



# RISK AND RETURN ANALYSIS OF THEMATIC ETFs: A COMPARATIVE STUDY WITH BROAD-BASED INDICES

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## Abstract

The growing popularity of ETFs as a versatile investment tool has transformed the way investors gain exposure to various sectors, themes, and investment strategies. Among the diverse categories of ETFs, thematic ETFs targeting specific sectors have gained significant attention for their ability to align with sectoral trends and growth stories. This paper focuses on three thematic ETFs in the Indian market: Nifty Infrastructure ETF, Nifty CPSE ETF, and Nifty India Consumption ETF. These ETFs provide a cost-effective and efficient way for investors to gain exposure to infrastructure development, public sector enterprises, and consumer-focused sectors, respectively. The primary objective of this study is to analyze the historical returns and volatility of these thematic ETFs and to compare their performance against the Nifty 50 index, over a five-year period (2019–2024). This paper provides a detailed evaluation of the risk-return characteristics of these thematic ETFs. The findings reveal that while the Nifty Infrastructure ETF demonstrates higher returns, it also exhibits significant volatility, making it more suitable for risk-tolerant investors. Similarly, the Nifty CPSE ETF offers stability and moderate returns, appealing to conservative investors. The Nifty India Consumption ETF, focused on companies catering to India's growing consumer base, strikes a balance by delivering relatively stable returns with moderate volatility. This comparative analysis serves as a guide for investors to assess the suitability of thematic ETFs for inclusion in diversified portfolios, based on their risk tolerance and investment objectives.

**Keywords:** ETF (Exchange – Traded Funds), Thematic, Volatility.

## INTRODUCTION

The evolution of Exchange-Traded Funds (ETFs) has revolutionized the investment landscape, offering investors an efficient way to access diverse asset classes with flexibility, transparency, and cost efficiency. ETFs combine the benefits of mutual funds and stocks, providing diversified exposure to markets while being traded on exchanges like individual equities. Among the different types of ETFs, thematic ETFs have gained remarkable popularity due to their targeted approach, enabling investors to align their portfolios with specific sectors, industries, or themes expected to outperform the broader market.

Thematic ETFs differ from traditional broad-based index funds like the Nifty 50 by focusing on sector-specific opportunities, such as infrastructure, public enterprises, and consumer markets. These ETFs appeal to investors who aim to capitalize on emerging economic trends or structural growth stories. However, the concentration in specific sectors introduces unique risks, such as heightened volatility and dependency on sectoral performance, which may not align with broader market movements.

In the Indian context, thematic ETFs have grown in prominence, reflecting the country's economic priorities. This paper examines three prominent thematic ETFs: the Nifty Infrastructure ETF, the Nifty CPSE ETF, and the Nifty India Consumption ETF. Each of these ETFs targets a key area of India's economic development:

**1. Nifty Infrastructure ETF:** Tracks companies involved in critical infrastructure sectors, such as transportation, energy, and construction. Given India's significant focus on

infrastructure development to boost economic growth, this ETF represents a sector with substantial long-term potential.

2. **Nifty CPSE ETF:** Provides exposure to central public sector enterprises (CPSEs), which operate in essential industries such as energy, banking, and telecommunications. CPSEs are integral to India's economic framework and benefit from government backing, making this ETF appealing to investors seeking stability.
3. **Nifty India Consumption ETF:** Tracks companies focusing on India's consumer-driven economy, including sectors like consumer staples, discretionary goods, and retail. With India's large and growing middle-class population, this ETF represents the potential for stable, long-term growth in consumer demand.

This study aims to evaluate the historical performance, volatility, and risk-adjusted metrics of these thematic ETFs and compare them against the Nifty 50 index, which serves as a benchmark for the Indian stock market. By analyzing returns, volatility, and risk-adjusted metrics such as alpha, beta, and tracking error, this paper investigates the effectiveness of thematic ETFs in delivering superior returns compared to broad-based market indices.

