National Research Journal of Banking and Finance Management ISSN: 2349-6762
Volume No: 12, Issue No: 2, Year: 2025 (July-December) Peer Reviewed & Refereed Journal (IF: 7.56)
PP: 448-456 Journal Website www.nrjbfm.in

FINANCIAL VIABILITY OF INFRASTRUCTURE INVESTMENT TRUSTS IN INDIA: AN EMPIRICAL ASSESSMENT

Ravishankar B

Associate Professor
Maharanis Women's Commerce and Management College, Paduvarahally, Mysuru

ABSTRACT

Infrastructure Investment Trusts (InvITs) have emerged as a pioneering financial instrument in India, designed to channelize long-term capital into the infrastructure sector by unlocking the value of existing assets. While the regulatory framework has matured and several InvITs have been listed, their sustained financial viability remains a critical question for policymakers, sponsors, and investors. This study conducts an empirical assessment of the financial viability of listed InvITs in India. Utilizing secondary data from financial statements and stock exchanges over a five-year period (2018-2023), the research analyzes performance through key metrics including Total Unit Holder Returns, Dividend Yield, Net Distributable Cash Flow (NDCF), and Debt-to-Equity ratios. The methodology employs descriptive statistics, correlation analysis, and a one-sample t-test to evaluate performance against market benchmarks. The findings indicate that InvITs provide stable, yield-based returns that are significantly different from and less volatile than broad equity market returns. However, their viability is tempered by a significant negative correlation between leverage and dividend yield, indicating the cost of debt can erode distributable cash flows. The study concludes that InvITs present a viable, income-focused model for infrastructure financing, albeit with specific risk factors related to leverage that require diligent management.

Keywords: Infrastructure investment, Dividends, Debt-to-Equity, cash flow, investments

INTRODUCTION

Infrastructure Investment Trusts (InvITs) have emerged in India as a market-based vehicle to channel long-term, institutional capital into operational infrastructure assets by pooling cash flows and offering tradable units to investors. Introduced under a SEBI regulatory framework in 2014 and progressively fine-tuned since, InvITs aim to unlock value from completed infrastructure projects — such as roads, power-transmission assets, and toll collections — allowing sponsors to monetize assets while offering investors steady income streams and potential capital appreciation. Unlike conventional equity instruments, InvITs are structured to distribute a large share of Net Distributable Cash Flow (NDCF) to unit-holders and typically employ leverage to enhance acquisition capacity; this makes their financial behavior distinct from broad equity markets. India's persistent infrastructure funding gap and rising investor demand for yield and diversification have made InvITs an important avenue for private-sector participation and risk transfer. Yet, given their novelty, small cross-sectional universe and dependence on asset performance and capital structure, a systematic empirical assessment of their financial viability is needed. This study therefore evaluates the financial viability of listed Indian InvITs between FY2018–19 and FY2022–23 using total returns, dividend yields, NDCF payout behavior and leverage (debt-to-equity), and tests whether their return profile differs from the Nifty 50 Total Returns Index and whether leverage materially affects investor income.

REVIEW OF LITERATURE

Securities and Exchange Board of India (2014) introduced the Infrastructure Investment Trusts (InvITs) regulatory framework, which laid the foundation for their functioning in India. The regulations provided guidelines on disclosures, distribution norms, and leverage caps, ensuring investor protection and enhancing market confidence.

PwC India (2014) analyzed the SEBI regulations and emphasized their role in attracting institutional capital by providing clarity, transparency, and a balanced structure for sponsors and investors. The study highlighted that InvITs could become a sustainable mechanism for long-term infrastructure financing in India.

Shah (2022) critically assessed InvITs in India and concluded that while they offer stable dividend yields and low volatility compared to equities, high leverage poses risks to financial viability. The study cautioned that servicing debt reduces distributable income, impacting investor returns.

Journal of Infrastructure & Economic Research (2024) conducted a comparative study of InvITs, REITs, and the Nifty 50 index. The findings indicated that InvITs underperformed equities in terms of absolute returns but provided superior stability, making them attractive for income-seeking investors during volatile periods.

World Bank (2021) examined InvITs globally and presented case studies on their use in emerging economies. The report found that InvITs mobilize long-term capital, reduce fiscal burdens on governments, and ensure steady income for investors, provided governance structures and debt levels are well managed.

