and greater earnings volatility, confirming the financial significance of TCFD-aligned disclosure for investment decision-making. Stranded asset value disclosure has gained increasing

prominence as energy transition accelerates. Carbon Tracker Initiative (2011) estimated that the majority of proven fossil fuel reserves would need to remain unburned to meet global climate targets, rendering them financially unviable. McGlade and Ekins (2015) quantified that over 80 percent of coal reserves must remain unexploited under a 2°C warming scenario, with profound implications for energy sector valuations. Delis, de Greiff, and Ongena (2019) empirically demonstrated that banks with significant fossil fuel lending exposure face substantially higher credit risk under climate transition scenarios, emphasizing the importance of transparent stranded asset disclosure for investment risk assessment. Green capital expenditure reporting signals a firm's commitment to sustainable transition through capital allocation decisions. Flammer (2015) found that announcements of environmental capital expenditures generate significantly positive abnormal stock returns, suggesting investors reward credible green investment commitments. Broadstock, Chan, Cheng, and Wang (2021) demonstrated that ESG firms with transparent green investment disclosures exhibited significantly greater stock market resilience during the COVID-19 pandemic, confirming that green CapEx reporting functions as a financial risk buffer during market stress periods.

Risk Perception

Financial risk perception captures investors' subjective assessment of adverse financial outcomes associated with ESG information. Krueger, Sautner, and Starks (2020) established that investors with higher ESG financial risk perception are significantly more likely to incorporate ESG screening criteria into investment mandates and engage in active ownership strategies. Hartzmark and Sussman (2019) demonstrated that ESG disclosure directly shapes financial risk perception, with investors systematically reallocating capital toward high-sustainability funds when provided with ESG rating information. Reputational risk perception reflects investors' concerns about ESG-related damage to corporate brand value and stakeholder relationships. Karpoff, Lee, and Martin (2008) quantified that reputational penalties represent the largest component of total financial loss from governance failures, underscoring the financial materiality of reputational risk in investment decisions. Krüger (2015) found that investors respond significantly more strongly to negative ESG events than positive ones, consistent with loss aversion and reinforcing the asymmetric financial impact of reputational risk perception on investment behavior. Systematic risk perception refers to investors' assessment of ESG factors contributing to non-diversifiable market-wide financial risks. Pedersen, Fitzgibbons, and Pomorski (2021) developed an ESG-adjusted CAPM demonstrating that systematic ESG risk perception influences equilibrium asset prices, with ESG-aware investors accepting lower returns for high-ESG-rated assets. Hsu, Li, and Tsou (2023) found that firms with higher carbon emission intensity exhibit significantly higher systematic risk loadings, confirming that ESG disclosure quality directly influences beta estimation and cost of equity capital.

Market Uncertainty

Macroeconomic uncertainty substantially conditions how investors interpret and respond to ESG disclosures. Baker, Bloom, and Davis (2016) demonstrated that elevated macroeconomic uncertainty significantly reduces equity market valuations, increases risk premiums, and suppresses investment activity. Nofsinger and Varma (2014) found that socially responsible investment funds significantly outperform conventional funds during periods of high macroeconomic uncertainty, suggesting ESG disclosure carries greater investment relevance when broader economic conditions are volatile. Regulatory uncertainty surrounding ESG disclosure standards weakens the informational value of ESG reporting. Drobetz, El Ghouli, Guedhami, and Janzen (2021) found that regulatory ambiguity surrounding mandatory ESG disclosure standards significantly increases the cost of capital for firms with low ESG transparency. Dyck, Lins, Roth, and Wagner (2019) demonstrated that regulatory uncertainty surrounding ESG standards significantly reduces institutional investor confidence in ESG data quality, moderating the positive relationship between ESG disclosure and institutional ownership. Information uncertainty arising from ESG rating divergence fundamentally undermines investor confidence in ESG disclosures. Berg, Kölbel, and Rigobon (2022) documented substantial divergence across major ESG rating agencies with inter-rater correlation averaging only 0.54, far below credit rating agency correlations. Christensen, Serafeim, and Sikochi (2022) demonstrated that ESG rating disagreement is associated with greater

stock return volatility and higher bid-ask spreads, confirming that ESG information uncertainty increases market-level information asymmetry and trading costs.

