



Do green finance policies create shareholder value? evidence from sovereign green bond and ESG reforms in India

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Abstract

Green finance policies have emerged as a key instrument for promoting sustainable development and mobilising climate-related investments. This study examines whether green finance and ESG policy announcements create shareholder value in India by analysing stock market reactions to major policy events, including sovereign green bond initiatives and ESG disclosure reforms. Using an event study methodology, the study analyses Average Abnormal Returns (AAR), Cumulative Average Abnormal Returns (CAAR) and Combined CAAR for a sample of twelve green-linked companies over a 41-day event window. The findings reveal that sovereign green bond announcements and BRSR Core and ESG rating reforms generate statistically significant positive shareholder wealth effects, while the first sovereign green bond auction results in sustained negative abnormal returns due to execution-stage uncertainty. The study provides important insights for policymakers, regulators and investors regarding the effectiveness of green finance policies in Indian capital markets.

Keywords: Green finance, sovereign green bonds, ESG reforms, event study, shareholder value, Indian stock market

Introduction

The transition towards a low-carbon economy has significantly increased the importance of green finance policies in mobilising capital for environmentally sustainable projects. In recent years, instruments such as green bonds and ESG-linked regulations have emerged as key tools for directing investments towards renewable energy, clean infrastructure and climate-resilient development. India, as one of the world's fastest-growing economies, has taken several policy initiatives in this direction, including the introduction of a regulatory framework for green bonds, the announcement of sovereign green bonds, and the strengthening of ESG disclosure standards through BRSR reforms. These initiatives aim not only to support climate goals but also to enhance transparency, credibility and investor confidence in sustainable finance markets.

While green finance policies are designed to promote environmental sustainability, an important empirical question remains: do such policies create shareholder value? Financial markets provide a useful mechanism to assess the economic relevance of policy interventions through stock price reactions. This study examines the short-term and long-term stock market response to major green finance and ESG policy announcements in India using an event study methodology. By analysing Average Abnormal Returns (AAR), Cumulative Average Abnormal Returns (CAAR), and Combined CAAR for selected green-linked companies, the study provides empirical evidence on how investors perceive sovereign green bond initiatives and ESG reforms.

Review of literature

The concept of green bonds has gained significant academic and policy attention as an effective financial instrument for promoting sustainable development. According to Flammer (2021) [10], green bonds enable firms and governments to raise capital specifically for environmentally sustainable projects while simultaneously improving their

environmental performance. The study highlights that green bond issuance is associated with increased long-term institutional investment and enhanced corporate environmental responsibility.

Several studies have examined the role of green bonds in addressing climate change and environmental challenges. Tang and Zhang (2020) [16] found that green bond issuance positively influences firm value and investor perception, particularly when supported by credible certification and transparency mechanisms. Their findings suggest that investors view green bonds as a signal of strong environmental commitment, which enhances market reputation and reduces information asymmetry.

From a market development perspective, Banga (2019) [2] emphasized the importance of regulatory frameworks and policy support in the growth of the green bond market, especially in emerging economies. The study noted that lack of standardisation, limited awareness, and weak disclosure practices pose challenges to market expansion. However, government intervention and regulatory clarity can significantly accelerate green bond adoption.

In the Indian context, Sahoo and Nayak (2021) [14] observed that green bonds play a crucial role in financing renewable energy and sustainable infrastructure projects. Their analysis highlighted that while India has made notable progress in green bond issuance, issues related to reporting standards, verification mechanisms, and investor confidence still remain. Strengthening governance frameworks and disclosure norms was identified as essential for improving market credibility.

Overall, the existing literature indicates that green bonds contribute meaningfully to sustainable finance by mobilising capital for green projects, influencing corporate behaviour, and aligning investor preferences with environmental goals. However, studies also highlight the need for improved transparency, uniform standards, and regulatory oversight to maximise the effectiveness of green bonds in achieving long-term sustainability objectives.