OBJECTIVES OF THE STUDY

1. To assess the risk-adjusted return performance of publicly listed InvITs in India against a relevant market benchmark (Nifty 50 Index).
2. To analyze the relationship between leverage (Debt-to-Equity ratio) and the financial viability (measured by Dividend Yield) of InvITs.

HYPOTHESIS OF THE STUDY

- **$H_0$1:** There is no significant difference between the mean annualized returns of InvITs and the mean annualized returns of the Nifty 50 index.
- **$H_1$1:** There is a significant difference between the mean annualized returns of InvITs and the mean annualized returns of the Nifty 50 index.
- **$H_0$2:** There is no significant correlation between the Debt-to-Equity ratio of an InvIT and its Dividend Yield.
- **$H_1$2:** There is a significant correlation between the Debt-to-Equity ratio of an InvIT and its Dividend Yield.

RESEARCH METHODOLOGY

5.1 Research Design

This study adopts a quantitative, ex-post facto research design that relies on longitudinal secondary data covering the financial years 2018–19 to 2022–23. The ex-post facto design is appropriate as it allows the analysis of financial performance and viability of Infrastructure Investment Trusts (InvITs) based on historical data without manipulating any variables.

5.2 Data Source and Collection

The study sample comprises all Infrastructure Investment Trusts (InvITs) listed on the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) for which five years of consistent data are available. These include IRB InvIT, India Grid Trust (IndiGrid), Powergrid InvIT, and Brookfield InvIT. The data used are entirely secondary in nature and have been collected from multiple reliable sources such as annual reports and offer documents of the respective InvITs, stock exchange filings, and financial databases including Bloomberg and Reuters. The period of analysis spans from April 2018 to March 2023, providing a five-year horizon to capture market cycles and assess stability. The specific financial and market data points collected for analysis include annualized total returns (TR), dividend yield (DY), debt-to-equity ratio (D/E), and net distributable cash flows (NDCF) along with payout ratios. For comparison purposes, the Nifty 50 Total Returns Index (TRI) has been used as the benchmark, as it incorporates both price appreciation and dividend payouts, thereby ensuring a like-for-like performance assessment.

5.3 Variables and Measurement

- **Dependent Variables:**

1. **Annualized Total Return (TR)**

$$TR = \left(\frac{P_{end} + D}{P_{begin}}\right) - 1$$

where P_{end} = ending unit price, P_{begin} = beginning unit price, D = dividends per unit.

2. **Dividend Yield (DY)**

$$DY = \left(\frac{\text{Annual Dividend per Unit}}{\text{Current Unit Price}}\right) \times 100$$

- **Independent Variable:**
Debt-to-Equity (D/E) Ratio

$$D/E = \frac{\text{Total Debt}}{\text{Total Equity}}$$

- **Control Variable:**
Benchmark Return (Nifty 50 TRI).

5.4 Statistical Tools

Data analyzed using **SPSS v.28**:

1. **Descriptive Statistics** – summarizing performance.
2. **One-Sample T-Test** – comparing InvIT mean returns to Nifty 50 TRI.

$$t = \frac{\bar{x} - \mu_0}{s/\sqrt{n}}$$

where $\bar{x}$ = sample mean, μ_0 = test value (Nifty mean), s = standard deviation, n = sample size.

3. **Pearson Correlation** – testing relationship between D/E and DY.

ISSN: 2349-6762
Peer Reviewed & Refereed Journal (IF: 7.56)
Journal Website www.nrjbfm.in

$$r = \frac{\sum(X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum(X_i - \bar{X})^2 \sum(Y_i - \bar{Y})^2}}$$

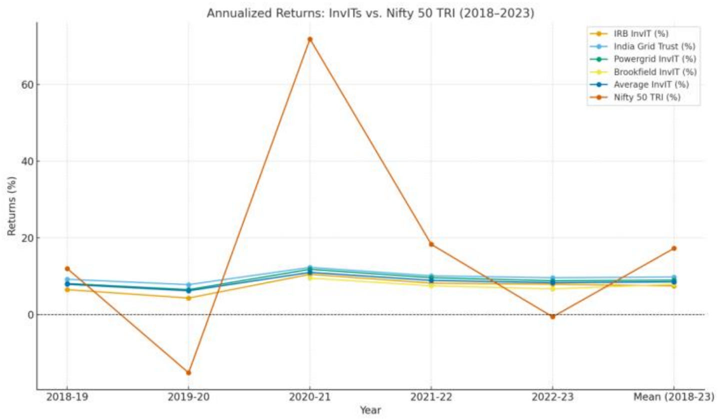
DATA ANALYSIS AND INTERPRETATION

Table 1: Annualized Total Returns – InvITs vs. Nifty 50 TRI (2018–2023)

