



## **A Risk and Return Analysis of Bharat 22 Exchange Traded Fund Portfolio**

<sup>1</sup>CA Umesh Kumar Bhavsar, <sup>2</sup>Dr. Minal Uprety

<sup>1</sup>Assistant Professor Government Girls College Sehore

<sup>2</sup>Assistant Professor, Prestige Institute of Management and Research, Indore

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### **Abstract:**

The S&P BSE Bharat 22 Index was designed to measure the performance of 22 selected companies disinvested by the central government of India. This Index was introduced on 10th August 2017. BHARAT 22 Exchange Traded Fund (ETF) is a Large Cap growth-oriented (ETF) which belongs to ICICI Prudential Mutual Fund House. This fund was launched on Nov 24, 2017. The investment objective of the fund is to invest in constituents of the Underlying Index in the same proportion as in the Underlying Index and endeavour to provide returns before expenses, which closely correspond to the total returns of the underlying Index. As per SEBI's latest guidelines to calculate risk grades, investment in the BHARAT 22 ETF comes under the Very High-risk category. It is benchmarked against S&P BSE Bharat 22 Index. The present study is an attempt to cover the detailed study of the risk and returns of the scheme from its inception to 30 December 2022.

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### **Introduction**

ETFs are mutual fund schemes that are listed and traded on a stock exchange. It consists of a basket of stocks. In other words ETFs are generally passively managed mutual fund schemes tracking a benchmark index and reflect the performance of that index. The Main features of the Exchange Traded Funds are as under.

- 1.Exchange Traded Funds are like an index fund,which tracks an Index.
- 2.The expense ratio of Exchange Traded Funds are Lower compared to actively managed schemes.
- 3.Exchange Traded Funds have Lower turnover and higher transparency as compared to actively managed schemes

Exchange Traded Funds are also like a stock and a Demat account is required before for investment we need.

ETFs can be trade on the exchange and there are Real time prices available for this product.we can put limit orders and buy minimum - 1 unit.

As per Asia Index Private Limited The S&P BSE Bharat 22 Index is designed to measure the performance of 22 select companies disinvested by the central government of India. This was launch on 10th August 2017

#### **BHARAT 22 ETF - Growth Fund Key Highlights**

The S&P BSE Bharat 22 Index comprises of 22 stocks of Central Public Sector Enterprises (CPSEs) , Public sector banks (PSBs) and Strategic Holdings of The Specified Undertaking of Unit Trust of India (SUUTI) \* The index is designed to track stocks of companies selected by the Government of India for their divestment program.

\*(The Specified Undertaking of Unit Trust of India (SUUTI) is a Statutory Authority, Which came into existence with effect from 1st February, 2003 on passing of The Unit Trust of India (Transfer of Undertaking and Repeal) Act 2002, which was Gazetted by the Central Government on 18th December, 2002.).

1. Current Net Asset Value (NAV): The Current Share Price of the BHARAT 22 ETF as of Dec 30, 2022 is Rs 57.11.
2. Returns: Its trailing returns over different time periods are: 10.35% (1yr), 15.63% (3yr) and 7.05% (since launch). Whereas, Category returns for the same time duration are: -5.36% (1yr), 15.29% (3yr) and 10.82% (5yr).
3. Fund Size: The BHARAT 22 ETF currently holds Assets under Management worth of Rs 9984.89 crore as on December 30, 2022.
4. Expense ratio: The expense ratio of the fund is 0.05% for Regular plan as on December 30, 2022.Although Average expense ratio for the Category is 0.99%
5. Exit Load: The given fund doesn't attract any Exit Load.