Need for the Study

India has introduced several green finance and ESG-related policies, including sovereign green bonds and enhanced ESG disclosure norms, to support sustainable development. However, there is limited empirical evidence on whether these policies create shareholder value and how investors react to such announcements in the stock market. Understanding market response is important because stock prices reflect investor expectations and confidence. Therefore, this study is needed to examine the short-term and long-term impact of green finance policy announcements on stock returns, providing valuable insights for policymakers, regulators, public sector enterprises and investors regarding the effectiveness of green finance initiatives in India.

Objectives of the Study

The present study has been undertaken with the following specific objectives:

1. To examine the short-term stock market reaction to major green bond and ESG-related policy announcements in India using Average Abnormal Returns (AAR).
2. To analyse the long-term shareholder wealth effects of green finance and ESG policy events through Cumulative Average Abnormal Returns (CAAR).

Hypotheses of the study

H₀₁: There is no significant abnormal return associated with the announcement of SEBI's first green bond regulatory framework for green-linked firms.

H₀₂: There is no significant abnormal return associated with the announcement of sovereign green bonds in the Union Budget for green-linked firms.

H₀₃: There is no significant abnormal return associated with the first sovereign green bond auction for green-linked firms.

H₀₄: There is no significant abnormal return associated with the introduction of BRSR Core and ESG rating reforms for green-linked firms.

Research Methodology

1. Research Design: The study follows a quantitative, empirical research design based on the event study methodology, which is widely used in finance to measure the impact of policy announcements on stock prices.

2. Selection of Events: The study considers the following four major green finance and ESG policy events in India:

Event 1: SEBI issues the first official green bond regulatory framework

Event 01: SEBI issues official guidelines for green bonds (first regulatory framework)							
Pre-Event				Post-Event			
Pre-Window	AAR	CAAR	t-Stat	Post-Window	AAR	CAAR	t-Stat
-20	-0.0107	-0.0107	-1.7421	1	0.0048	-0.0014	-0.0499
-19	-0.0057	-0.0164	-1.8874	2	-0.0095	-0.0109	-0.3721
-18	-0.0018	-0.0182	-1.7111	3	0.0126	0.0016	0.0539
-17	0.0026	-0.0155	-1.2685	4	0.0063	0.0079	0.2595
-16	-0.0002	-0.0158	-1.1516	5	-0.0016	0.0063	0.2027
-15	0.0022	-0.0136	-0.9055	6	0.0071	0.0134	0.4210
-14	-0.0016	-0.0152	-0.9381	7	0.0139	0.0273	0.8429
-13	-0.0017	-0.0169	-0.9747	8	-0.0016	0.0257	0.7803
-12	-0.0044	-0.0213	-1.1584	9	0.0022	0.0279	0.8323
-11	0.0046	-0.0167	-0.8602	10	-0.0107	0.0173	0.5063
-10	0.0057	-0.0110	-0.5400	11	-0.0031	0.0142	0.4103
-9	-0.0053	-0.0163	-0.7678	12	0.0058	0.0200	0.5690
-8	0.0064	-0.0099	-0.4467	13	-0.0063	0.0138	0.3851
-7	-0.0018	-0.0117	-0.5095	14	0.0043	0.0180	0.4973
-6	0.0001	-0.0116	-0.4890	15	-0.0077	0.0104	0.2821
-5	0.0031	-0.0085	-0.3469	16	-0.0081	0.0022	0.0601
-4	0.0042	-0.0043	-0.1684	17	-0.0105	-0.0082	-0.2183
-3	0.0095	0.0053	0.2026	18	0.0046	-0.0037	-0.0961
-2	-0.0046	0.0007	0.0251	19	0.0057	0.0020	0.0512
-1	0.0013	0.0020	0.0732	20	0.0019	0.0039	0.0999
0	-0.0082	-0.0062	-0.2207	---	----	---	---