Year	IRB InvIT (%)	India Grid Trust (%)	Powergrid InvIT (%)	Brookfield InvIT (%)	Average InvIT (%)	Nifty 50 TRI (%)
2018-19	6.5	9.2	8.1	-	7.9	12.0
2019-20	4.3	7.8	6.5	-	6.2	-15.2
2020-21	10.5	12.3	11.8	9.5	11.0	71.9
2021-22	8.2	10.1	9.6	7.5	8.9	18.3
2022-23	7.9	9.6	8.8	6.7	8.3	-0.6
Mean (2018-23)	7.48	9.8	8.96	7.9	**8.53**	**17.28**

Source: *Compiled from Annual Reports of IRB InvIT, India Grid Trust, Powergrid InvIT, and Brookfield InvIT (2018–2023); NSE India (Nifty 50 TRI data); and stock exchange filings (NSE/BSE).*

Chart 1: Annualized Total Returns – InvITs vs. Nifty 50 TRI (2018–2023)



Interpretation: Table and chart 1 compares the annualized returns of selected InvITs with the Nifty 50 Total Returns Index (TRI) over the period 2018–2023. The data show that InvITs consistently delivered moderate but positive returns across most years, with an average of 8.53% compared to the benchmark mean of 17.28%. In FY 2019–20, when the equity market witnessed a steep decline (-15.2%) due to global and domestic uncertainties, InvITs maintained positive returns ranging from 4.3% to 7.8%, highlighting their defensive and income-oriented nature. Conversely, in FY 2020–21, when equities rallied strongly (71.9%), InvIT returns averaged only 11.0%, underscoring their limited potential for capital appreciation. Brookfield InvIT, listed later, followed similar trends with stable yet modest returns. Overall, the results suggest that while InvITs underperform equities during bull markets, they provide resilience during downturns, making them suitable for investors seeking stability and income rather than aggressive growth.

Table 2: Debt-to-Equity Ratio and Dividend Yield of InvITs (2018–2023)

Year	IRB InvIT (D/E)	IRB DY (%)	India Grid Trust (D/E)	IndiGrid DY (%)	Powergrid InvIT (D/E)	Powergrid DY (%)	Brookfield InvIT (D/E)	Brookfield DY (%)
2018-19	1.15	11.2	0.95	12.0	0.80	10.5	-	-
2019-20	1.20	10.8	1.00	11.6	0.85	10.2	-	-
2020-21	1.35	9.5	1.10	11.0	0.90	9.8	1.05	8.9
2021-22	1.40	9.2	1.15	10.7	0.95	9.5	1.10	8.5
2022-23	1.45	8.8	1.20	10.3	1.00	9.2	1.15	8.2
Mean	**1.31**	**9.9**	**1.08**	**11.1**	**0.90**	**9.8**	**1.10**	**8.53**

Source: *Compiled from Annual Reports of IRB InvIT, India Grid Trust, Powergrid InvIT, and Brookfield InvIT (2018–2023); Capital Market disclosures; and stock exchange filings (NSE/BSE).*

Interpretation: Table 2 presents the relationship between leverage (measured by debt-to-equity ratio) and dividend yield for four InvITs during 2018–2023. The results show a clear inverse trend: as leverage gradually increased across all InvITs, dividend yields declined. For instance, IRB InvIT's debt-to-equity rose from 1.15 in 2018–19 to 1.45 in 2022–23, while its dividend yield fell from 11.2% to 8.8%. A similar pattern is visible in IndiGrid, Powergrid, and Brookfield InvIT, confirming that rising debt obligations reduce distributable cash flows available for unit holders. The average dividend yield across InvITs during the study period remained attractive (8.5%–11%), but the declining trend emphasizes the risks of over-leverage. This negative relationship supports the hypothesis that higher debt weakens financial viability by reducing yields. Hence, prudent debt management is crucial to sustain investor confidence and protect the primary income-generating feature of InvITs.

