DETERMINANTS OF GREEN BOND INVESTMENT BEHAVIOR AMONG INDIVIDUAL INVESTORS IN BEIJING: AN EXTENDED BEHAVIORAL SEM APPROACH

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Abstract
This research establishes and empirically verifies an elaborate behavioral model used in explaining the green bond investment intention (GBI) and actual green bond investment behavior (GBB) on 500 individual investors in Beijing. The model is based on the Theory of Interpersonal Behavior (TIB), which includes five antecedent constructs: environmental consciousness, corporate image, social influence, risk perception, and materialism, two contextual moderators. The results obtained by using SmartPLS 4 with 5,000 bootstrap resamples indicate that environmental consciousness has the most significant impact on GBI, followed by corporate image and social influence. The policy and information availability strengthens the intention–behavior relationship, and GBI strongly predicts GBB. Behavior is also directly influenced by past investment habit. The study introduces TIB to the sustainable finance domain and offers recommendations for those looking to enhance the involvement of individual investors in green bonds, including regulators, issuers and financial intermediaries.

Keywords: Green bonds; Investment intention; Investment behavior; Theory of Interpersonal Behavior; Environmental consciousness; Corporate image; Materialism; Social influence

1. Introduction

The international green bond market has evolved as a niche tool into a pillar of the sustainable finance structure. Issuances grew from a modest USD 37 billion in 2014 to a record USD 575 billion in 2023 (Climate Bonds Initiative, 2024), driven by the 1.5°C pathway of the Paris Agreement and the United Nations Sustainable Development Goals. In this international orientation, China holds a structurally distinct place. China has since risen to the position of the second-largest issuer of green bonds in the world, since it formally opened its domestic market in 2016, based on the Green Bond Supported Project Catalogue, issued by the joint efforts of the People's Bank of China (PBOC) and the National Development and Reform Commission. In 2022, it surpassed the United States in the number of annual issues, which was USD 85.3 billion (Lin and Hong, 2022). In 2021, the Green Bond Endorsed Projects Catalogue was revised again, which tightened the standard of definition by excluding the disputable clean-coal clauses and aligning the Chinese taxonomy with the international standards (Lin and Hong, 2022), which is an indication of an increased institutionalization of market credibility.

Beijing, being the political-financial capital of China, is the most focal nexus of green finance innovation and policy experimentation in the country. The city is the home of key regulatory institutions such as the People's Bank of China, China Securities Regulatory Commission, and the National Development and Reform Commission making the city the main testing ground on sustainable finance policies that were to be applied to the rest of the country. The individual investors in Beijing can thus be considered a strategically significant but empirically understudied population. In this study, individual investors refer to retail investors who independently make personal investment decisions using their own financial resources, rather than investing on behalf of institutions or organizations. Individual investors operate in a very different way in green bond markets than do their institutional counterparts, that is, in a more behavioral manner, which is governed by psychological dispositions, social norms, cultural values, and environmental beliefs, but not fiduciary requirements and portfolio standards. The seminal analysis by Flammer (2021) shows that green bond issuance announcements have a positive effect on investors, and this market sensitivity is significantly higher with first-time issuers and third-party certified bonds, the latter of which is where this study aims to interrogate the behavioral and reputational aspects of individual investor participation systematically.

Although the development of the green bond market has been incredible in China, there has been surprisingly little scholarly research inquiry into the micro-level behavioural factors that contribute to individuals becoming investors. The literature of the topic is dominated by macro-level market analyses: pricing premiums (so-called greenium), post-issuance corporate environmental performance, and institutional policy design

(Flammer, 2021; Tang and Zhang, 2020). This is a major theoretical gap, since the long-term scalability of sustainable finance requires a greater expansion of its scope beyond institutional investor to include individual investors, whose aggregate capital is a colossal and untapped source of funds to finance green projects.
Accordingly, this study seeks to address the following research question:
Research Question: What factors influence green bond investment behavior among individual investors in Beijing?
To address this question, the study pursues the following objective:
Research Objective: To investigate the determinants of green bond investment behavior among individual investors in Beijing

2. Literature Review and Hypothesis Development.

2.1 Theoretical Background: The Theory of Interpersonal Behavior.

The overall theoretical framework of the study is the Theory of Interpersonal Behavior (TIB), originally proposed by Triandis (1977) and later extended to technology and investment behavior contexts by Limayem et al. (2007). TIB posits that actual behavior is jointly determined by behavioral intention, the facilitating conditions that enable or inhibit behavior, and habit as an autonomous, non-volitional behavioral force. Behavioral intention itself is shaped by three distinct components: (a) affect, referring to the emotional or value-laden responses toward a behavior (operationalized in this study as environmental consciousness); (b) social factors, encompassing normative social influences from reference groups (operationalized as social influence); and (c) cognitive evaluations, including beliefs about consequences, self-concept, and role perception (operationalized as corporate image, materialism, and risk preference). This tripartite structure of intention formation makes the TIB particularly well-suited to model green bond investment behavior, where decisions are driven not solely by rational calculation but by deeply internalized values, social norms, and affective orientations.