Theoretical Framework

Three theories underpin this study. Signaling Theory (Spence, 1973) explains how ESG disclosure functions as a credible signal reducing information asymmetry and shaping investor risk perception. Prospect Theory (Kahneman and Tversky, 1979) explains the asymmetric investor response to positive and negative ESG disclosures driven by loss aversion, particularly under market uncertainty conditions. Information Asymmetry Theory (Akerlof, 1970; Myers and Majluf, 1984) provides the foundational framework explaining how ESG disclosure quality resolves information gaps, reduces risk perception, and ultimately influences investment decision-making, with market uncertainty moderating the effectiveness of this disclosure mechanism.

Research Gap

Despite substantial empirical progress in understanding ESG disclosure and investment behavior, significant theoretical and empirical gaps remain inadequately addressed in existing literature. Prior studies have predominantly examined direct linear relationships between ESG disclosure and investment outcomes, neglecting the mediating psychological mechanisms through which disclosure influences investor behavior. Furthermore, the moderating role of market uncertainty as a boundary condition shaping the ESG disclosure and investment pathway remains insufficiently explored. Empirical evidence from Indian capital markets, characterized by unique regulatory environments and evolving disclosure maturity, remains considerably limited. This study addresses these gaps by proposing an integrated mediated-moderation framework incorporating risk perception and market uncertainty within the Indian financial context.

Objective

- To examine the effect of ESG disclosure on investment decision-making.
- To analyze the mediating role of Risk Perception on investment decision-making.
- To examine the moderating role of market uncertainty between ESG disclosure and risk perception.
- To propose practical implications for regulators, investors, and firms to improve the quality, consistency, and financial relevance of ESG disclosure in Investment Decision Making.

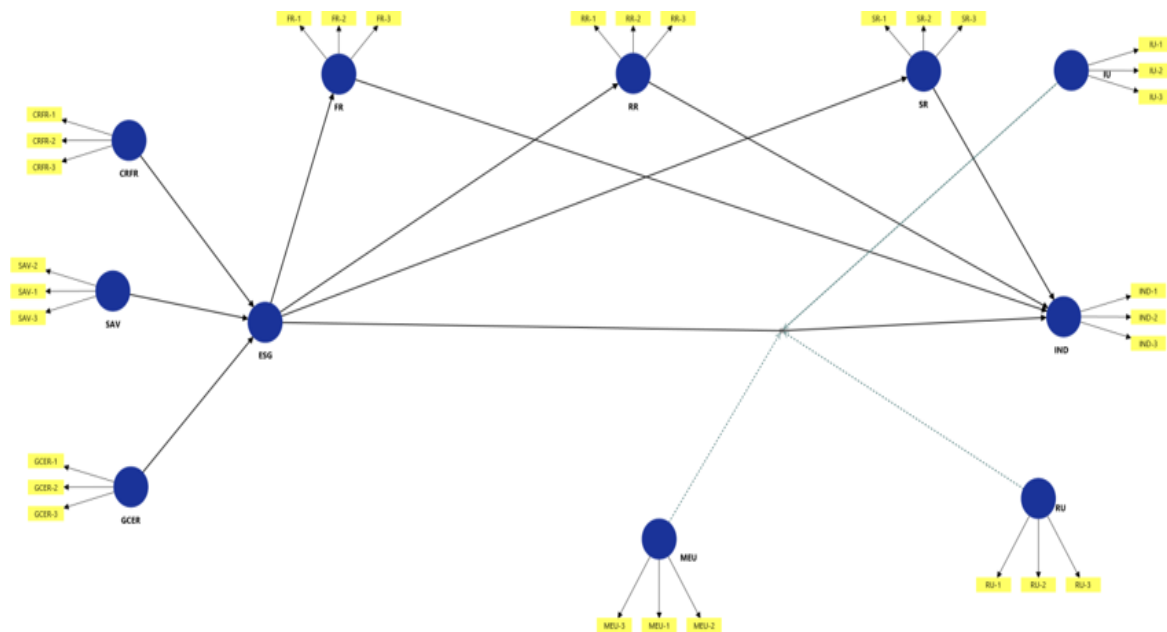
Hypotheses

H1 ESG disclosure has significant effect on the investment decision-making

H2 Risk Perception has significant mediates the relationship between ESG disclosure and investment decision making

H3 Market uncertainty significantly moderates the relationship between ESG disclosure and investment decision making

Hypothetical Model



Research Methodology

Area of Study The responded are the institutional (i.e. professional fund managers) and retail investors (i.e. individual decision makers) of India.

