

Investor Perception and Awareness of Green Bonds in Vadodara

A Research Study Based on Primary Survey Data from Vadodara District

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Abstract

The increasing global emphasis on sustainable development has positioned green bonds as a vital financial instrument for funding environmentally responsible projects. In India, despite significant growth in the green bond market since its inception in 2015, retail investor participation remains limited. This study investigates the level of awareness, perception, and investment behaviour of individuals toward green bonds, with a specific focus on the Vadodara region.

A descriptive research design was employed, and primary data were collected through a structured questionnaire from 565 respondents, comprising postgraduate students, young professionals, and early-stage investors. The study utilizes quantitative techniques, including frequency and percentage analysis, to evaluate awareness levels, knowledge intensity, perception of risk and return, and key determinants influencing investment decisions.

The results indicate that while 54.3% of respondents are aware of green bonds, their level of understanding remains moderate. Despite limited knowledge, most respondents exhibit a positive perception toward green bonds, particularly regarding their contribution to environmental sustainability and climate change mitigation. However, actual investment participation is low, primarily due to factors such as lack of detailed information, concerns about transparency and credibility, perceived risk-return uncertainty, and limited accessibility for retail investors.

Keywords

Green Bonds; Sustainable Finance; Investor Awareness; Investment Behavior; ESG Investing; India; Retail Investors; Climate Finance

1. Introduction

In the 21st century, the challenges of climate change, environmental degradation, and resource depletion have become increasingly prominent across the globe. Rapid industrialization and economic expansion, while contributing to growth, have also intensified environmental concerns such as rising carbon emissions, pollution, and loss of biodiversity. As a result, there is a growing consensus that economic development must be aligned with environmental sustainability. This shift has led to the emergence of sustainable finance, which aims to integrate environmental, social, and governance (ESG) considerations into financial decision-making.

Among the various instruments of sustainable finance, green bonds have gained significant attention as an effective mechanism for raising capital dedicated to environmentally friendly projects. These projects typically include renewable energy development, clean transportation, energy efficiency, waste management, and climate adaptation initiatives.

Since their introduction in the global market in 2007, green bonds have witnessed substantial growth, evolving into a key tool for governments, corporations, and financial institutions to finance sustainable development.

In the Indian context, the green bond market has shown steady progress since the first issuance in 2015. Supported by regulatory frameworks and government initiatives, including the introduction of sovereign green bonds, India has emerged as one of the leading developing economies in promoting green finance. Despite these advancements, the participation of retail investors in green bond investments remains relatively low. While institutional investors have increasingly embraced sustainable investment strategies, individual investors often lack awareness, understanding, and confidence in such financial instruments.

One of the major challenges hindering the growth of green bonds in India is the gap between investor awareness and actual investment behaviour. Many potential investors are either unaware of green bonds or have limited knowledge about their features, benefits, and risks. Additionally, concerns related to transparency, return expectations, and credibility of green projects further influence investor decision-making. Understanding these behavioural and perceptual factors is essential for expanding the reach of green bonds and ensuring inclusive participation in sustainable finance.

Against this backdrop, the present study aims to examine investor perception and awareness of green bonds, with a particular focus on individuals in the Vadodara region. The study seeks to analyze the level of awareness, evaluate perceptions regarding risk, return, and trust, and identify the key factors that influence investment decisions. By exploring these aspects, the research intends to provide valuable insights for policymakers, financial institutions, and educators to design effective strategies that enhance investor participation.

2. Literature Review

The concept of green bonds has gained significant attention in recent years as part of the broader framework of sustainable finance. With increasing global concerns over climate change and environmental degradation, financial markets have evolved to support environmentally responsible investments. This section reviews existing literature on green bonds, focusing on global developments, the Indian context, and key themes such as investor awareness, perception, and market challenges.

Global Perspective on Green Bonds

The global green bond market has experienced rapid expansion since its inception in 2007, when multilateral institutions such as the World Bank and the European Investment Bank introduced the first green bond instruments. According to reports by the Climate Bonds Initiative (2023), global green bond issuance has surpassed USD 1.5 trillion by 2024, reflecting a strong shift toward sustainable investment practices.

Green Bonds in the Indian Context

In India, the green bond market is still in a developing stage but has shown consistent growth since the first issuance by Yes Bank in 2015. Regulatory bodies such as the Securities and Exchange Board of India (SEBI) have introduced guidelines to standardize green bond issuance and improve transparency. According to SEBI reports (2023), India's cumulative green bond issuance reached approximately USD 30 billion by 2024, with major investments directed toward renewable energy and infrastructure projects.