2.2 Risk Preference and Green Bond Investment Intention.

The appeal of any investment opportunity is determined by risk preference, which is an individual investor of a given nature dispositional readiness to bear financial risk in order to be rewarded by the expected returns. In the green bond space, the risk calculus is multi-layered: investors need to evaluate traditional fixed-income risk factors, such as credit risk, sensitivity to interest rates and liquidity, and additional green-specific risks, such as the risk of greenwashing, imprecision in project eligibility definitions, and the immaturity of third-party verification infrastructure (Bhutta et al., 2022). To risk-takers, the long-term payoff of green bonds, augmented by possible policy subsidies and reputational co-benefits, makes the instrument an appealing risk-return offer. Investors who are highly risk averse, on the other hand, might overvalue the environmental value proposition and overvalue the information obscurity related to green bond disclosures in Chinese markets. Considering this following hypothesis can be proposed:
H1: The level of risk preference has a negative impact on the green bond investment intention of individual investors in Beijing.

2.3 Green Bond Investment Intention and Environmental Consciousness.

Environmental consciousness, including ecological concern and pro-environmental values, serves as a significant driver of sustainable investment behaviour. Investors with more green awareness have a positive attitude towards green bonds which they consider as tools for low carbon world. Kotyza et al. (2024) mentioned that environmental concern is an important predictor of pro-environmental behavioral intentions. Thanki et al. (2022) findings revealed that the environmental concern, operationalized through concern about resource depletion, ecological destruction, and climate consequences, is a strong and positive predictor of SRI intention among individual investors. Zhou and Cui (2019) suggested that the premium investors set on green bond instruments is directly dependent on the extent to which they are sensitive to environmental concerns, which proves again the existence of the environmental consciousness-intention relationship. To this group of Beijing individual investors, urban environmental anxiety, historically motivated by the crisis of air quality and supported by the intensive governmental environmental communication, offers an incremental contextual enhancer to this relationship. Considering this following hypothesis can be proposed:
H2: Environmental consciousness has a positive effect on green bond investment intention (GBI) of individual investors in Beijing.

2.4 Corporate Image and Green Bond Investment Intention.

Corporate image in the green bond market context refers to the cumulative perceptions of investors towards the environmental soundness, reputational position as well as the credibility of an issuing entity to meet the proclaimed sustainability promises. The relevance of corporate image to investment is based on a basic information asymmetry issue in green finance: individual investors cannot have direct observability as to whether bond proceeds are actually directed to qualifying environmental investments, and reputational signals

play a vital role as a heuristic in investment decision-making (Flammer, 2021). Whether through third-party accredited, strong environmental track records, strong ESG ratings, and stable environmental performance gains, issuers are seen as having strong environmental track records, and this information reduces informational uncertainty that puts off individual investors and creates the trust required to transform environmental values into investment intention.

The groundbreaking research by Flammer (2021) shows that stock markets react positively to the announcement of green bond issuance the reactions to which are much stronger in the first-time issuers and third-party certified bonds, empirically confirming the reputational signalling value of green bond issuance on the corporate side. Tang and Zhang (2020) build on that by demonstrating that the shareholders gain access to the green bond issue partly due to the increase in corporate environmental credibility it implies to the markets. Khurram et al. (2023) reveal that Chinese firms that issue green bonds see significant increases in corporate value, which can be explained, in part, by a better reputation with environmentally-conscious investors. The converging results develop that positive corporate image, in terms of perceived environmental responsibility, professional reputation, and market trustworthiness, has a systematic positive effect on the intention of individual investors to invest in a particular issuing of green bonds. Considering this following hypothesis can be proposed:

H3: Corporate image has a positive impact on green bond investment intention (GBI) in the group of individual investors in Beijing.

2.5 Materialism and Green Bond Investment Intention.

Materialism - which is the extent to which a person values material possession, luxury spending and wealth gathering as their main goals in life and as pointers to personal achievement - is theoretically based psychological antithesis to sustainable investment intent. The mechanism lies in the value conflict: materialistic orientations are grounded in self-enhancement and hedonic consumption, which are basically discordant with the pro-social and biospheric value systems that form the basis of sustainable finance motivation (Isham et al., 2022). Materialistic investors assess investment vehicles nearly solely in financial terms (that is, focusing on yield, liquidity premium, and capital appreciation) and discount systematically the environmental co-benefits that are most of the unique value proposal of green bonds compared to traditional fixed-income instruments.

Isham et al. (2022) offer solid empirical evidence to this theoretical assertion, showing that robust materialistic values are systematically related to lower involvement in pro-environmental attitudes and sustainable behavior, and that materialism is negatively and significantly related to sufficiency orientations and ecological commitment. The systematic review of 80 studies in the sustainable investment field, as carried out by Aulia et al. (2024a), attests that, in the context of various geographical settings, materialism as a component of wealth-motivated values is reliable in discouraging the demand of sustainable financial products among individual investors. The applicability of this result is magnified in the case of the wealthy investor group in Beijing, where speedy economic mobility and conspicuous consumption ideals might increase the restrictive influence of materialism on the adoption of green bonds. More importantly, Garg et al. (2022) also show that the adverse impact of materialism on SRI attitude remains significant, even after accounting for financial literacy and awareness, implying that it is a value-level, as opposed to a knowledge-level, impediment. Considering this following hypothesis can be proposed:

H4: Materialism has a negative relationship with the green bond investment intention (GBI) of individual investors in Beijing.