A deeper understanding of the risk-return profile of these thematic ETFs is critical for investors in constructing portfolios that align with their risk tolerance and return expectations. For instance, the cyclical nature of infrastructure development and the dependency of CPSEs on government policies introduce volatility into these ETFs. In contrast, the Nifty India Consumption ETF, driven by consistent consumer demand, may provide a more stable option. By comparing these ETFs with the Nifty 50, this paper offers practical insights into the role of thematic ETFs in portfolio diversification and risk management, helping investors identify opportunities for enhanced returns while managing sector-specific risks.

### Problem Statement

The rise of thematic Exchange-Traded Funds (ETFs) has introduced a new avenue for investors to gain targeted exposure to specific sectors or investment themes. In the Indian market, ETFs focusing on sectors like infrastructure and public sector enterprises (CPSE) have gained significant attention due to the country's growing infrastructure development and the stable performance of public sector companies. However, despite the increasing popularity of thematic ETFs, there is limited research on their performance in comparison to broader market indices, such as the Nifty 50.

The main problem addressed by this study is the lack of empirical evidence comparing the historical returns, volatility, and risk-adjusted performance of thematic ETFs—specifically the Nifty Infrastructure, Nifty India Consumption and Nifty CPSE ETFs—against the broader Nifty 50 index. While thematic ETFs may offer higher returns due to sector-specific exposure, they also tend to exhibit greater volatility, making them riskier compared to broad-based indices. Understanding how these thematic ETFs perform relative to a broad market index is crucial for investors, especially in the context of India's rapidly evolving market dynamics.

This study aims to fill this gap by analyzing the risk-return profiles of thematic ETFs and comparing their performance with the Nifty 50. By examining metrics like returns, volatility, tracking error, and alpha, the study seeks to provide insights into whether thematic ETFs can outperform broad market indices, and if so, whether this outperformance justifies their higher risk. The findings will be instrumental for investors seeking to optimize their portfolio by including thematic ETFs and making informed decisions based on their risk tolerance and investment goals.

## Objectives

The present study is intended -

- To analyze the historical returns and volatility of thematic ETFs (Nifty Infrastructure, Nifty India Consumption and Nifty CPSE).
- To compare the performance of these thematic ETFs against the Nifty 50 index

## Significance

The significance of this study lies in its potential to provide valuable insights for investors, financial analysts, and policymakers regarding the role of thematic Exchange-Traded Funds (ETFs) in the Indian market. The findings will contribute to the existing body of knowledge on thematic investing and help fill the gap in literature regarding the performance of sector-specific ETFs in emerging markets like India. The findings will be significant for:

- Investors: Helping them understand the risk-return profiles of thematic ETFs, enabling informed decisions on portfolio diversification.
- Financial Advisors: Assisting in recommending sector-specific ETFs based on clients' risk tolerance and investment goals.
- Policymakers: Offering insights into how these ETFs reflect infrastructure and public sector enterprises, contributing to financial market regulations.
- Academia: Adding empirical data to the literature on thematic ETFs, aiding future research in emerging markets.
- Market Understanding: Enhancing awareness of how sector-focused ETFs, such as those in infrastructure, Consumption and CPSEs, contribute to market development and offer investment opportunities.

Overall, this study will provide critical insights into the performance of thematic ETFs, offering a comprehensive view of their potential to enhance portfolio returns while managing risk. It will be a valuable resource for investors and professionals seeking to navigate the complexities of sector-focused investing and the broader Indian market.

## LITERATURE REVIEW

This literature review explores prior research on ETFs, focusing on thematic ETFs, their risk-return dynamics, and their performance.

Lodh & Gupta, (2024) in their paper “Unpacking Active ETFs: Increasing Transparency through a Risk- and Exposure-Based Framework.” analyzed the market is polarized between highly concentrated and broadly diversified ETFs. This article introduces a risk-based framework for evaluating active ETFs, distinguishing truly active strategies from enhanced indexing. Analysis shows that factor-focused active ETFs achieve target exposures similar to indexed benchmarks, while thematic-focused ETFs underperform. Both exhibit high tracking error and active share due to management decisions and style deviations. The study highlights how active ETFs can complement market-beta and indexed strategies, offering asset allocators tools to improve portfolio outcomes and manage risks effectively. (Lodh & Gupta, 2024, #)