Event 2: Sovereign Green Bonds announced in the Union Budget

Event 02: Sovereign Green Bonds announced in Union Budget							
Pre-Event				Post-Event			
Pre-Window	AAR	CAAR	t-Stat	Post-Window	AAR	CAAR	t-Stat
-20	-0.0005	-0.0005	-0.0448	1	-0.0032	0.0475	0.9048
-19	0.0017	0.0012	0.0735	2	0.0068	0.0542	1.0110
-18	-0.0065	-0.0054	-0.2762	3	-0.0026	0.0517	0.9430
-17	0.0123	0.0070	0.3108	4	0.0193	0.0710	1.2698
-16	-0.0072	-0.0003	-0.0108	5	-0.0217	0.0493	0.8649
-15	0.0063	0.0060	0.2199	6	-0.0051	0.0442	0.7603
-14	-0.0004	0.0056	0.1894	7	0.0008	0.0450	0.7598
-13	0.0018	0.0074	0.2326	8	-0.0015	0.0435	0.7224

-12	0.0064	0.0138	0.4099	9	-0.0081	0.0354	0.5777
-11	0.0030	0.0168	0.4745	10	-0.0113	0.0241	0.3874
-10	0.0099	0.0267	0.7183	11	0.0019	0.0260	0.4107
-9	-0.0073	0.0194	0.5001	12	0.0010	0.0270	0.4198
-8	0.0175	0.0369	0.9155	13	-0.0035	0.0235	0.3594
-7	0.0132	0.0501	1.1964	14	-0.0123	0.0112	0.1691
-6	-0.0109	0.0392	0.9040	15	-0.0067	0.0045	0.0673
-5	-0.0029	0.0362	0.8098	16	0.0028	0.0074	0.1081
-4	0.0140	0.0502	1.0883	17	-0.0169	-0.0096	-0.1386
-3	0.0139	0.0641	1.3511	18	0.0110	0.0014	0.0207
-2	0.0008	0.0650	1.3321	19	0.0044	0.0059	0.0833
-1	-0.0029	0.0621	1.2401	20	0.0176	0.0235	0.3282
0	-0.0114	0.0507	0.9880	---	---	---	---

Event 3: First Sovereign Green Bond auction

Event 03: First Sovereign Green Bond auction completed successfully							
Pre-Event				Post-Event			
Pre-Window	AAR	CAAR	t- Stat	Post-Window	AAR	CAAR	t- Stat
-20	0.0020	0.0020	0.2145	1	-0.0210	-0.0154	-0.3498
-19	-0.0011	0.0009	0.0703	2	-0.0259	-0.0413	-0.9155
-18	0.0107	0.0116	0.7135	3	0.0276	-0.0138	-0.2986
-17	0.0104	0.0220	1.1689	4	-0.0339	-0.0476	-1.0118
-16	0.0062	0.0282	1.3391	5	-0.0171	-0.0647	-1.3480
-15	-0.0049	0.0233	1.0117	6	-0.0269	-0.0916	-1.8730
-14	0.0096	0.0330	1.3228	7	0.0053	-0.0864	-1.7336
-13	0.0024	0.0354	1.3277	8	-0.0068	-0.0932	-1.8381
-12	-0.0079	0.0275	0.9738	9	-0.0078	-0.1010	-1.9581
-11	0.0030	0.0305	1.0234	10	-0.0096	-0.1106	-2.1092
-10	-0.0051	0.0254	0.8136	11	-0.0022	-0.1128	-2.1179
-9	-0.0017	0.0238	0.7283	12	-0.0134	-0.1262	-2.3329
-8	0.0052	0.0289	0.8517	13	-0.0193	-0.1455	-2.6498
-7	0.0073	0.0363	1.0292	14	0.0018	-0.1437	-2.5794
-6	-0.0048	0.0315	0.8634	15	-0.0021	-0.1458	-2.5802
-5	-0.0034	0.0281	0.7463	16	-0.0036	-0.1493	-2.6073
-4	-0.0076	0.0205	0.5293	17	-0.0047	-0.1540	-2.6539
-3	0.0067	0.0272	0.6816	18	-0.0031	-0.1572	-2.6729
-2	-0.0134	0.0139	0.3377	19	-0.0034	-0.1605	-2.6963
-1	-0.0046	0.0093	0.2202	20	0.0019	-0.1587	-2.6322
0	-0.0037	0.0056	0.1295	---	---	---	---