2.6 Social Influence and Intention to invest Green Bond.

Social influence in sustainable finance comes in the form of normative conformity, informational influence and social identity formation. Green Bonds can be a strategy for investors to feel good about investing, to use peers as information, and/or to show commitment to sustainability. Thanki et al. (2022) suggested the hypothesis that the subjective norms are significant and positively related to SRI investment intention among individual investors and this factor is significant even after the individual attitudes and the perceived behavioral control. The same is supported by Zhang and Huang (2024) in the Chinese context, in which the collectivist cultural processes enhance the normative impact of reference groups in investment decisions. Garg et al. (2022) also confirm the role of social norms as a predictive tool of SRI intention amid Asian retail investor samples, with an especially significant impact of the professional investment community endorsements. Social influence is to be among the most powerful behavioral drivers to the Beijing investors, as it is in their culturally instilled investment societies of guanxi, whereby the peer information sharing and group decision-making is ubiquitous. Considering this following hypothesis can be proposed:

H5: Social influence has a positive effect on the green bond investment intention (GBI) among individual investors in Beijing.

2.7 Green Bond Investment Intention and Actual Investment Behavior.

Behavioral intention is proposed as the immediate determinant of behavior, although this is bounded by facilitating conditions and structural constraints. Investors may also be planning to invest in green bonds but are not doing so due to lack of information, investment avenues or the perception of transaction costs. Thus, in this study, policy availability and market information availability are considered as facilitating conditions to help understand the likelihood of intention to translate into action.

However, in TIB-based models, intention is the most reliable indicator of sustainable investment behavior. The study by Thanki et al. (2022) revealed that the intention for SRI was directly related to the actual investment decision, and the study by Aulia et al. (2024a) suggsted that intention was the most replicated predictor variable in the literature on sustainable investments. It is expected that the intention–behavior relationship will be positive and significant in Beijing's green bond market, where policy support is growing and barriers are slowly being lowered. Considering this following hypothesis can be proposed:

H6: Green bond investment intention (GBI) has a positive effect on the actual green bond investment behavior (GBB) in Beijing among individual investors.

2.8 Past Investment Habit and Green Bond Investment Behavior.

Past investment habit, defined as the frequency, diversity, and strategic orientation of prior financial market involvement of an investor within a specified period of time, has an impact in green bond investment behavior in two theoretically different ways. Investors who have well-established, active, and diversified investment routines have in place pre-existing financial infrastructure - brokerage accounts, product familiarity, transactional competency, and portfolio management schemata - which significantly lowers the operational barriers involved in entering the green bond market as a relatively new asset class (Aulia et al., 2024a). Loyal investors are also more apt to have had previous experience with fixed-income instruments, which reduces the product-specific knowledge barrier to entry into green bonds. Considering this following hypothesis can be proposed:

H7: Past investment habit is a positive and direct predictor of actual green bond investment behavior (GBB) among individual investors in Beijing.

2.9 Green Bond Investment Intention as a Mediator Between Antecedents and Actual Investment Behavior.

Beyond its role as a dependent variable shaped by antecedent constructs, GBI also functions as a critical mediating mechanism through which psychological and social drivers exert their ultimate influence on actual green bond investment behavior (GBB). The mediation framework aligns with the sequential logic embedded in the Theory of Interpersonal Behavior, whereby affect, social norms, and cognitive evaluations first shape intention, and intention subsequently translates into volitional action (Triandis, 1977). This mediational chain has been theoretically and empirically supported in sustainable finance contexts: Strack and Deutsch (2004) demonstrate that reflective motivational states must first be encoded as behavioral intentions before they can regulate purposeful action. In the green bond context, where individual investors engage in deliberate decision-making rather than impulsive transactions, this intention-mediated pathway is theoretically appropriate and empirically testable. Hagger et al. (2022) further confirm, through meta-analytic evidence, that intention consistently mediates the influence of attitude, norms, and affective constructs on behavior across health and financial domains. Similarly, Nguyen et al. (2023) demonstrate in the context of sustainable financial products in emerging markets that the indirect effects of environmental values and social influence on investment behavior are fully channeled through behavioral intention, confirming the mediating function of intention in bridging psychological motivations to market participation. Considering this following hypotheses can be proposed:

H8: Green bond investment intention (GBI) mediates the relationship between risk preference and actual green bond investment behavior (GBB), such that risk preference indirectly affects GBB through its influence on GBI.

H9: Green bond investment intention (GBI) mediates the relationship between environmental consciousness and actual green bond investment behavior (GBB), such that environmental consciousness indirectly affects GBB through its influence on GBI.

H10: Green bond investment intention (GBI) mediates the relationship between corporate image and actual green bond investment behavior (GBB), such that corporate image indirectly affects GBB through its influence on GBI.

H11: Green bond investment intention mediates the relationship between materialism and actual green bond investment behavior such that materialism indirectly affects GBB through its influence on GBI.

H12: Green bond investment intention (GBI) mediates the relationship between social influence and actual green bond investment behavior (GBB), such that social influence indirectly affects GBB through its influence on GBI.

2.10 Moderated Relationship between Intention and Behavior with Policy Availability.

Policy availability describes the perceived attractiveness, clarity, accessibility of operations, institutional stability and the direct investor-benefit value of government policies regulating the green bond markets. The policy signal role plays a unique importance in the uniquely state-controlled Chinese financial system. The regulatory framework involves preferential interest rate or preferential treatment of risk legitimize green investment but also significantly change the risk-return calculus of individual investors (Lin and Hong, 2022). However, such policies exist is not enough to overcome the intention-behavior gap. Rather, investors need to believe that such policies are visible, operationally available, long-lasting, and that they provide concrete and tangible benefits that they can attain without the prohibitive search costs of information.