Merlo, (2022) in his research titled “On the Impact of Thematic ETFs on Index Investing” investigated thematic investing has gained popularity since a major macroeconomic event transformed global business conditions, with analysts highlighting certain industries as

potential outperformers (alpha) over the broader market (beta). ETFs have emerged as a preferred tool for capturing these opportunities, especially in the US, where demand for thematic ETFs has surged, particularly after the pandemic. The article investigates whether the emergence of themed exchange-traded funds (ETFs) is consistent with the original index investing concepts. Using secondary research, a retail investor survey, and a comparative analysis of thematic and traditional ETFs, the findings indicate that the growth of thematic ETFs may undermine the reliability of index investing. It also questions the sustainability of the rapid expansion in US equity ETF trading, which dominates global ETF activity. (Merlo, 2022, #)

## RESEARCH METHODOLOGY

### Data Collection

The research is being conducted to compare the performance of Nifty Infrastructure ETF and Nifty CPSE ETF with the performance against a broad market index, the Nifty 50. To achieve this objective, relevant data has been taken from secondary data sources i.e. NSE India.

### Period of the study

The research spans five years, from April 19 to March 24.

### Population, Sample size and Design

There are six ETFs schemes (including one Nifty Infrastructure and one Nifty CPSE and four Nifty India Consumption) as per National Stock Exchange. For present analyses, only funds whose launch date is before 2019 is taken for the study.

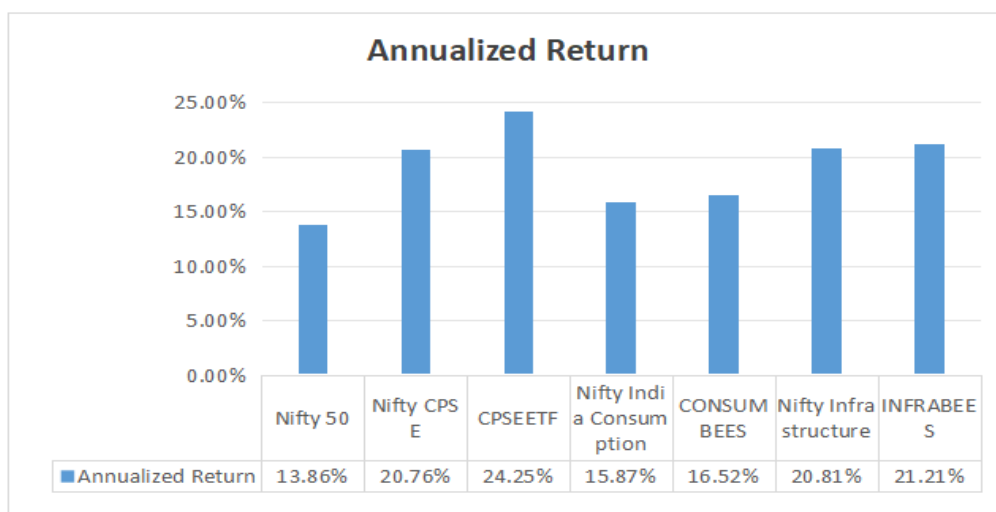
So, out of six only three are taken for the study.

| Name                         | Symbol     | Index                   |
|------------------------------|------------|-------------------------|
| Nippon India ETF Infra BeES  | INFRABEES  | Nifty Infrastructure    |
| CPSE ETF                     | CPSEETF    | Nifty CPSE              |
| Nippon India ETF Consumption | CONSUMBEES | Nifty India Consumption |

For this study, a descriptive research design is being used.