Sample Size 340 (Where as 318 responses received)

Research Design Cross Sectional Study

Data Collection Primary data were collected from institutional (i.e. professional fund managers) and retail investors (i.e. individual decision makers) with the help of structured questionnaire. Secondary Data were collected from various sources like (journals, thesis etc.)

Sampling Technique Convenience Techniques

Data Analysis

Measurement Model Assessment

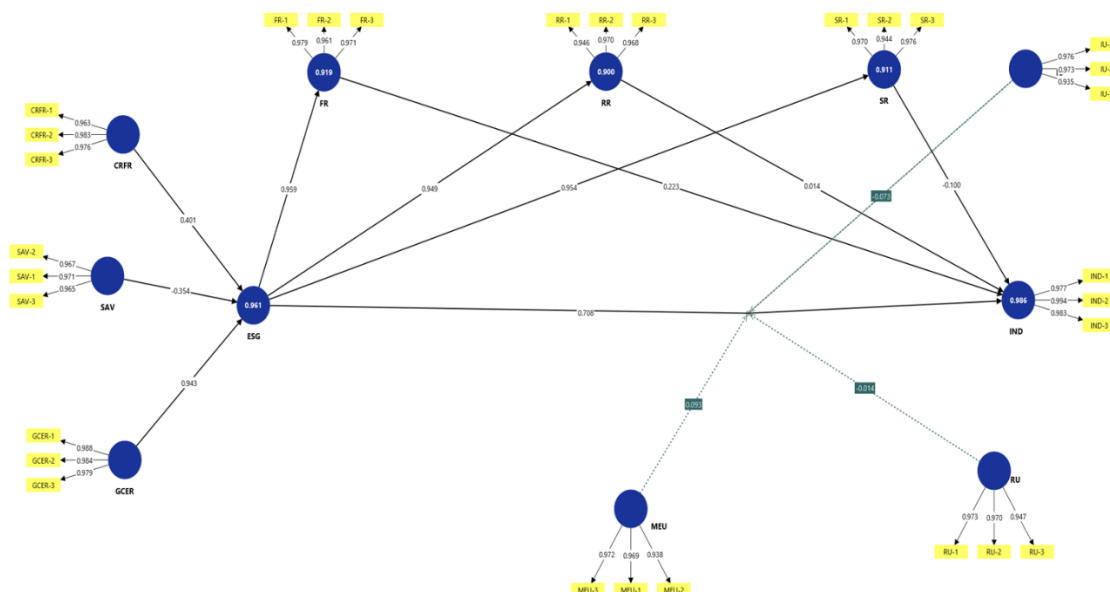
Reliability Analysis (Construct Reliability)

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
CRFR	0.973	0.975	0.982	0.949
FR	0.969	0.969	0.980	0.941
GCER	0.983	0.983	0.989	0.968
IND	0.984	0.984	0.990	0.969
IU	0.959	0.960	0.973	0.924
MEU	0.957	0.959	0.972	0.921
RR	0.959	0.959	0.974	0.925
RU	0.961	0.962	0.975	0.928
SAV	0.966	0.966	0.978	0.936
SR	0.961	0.962	0.975	0.928