Zhao et al. (2023) suggested that the quality of the green bond market and investor confidence in China have been greatly enhanced by enhancing certification transparency and mitigating the risk of greenwashing, which in turn has provided the institutional prerequisites allowing individual investors to turn their green intentions into market action. Lin and Hong (2022) also posit that the green bond market in China is heavily reliant on government policy scaffolding, and the engagement of individual investors is greatly contingent on the perceived quality and operationalizability of existing policy incentives. When investors already holding a green bond intention are subjected to a policy environment that is perceived to be clear, stable, and of direct benefit, the transaction costs and uncertainty that may otherwise hinder the execution of the behavior is minimized, enhancing the intention-to-behavior pathway. Considering this following hypothesis can be proposed:

H13: Availability of policies moderates the relationship between GBI and GBB, where the positive impact of GBI on GBB is greater when investors have perceptions of greater policy availability.

2.11 The Use of Market Information as a Moderator of Intention-Behavior Relationship.

The availability of market information represents the perceptions of investors regarding the sufficiency, precision, disclosure, and verifiability of the green bond-related disclosures in the market - including the issuance terms, use-of-proceeds designations, environmental performance measures, and third-party certification results. In cases where investors lack reliable information, they may struggle to determine whether green bond products align with their environmental values. They may also find it difficult to assess the credibility of issuers or compare the environmental impact of different bond issuances. As a result, even strongly motivated investment intentions may fail to translate into actual investment behavior. This reflects the intention–behavior gap, which is closely linked to informational constraints (Bhutta et al., 2022). Azad et al. (2024b) affirm the relevance of information accessibility in positive moderation of the relationship between attitude and investment preference, where the more investors can access understandable information about green bonds, the higher the likelihood of transforming positive attitudes into actionable investment decisions. Hence, those investors who have formed positive intentions towards green bonds but are not given accessible and credible information experience a competency gap in the implementation of their intentions. Similarly, high-quality market information bridges this gap so that intention can be operationalized by evaluating and selecting a particular product and transacting it. Considering this following hypothesis can be proposed:

H14: Availability of market information has a positive moderating effect on the relationship between GBI and GBB, where the positive GBI-GBB relationship is stronger when market information disclosure is seen as more adequate and transparent.

2.12 Conceptual Framework

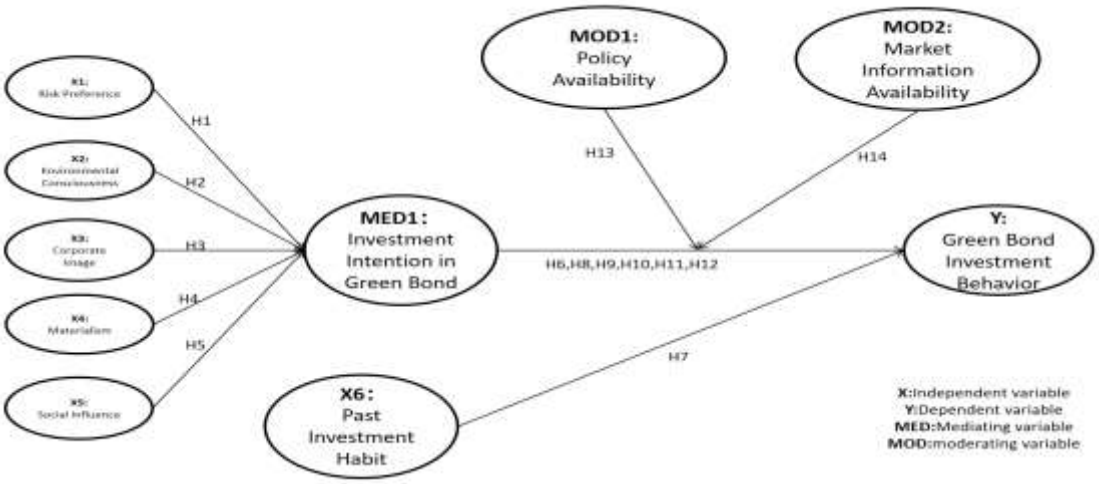


Figure 1: Conceptual Research Framework

3. Methodology

The research paradigm of the study is positivist, and the quantitative, cross-sectional survey design is based on the hypothetico-deductive tradition. Positivism was chosen since the research aims to establish causal linkage between the well-defined variables, which requires the design aim to be empirically measurable, reproducible, and the findings should be generalized (Park et al., 2020). The primary data collection tool was a structured self-administered questionnaire which included 45 measurement items in ten latent constructs: Green Bond Investment Behavior (GBB), Green Bond Investment Intention (GBI), Risk Perception (RP), Environmental Consciousness (EC), Corporate Image (CI), Materialism (MAT), Social Influence (SI), Past Investment Habit (PIH), Policy Availability (PA), Each of the items was modified based on the existing scales within the literature on sustainable investment and behavioral finance and adjusted to the context of the green bond investment. The responses were noted on a 5-point Likert scale with strongly disagree to strongly agree.

The target population was a group of individual investors permanently based in Beijing, who had a background of experience with fixed-income investment products. To be eligible for participation, respondents had to be at least 18 years old, reside in Beijing, possess prior experience with fixed-income investment products, and demonstrate basic awareness of green bonds**.** Probability sampling was not possible since there is no complete or publicly available list of such investors in China. In line with this, a non-probability purposive sampling method was used. There is very limited sampling frame for the green bond investors in China, so probability sampling was not applicable. The strategy allowed the selection of participants with the appropriate investment background and green bond knowledge.