## Data Analysis and Interpretation

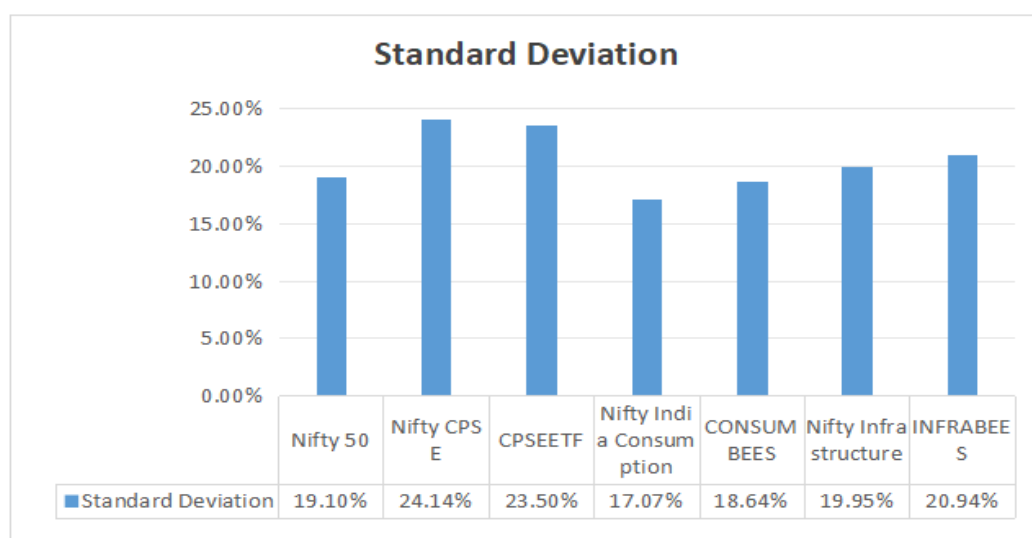
### Annualized Return and Standard Deviation



Source: Computed by MS Excel

- **Nifty 50 ETF:** Annualized return of 13.86%, which represents a moderate growth rate over the specified period. This reflects the performance of a broad market index, capturing the general movement of India’s top 50 companies.
- **Nifty CPSE ETF:** Annualized return of 20.76%, which is notably higher than the Nifty 50. This reflects the performance of Public Sector Enterprises (PSEs) in India, indicating a stronger growth rate, likely driven by the government-backed companies' performance in the market.
- **CPSE ETF:** Annualized return of 24.25%, higher than both the Nifty 50 and Nifty CPSE ETFs. This indicates a superior performance of the CPSE index in this period, which could suggest a market favoring public sector companies or specific structural improvements within this sector.
- **Nifty India Consumption:** Annualized return of 15.87%, showing a steady and healthy growth. This ETF represents the consumption-driven sector in India, which has been growing due to increased domestic spending, especially in fast-moving consumer goods (FMCG) and related sectors.
- **CONSUMBEES (Nippon India ETF Consumption):** Annualized return of 16.52%, slightly higher than the Nifty India Consumption ETF. It indicates that this ETF, which tracks the consumption sector, has performed well, though not exceptionally compared to more sector-focused funds.
- **Nifty Infrastructure:** Annualized return of 20.81%, indicating strong performance. This suggests that the infrastructure sector in India has benefited from ongoing investment and development in infrastructure projects like roads, transportation, and utilities.
- **INFRABEES (Nippon India ETF Infra BeES):** Annualized return of 21.21%, higher than the Nifty Infrastructure ETF, suggesting slightly better performance due to possibly better stock selection or management in this fund.

This performance suggests that sector-focused ETFs (especially those in infrastructure and public sector enterprises) have outperformed the broader market and consumption sectors during the given period.



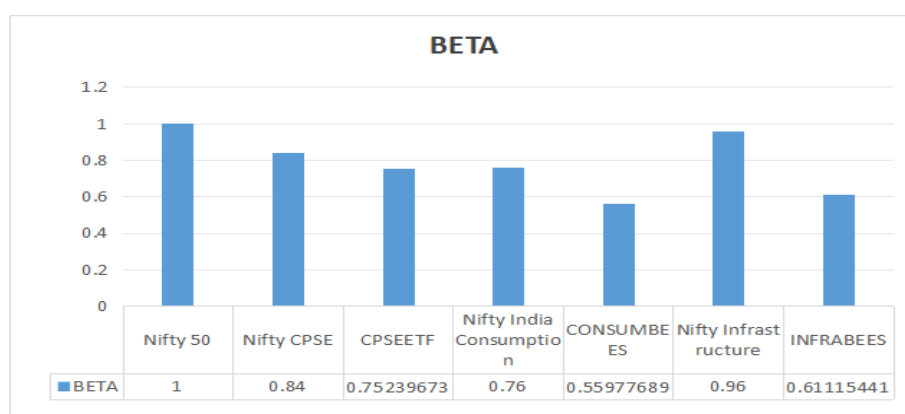
Source: Computed by MS Excel

The **Standard Deviation** represents the level of volatility or risk associated with an ETF's returns. A higher standard deviation indicates higher volatility (greater risk), while a lower standard deviation suggests lower volatility (less risk).