6. Minimum Investment: If an investor wants to buy only Bharat 22 Fund without Demat account he can invest through FOF of Bharat 22 with Minimum investment required is Rs 5000 and minimum additional investment is Rs 1. Minimum SIP investment is Rs 0.
7. BHARAT 22 ETF (An open-ended Exchange Traded Fund investing in S&P BSE Bharat 22 Index) is suitable for investors who are seeking the Long term wealth creation. But Investors must consult their financial advisors if in doubt about whether the product is suitable for them or not.
8. This is An Exchange Traded Fund that aims to provide returns that closely correspond to the returns provided by S&P BSE BHARAT 22 Index, subject to tracking error. The tracking Error of the Fund is 0.20%.
9. Index Universe of the Fund have Selected equity Stocks from CPSE, PSU banks and SUUTI
10. Methodology of weighting is Modified Market Cap Weighted.
11. Rebalancing of the portfolio is on Annual basis [Rebalancing is the act of adjusting a portfolio's changed asset allocation to match an original allocation defined by an investor's risk and reward profile.].

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### Asset Allocation & Portfolio Composition

1. The asset allocation of the fund comprises around 99.42% in equities, 0.0% in debts and 0.58% in cash & cash equivalents.
2. While the top 10 equity holdings constitute around 87.56% of the assets, the top 3 sectors constitute around 71.44% of the assets.
3. The fund largely follows a Value oriented style of investing and invests across market capitalizations - around 88.17% in Giant & large cap companies, 7.98% in Mid Cap and 3.27% in Small cap companies.

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### Review of literature

Poterba, J. M., & Shoven, J. B. (2002). This paper introduced the operation of exchange-traded funds. It also compared the pre-tax and post-tax returns on the largest ETF, the SPDR trust that invests in the S&P 500, with the returns on the largest equity Index fund, the Vanguard Index 500. The results suggested that Both the after-tax and the pre-tax returns on the fund were slightly greater than those on the ETF. These findings indicated that ETFs offer taxable investors a method of holding broad baskets of stocks that deliver returns comparable to those of low-cost index funds.

Ferri, R. A. (2009). ETFs are an important step in the investment revolution that began in 1924 with the introduction of the first open-end fund offer. ETFs represent a basket of securities that can be bought and sold that is traded in the stock exchange. The ETF is growing at a feverish pace. ETF has expanded exponentially.

Ben-David, I., Franzoni, F., & Moussawi, R. (2017). Over nearly in last 25 years, exchange-traded funds (ETFs) have become one of the most popular passive investment vehicles among retail and professional investors because of their low transaction costs and high liquidity. ETFs revolutionized the asset management industry by taking market share from traditional investment vehicles such as mutual funds and index futures. Because ETFs rely on arbitrage activity to synchronize their prices with the prices of the underlying portfolio, trading activity at the ETF level translates to trading of the underlying securities. Researchers have found that although ETFs enhance price discovery, they also inject nonfundamental volatility into market prices and affect the correlation structure of returns. Furthermore, ETFs impact the liquidity of the underlying portfolios, especially during events of market stress.

Gallagher, D. R., & Segara, R. (2005). Gallagher, D. R., & Segara, R. (2005). This study examines the performance and trading characteristics of exchange-traded funds (ETFs) in Australia. They investigated the ability of the population of index oriented (classical) ETFs on the Australian Stock Exchange (ASX) to track underlying equity benchmarks, and provide a comparison of the tracking error volatility between these types of market-traded instruments and equity index funds operated off-market. They find that while index-oriented ETFs closely track their respective benchmarks, these instruments have not been embraced to the same extent as in overseas markets and relative to off-market index managed funds. This research provides an important comparison of classical ETFs between Australia and the United States.

Bano, Yasmeen & Shanmugam, Vasantha. (2017)... The main objective of this research was to evaluate the performance of ETF funds. The study examined three parameters: tracking error, active returns and Jensen's alpha. The analysis showed that tracking error is not much higher for ETFs so the ETFs performing better in the market. And in this paper the data has been collected from the secondary sources

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### Objectives of the study-

1. To understand the Portfolio of S&P BSE Bharat 22 Index
2. To know about the Risk and Rewards associated with Bharat 22 Exchange Traded Fund
3. To compare the performance of the fund with Benchmark Index.