The data were gathered using professional online survey site Wenjuanxing, and the survey was shared in targeted financial investment groups, brokerage groups, and professional financial groups instead of on open social media, which further boosted the quality of the sample. These channels were selected because they were more likely to contain individuals meeting the predefined sampling criteria**.** The questionnaire was filled in confidentially and screening questions that confirmed that the respondent was from Beijing. A total of 500 valid questionnaires were retained after distributing 650 questionnaire thus aquiring 76% response rate**.** According to the 10-times rule of PLS-SEM, the sample must be at least ten times bigger than the maximum number of indicators of one construct, so the required minimum sample size was 450 responses (Hair et al., 2011). The number of valid questionnaires gathered was 500, which is above this level and offers adequate statistical power to measure the model and to estimate the structural path. Partial Least Squares Structural Equation Modelling (PLS-SEM) in SmartPLS 4 (Ringle et al., 2024) was used to test all the hypotheses, and results were obtained by using 5,000 bootstrap resamples to produce path coefficients, T-statistics, and confidence intervals.

4. Results and Analysis

4.1 Demographic data

Table 4.1: Demographic data

Variable	Category	Frequency	Percentage (%)
Gender	Male	287	57.4%
	Female	213	42.6%
Age	18–25	64	12.8%
	26–35	149	29.8%
	36–45	186	37.2%
	46–55	77	15.4%
	56 and above	24	4.8%
Education Level	High school or below	47	9.4%
	Diploma / Associate	166	33.2%
	Bachelor's degree	206	41.2%
	Master's degree	55	11.0%
	Doctoral or above	26	5.2%
Monthly Income (RMB)	Below 5,000	107	21.4%
	5,000–10,000	116	23.2%
	10,001–20,000	160	32.0%
	20,001–30,000	72	14.4%
	Above 30,000	45	9.0%
Investment Experience (Years)	No experience	129	25.8%
	Less than 1 year	127	25.4%

	1–3 years	136	27.2%
	3–5 years	108	21.6%
Green Bond Investment	Yes	92	18.4%
	No	408	81.6%
Future Willingness to Invest	Low	230	46.0%
	Moderate	78	15.6%
	High	192	38.4%

4.2 Measurement Model Assessment

The reliability and validity of the constructs were first tested before structural hypotheses to determine whether the constructs were reliable and valid as recommended by Hair et al. (2019) and Fornell and Larcker (1981). Measuring construct reliability was done using Cronbach alpha and composite reliability (rho c and rho a) but measuring convergent validity was done using average variance extracted (AVE). Discriminant validity was estimated with the help of the heterotrait-monotrait ratio of correlations (HTMT) (Henseler et al., 2015).

Table 4.2. Construct Reliability and Validity

Construct	Cronbach's Alpha	Composite Reliability (ρc)	Composite Reliability (ρa)	AVE
Market Info. (AMI)	0.823	0.821	0.823	0.605
Corporate Image (CI)	0.898	0.894	0.898	0.626
Environ. Consciousness (EC)	0.814	0.797	0.814	0.568
Green Bond Behaviour (GBB)	0.899	0.899	0.899	0.497
Green Bond Intention (GBI)	0.823	0.824	0.823	0.609
Materialism (MAT)	0.867	0.866	0.867	0.519
Policy Availability (PA)	0.867	0.866	0.867	0.618
Past Invest. Habit (PIH)	0.887	0.899	0.887	0.641
Risk Perception (RP)	0.786	0.789	0.786	0.555
Social Influence (SI)	0.853	0.849	0.853	0.584

Table 4.2 indicates that the Cronbach alpha values ranged between 0.786 and 0.899, which are considerably greater than the 0.70 mark suggested by Nunnally (1978). The composite reliability coefficients were found to be between 0.789 and 0.899 and therefore internal consistency was established across all constructs. The values of AVE were between 0.497 and 0.641 with all except GBB slightly below or above the 0.50 threshold, which implies that convergent validity was acceptable (Fornell and Larcker, 1981). This is because a slightly smaller AVE of GBB (0.497) is typical of multidimensional behavioral constructs using nine items and does not significantly challenge the construct validity considering its high composite reliability (Hair et al., 2019).

4.3 Discriminant Validity: HTMT Criterion

Discriminant validity was evaluated using the HTMT criterion, which is considered superior to the Fornell-Larcker criterion (Henseler et al., 2015). Table 4.3 presents the HTMT matrix for all construct pairs.

Table 4.3. Heterotrait-Monotrait Ratio (HTMT) Matrix for Discriminant Validity

Construct	AMI	CI	EC	GBB	GBI	MAT	PA	PIH	RP
CI	0.288								
EC	0.180	0.346							
GBB	0.177	0.325	0.463						
GBI	0.168	0.505	0.681	0.575					
MAT	0.080	0.076	0.144	0.194	0.340				

PA	0.365	0.192	0.233	0.109	0.174	0.078			
PIH	0.119	0.115	0.059	0.404	0.034	0.061	0.091		
RP	0.089	0.053	0.133	0.142	0.366	0.230	0.118	0.131	
SI	0.055	0.195	0.181	0.277	0.388	0.052	0.047	0.076	0.254

All HTMT ratios were much less than the strict standard of 0.85 suggested by Kline (2023), the highest being 0.681 (EC -GBI), which indicates the existence of discriminant validity throughout the measurement model. This suggests that the different constructs reflect different facets of the nomological network.