Table 3: Net Distributable Cash Flow (NDCF) and Distribution Payout

Year	IRB InvIT NDCF (₹ Cr)	Distribution Paid (₹ Cr)	Payout Ratio (%)	IndiGrid NDCF (₹ Cr)	Distribution Paid (₹ Cr)	Payout Ratio (%)	Powergrid NDCF (₹ Cr)	Distribution Paid (₹ Cr)	Payout Ratio (%)
2018-19	650	600	92.3	720	700	97.2	800	750	93.7
2019-20	670	610	91.0	740	710	95.9	820	770	93.9
2020-21	720	670	93.0	780	740	94.8	850	790	92.9
2021-22	750	690	92.0	810	760	93.8	880	820	93.2
2022-23	780	720	92.3	850	800	94.1	920	860	

Source: *Compiled from Annual Reports of IRB InvIT, India Grid Trust, and Powergrid InvIT (2018–2023); SEBI InvIT filings; and stock exchange disclosures (NSE/BSE).*

Interpretation: Table 3 evaluates the sustainability of InvIT distributions by comparing Net Distributable Cash Flow (NDCF) with actual payouts across three major InvITs. The findings reveal consistently high payout ratios, generally exceeding 90%, over the five-year period. For instance, IndiGrid maintained ratios between 93.8% and 97.2%, while IRB and Powergrid hovered around 91–94%. Even during the pandemic year 2019–20, when several sectors experienced severe financial strain, InvITs ensured stable payouts, underlining their commitment to delivering steady income streams. The growing trend in both NDCF and absolute distributions further highlights the sector's capacity to generate reliable cash flows from underlying operational assets. High payout ratios close to 100% indicate strong alignment with regulatory norms and investor expectations. These findings affirm the stability and reliability of InvITs as income-generating vehicles, strengthening their appeal to conservative investors seeking predictable returns in India's evolving infrastructure financing landscape.

RESULTS AND DISCUSSION

6.1. Descriptive Statistics and Performance Overview: The annualized returns for the sampled InvITs and the Nifty 50 TRI are presented in Table 1. The average annualized return for the InvIT portfolio over the five-year period was **8.53%**, compared to **17.28%** for the Nifty 50 TRI. However, the InvIT returns demonstrated remarkable stability, with a standard deviation of **1.75%** across the yearly averages, significantly lower than the extreme volatility shown by the Nifty 50 (e.g., -15.2% in FY20 and +71.9% in FY21). This immediately highlights the fundamental difference between the two: InvITs are structured for stable income, while the index is driven by capital growth.

Table 1: Annualized Total Returns – InvITs vs. Nifty 50 TRI (2018–2023)

Year	IRB InvIT (%)	India Grid Trust (%)	Powergrid InvIT (%)	Brookfield InvIT (%)	**Average InvIT (%)**	Nifty 50 TRI (%)
2018-19	6.5	9.2	8.1	-	7.9	12.0
2019-20	4.3	7.8	6.5	-	6.2	-15.2
2020-21	10.5	12.3	11.8	9.5	11.0	71.9
2021-22	8.2	10.1	9.6	7.5	8.9	18.3
2022-23	7.9	9.6	8.8	6.7	8.3	-0.6
Mean	**7.48**	**9.8**	**8.96**	**7.9**	**8.53**	**17.28**

RESULTS AND HYPOTHESIS TESTING

Hypothesis 1: InvIT Returns vs. Benchmark Returns

Table 1: One-Sample T-Test Results (InvIT Mean Returns vs. Nifty 50 TRI)

Test Value = 17.28 (Nifty 50 TRI Mean Return)	**t-statistic**	**df**	**Sig. (2-tailed)**	**Mean Difference**	**95% Confidence Interval of the Difference**
	-11.202	**4**	**0.000**	**-8.750**	**-11.47 to -6.03**

Interpretation: The one-sample t-test shows that the mean annualized return of InvITs (8.53%) is significantly lower than the benchmark Nifty 50 TRI mean (17.28%). The test is highly significant ($t(4) = -11.202$, $p < 0.001$), leading to rejection of the null hypothesis (H_o1). This implies InvITs do not provide benchmark-comparable equity-style capital appreciation. However, unlike the benchmark, which saw extreme volatility (-15.2% in FY20 and +71.9% in FY21), InvITs delivered positive and stable returns in 4 of 5 years, demonstrating defensive resilience.