Investor Awareness and Perception

A recurring theme in the literature is the gap between investor awareness and actual participation in green bond markets. Studies consistently show that while investors generally have a positive attitude toward environmentally sustainable investments, their level of knowledge remains limited. This lack of understanding often leads to hesitation in investment decisions.

3. Research Gap

Although existing literature provides valuable insights into the financial and regulatory aspects of green bonds, there is limited research focusing on the behavioural dimension of investors, particularly in the Indian context. Most studies emphasize market growth, pricing, and institutional participation, while relatively few explore the awareness, perception, and decision-making processes of retail investors.

Furthermore, region-specific studies examining investor behaviour at a micro level are scarce. Understanding how individuals perceive green bonds, what motivates them, and what barriers they face is essential for developing effective strategies to promote sustainable finance.

4. Objectives of the Study

The primary objective of this study is to examine the level of investor awareness and perception regarding green bonds in India, with a specific focus on retail investors and young individuals. The study seeks to understand how investors perceive green bonds as a financial instrument and identify the key factors influencing their investment decisions.

The specific objectives of the study are as follows:

- 1) **To assess the level of awareness** among investors regarding green bonds and their key features in the Indian financial market.
- 2) **To evaluate investor perception** toward green bonds in terms of risk, return, trust, and environmental impact.
- 3) **To analyse the level of knowledge and understanding** of green bonds among different demographic groups, such as students, professionals, and young investors.
- 4) **To identify the key factors influencing investment decisions**, including motivations such as sustainability concerns, financial returns, and ethical considerations.
- 5) **To examine the barriers and challenges** that prevent investors from participating in green bond investments, such as lack of information, limited accessibility, and concerns about transparency.
- 6) **To study the relationship** between investor awareness and willingness to invest in green bonds.
- 7) **To provide suggestions and recommendations** for policymakers, financial institutions, and educators to improve awareness, trust, and participation in the green bond market.

5. Research Methodology

A systematic research methodology is essential to ensure the accuracy, reliability, and validity of the findings. This study adopts a structured approach to examine investor awareness and perception of green bonds in India.

5.1 Research Design

The study is based on a descriptive research design, which is appropriate for analysing and interpreting the current level of awareness, perception, and behaviour of investors toward green bonds. This design helps in identifying patterns, opinions, and relationships without manipulating any variables.

5.2 Nature of the Study

The research is primarily quantitative in nature, as it involves the collection and analysis of numerical data through structured responses. However, certain qualitative interpretations are also incorporated to better understand the attitudes and opinions of respondents. Thus, the study follows a mixed descriptive-analytical approach.

5.3 Sources of Data

The study is mainly based on primary data, supported by relevant secondary data:

Primary Data: Collected directly from respondents through a structured questionnaire designed using Google Forms.

Secondary Data: Collected from reports of regulatory bodies (such as SEBI and RBI), research papers, academic journals, and publications related to green bonds and sustainable finance.

5.4 Data Collection Method

Data was collected using a structured questionnaire consisting of close-ended questions, including multiple-choice and Likert scale items. The questionnaire was divided into sections covering:

5.5 Demographic profile

Awareness and knowledge of green bonds Perception regarding risk, return, and trust Investment behavior and willingness to invest

The questionnaire was pre-tested to ensure clarity, reliability, and relevance before final distribution.

5.6 Population of the Study

The target population for the study includes individuals residing in the Vadodara region who fall into the following categories:

1. Postgraduate students in commerce, finance, or management
2. Young investors and working professionals
3. Individuals interested in financial markets and sustainable investments

5.7 Sampling Technique

The study uses a non-probability convenience sampling method, where respondents were selected based on their accessibility and willingness to participate. This method is suitable for exploratory and perception-based studies with time and resource constraints

5.8 Sample Size

A total of 565 valid responses were collected and analysed. The sample primarily consists of young, educated individuals, including students and early-career professionals.

5.9 Data Collection Instrument

The primary instrument used for data collection was a self-administered questionnaire. It included:

Nominal scale questions for demographic information

Ordinal (Likert scale) questions for measuring perception and opinions Multiple-choice questions to assess awareness and preferences

The questionnaire was designed to be simple, concise, and user-friendly to ensure accurate responses.

5.10 Limitations of the Study

The study is geographically limited to Vadodara and may not represent the entire Indian population.

The use of convenience sampling restricts the generalizability of the findings.

A large proportion of respondents are students, which may influence the results. Responses are based on self-reported data and may include bias or limited understanding.