## Research Methodology-

We have collected data related to its adjusted price from yahoo finance since inception of the ETF and holding period returns and trailing returns were computed also we have calculated the total risk and relative systematic risk i.e. regression coefficient from historical data and for performance measure we have computed risk reward ratio given by William F. Sharpe, Treynor and finally Jensen's alpha were computed. We have also computed some other key indicators like average of price earning ratio, market value to book value research

## Results

TABLE-1 PORTFOLIO (AS ON 30TH DECEMBER, 2022)

EQUITY	99.42%
OTHERS [cash and cash equivalents]	0.58%

TABLE-2 PORTFOLIO SUMMARY (AS ON 30TH DECEMBER, 2022)

	Total stock	BHARAT 22 ETF	Other Index Funds/ETFS
LARGE CAP	(12)	88.17%	65.25%
MID CAP	(6)	7.98%	18.46%
SMALL CAP	(4)	3.27%	5.74%
TOTAL	22		

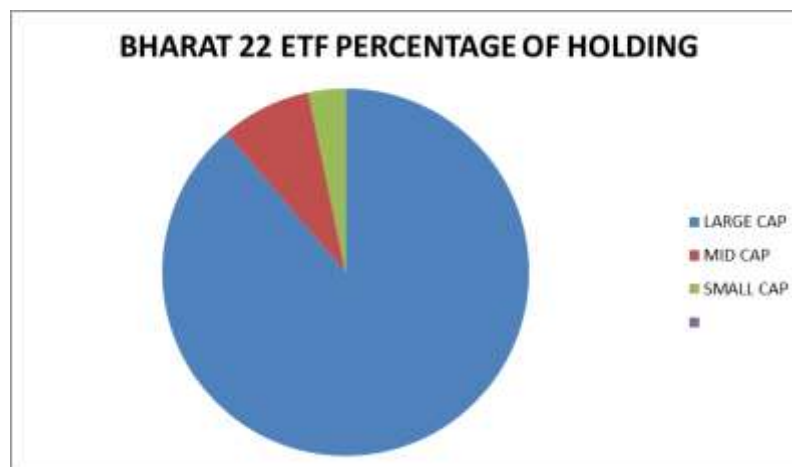
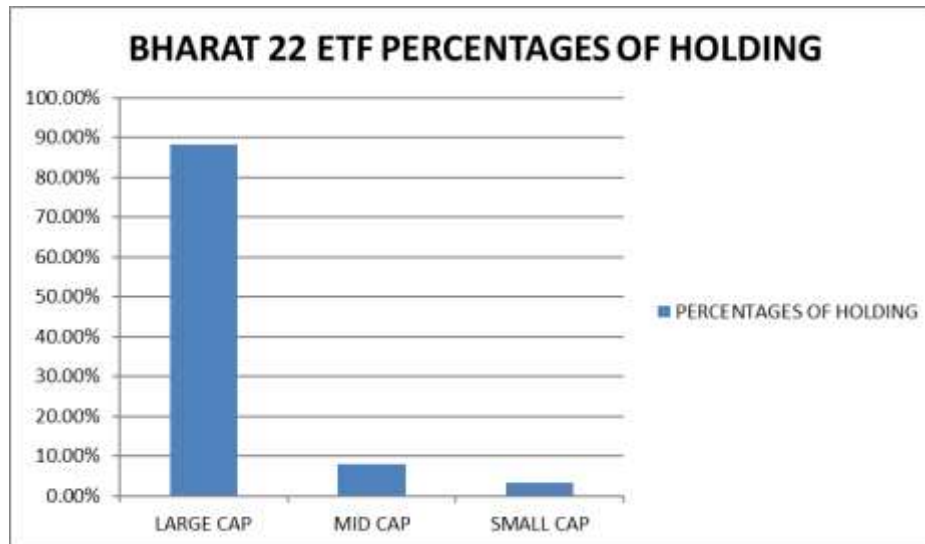