- **Nifty 50 ETF:19.10%**-This suggests that the returns of the Nifty 50 ETF are relatively volatile, but not as much as some of the sector-specific ETFs. Being a broad market index, it captures overall market movements, which tend to be less volatile than niche sectors.
- **Nifty CPSE ETF:24.14%**-This indicates higher volatility compared to the Nifty 50 ETF, meaning that the public sector enterprises (PSEs) are subject to more price swings, likely due to factors like government policy changes, regulatory risk, and the cyclical nature of these companies.
- **CPSE ETF:23.50%**-Similar to the Nifty CPSE ETF, this ETF has a high standard deviation, indicating that the performance of public sector enterprises can fluctuate significantly, driven by political and market conditions.
- **Nifty India Consumption:17.07%**-This lower standard deviation indicates less volatility in the consumption sector compared to other sectors like CPSE or Infrastructure. The consumption sector is generally more stable as it includes basic goods and services, which people continue to buy regardless of economic conditions.
- **CONSUMBEES (Nippon India ETF Consumption):18.64%**-Slightly higher volatility than the Nifty India Consumption ETF, indicating that this specific ETF's performance may be subject to fluctuations, though it's still less volatile than CPSE or Infrastructure-focused ETFs.
- **Nifty Infrastructure:19.95%**-Similar to the Nifty 50 ETF in volatility, but slightly higher. The infrastructure sector tends to be sensitive to government spending and macroeconomic conditions, which can lead to more significant price swings.
- **INFRABEES (Nippon India ETF Infra BeES):20.94%**-Slightly higher volatility than the Nifty Infrastructure ETF, suggesting more risk in this specific ETF's return patterns. The infrastructure sector's volatility can stem from political, economic, and funding-related factors.

In conclusion, the **Nifty India Consumption** ETFs have the least risk, while the **CPSE ETFs** show the highest level of volatility, which may be linked to the inherent risks in public sector investments and government policy.

## 2. Beta



Source: Computed by MS Excel

The **Beta** of an ETF measures its sensitivity to the overall market movements, specifically in relation to the benchmark index (in this case, the Nifty 50). A Beta of 1 indicates that the ETF's price tends to move in line with the market. A Beta less than 1 means the ETF is less volatile than the market, and a Beta greater than 1 means the ETF is more volatile than the market.

- **Nifty 50 ETF:1-** The Beta of 1 reflects that the Nifty 50 ETF moves in line with the broader market. This means it has the same volatility as the overall market index (Nifty 50), so its returns will tend to follow market trends closely.
- **Nifty CPSE ETF:0.84-** The Beta of 0.84 indicates that this ETF is less volatile than the Nifty 50. This suggests that the **Nifty CPSE ETF** (which tracks public sector enterprises) tends to be less sensitive to market fluctuations, meaning it might not experience as much price movement in response to broad market changes.
- **CPSE ETF:0.75-** This ETF has an even lower Beta than the Nifty CPSE ETF, indicating that it is even less volatile compared to the market. The CPSE ETF is more insulated from the broader market movements and may perform independently of the market's fluctuations, likely due to the nature of the public sector companies it tracks.
- **Nifty India Consumption ETF:0.76-** A Beta of 0.76 suggests that the **Nifty India Consumption ETF** is also less volatile than the broader market. This indicates that the consumption sector, which is generally more stable and less influenced by market swings, experiences fewer fluctuations compared to more cyclical sectors.
- **CONSUMBEES (Nippon India ETF Consumption):0.56-** The Beta of 0.56 indicates that this ETF is even less volatile compared to the market. It reflects that the consumption sector's performance is even more insulated from broader market movements, likely due to the essential nature of consumption-driven businesses.
- **Nifty Infrastructure ETF:0.96-** The Beta of 0.96 suggests that the **Nifty Infrastructure ETF** moves almost in line with the market but with slightly less volatility. The infrastructure sector is somewhat sensitive to economic cycles, but it is still relatively stable compared to more volatile sectors.
- **INFRABEES (Nippon India ETF Infra BeES):0.61-** This ETF has a lower Beta than the Nifty Infrastructure ETF, indicating that it is less volatile and its price movement is less correlated with market movements. The Beta suggests that this ETF's performance is relatively more stable and independent of broader market trends.