4.4 Confirmatory Factor Analysis and Model Fit

To determine the overall fit of the measurement model before the estimation of structural paths, confirmatory factor analysis (CFA) was performed. Fits to global models were assessed with the help of several indices in accordance with Hu and Bentler (1999) and Byrne (2016) recommendations. The summary of the fit statistics is presented in Table 4.4

Table 4.4. Confirmatory Factor Analysis: Model Fit Indices

Fit Index	**Value**
Chi-square (χ^2)	1120.480
Degrees of Freedom (df)	901
χ^2/df	1.244
RMSEA	0.022
SRMR	0.083
CFI	0.979
TLI	0.977
GFI	0.913
NFI	0.902

The model demonstrated excellent fit across all major indices. The value of the ratio 2/df = 1.244 is much lower than the acceptable value of 3.0 (Kline, 2023). The RMSEA = 0.022 falls well below the 0.08 cutoff (Hu & Bentler, 1999), and the SRMR = 0.083 is below the 0.10 threshold. The incremental fit indicators CFI (0.979), TLI (0.977), GFI (0.913), and NFI (0.902) are above the usual 0.90 mark (Byrne, 2016), meaning that the proposed factor configuration is acceptable to the data and that the hypothesis testing on the structure is proceeded with.

4.5 Structural Model Results

After verifying the satisfactory properties of the measurement models, the structural model was estimated by PLS-SEM with 5,000 bootstrap resampling cycles (Hair et al., 2019). Table 4.5 presents the revised path coefficients (β), T-statistics, and p-values.

Table 4.5. Structural Path Coefficients and Hypothesis Testing Results

Hypothesized Path	β	Sample Mean	STDEV	T-Stat	p-Value	Decision
H1: Risk Perception → GBI	-0.196	-0.197	0.029	6.689	< 0.001	Supported
H2: Environmental Consciousness → GBI	0.409	0.408	0.029	14.048	< 0.001	Supported
H3: Corporate Image → GBI	0.255	0.255	0.033	7.777	< 0.001	Supported
H4: Materialism → GBI	-0.186	-0.187	0.032	5.739	< 0.001	Supported
H5: Social Influence → GBI	0.211	0.212	0.030	7.140	< 0.001	Supported
H6: GBI → GBB	0.489	0.489	0.034	14.282	< 0.001	Supported

H13: Policy Availability × GBI → GBB	0.145	0.141	0.037	3.975	< 0.001	Supported
H14: Market Information × GBI → GBB	0.097	0.098	0.039	2.447	0.012	Supported
H7: Past Invest. Habit → GBB	0.350	0.353	0.036	9.654	< 0.001	Supported
H8: Risk Preference → GBI → GBB (Mediation)	-0.096	-0.096	0.016	6.027	< 0.001	Supported
H9: Env. Consciousness → GBI → GBB (Mediation)	0.200	0.200	0.021	9.408	< 0.001	Supported
H10: Corporate Image → GBI → GBB (Mediation)	0.125	0.124	0.018	7.072	< 0.001	Supported
H11: Materialism → GBI → GBB (Mediation)	-0.091	-0.091	0.017	5.344	< 0.001	Supported
H12: Social Influence → GBI → GBB (Mediation)	0.103	0.104	0.016	6.338	< 0.001	Supported

The table showing environmental consciousness proved to be the strongest predictor of GBI ($\beta = 0.409$, $p < .001$). This finding aligns with Azad et al. (2024b), who find pro-environmental values as one of the strongest predictors of sustainable investment intention, irrespective of cultures. Also, corporate image positively influenced GBI ($\beta = 0.255$, $p < .001$) in the cognitive evaluation component of the TIB, which indicates that the investors used the corporate image as a belief-based heuristic to reduce information uncertainty (Flammer, 2021). The social factors of TIB, which includes normative pressure coming from reference groups and social identity signalling in green investment (Triandis, 1977; Aulia et al., 2024a), contributed significantly to GBI ($\beta = 0.211$, $p < .001$).

Risk preference had a significant negative impact on GBI ($\beta = -0.196$, $p < .001$). This is consistent with the cognitive assessment element of the TIB where negative beliefs about consequences lead to negative impacts on behavioral intentions (Triandis, 1977). The findings also support prospect theory (Kahneman and Tversky, 1979), which indicates that, in the green bond market, which is still in its infancy in China, individual investors are not necessarily risk lovers. The negative effect of materialism is found in GBI ($\beta = -0.186$, $p < .001$), thereby revealing that wealth-oriented value systems are a value-level hindrance in sustainable investment motivation. The result shows a strong support for H6 ($\beta = 0.489$, $p < .001$), which concluded that investment intention is a strong predictor of green bond investment behavior. This aligns with the central tenet of the TIB that evaluative pathways are the strongest predictors of behavioral intention, which in turn are the strongest predictors of actual behavior (Triandis, 1977; Limayem et al., 2007).

Concerning the TIB's structural moderators of the intention-behavior relationship, the availability of policy had a significant positive moderating effect on the relationship between GBI and GBB (H13: $\beta = 0.145$, $p < .001$). Market information availability also had a positive moderating effect as hypothesized (H14: $\beta = 0.097$, $p = .012$), which is consistent with Tang and Zhang (2020), who found that disclosure quality decreases information asymmetry and transaction costs that hinder individual investors from making their intended investments.