Event 4: SEBI introduces BRSR Core and ESG rating reforms

Event 04: SEBI issues BRSR Core & ESG rating reforms (impacting green investment flows)							
Pre-Event				Post-Event			
Pre-Window	AAR	CAAR	t- Stat	Post-Window	AAR	CAAR	t- Stat
-20	-0.0043	-0.0043	-0.4206	1	-0.0204	0.0158	0.3318
-19	-0.0010	-0.0053	-0.3687	2	-0.0057	0.0101	0.2079
-18	0.0000	-0.0053	-0.3033	3	-0.0003	0.0098	0.1967
-17	0.0000	-0.0053	-0.2615	4	-0.0053	0.0045	0.0882
-16	-0.0006	-0.0059	-0.2603	5	0.0133	0.0177	0.3432
-15	0.0121	0.0062	0.2484	6	0.0054	0.0232	0.4400
-14	0.0074	0.0135	0.5051	7	0.0141	0.0372	0.6947
-13	-0.0115	0.0020	0.0695	8	0.0308	0.0681	1.2481
-12	-0.0085	-0.0065	-0.2146	9	0.0112	0.0792	1.4281
-11	0.0062	-0.0003	-0.0103	10	0.0047	0.0839	1.4879
-10	0.0034	0.0031	0.0925	11	0.0111	0.0950	1.6580
-9	0.0043	0.0074	0.2119	12	0.0085	0.1035	1.7793
-8	-0.0033	0.0041	0.1133	13	0.0214	0.1249	2.1151
-7	0.0007	0.0048	0.1263	14	0.0010	0.1260	2.1019
-6	0.0000	0.0048	0.1228	15	-0.1114	0.0146	0.2404
-5	0.0145	0.0193	0.4756	16	0.0174	0.0320	0.5191
-4	0.0157	0.0350	0.8380	17	0.0034	0.0354	0.5666
-3	-0.0025	0.0325	0.7554	18	-0.0866	-0.0512	-0.8091
-2	-0.0052	0.0272	0.6168	19	-0.0091	-0.0603	-0.9409
-1	0.0089	0.0361	0.7978	20	-0.0017	-0.0620	-0.9559
0	0.0001	0.0362	0.7797	---	---	---	---

These events were selected based on their national policy significance and expected influence on green investment flows.

3. Sample Selection: The sample consists of twelve green-linked companies, selected based on their active involvement in renewable energy, green infrastructure, power finance and sustainable banking-

1. NTPC Limited
2. NHPC Limited
3. REC Limited
4. PFC Limited
5. Power Grid Corporation of India
6. SJVN Limited
7. Tata Motors
8. Adani Green Energy Limited
9. Indian Railway Finance Corporation (IRFC)
10. YES Bank
11. State Bank of India (SBI)
12. Bharat Heavy Electricals Limited (BHEL)

4. Data Sources: Present study is based entirely on secondary data. Daily stock price data of the selected sample companies have been collected from the official databases of the National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE). The BSE Sensex has been used as the benchmark market index to compute expected returns under the market model. Information related to policy events has been obtained from official notifications and publications of SEBI, the Ministry of Finance, the Reserve Bank of India (RBI), and the Government of India.

5. Event Window and Estimation: The study employs an event window of 41 trading days (-20 to +20) to capture both pre-event anticipation and post-event market adjustment. Normal returns are estimated using the market model. An estimation window of 100 trading days prior to the event window is used to estimate the alpha and beta parameters for each sample company.