TABLE -3 TOP 10 STOCKS IN PORTFOLIO [30 DECEMBER 2022]

Stock Invested in	Sector	Value(Mn)	% of Total Holdings
<a href="#">ITC Limited</a>	Cigarettes	18374.8	18.40%
<a href="#">Larsen &amp; Toubro Ltd.</a>	Engineering, designing, construction	15203.5	15.23%

<a href="#">Axis Bank Ltd.</a>	Banks	10057.7	10.07%
<a href="#">State Bank Of India</a>	Banks	9447	9.46%
<a href="#">National Thermal Power Corporation Ltd.</a>	Power	7835.8	7.85%
<a href="#">Power Grid Corporation of India Ltd.</a>	Power- transmission	7330.3	7.34%
<a href="#">Oil &amp; Natural Gas Corporation Ltd.</a>	Oil exploration	5089.7	5.10%
<a href="#">Bharat Electronics Ltd.</a>	Industrial electronics	5011.9	5.02%
<a href="#">Coal India Ltd.</a>	Industrial minerals	4707.4	4.71%
<a href="#">Bharat Petroleum Corporation Ltd.</a>	Refineries/marketing	3365.1	3.37%

## Sector Allocations

Energy	35.4%
Financial	22.4%
Consumer Staples	18.5%
Construction	16.00%
Capital Goods	05.00%
Others	02.60%

TABLE-4 QUARTERLY RETURNS OF THE ETF

(From 2018 to 2022)

YEAR	Q1	Q2	Q3	Q4
2022	9.15	-5.22	12.27	10.54
2021	13.20	10.49	14.02	-1.83
2020	-33.42	10.29	-4.45	31.15
2019	6.25	2.87	-10.47	-1.71
2018	-6.71	-3.77	4.61	1.35

## QUARTERLY RETURNS OF THE ETF



TABLE-5 BEST PERFORMANCE OF THE FUND

	PERIOD	RETURN (%)
Month	04-Nov-2020 - 04-Dec-2020	21.39
Quarter	15-Oct-2020 - 14-Jan-2021	45.68
Year	16-Oct-2020 - 18-Oct-2021	105.45

TABLE-6 WORST PERFORMANCE OF THE FUND

	PERIOD	RETURN (%)
Month	20-Feb-2020 - 23-Mar-2020	-35.73
Quarter	24-Dec-2019 - 24-Mar-2020	-39.31
Year	25-Mar-2019 - 24-Mar-2020	-44.79

TABLE-7 ANNUALISED TRAILING RETURNS ON 30 DECEMBER 2022

	1 YEAR	3 YEAR	5 YEAR
Annualized Returns	28.39	18.26	8.64
Category Avg	3.61	14.70	11.00
Rank with Category	2	3	75

Trailing returns is a method to calculate the value of investments over a period of time. Instead of calculating the return on investment at the point when it is sold, trailing returns take into account how much it has risen or fallen since then.

TABLE- 8 ABSOLUTE RETURNS COMPARISON OVER PERIOD

ON 30 DECEMBER 2022

Period Invested for	₹10000 Invested on	Latest Value	Absolute Returns	Annualised Returns	Category Avg
1 Year	30-Dec-21	12939.50	29.39%	29.40%	4.01%
2 Year	30-Dec-20	17980.20	79.80%	34.09%	12.01%
3 Year	30-Dec-19	16583.30	65.83%	18.35%	12.95%
5 Year	29-Dec-17	15142.40	51.42%	8.64%	9.14%