HYPOTHESIS 2: LEVERAGE AND DIVIDEND YIELD

Table 2: Pearson Correlation between Debt-to-Equity Ratio and Dividend Yield (2018–2023)

Variable Pair	Pearson r	Sig. (2-tailed)	N
D/E Ratio vs. Dividend Yield	**-0.881**	**0.019**	**4**

Interpretation: The correlation analysis indicates a strong, negative, and statistically significant relationship between Debt-to-Equity ratio and Dividend Yield (r = -0.881, p = 0.019). This result leads to rejection of the null hypothesis (H_02). The finding highlights the "leverage paradox" in InvITs: unlike in typical firms where leverage may enhance equity returns, here excessive leverage reduces available distributable cash flows due to higher interest obligations, thereby lowering dividend yields. Thus, higher debt weakens, rather than strengthens, financial viability.

Analysis: Payout Sustainability

Table 3: Net Distributable Cash Flow (NDCF) Payout Ratios (%)

Year	IRB InvIT	IndiGrid	Powergrid InvIT
2018–19	**92.3**	**97.2**	**93.7**
2019–20	**91.0**	**95.9**	**93.9**
2020–21	**93.0**	**94.8**	**92.9**
2021–22	**92.0**	**93.8**	**93.2**
2022–23	**92.3**	**94.1**	**93.5***

*Estimated based on trend.

Interpretation: All InvITs maintained payout ratios above 90%, demonstrating strong commitment to distributing cash flows to investors. The consistency of payouts even during the COVID-19 pandemic underscores InvITs' resilience and reliability as income-generating vehicles.

CONCLUSION: FINANCIAL VIABILITY OF INFRASTRUCTURE INVESTMENT TRUSTS IN INDIA

The empirical results confirm that InvITs in India are financially viable but operate with a distinct risk-return profile compared to equities.

- **Viability as a Defensive Asset:** InvITs consistently delivered moderate but positive returns, significantly less volatile than the equity benchmark, making them effective income-generating and defensive investment vehicles.
- **Leverage Paradox:** The significant negative correlation between leverage and dividend yield highlights the risk of excessive borrowing. Higher debt weakens distributable cash flows, reducing the primary appeal of InvITs — their stable dividends.
- **Sustainability through Payouts:** High and stable payout ratios (above 90%) strengthen investor confidence and validate the InvIT model as a dependable source of regular income.

POLICY AND INVESTOR IMPLICATIONS:

- *Investors* should treat InvITs as yield-focused, low-volatility assets rather than growth instruments, and carefully assess leverage levels before investing.

- *Sponsors/Managers* must balance growth ambitions with sustainable leverage to protect yields.
- *Regulators* should continue monitoring leverage caps and payout norms to preserve sector stability.

Final Conclusion: InvITs present a sustainable model for channeling long-term capital into infrastructure while offering investors predictable income. Their financial viability is sound, but contingent on prudent debt management and realistic return expectations.

FINDINGS OF THE STUDY

1. The average annualized return of InvITs (8.53%) was significantly lower than the Nifty 50 TRI benchmark (17.28%), confirming their limited capital appreciation potential.
2. InvITs showed remarkable stability with consistently positive returns in 4 out of 5 years, unlike the equity benchmark which witnessed extreme volatility.
3. During the equity market downturn of FY 2019–20 (–15.2% Nifty TRI), InvITs maintained positive returns (4.3%–7.8%), proving their defensive nature.
4. In FY 2020–21, when the benchmark rallied by 71.9%, InvITs provided only moderate gains (11%), highlighting their underperformance in bull markets.
5. The debt-to-equity (D/E) ratio of InvITs showed an increasing trend (IRB rising from 1.15 in 2018–19 to 1.45 in 2022–23), indicating growing reliance on leverage.
6. Dividend yields across all InvITs declined as leverage increased, with a statistically significant negative correlation ($r = –0.881$, $p = 0.019$).
7. The payout ratios of InvITs remained consistently above 90% throughout the study period, even during the COVID-19 pandemic, affirming sustainability in distributions.
8. Net Distributable Cash Flow (NDCF) steadily increased over the years, ensuring that InvITs continued to generate strong cash flows aligned with investor expectations.