Results and Discussion

Table 1: Average Abnormal Return of Green-Linked Firms Across Different Events

Average Abnormal Return (AAR)								
Day	Event 1	P value	Event 2	P value	Event 3	P value	Event 4	P value
-20	-0.0107	0.1094	-0.0005	0.9657	0.0020	0.8342	-0.0043	0.6826
-10	0.0057	0.3728	0.0099	0.3967	-0.0051	0.6020	0.0034	0.7408
-5	0.0031	0.6227	-0.0029	0.7989	-0.0034	0.7271	0.0145	0.1815
-1	0.0013	0.8316	-0.0029	0.7997	-0.0046	0.6358	0.0089	0.3979
0	-0.0082	0.2079	-0.0114	0.3305	-0.0037	0.7033	0.0001	0.9959
+1	0.0048	0.4533	0.0475	0.0014**	-0.0210	0.0472**	-0.0204	0.0689
+5	-0.0016	0.7974	0.0493	0.0010**	-0.0171	0.0970	0.0133	0.2171
+10	-0.0107	0.1099	0.0241	0.0540	-0.0096	0.3305	0.0047	0.6529
+20	0.0019	0.7578	0.0235	0.0595	0.0019	0.8463	-0.0017	0.8689

Source: Authors Compilation

Note: ** denotes 5% level of significance

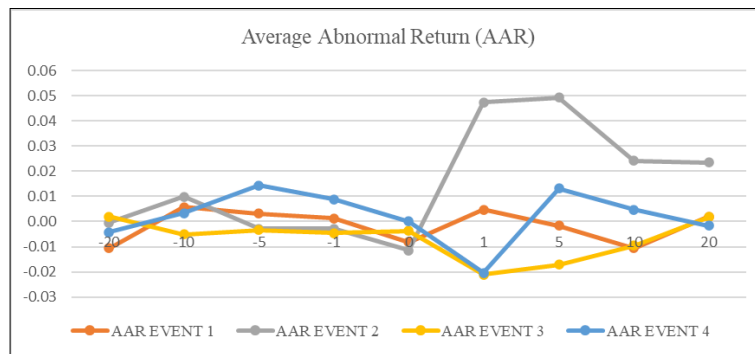


Fig 1: Graphical Representation of Average Abnormal Return of Green-Linked Firms Across Different Events

The AAR values for Event 1 remain statistically insignificant across all selected days, as all p-values are greater than 0.10. Even on the event day, the AAR of -0.0082 ($p = 0.2079$) is insignificant it indicates that the initial SEBI green bond guidelines did not generate any immediate abnormal stock market reaction and it suggesting that investors treated the announcement as a routine regulatory development.

Event 2 exhibits strong and statistically significant positive abnormal returns in the post-event period. The AAR on day +1 is 0.0475 and day +5 is 0.0493 are both positive and highly significant at the 1% level. Additionally, the positive AAR at day +10 and day +20, though marginally insignificant, remains economically meaningful. However, it confirms that the sovereign green bond announcement generated a strong and immediate favourable market reaction, reflecting high investor confidence in government-backed green financing.

For Event 3, the AAR values are predominantly negative in the post-event period. Notably, the AAR at day +1 is -0.0210 with a p-value of 0.0472, indicating a statistically significant negative abnormal return at the 5% level. It shows that short-term adverse market response to the first auction, possibly due to uncertainty regarding bond pricing, demand conditions and execution risk. Other post-event days remain statistically insignificant but continue to show a negative trend.

The AAR values for Event 4 are mostly statistically insignificant across the window, including the event day and post-event days. However, it indicates the mild short-term volatility immediately after the reform announcement. Overall, the absence of strong AAR significance suggests that the market response to ESG reforms was gradual rather than immediate.