Discriminant Validity

	CRF R	ESG	FR	GCE R	IND	IU	ME U	RR	RU	SAV	SR	RU x ESG	IU x ESG	ME U x ESG
CRF R														
ESG	0.754													
FR	0.700	0.77 4												
GCE R	0.759	0.78 4	0.79 7											
IND	0.772	0.79 4	0.69 9	0.698										
IU	0.781	0.76 3	0.70 5	0.704	0.70 9									
MEU	0.715	0.76 5	0.69 9	0.769	0.77 5	0.70 9								
RR	0.710	0.76 9	0.71 7	0.795	0.70 2	0.72 5	0.72 1							
RU	0.774	0.76 9	0.70 9	0.703	0.70 9	0.72 0	0.70 8	0.71 1						
SAV	0.701	0.70 6	0.72 7	0.705	0.70 4	0.71 1	0.70 9	0.72 1	0.70 8					
SR	0.787	0.77 4	0.71 3	0.708	0.70 8	0.73 4	0.70 6	0.72 4	0.72 5	0.71 7				
RU x ESG	0.751	0.77 4	0.71 2	0.717	0.69 9	0.72 1	0.70 9	0.72 1	0.73 8	0.69 9	0.72 9			
IU x ESG	0.779	0.79 5	0.73 8	0.745	0.72 3	0.78 1	0.72 3	0.75 3	0.75 4	0.72 7	0.75 8	0.78 8		
MEU x ESG	0.770	0.71 5	0.71 8	0.739	0.72 2	0.75 9	0.73 0	0.73 6	0.73 3	0.70 2	0.73 7	0.78 1	0.78 0	

Hypothetical Model



The measurement model was assessed using outer loadings, Cronbach's alpha, composite reliability (ρ_A and ρ_C), and Average Variance Extracted (AVE). All constructs demonstrated excellent reliability, with Cronbach's alpha values ranging from 0.957 to 0.984, composite reliability from 0.972 to 0.990, and AVE from 0.921 to 0.969. The outer loadings ranged from 0.935 to 0.994, confirming satisfactory indicator reliability and convergent validity.

Hypotheses Testing

Hypothesis-1

H2a Financial Risk Perception has significant mediates the relationship between ESG disclosure and investment decision making

H2b Reputational Risk Perception has significant mediates the relationship between ESG disclosure and investment decision making

H2c Systematic Risk Perception has significant mediates the relationship between ESG disclosure and investment decision making

H₁ ESG disclosure has significant effect on the investment decision-making

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Result
ESG → IND	0.708	0.727	0.101	6.993	0	H ₁ Accepted
	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Result
ESG → FR → IND	0.214	0.202	0.081	2.639	0.008	H _{2a}
						Accepted
ESG → RU → IND	0.013	0.015	0.081	0.16	0.873	H _{2b}
						Not Accepted

RR - > IND							
ESG -> SR - > IND	-0.095	-0.118	0.15	0.632	0.528	H_{2c}	
						Not Accepted	
		Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Result
	MEU x ESG -> IND	0.093	0.105	0.089	1.045	0.296	H_{3a}
							Not Accepted
	RU x ESG -> IND	-0.014	-0.01	0.077	0.177	0.86	H_{3b}
							Not Accepted
	IU x ESG -> IND	-0.073	-0.089	0.062	1.19	0.234	H_{3c}
							Not Accepted

H3a Macroeconomic uncertainty significantly moderates the relationship between ESG disclosure and investment decision making

H3b Regulatory uncertainty significantly moderates the relationship between ESG disclosure and investment decision making

H3c Information uncertainty significantly moderates the relationship between ESG disclosure and investment decision making

Hypotheses Summary

Hypothesis	Relationship	β	T-value	p-value	Decision
H1	ESG → IND	0.708	6.993	0.000	Accepted
H2a	ESG → FR → IND	0.214	2.639	0.008	Accepted
H2b	ESG → RR → IND	0.013	0.160	0.873	Not Accepted
H2c	ESG → SR → IND	-0.095	0.632	0.528	Not Accepted
H3a	MEU × ESG → IND	0.093	1.045	0.296	Not Accepted
H3b	RU × ESG → IND	-0.014	0.177	0.860	Not Accepted
H3c	IU × ESG → IND	-0.073	1.190	0.234	Not Accepted

The results show that ESG disclosure has a significant positive effect on investment decision-making ($\beta = 0.708$, $T = 6.993$, $p < 0.001$), supporting H1. Financial risk perception significantly mediates the relationship between ESG disclosure and investment decision-making ($\beta = 0.214$, $T = 2.639$, $p = 0.008$), supporting H2a. However, reputational risk perception ($\beta = 0.013$, $p = 0.873$) and systematic risk perception ($\beta = -0.095$, $p = 0.528$) do not show significant mediation. The moderation results further indicate that macroeconomic uncertainty ($\beta = 0.093$, $p = 0.296$), regulatory uncertainty ($\beta = -0.014$, $p = 0.860$), and information uncertainty ($\beta = -0.073$, $p = 0.234$)

do not significantly moderate the ESG disclosure–investment decision relationship. Thus, H3a, H3b, and H3c are not supported