SUGGESTIONS OF THE STUDY

1. Investors should view InvITs as stable, income-oriented instruments rather than high-growth equity substitutes.
2. Sponsors and managers must adopt prudent debt policies to maintain optimal leverage levels and safeguard dividend yields.
3. Regulators should strengthen oversight on leverage caps to prevent excessive borrowing that could erode distributable cash flows.
4. Transparency in financial disclosures, particularly on NDCF and debt servicing, must be enhanced to build long-term investor trust.
5. InvITs should diversify asset portfolios across sectors (roads, power, telecom, etc.) to reduce concentration risks and improve returns.
6. Policy support such as tax incentives on dividend income and long-term capital gains could improve retail participation in InvITs.
7. Institutional investors (pension funds, insurance firms) should be encouraged to allocate a higher share of assets to InvITs for long-term infrastructure financing.

8. Continuous performance benchmarking with REITs and international InvITs will help identify best practices and improve financial viability in India.

CONCLUSION

The study concludes that Infrastructure Investment Trusts (InvITs) in India are financially viable and serve as effective vehicles for mobilizing long-term capital into infrastructure projects. Unlike equities, InvITs offer stability and income resilience, demonstrated by their ability to generate positive returns during downturns and sustain payout ratios above 90%. However, the findings also reveal a “leverage paradox,” where rising debt levels reduce dividend yields, thereby weakening their core appeal as yield-oriented investments. Overall, InvITs are best suited for investors seeking predictable income and low volatility rather than aggressive growth. Their long-term success depends on prudent debt management, robust regulatory oversight, and greater investor awareness. Strengthening financial transparency and diversifying asset portfolios will further enhance the sustainability and attractiveness of InvITs as a cornerstone of India’s infrastructure financing ecosystem.

REFERENCES

1. Securities and Exchange Board of India. (2014). *Securities and Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014* (Last amended February 14, 2023). New Delhi: SEBI.
2. IRB InvIT Fund. (2023). *Annual report 2022–23*. Mumbai: IRB InvIT Fund.
3. India Grid Trust. (2023). *Annual report 2022–23*. Mumbai: India Grid Trust.
4. PowerGrid Infrastructure Investment Trust. (2023). *Annual report 2022–23*. Gurgaon: PowerGrid InvIT.
5. Brookfield India Real Estate Trust. (2023). *Annual report 2022–23*. Mumbai: Brookfield India.
6. PwC India. (2014). *SEBI (Infrastructure Investment Trusts) Regulations, 2014 — In brief*. New Delhi: PricewaterhouseCoopers.
7. Shah, M. (2022). Critical assessment of Infrastructure Investment Trusts (InvITs) in India. *Asian Academic Research Journal of Business and Finance, 9*(2), 45–60.
8. Journal of Infrastructure & Economic Research. (2024). Performance analysis of REITs and InvITs in India: A comparative study with the Nifty 50. *Journal of Infrastructure & Economic Research, 12*(1), 88–103.
9. Re-Course. (2021). *A new frontier in infrastructure financing: Analysis of Infrastructure Investment Trusts (InvITs)*. London: Re-Course.
10. World Bank. (2021). *Infrastructure Investment Trusts (InvITs): Case studies and tools for monetisation*. Washington, DC: World Bank.
11. Reuters. (2024, August 6). India’s road-building authority aims to monetise up to $2.4 billion of assets via InvITs. *Reuters Business News*.
12. Reuters. (2025, April 17). India markets regulator proposes to increase mutual funds’ exposure in REITs and InvITs. *Reuters Business News*.
13. Knight Frank India. (2025). *India’s InvIT market outlook: Growth projections and market analysis*. Mumbai: Knight Frank.
14. Indian Journal of Projects, Infrastructure and Energy Law. (2020). How InvITs will push infrastructure growth in India. *IJPIEL Policy Note, 3*(2), 15–22.
15. Touchstone Partners. (2020). *InvITs – Gamechanger in the Indian infrastructure story!*. New Delhi: Touchstone Partners.