Table 2: Cumulative Average Abnormal Return of Green-Linked Firms Across Different Events

Cumulative Average Abnormal Returns (CAAR)								
Day	Event 1	P value	Event 2	P value	Event 3	P value	Event 4	P value
-20	-0.0107	0.1094	-0.0005	0.9657	0.0020	0.8342	-0.0043	0.6826
-10	-0.0110	0.6000	0.0267	0.4876	0.0254	0.4331	0.0031	0.9280
-5	-0.0085	0.7359	0.0362	0.4353	0.0281	0.4711	0.0193	0.6437
-1	0.0020	0.9430	0.0621	0.2408	0.0093	0.8297	0.0361	0.4419
0	-0.0062	0.8299	0.0507	0.3444	0.0056	0.8993	0.0362	0.4520
+1	-0.0014	0.9618	0.0475	0.3850	-0.0154	0.7337	0.0158	0.7463
+5	0.0063	0.8431	0.0493	0.4056	-0.0647	0.2048	0.0177	0.7379
+10	0.0173	0.6226	0.0241	0.7059	-0.1106	0.0587	0.0839	0.1649
+20	0.0039	0.9222	0.0235	0.7490	-0.1587	0.0233**	-0.0620	0.3601

Source: Authors Compilation

Note: ** denotes 5% level of significance

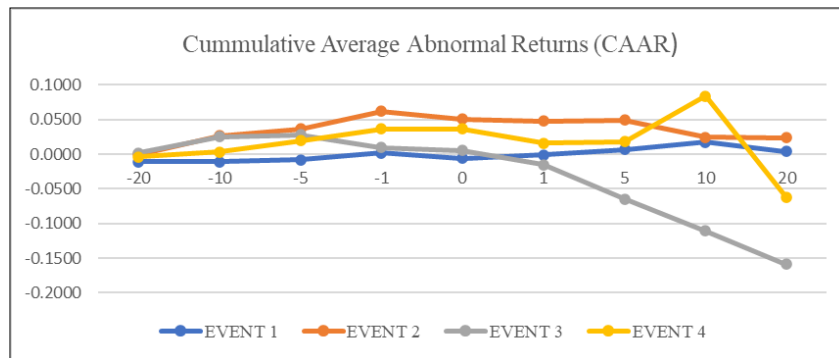


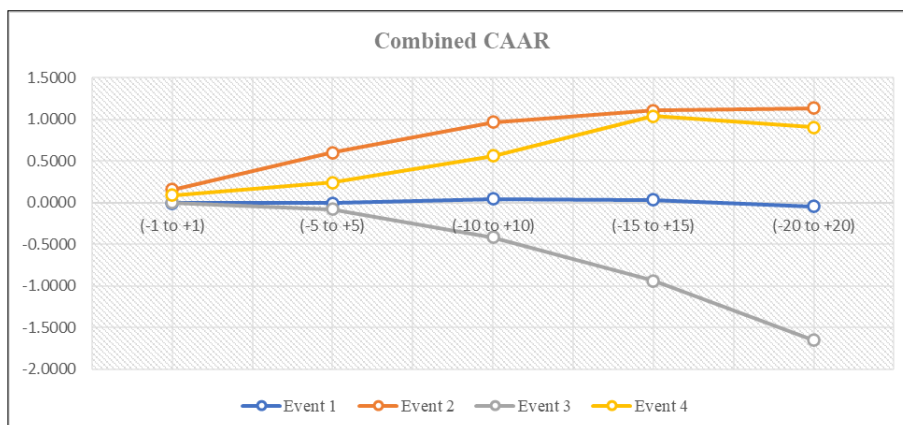
Fig 2: Graphical Representation of Cumulative Average Abnormal Return of Green-Linked Firms Across Different Events