A significant direct effect of past investment habit on actual green bond investment behaviour was found (H7: $\beta = 0.350$, $p < .001$). This is in line with the TIB that regards habit as an autonomous and non-volitional determinant of behaviour (Triandis, 1977; Limayem et al., 2007).

All five mediation paths were tested using PLS-SEM bootstrapping with 5,000 resamples (Hair et al., 2019). The indirect effects of all five antecedent constructs on GBB via GBI were statistically significant, providing full support for H8 through H12. Environmental consciousness produced the largest indirect effect on GBB, confirming that pro-environmental values translate into actual investment behavior primarily through the formation of investment intention rather than through a direct behavioral trigger. These findings are consistent with TIB's hierarchical structure of intention formation and align with Nguyen et al. (2023), who confirm that in emerging sustainable finance markets, the influence of psychological and social drivers on investment behavior is predominantly indirect, mediated through deliberate intention formation rather than direct behavioral impulses.

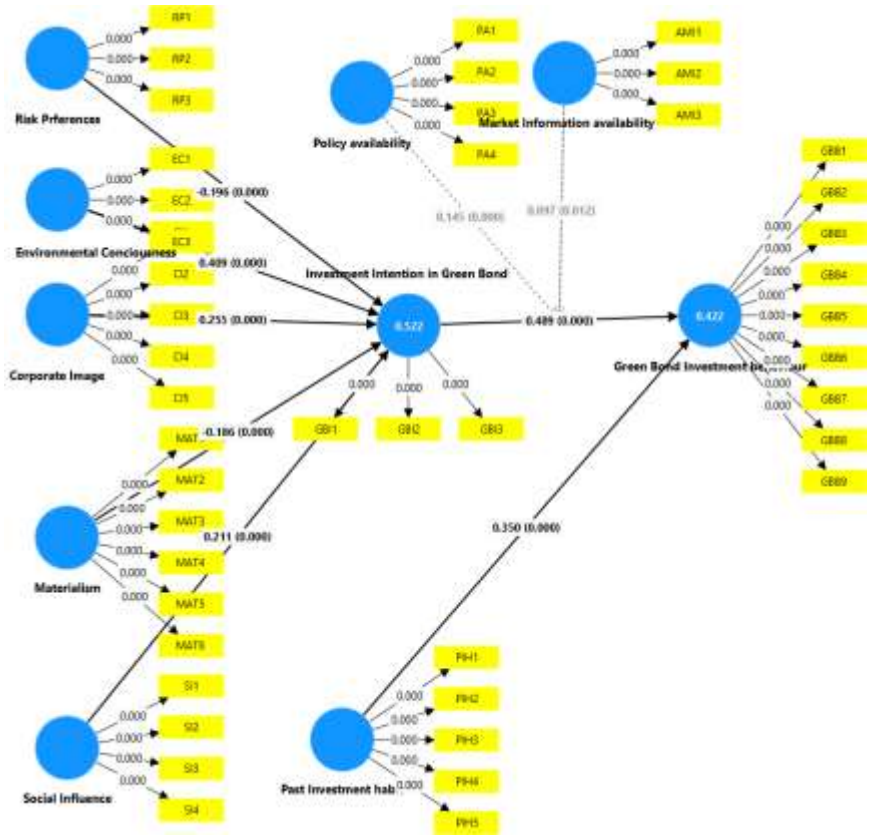


Figure 2: Final model output

The model exhibits a moderate explanatory power. The R^2 of Green Bond Investment is 0.522 meaning that the predictors, including, environmental consciousness, corporate image, materialism and risk perception, explain 52.2% of its variance. Green Bond Behaviour has an R^2 of 0.422, which implies a less strong yet satisfactory explanation (42.2%). In general, the model shows a high degree of predictive relevance to investment intention, but relatively low predictive ability to actual behaviour.

5. Discussion and conclusion

The study fills a key gap in the literature on green bonds, where the issues under discussion have been limited to macro issues like prices or institutional frameworks, and provides insights into the individual-level investment decision-making process. The research, based on TIB, takes a systematic look at the influences of affective, cognitive, social, habitual and contextual factors on retail participation in sustainable finance. The environmental consciousness proves to be the most predictive measure of GBI and this explains why it plays a high role in sustainable investment behavior. This finding aligns with cross-national evidence (Kotyza et al., 2024) and extends it to the Chinese retail context that demonstrates the fact that pro-environmental values are not unique to developed markets. Remarkably, this contradicts the current paradigm of macro-level literature according to which, the most significant factor of green bond participation is the financial returns. Instead, the results show that value fitment and not yield maximization is a critical factor in the determination of investment intention. This assists in supporting the argument of Thanki et al. (2022), who argue that environmental values are cross-contextual and fixed motivators. However, as much as a given environmental issue is powerful, it may not be sufficient on its own to ensure behavioral change, such that moral motivation and monetary behavior have a disconnection.

The negative impact of risk perception is contrary to some of the prior findings (Azad et al., 2024b), and risk tolerance impacts sustainable investment positively. On the contrary, this paper demonstrates that the risk perception is a negative factor to green bond investment in Beijing. This finding is more aligned with prospect theory (Kahneman and Tversky, 1979), which means that investors are risk-averse and ambiguous about the credibility of green certification and disclosure. This diversion highlights the situational risk effect hence view of risk in the emerging green markets may not be encouraging.