PERFORMANCE OF THE FUND SINCE INCEPTION



TABLE -9 PERFORMANCE COMPARISON WITH PEERS

Category	1 Y	2 Y	3 Y	5 Y
<a href="#">This Fund</a>	29.40%	34.09%	18.35%	8.64%
<a href="#">Benchmark: S&amp;P BHARAT 22 INDEX</a>	29.74%	34.48%	18.57%	8.78%
<a href="#">Nifty 50</a>	5.24%	13.79%	13.88%	11.43%
<a href="#">Category Average</a>	4.01%	12.01%	12.95%	9.14%
<a href="#">Category Rank</a>	1/198	4/148	13/125	67/93
<a href="#">Best in Category</a>	29.74%	40.87%	32.43%	16.88%
<a href="#">Worst in Category</a>	-33.42%	-97.41%	-90.82%	-75.26%
<a href="#">This Fund</a>	29.40%	34.09%	18.35%	8.64%

TABLE-10 RISK RATIOS [RATIOS CALCULATED ON DAILY RETURNS]

30<sup>TH</sup> DECEMBER 2022

		This ETF	Average of this category
EXPLAINED VARIANCE TO TOAL VARIANCE	$R^2$	1	0.98
TOTAL VARIANCE	$\sigma^2$	574.56%	264.71%
TOTAL RISK	STANDARD DEVIATION $\sigma$	23.97%	16.27%
BETA	$\beta$	0.98	1.01
SHARPE RATIO [reward to exposure ratio on the basis if total risk]	$[\frac{R_p - R_f}{\sigma}]$	0.56	0.31
TREYNOR, S RATIO	$[\frac{R_p - R_f}{\beta}]$	0.14	0.4
JENSONS ALPHA		0.05	0.02

TABLE-11 RISK RATIOS [RATIOS CALCULATED ON DAILY RETURNS]

30<sup>TH</sup> DECEMBER 2022

[RISK AND RETURN MEASURES CALCULATED USING CALENDAR MONTH RETURNS ]

	Mean	Standard deviation	Sharpe Ratio	Sortino Ratio	Beta	Alpha
Bharat 22 ETF	19.87	26.14	0.62	0.80	1.01	0.70
S&P BSE 100 TRI	19.05	22.26	0.69	0.83	1.00	--
Equity: Large Cap	17.24	22.27	0.63	0.76	0.96	-1.22
Rank within category	5	98	71	23	93	9
Number of funds in category	100	100	100	100	100	100

The Risk Measures have been calculated using calendar month returns for the last three years. As on 30-Nov-2022

1. Weighted average of the Sharpe ratio of underlying securities. This helps understand the return of an investment compared to its risk. Sharpe ratio of 1 to 3 or above means greater returns from an investment but with a higher risk level.
2. Weighted average of the Sortino ratio of underlying securities to help evaluate the returns of an investment for a given level of bad risk. Higher Sortino ratio, better is the investment. Sortino ratio > 2 is considered to be good.
3. Weighted average of the beta of underlying securities. Beta measures the movement of a stock in relation to the overall market movement. If beta > 1, it means the stock is more volatile. If beta < 1, it means lower volatility
4. Weighted average of the alpha of underlying securities. This indicates how a stock has performed compared to the benchmark index value. If alpha is 1, it means the stock has outperformed the benchmark by 1% and -1 means the stock has underperformed by 1%.

TABLE -12 COMPARISON OF PORTFOLIO TURNOVER RATIO

Portfolio Turnover Ratio :	12.00%.
Category average turnover ratio is	37.80%.

## Conclusion:

This Scheme has not been ranked by any Ranking Agency. Fund manager updated portfolio less frequently than peers in last 1 year. (I.e. fund manager held stocks/bonds in the portfolio for longer duration than peers). total expenses ratio of the fund is less compares with peer.

Although last one year performance of the Fund is very good. But standard deviation of the Portfolio is high this is highly risky portfolio. 5 years performance is also not up to the mark. As per Sharpe ratio risk management is better. Treynors and Jenson's ratio suggest that poor risk adjusted returns. out of three measures two are against.

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