The CAAR analysis provides insights into the sustained wealth effects of green policy announcements. For Event 1, the CAAR remained statistically insignificant throughout the event window, confirming that the initial SEBI green bond regulatory framework did not create any long-term shareholder wealth impact. For Event 2, although CAAR remained positive across the post-event period, the values were statistically weak in isolation, suggesting that while the event triggered strong short-term optimism (as shown by AAR), its long-run cumulative impact requires support from continued policy execution and market reinforcement. The

most striking result emerges for Event 3, where CAAR turned significantly negative at $t = +20$ ($p < 0.05$), clearly confirming that the first sovereign green bond auction resulted in sustained shareholder wealth erosion. This shows that execution-stage uncertainties can generate prolonged negative valuation effects, even when the original policy intent is positive. For Event 4, CAAR remained largely positive but statistically insignificant, indicating a gradual adjustment process by the market to ESG disclosure reforms, rather than abrupt valuation re-rating.

Table 3: Average Abnormal Return of green-linked firms across different events

Combined Cumulative Average Abnormal Returns								
Window period	Event 1	P value	Event 2	P value	Event 3	P value	Event 4	P value
(-1 to +1)	-0.0056	0.6066	0.1602	0.0000**	-0.0006	0.9727	0.0881	0.0004**
(-5 to +5)	-0.0075	0.7199	0.6021	0.0000**	-0.0783	0.0291**	0.2441	0.0000**
(-10 to +10)	0.0438	0.1472	0.9666	0.0000**	-0.4152	0.0000**	0.5601	0.0000**
(-15 to +15)	0.0365	0.3072	1.1082	0.0000**	-0.9395	0.0000**	1.0390	0.0000**
(-20 to +20)	-0.0438	0.2886	1.1389	0.0000**	-1.6544	0.0000**	0.9068	0.0000**



For Event 1, the Combined CAAR values remain statistically insignificant across all window periods, as all p-values are greater than 0.10. Even over the longest window (-20, +20), the CAAR is -0.0438 ($p = 0.2886$), indicating no sustained wealth creation or destruction. Event 2 shows strong, positive and highly statistically significant Combined CAAR across all windows: (-1, +1) 0.1602, (-5, +5) 0.6021, (-10, +10), 0.9666 (-15, +15), 1.1082 (-20, +20) 1.1389 it indicate strong and sustained shareholder wealth creation in the short, medium and long run it confirms that the sovereign green bond announcement acted as a powerful confidence-building signal for investors, significantly enhancing the valuation of green-linked firms. Event 3 exhibits consistently negative and statistically significant Combined CAAR across all windows the negative impact intensifies as the window expands, suggesting prolonged wealth erosion following the auction it provides strong statistical evidence that the first sovereign green bond auction generated persistent negative investor sentiment, likely due to pricing concerns, demand uncertainty and execution risk. Event 4 shows strong positive and highly statistically significant Combined CAAR across all windows ranges from 0.0881 (-1, +1) to 0.9068 (-20, +20) this shows consistent and sustained shareholder wealth creation across all time horizons and it enhanced ESG disclosure standards and ESG rating reforms significantly strengthen long-term investor confidence and firm valuation.

Findings of the Study

1. The sovereign green bond announcement in the Union Budget generated the strongest positive market reaction. The AAR results show statistically significant positive abnormal returns in the immediate post-announcement period day +1 and day +5 at 1% level. The Combined CAAR across all window periods (-1 to +1) and (-20 to +20) is strongly positive and highly significant, confirming both short-term and long-term shareholder wealth creation.
2. The introduction of BRSR Core and ESG rating reforms created sustained long-term shareholder wealth. Although immediate AAR reactions were weak, the Combined CAAR values are consistently positive and highly significant across all windows, showing that improvements in ESG disclosure and governance credibility enhance long-term firm valuation.
3. The first sovereign green bond auction (Event 3) resulted in significant and persistent shareholder wealth erosion. The AAR at $t = +1$ is significantly negative at the 5% level, and the Combined CAAR across medium and long windows is negative and highly significant ($p < 0.01$). This clearly indicates that execution-stage uncertainties related to pricing, subscription demand and implementation risk adversely affected investor confidence.
 - The SEBI green bond regulatory framework (Event 1) did not generate any meaningful market impact. The AAR, CAAR and Combined CAAR values for Event 1 remain statistically insignificant across all event windows, indicating that routine regulatory announcements without direct fiscal backing are largely ignored by the market.
 - Short-term market reactions are driven primarily by sovereign fiscal credibility, while long-term valuation is shaped by ESG governance quality. The study finds