In conclusion, **Nippon India ETF Consumption** shows the least volatility and is less sensitive to market fluctuations, while the **Nifty Infrastructure ETFs** move closer to the overall market trends.

### 3. Sharpe Ratio

A mutual fund's Sharpe Ratio shows its possible risk-adjusted returns. The returns obtained from an investment over the returns produced by any risk-free asset are known as risk-adjusted returns. Higher returns, however, signify greater risk. A higher Sharpe Ratio indicates increased risk but also larger investment rewards. (*Sharpe Ratio: What Is Sharpe Ratio?* n.d.)

| Symbol     | Sharpe Ratio |
|------------|--------------|
| CPSEETF    | 0.8203073252 |
| CONSUMBEES | 0.6192507534 |
| INFRABEES  | 0.7748818263 |

The Sharpe Ratio is a measure of risk-adjusted return. It calculates the return earned in excess of the risk-free rate per unit of volatility (risk). A higher Sharpe ratio indicates better risk-adjusted performance.

- **CPSEETF:0.82-** This Sharpe ratio suggests that CPSEETF has delivered a positive return relative to its risk, but with moderate risk-adjusted performance. A ratio above 1 is considered excellent, so 0.82 indicates decent risk-adjusted returns, but there's room for improvement. It reflects that, for the amount of risk taken, the return isn't exceedingly high, but it's still favorable.
- **CONSUMBEES (Nifty India Consumption ETF):0.62-** This ratio is lower compared to CPSEETF, suggesting that the CONSUMBEES ETF has relatively lower risk-adjusted returns. It indicates that the return from the ETF is positive, but not as favorable when considering the level of risk involved. It's still a positive Sharpe ratio, meaning the returns exceed the risk-free rate, but it's not as high as the other ETFs.
- **INFRABEES (Nifty Infrastructure ETF):0.77-** INFRABEES has a Sharpe ratio of 0.77, which indicates a solid risk-adjusted return. While it's not as high as CPSEETF, it is still favorable, meaning the returns justify the level of risk taken, but again, there's room for better performance.

In conclusion, **CPSEETF** offers the best risk-adjusted performance among the three, while **CONSUMBEES** provides relatively weaker risk-adjusted returns.

#### 4. Annualized Tracking Error

A financial performance metric called tracking error calculates the discrepancy between an investment portfolio's return fluctuations and those of a selected benchmark. Standard deviations are the main metric used to quantify the return fluctuations. (*Tracking Error - Definition, Formula, and Practical Example*, n.d.)

| Symbol     | Tracking Error |
|------------|----------------|
| CPSEETF    | 0.06265700291  |
| CONSUMBEES | 0.1514123082   |
| INFRABEES  | 0.1643851362   |

- **CPSEETF (Tracking Error: 0.0627 or 6.27%):** A tracking error of 6.27% indicates that the CPSE ETF's annual returns deviate from its benchmark by an average of 6.27%. This is relatively low, suggesting that the CPSE ETF closely tracks its benchmark and provides stable performance relative to the index. This ETF is likely managed well in terms of aligning with the benchmark index.
- **CONSUMBEES (Tracking Error: 0.1514 or 15.14%):** A tracking error of 15.14% is significantly higher than CPSEETF, indicating greater variability in returns compared to its benchmark. This higher tracking error might be due to factors like higher expenses, illiquidity, or portfolio divergence from the benchmark. It suggests less alignment between CONSUMBEES and its underlying index, which could concern investors seeking index-like performance.
- **INFRABEES (Tracking Error: 0.1644 or 16.44%):** A tracking error of 16.44% is the highest among the three ETFs, showing that INFRABEES deviates substantially from its benchmark. This could indicate challenges in tracking the infrastructure sector index due to higher volatility in the underlying assets or inefficiencies in portfolio management. Investors

in this ETF should be aware of this higher deviation, as it may lead to returns significantly different from the benchmark.