R-Square

	R-square	R-square adjusted
ESG	0.961	0.961
FR	0.919	0.919
IND	0.986	0.985
RR	0.900	0.900
SR	0.911	0.911

The model demonstrates strong explanatory power. The R^2 for investment decision-making is 0.986 (Adjusted $R^2 = 0.985$), indicating that 98.6% of the variance in investment decision-making is explained by the model. R^2 values for financial, reputational, and systematic risk perception are 0.919, 0.900, and 0.911, respectively.

Findings & Suggestions

The study examines the relationship between ESG disclosure and investment decision-making, with risk perception as a mediating variable and market uncertainty as a moderating variable. The findings indicate that ESG disclosure has a strong and significant positive effect on investment decision-making ($\beta = 0.708$, $T = 6.993$, $p < 0.001$), supporting H1. This suggests that transparent and relevant ESG information increases investors' confidence and positively influences their investment choices. Among the three dimensions of risk perception, only financial risk perception significantly mediates the relationship between ESG disclosure and investment decision-making ($\beta = 0.214$, $p = 0.008$), supporting H2a. In contrast, reputational risk perception ($\beta = 0.013$, $p = 0.873$) and systematic risk perception ($\beta = -0.095$, $p = 0.528$) do not have significant mediating effects. Similarly, the moderating effects of macroeconomic uncertainty, regulatory uncertainty, and information uncertainty are statistically insignificant, resulting in the rejection of H3a, H3b, and H3c. The model also demonstrates strong explanatory power, with an R^2 of 0.986 for investment decision-making, indicating that the model explains 98.6% of the variance in investment decisions.

Based on the findings, companies should focus on improving the quality, transparency, consistency, and financial relevance of ESG disclosures. Since financial risk perception is the significant mediating mechanism, firms should provide clear and measurable information regarding climate-related financial risks, regulatory exposure, green investment, and other financially material ESG issues. Regulatory authorities should strengthen and standardize ESG reporting requirements to improve comparability and reduce greenwashing. Institutional investors and fund managers should adopt broader ESG assessment frameworks that consider financial, reputational, and systematic risks. Retail investors should also be provided with simplified ESG information and financial-literacy programmes to improve their understanding of ESG disclosures. Greater consistency and transparency in ESG ratings can further strengthen investor confidence and market efficiency.

Limitations & Conclusion

The study has certain limitations that should be considered while interpreting its findings. First, the study uses convenience sampling with 318 respondents, which may limit the generalizability of the results to the wider Indian investor population. Second, the cross-sectional research design captures investor perceptions at a particular point in time and therefore cannot explain changes in investment behaviour over different periods. Third, the use of self-reported questionnaire data may create response or social-desirability bias. The study also does not include behavioural factors such as investor sentiment, overconfidence, and herding behaviour, which may influence investment decisions. Finally, ESG disclosure is measured through investor perceptions rather than objective third-party ESG ratings, which may limit the assessment of actual ESG reporting quality.

The study concludes that ESG disclosure is an important factor influencing investment decision-making in the Indian financial market. The strong positive relationship between ESG disclosure and investment decisions demonstrates the growing importance of sustainability-related information for investors. The findings further establish that financial risk perception is the only significant mediating mechanism, indicating that investors particularly focus on the financial implications of ESG-related information. However, reputational and systematic risk perceptions do not significantly mediate the relationship, and market uncertainty does not significantly moderate it. The high R^2 value of 0.986 further confirms the strong explanatory power of the proposed model. Overall, the study highlights the need for transparent, standardized, reliable, and financially relevant ESG disclosure to strengthen investor confidence, reduce information gaps, and support informed and sustainable investment decisions in India.