that Event 2 dominates the short-term reaction, whereas Event 4 dominates long-term value creation, highlighting the complementary role of fiscal policy and ESG regulation in sustainable finance.

- Execution-stage risk has a stronger negative impact than the positive effect of regulatory intent alone. Despite the positive policy objective behind sovereign green bonds, the adverse investor response to the first auction (Event 3) demonstrates that operational risk can outweigh policy optimism in financial markets.
- Indian capital markets are increasingly sensitive to climate finance credibility and ESG transparency. The statistically significant responses to Event 2 and Event 4 confirm that investors actively price in sovereign climate commitments and ESG disclosure reforms while taking investment decisions.

Conclusion

Present study examined the stock market reaction to four major green finance and ESG-related policy events in India using an event study approach on a sample of twelve green-linked companies, namely NTPC, NHPC, REC, PFC, Power Grid, SJVN, Tata Motors, Adani Green Energy, Indian Railway Finance Corporation, YES Bank, State Bank of India and BHEL. The analysis was carried out using Average Abnormal Returns (AAR), Cumulative Average Abnormal Returns (CAAR) and Combined CAAR over a 41-day event window (-20 to +20). The empirical findings reveal that not all green policy announcements generate uniform market responses. The announcement of sovereign green bonds in the Union Budget (Event 2) and the introduction of BRSR Core and ESG rating reforms (Event 4) generated strong, positive and statistically significant abnormal returns, indicating substantial and sustained shareholder wealth creation. These results confirm that sovereign backing and strong ESG governance reforms serve as powerful confidence-building mechanisms for investors.

In contrast, the first sovereign green bond auction (Event 3) resulted in significant negative cumulative abnormal returns, reflecting short-term investor discomfort driven by concerns related to pricing, bond demand and execution uncertainties. This highlights that policy execution risk can temporarily outweigh the positive effects of policy announcements. Further, the initial SEBI green bond regulatory framework (Event 1) did not produce any meaningful abnormal returns, suggesting that early-stage regulatory guidelines were perceived as informational rather than value-enhancing. Overall, the study concludes that the Indian stock market responds more favourably to credible fiscal commitments and strong ESG disclosure reforms than to preliminary regulatory announcements or uncertain execution phases. The results strongly support the growing importance of green finance and ESG governance in shaping investor expectations and market valuations in India.

Implications of the study

The strong positive market response to the sovereign green bond announcement highlights the importance of direct government backing in building investor confidence. The Government should increase the frequency of sovereign green bond issuances, ensure transparent communication on the use of proceeds, and maintain clear allocation toward climate and sustainable infrastructure projects to deepen the

green finance market. The significant impact of BRSR Core and ESG rating reforms confirms the market's preference for credible and uniform sustainability disclosures. SEBI should strengthen enforcement of ESG reporting standards, promote uniform ESG scoring frameworks, and enhance data credibility to curb greenwashing and protect investor interests.

CPSEs such as NTPC, REC, PFC, Power Grid and IRFC should actively utilise green bond financing for renewable energy and infrastructure projects. Improving the quality of ESG disclosures and aligning capital expenditure with national climate goals will help attract long-term institutional investment.

Investors should treat policy-backed green instruments as long-term value drivers, while exercising caution during execution phases of new issuances. Integrating ESG quality indicators alongside financial fundamentals will enable better risk-adjusted portfolio decisions.

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