6. Data Analysis and Interpretation

This section presents the analysis and interpretation of primary data collected through a structured questionnaire administered to 565 respondents in the Vadodara region. The objective of the analysis is to examine the demographic profile, level of awareness, perception, and investment behaviour of individuals toward green bonds. The data has been analysed using simple statistical tools such as frequency distribution and percentage analysis to identify patterns and trends.

Demographic Profile of Respondents

The demographic analysis reveals that the majority of respondents (82%) belong to the age group of 21–30 years, indicating a strong representation of young individuals and early-stage investors. Approximately 17.3% fall within the 31–40 age group, while respondents below 20 years constitute a negligible proportion. This suggests that the study primarily reflects the perspectives of young adults.

In terms of gender distribution, 71% of respondents are male and 29% are female. Although male participation is higher, the presence of female respondents indicates increasing financial awareness and involvement among women.

Regarding educational qualifications, a significant proportion (73.5%) of respondents are postgraduates, while 21.1% hold professional degrees. This indicates that the sample is largely composed of well-educated individuals with exposure to financial concepts.

Occupational analysis shows that 64.2% of respondents are students, followed by 15.8% working in the private sector. The remaining respondents include entrepreneurs, government employees, and others. This highlights that the study largely represents young and aspiring investors.

In terms of income, 57.7% of respondents fall in the below ₹5 lakh category, while 33.8% earn between ₹5–10 lakh annually. This reflects that many respondents are either students or early-career professionals with limited investment capacity.

Awareness of Green Bonds

The findings indicate that 54.3% of respondents are aware of green bonds, while 37.3% have no prior knowledge, and 8.3% are uncertain. This suggests a moderate level of awareness among the sample population. Although more than half of the respondents have heard of green bonds, a substantial proportion remains unaware, indicating the need for greater awareness initiatives.

The primary sources of awareness include academic courses, friends or colleagues, and social media platforms. This highlights the important role of educational institutions and informal networks in spreading knowledge about sustainable financial instruments.

Knowledge Level of Respondents

Respondents were asked to rate their knowledge of green bonds on a scale of 1 to 5. The results show that most respondents rated their knowledge as moderate or good, while only a small percentage indicated very high knowledge levels. This implies that although basic awareness exists, in-depth understanding of green bonds is limited among investors.

Perception Toward Green Bonds

The analysis of perception indicates a generally positive attitude toward green bonds. A majority of respondents either agreed or strongly agreed that green bonds play an important role in addressing environmental challenges and promoting sustainability. This reflects increasing environmental consciousness among investors.

However, despite this positive perception, concerns regarding risk, return, and transparency persist. Many respondents are uncertain about the financial performance of green bonds and the credibility of the projects they fund.

Investment Behaviour and Willingness to Invest

The study reveals that actual investment in green bonds among respondents is relatively low. Most participants have not yet invested in green bonds, despite showing interest in sustainable investments.

However, a significant number of respondents expressed willingness to invest in the future, provided certain conditions

are met. These include:

- Availability of clear and reliable information
- Competitive financial returns
- Improved transparency in fund utilization
- Strong government support and regulatory framework

This indicates that awareness alone is not sufficient to drive investment; trust, accessibility, and financial incentives also play a crucial role.

Overall Interpretation

The overall analysis suggests that while awareness and positive perception toward green bonds are gradually increasing, actual participation remains limited. A gap exists between investor interest and investment action, primarily due to lack of detailed knowledge, limited promotion, and concerns about transparency and returns.

The findings highlight that young and educated individuals represent a key segment for the future growth of green bond investments. With appropriate measures such as financial education, improved disclosure practices, and policy support, investor participation in green bonds can be significantly enhanced.

7. Findings of the Study

Based on the analysis and interpretation of data collected from 565 respondents, the following key findings have been derived regarding investor awareness, perception, and behaviour toward green bonds in India:

- 1. Dominance of Young Respondents** The majority of respondents (82%) belong to the age group of 21–30 years, indicating that the study is largely representative of young investors, postgraduate students, and early-career professionals. This group shows a higher inclination toward learning about new and sustainable financial instruments.
- 2. Higher Male Participation with Growing Female Involvement** The study reveals that 71% of respondents are male and 29% are female. While male participation is higher, the presence of female respondents reflects increasing financial awareness and participation among women investors.
- 3. Strong Educational Background of Respondents** A significant proportion of respondents (73.5%) are postgraduates, and many others hold professional qualifications. Despite this high level of education, awareness and in-depth knowledge of green bonds are not universal.
- 4. Students as the Largest Respondent Group** Approximately 64.2% of respondents are students, indicating that young learners form a major segment of the study. This highlights the importance of educational institutions in promoting awareness of sustainable finance.
- 5. Moderate Level of Awareness About Green Bonds** Around 54.3% of respondents are aware of green bonds, while a substantial 37.3% are not aware of them. This indicates that although awareness is growing, a significant knowledge gap still exists among potential investors.
- 6. Limited Depth of Knowledge** Most respondents rated their knowledge of green bonds as moderate rather than high. This suggests that while individuals may have heard of green bonds, they lack detailed understanding of their structure, benefits, and investment process.
- 7. Positive Perception Toward Sustainable Investments** The majority of respondents expressed a positive attitude toward green bonds and agreed that they contribute to environmental sustainability and climate change mitigation. This reflects a growing interest in ESG and responsible investing.
- 8. Low Level of Actual Investment Participation** Despite positive perception, actual investment in green bonds remains low among respondents. Most individuals have not invested in such instruments, indicating a gap between awareness and action.

8. Conclusion

The present study aimed to examine the level of investor awareness, perception, and investment behaviour toward green bonds in India, with a specific focus on individuals in the Vadodara region. In the context of increasing environmental concerns and the growing importance of sustainable finance, green bonds have emerged as a significant financial instrument for supporting environmentally responsible projects.

The findings of the study indicate that while the green bond market in India has experienced steady growth, awareness among retail investors remains moderate. Although more than half of the respondents have heard of green bonds, their understanding is largely limited to a basic level. This suggests that there is a gap between general awareness and in-depth knowledge, which affects investment decisions.

The study also reveals that investors generally hold a positive perception toward green bonds, particularly in terms of their role in promoting environmental sustainability and addressing climate change. This positive attitude reflects a growing inclination toward responsible and ethical investing among young and educated individuals. However, despite this favourable perception, actual investment participation in green bonds remains low.

Several factors contribute to this gap between perception and action. These include lack of detailed and reliable information, limited promotional efforts, concerns regarding transparency and credibility of green projects, and uncertainty about financial returns.

Additionally, limited accessibility and absence of strong incentives further discourage retail investors from actively participating in the green bond market.

Despite these challenges, the study highlights strong future potential for green bonds in India. A significant number of respondents expressed willingness to invest in such instruments if issues related to awareness, transparency, and returns are addressed. This indicates that with appropriate measures, the green bond market can attract wider participation, especially from young and emerging investors.

In conclusion, the success and expansion of the green bond market in India depend not only on regulatory frameworks and institutional participation but also on improving investor awareness, trust, and accessibility. Strengthening financial literacy, enhancing transparency in fund utilization, and providing policy support and incentives can play a crucial role in bridging the gap between awareness and investment behaviour.

Overall, green bonds represent a promising pathway toward aligning financial growth with environmental sustainability. By encouraging greater investor participation, they can contribute significantly to achieving India's long-term climate goals and building a more sustainable and inclusive financial ecosystem.

9. References

- Climate Bonds Initiative. (2023). *Green bond market summary and global issuance report 2023–2024*. Retrieved from <https://www.climatebonds.net>
- Flammer, C. (2021). Corporate green bonds. *Journal of Financial Economics*, 142(2), 499–516.
- Gupta, R. (2023). Promoting green finance in India: Challenges and opportunities. *International Journal of Sustainable Finance*, 15(1), 45–60.
- Kaur, P., & Singh, S. (2022). Investor perception towards green bonds in India. *Journal of Financial Markets and Sustainability*, 10(2), 112–125.
- Organisation for Economic Co-operation and Development (OECD). (2020). *Green bonds: Mobilising the debt capital markets for a low-carbon transition*. OECD Publishing.

- Sahu, A., & Nair, R. (2021). Transparency and investor confidence in green bond markets. *Asian Journal of Finance & Accounting*, 13(1), 78–92.
- Securities and Exchange Board of India (SEBI). (2023). *Green bond guidelines and market developments in India*. Retrieved from <https://www.sebi.gov.in>
- Reserve Bank of India (RBI). (2023). *Report on currency and finance: Sustainable finance in India*. Retrieved from <https://www.rbi.org.in>
- Ministry of Finance, Government of India. (2023). *Sovereign green bonds framework and issuance report*. Retrieved from <https://www.indiabudget.gov.in>
- World Bank. (2022). *Green bonds: A key tool for climate finance*. Retrieved from <https://www.worldbank.org>
- International Finance Corporation (IFC). (2022). *Green bond handbook and emerging market trends*. Retrieved from <https://www.ifc.org>
- Asian Development Bank (ADB). (2021). *Green finance and investment opportunities in Asia*. Retrieved from <https://www.adb.org>