Social influence was especially significant in the collectivist Chinese context in which investment decisions are heavily affected by the expectations of others and social norms. The results indicate that green investment behavior can only be understood from the perspective of a larger social context where the professional network, community values and institutional messaging contribute to the pro-ecological investment practices. This means that social endorsement mechanisms can be as effective as financial instruments for achieving the adoption of green bonds. Recent comparative evidence further confirms that peer-network effects on financial decision-making are amplified under collectivist institutional norms, supporting the disproportionate role of social influence observed here (Zhang and Huang, 2024). A major contribution of the study is the exploration of the intention–behavior relationship and the contextual moderators. In line with TIB, there is a strong relationship between investment intention and actual investment behavior. More importantly, the study reveals that two conditions, policy support and market information availability, are important facilitators that influence the extent to which the intention is translated into action.

The mediation analysis provides important insight into the mechanism through which psychological and social factors influence actual green bond investment behaviour. Based on the findings, the authors argue that environmental consciousness, corporate image, social influence and materialism and risk preference are not directly influencing the green bond investment behaviour (GBB), but rather their influence comes through the green bond investment intention (GBI). This shows that going into green bond markets is not a response to any environmental concern or social pressure, but a conscious and deliberate behaviour. This finding confirmed the hierarchical hypotheses of the TIB which holds that behavioural intention is the most crucial step between motivational factors and the actual investment behaviour. The identified driver that most influenced the intention to invest was environmental consciousness, which underlines the increasing significance of pro-environmental values in the process of sustainable finance investment decisions. By contrast, materialism and concerns about risk had a negative impact on the formation of intentions, meaning that psychological and cognitive obstacles are a deterrent to the decision of a person to invest in the green market. These results are consistent with those of previous studies by Nguyen et al. (2023) and Hagger et al. (2022), who also found behavioural intention as the central mediating mechanism between sustainable values and social influences and investment behaviour. The findings indicate that the study objective has been successfully achieved. Specifically, the results identified the key determinants of green bond investment behaviour among individual investors in Beijing and demonstrated how behavioural, social, cognitive, habitual, and contextual factors collectively shape investment intention and actual investment behaviour. Furthermore, the study validated the proposed behavioural framework and provided empirical evidence explaining the mechanisms through which these factors influence participation in the green bond market.

6. Conclusion, implications and future directions.

6.1 Conclusion and Theoretical Implications.

This study has offered an important contribution to the understanding of the behavior of individual investors in green bond investment through the development and empirical test of a complete behavioral model based on TIB. The results revealed that green bond investment decisions are influenced by affective, social, cognitive, habits, and contextual factors not only rational financial factors.

The study shows that environmental consciousness, corporate image and social influence have a positive impact on green bond investment intention, whereas risk perception and materialism have a negative impact on the willingness of investors to invest in sustainable finance. It is also found that the intention to invest is a key factor in determining investment behavior in green bonds, and facilitating conditions, including green bond market information and policy support, further facilitate the translation of this intention into action. Beyond that, past investment habit has direct effects on investment behavior, as it lowers the hurdles faced by investors and eases their knowledge of investing in financial markets. Moreover, the mediation analysis finding strengths the indirect link between environmental consciousness, corporate image, social influence, materialism, and risk preference on actual green bond investment behaviour via behavioural intention, which further validates the mediation model in H8–H12 and validates the central role of behavioural intention in the Theory of TIB. The study is also relevant to sustainable investment literature by transcending the rational choice theories and calling for the role of social norms, environmental values, institutional support, and behavioural routines in the investment decision making in the context of green bonds. The results demonstrate the increased investor engagement in emerging green finance markets and highlight practical policy implications for policymakers, financial institutions and green bond issuers aiming to foster sustainable investment behaviours.

6.2 Practical Implications

The implications of the findings are direct to the policymakers. Enhancing the operational visibility of current incentives schemes and direct benefits to investors, as seen as a major behavioral facilitator, should be offered by regulators who might wish to enhance the involvement in the Chinese green bond market. At the same time,

the disclosure of market information, especially in forms that are easily available and understandable by non-institutional investors, needs to be enhanced immediately; the current results indicate that not only is the intention to disclose discouraged by the lack of visibility, but that behaviour implementation among already-motivated investors is actually hindered by the lack of visibility. Issuers and financial intermediaries should invest in managing corporate image by certified environmental impact reporting as issuer credibility plays an important role in the intention formation. The use of social marketing campaigns based on peer influence network and ecological identity signalling could also be effective to increase the pool of individual investors especially in the densely-knit professional investment circles in Beijing.

6.3 Limits and Future Research.

The cross-sectional design alongside sampling limited to Beijing does not allow making generalizations about other Chinese urban settings. In that sense, cross-city comparisons of Tier-1 and Tier-2 Chinese cities around green bond investment within longitudinal design can be taken as future choice. Other variables such as contribution of digital finance literacy and access to green bond products through fintech should also be studied as possible other moderators of the intention-behavior gap because the mobile investment platform in the Chinese financial environment is rapidly expanding. The operationalization of risk perception in terms of a unidimensional construct should be decomposed in future research to differentiate the greenwashing risk, financial risk, and liquidity risk that can work in different directional influences on GBI. Future studies should adopt a multidimensional conceptualization of risk perception to explore the distinct effects of these risk dimensions on green bond investment intentions and behaviors.

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