## Findings

Findings are as under:-

### 1. Performance Comparison:

- **CPSEETF** outperforms all other ETFs in terms of **annualized return (24.25%)** and **Sharpe ratio (0.82)**, indicating it has provided the highest returns relative to risk during the study period. It also has a **low tracking error (6.27%)**, suggesting strong alignment with its benchmark and stable performance. This demonstrates efficient management of the ETF in tracking its index.
- **Nifty India Consumption ETFs (CONSUMBEES)** performed well in terms of **annualized return (16.52%)**, but it has the lowest **Sharpe ratio (0.62)** and a relatively **high tracking error (15.14%)**, indicating greater deviation from its benchmark. The higher tracking error could be attributed to factors like expenses or divergence from the index, making it less attractive for investors seeking index-like returns.
- **INFRABEES** had a **solid annualized return (21.21%)**, and a favorable **Sharpe ratio (0.77)**. However, it shows the **highest tracking error (16.44%)** among the three ETFs, reflecting substantial deviation from its benchmark, likely due to challenges in managing infrastructure-related assets or sector volatility. This could result in returns significantly different from the benchmark, which investors should consider.

### 2. Volatility (Risk):

- The **Nifty 50 ETF** has the **lowest volatility (19.10%)**, consistent with its position as a broad market index, but it also shows a relatively lower return (**13.86%**). This indicates that while it is stable, it doesn't capture as much growth as sector-specific ETFs like **CPSEETF** and **INFRABEES**.
- **CPSEETF** and **Nifty CPSE ETF** show higher volatility (**23.50%** and **24.14%** respectively), which is expected given the inherent risk of the public sector enterprises, particularly those influenced by government policies.

### 3. Beta (Market Sensitivity):

- **CPSEETF** has the lowest **Beta (0.75)**, indicating that it is less sensitive to broader market movements. This suggests that it is a more defensive ETF, with a lower correlation to market swings.
- **CONSUMBEES** has a Beta of **0.56**, showing lower sensitivity to the market than **CPSEETF** and higher stability during market fluctuations.

### 4. Risk-Adjusted Return:

- **CPSEETF** provides the best **risk-adjusted returns** (Sharpe ratio of **0.82**), demonstrating that the return generated justifies the risk taken, compared to other thematic ETFs.
- **INFRABEES** also provides a solid risk-adjusted return (Sharpe ratio of **0.77**), but it slightly underperforms compared to **CPSEETF**.

- **CONSUMBEES** has the lowest Sharpe ratio (0.62), suggesting that while it still provides positive returns, those returns are not as favorable when considering the risk involved.

#### Tracking Error:

- **CPSEETF** has the **lowest tracking error (6.27%)**, indicating it closely tracks its benchmark with minimal deviation, ensuring stable performance in line with the index.
- **CONSUMBEES** has a **higher tracking error (15.14%)**, suggesting notable variability in returns compared to its benchmark, which may be due to factors like expenses, illiquidity, or portfolio divergence.
- **INFRABEES** exhibits the **highest tracking error (16.44%)**, reflecting substantial deviation from its benchmark, likely due to volatility in the infrastructure sector or inefficiencies in portfolio management.

### SUMMARY AND CONCLUSION

The comparative analysis of CPSEETF, INFRABEES, and CONSUMBEES reveals significant differences in their performance, risk-adjusted metrics, and alignment with their respective benchmarks. Each ETF offers unique characteristics that appeal to different types of investors, but CPSEETF stands out as the most attractive investment option overall.

CPSEETF demonstrates the most favorable balance of high returns, risk management, and benchmark alignment. With an impressive annualized return of 24.25% and the highest Sharpe ratio (0.82) among the three ETFs, it clearly outperforms its peers in delivering superior risk-adjusted returns. The low tracking error of 6.27% further underscores its efficiency in mirroring the performance of its benchmark. This consistency suggests effective portfolio management and makes CPSEETF particularly well-suited for investors seeking stable, high-performing thematic exposure. Additionally, its relatively moderate volatility (23.50%), in comparison to its high returns, reflects its ability to balance growth with manageable risk. For investors prioritizing consistent performance closely aligned with the benchmark, CPSEETF emerges as a compelling choice.