References:

- [1] Akerlof, G. A. (1970). The market for "lemons": Quality uncertainty and the market mechanism. *Quarterly Journal of Economics*, 84(3), 488–500.
- [2] Baker, S. R., Bloom, N., & Davis, S. J. (2016). Measuring economic policy uncertainty. *Quarterly Journal of Economics*, 131(4), 1593–1636.
- [3] Berg, F., Kölbel, J. F., & Rigobon, R. (2022). Aggregate confusion: The divergence of ESG ratings. *Review of Finance*, 26(6), 1315–1344.
- [4] Bolton, P., & Kacperczyk, M. (2021). Do investors care about carbon risk? *Journal of Financial Economics*, 142(2), 517–549.
- [5] Broadstock, D. C., Chan, K., Cheng, L. T. W., & Wang, X. (2021). The role of ESG performance during times of financial crisis: Evidence from COVID-19 in China. *Finance Research Letters*, 38, 101716.
- [6] Carbon Tracker Initiative. (2011). Unburnable carbon: Are the world's financial markets carrying a carbon bubble? Carbon Tracker Initiative.
- [7] Cheng, B., Ioannou, I., & Serafeim, G. (2014). Corporate social responsibility and access to finance. *Strategic Management Journal*, 35(1), 1–23.
- [8] Christensen, D. M., Serafeim, G., & Sikochi, A. (2022). Why is corporate virtue in the eye of the beholder? The case of ESG ratings. *Accounting Review*, 97(1), 147–175.
- [9] Delis, M. D., de Greiff, K., & Ongena, S. (2019). Being stranded with fossil fuel reserves? Climate policy risk and the pricing of bank loans. *Swiss Finance Institute Research Paper No. 18-10*.
- [10] Drobetz, W., El Ghoul, S., Guedhami, O., & Janzen, M. (2021). Policy uncertainty, investment, and the cost of capital. *Journal of Financial Stability*, 53, 100818.
- [11] Dyck, A., Lins, K. V., Roth, L., & Wagner, H. F. (2019). Do institutional investors drive corporate social responsibility? International evidence. *Journal of Financial Economics*, 131(3), 693–714.
- [12] Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management Science*, 60(11), 2835–2857.
- [13] Flammer, C. (2015). Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach. *Management Science*, 61(11), 2549–2568.
- [14] Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment*, 5(4), 210–233.
- [15] Hartzmark, S. M., & Sussman, A. B. (2019). Do investors value sustainability? A natural experiment examining ranking and fund flows. *Journal of Finance*, 74(6), 2789–2837.
- [16] Hsu, P. H., Li, K., & Tsou, C. Y. (2023). The pollution premium. *Journal of Finance*, 78(3), 1343–1392.
- [17] Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263–291.
- [18] Karpoff, J. M., Lee, D. S., & Martin, G. S. (2008). The cost to firms of cooking the books. *Journal of Financial and Quantitative Analysis*, 43(3), 581–611.
- [19] Krüger, P. (2015). Corporate goodness and shareholder wealth. *Journal of Financial Economics*, 115(2), 304–329.

- [20] Krueger, P., Sautner, Z., & Starks, L. T. (2020). The importance of climate risks for institutional investors. *Review of Financial Studies*, 33(3), 1067–1111.
- [21] McGlade, C., & Ekins, P. (2015). The geographical distribution of fossil fuels unused when limiting global warming to 2°C. *Nature*, 517(7533), 187–190.
- [22] Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187–221.
- [23] Nofsinger, J., & Varma, A. (2014). Socially responsible funds and market crises. *Journal of Banking & Finance*, 48, 180–193.
- [24] Pedersen, L. H., Fitzgibbons, S., & Pomorski, L. (2021). Responsible investing: The ESG-efficient frontier. *Journal of Financial Economics*, 142(2), 572–597.
- [25] Sahay, A., & Thakur, M. (2019). ESG disclosure and cost of equity capital: Evidence from India. *Indian Journal of Finance*, 13(4), 7–20.
- [26] Sautner, Z., Van Lent, L., Vilkov, G., & Zhang, R. (2023). Firm-level climate change exposure. *Journal of Finance*, 78(3), 1449–1498.
- [27] Spence, M. (1973). Job market signaling. *Quarterly Journal of Economics*, 87(3), 355–374.