INFRABEES, on the other hand, also delivers strong annualized returns of 21.21%, complemented by a solid Sharpe ratio (0.77), indicating that it offers good risk-adjusted returns. However, the tracking error of 16.44%, the highest among the three ETFs, raises concerns about its ability to closely follow its benchmark. This substantial deviation could stem from the challenges associated with tracking the volatile infrastructure sector, which is influenced by sector-specific economic and regulatory factors. Despite this, INFRABEES remains a viable option for investors who are comfortable with higher tracking error and interested in capitalizing on the growth potential of infrastructure-related assets. Its performance underscores the importance of carefully weighing sector volatility and tracking efficiency when selecting thematic ETFs.

CONSUMBEES, while offering a stable and less volatile profile, lags behind the other ETFs in terms of risk-adjusted performance. With a modest annualized return of 16.52% and the lowest Sharpe ratio (0.62), it delivers weaker returns relative to the risk taken. Furthermore, the tracking error of 15.14% indicates significant deviations from its benchmark, potentially caused by higher expenses, portfolio divergence, or illiquidity in the underlying assets. This lack of alignment with its benchmark may deter investors seeking index-like performance. While CONSUMBEES may appeal to risk-averse investors looking for lower volatility, its



limited growth potential and inefficiencies in tracking the benchmark reduce its overall attractiveness compared to the other ETFs in this study.

In conclusion, CPSEETF emerges as the most favorable option, offering a compelling combination of high returns, effective risk management, and strong benchmark alignment. This ETF is ideal for investors seeking both stability and growth in their thematic investments. INFRABEES, despite its higher tracking error, is a solid choice for those looking to capitalize on the growth potential in the infrastructure sector and are comfortable with deviations from the benchmark. Finally, while CONSUMBEES provides stability, its weaker risk-adjusted returns and significant tracking error highlight the need for improvements in efficiency and portfolio alignment to compete effectively in the thematic ETF space. Overall, the findings emphasize the importance of aligning investment goals with ETF characteristics, ensuring an informed approach to thematic investing.

### Limitations and Directions for Future Research

In the event that they conduct research on this topic, the researcher will be able to offer advice and recommendations to assist other researchers in gathering more important data.

- **Limited Scope of ETFs:** This analysis focuses on only three ETFs—CPSEETF, CONSUMBEES, and INFRABEES—out of a much larger pool of thematic and traditional ETFs available in the market. The findings may not be generalizable to other ETFs or thematic categories.
- **Sector-Specific Bias:** The ETFs analyzed belong to specific sectors (government enterprises, consumption, and infrastructure), which may introduce a sectoral bias in the results. The performance and risk characteristics of other sectors, such as technology or healthcare, remain unexplored.
- **Tracking Error Attribution:** While tracking errors were calculated, the precise reasons behind deviations (e.g., management inefficiencies, market illiquidity, or rebalancing costs) were not thoroughly investigated, leaving room for further exploration.

By addressing these limitations future studies can provide a more nuanced and comprehensive understanding of thematic ETFs, their role in portfolio construction, and their impact on the broader investment landscape.

### References

- 1) Lodh, A., & Gupta, R. (2024). Unpacking Active ETFs: Increasing Transparency through a Risk- and Exposure-Based Framework. *Journal of Beta Investment Strategies*, 15(4), 36.
- 2) Merlo, L. F. P. (2022). On the Impact of Thematic ETFs on Index Investing. *ON Research Journal 8th Edition*. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4048988](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4048988)
- 3) *Sharpe Ratio: What is Sharpe Ratio?* (n.d.). Groww. Retrieved December 31, 2024, from <https://groww.in/p/sharpe-ratio>
- 4) *Tracking Error - Definition, Formula, and Practical Example*. (n.d.). Corporate Finance Institute. Retrieved December 31, 2024, from <https://corporatefinanceinstitute.com/resources/career-map/sell-side/capital-markets/tracking-error/>