

## **BEHAVIOUR OF INDIAN FINANCIAL MARKET AND PERFORMANCE OF EXCHANGE TRADED FUNDS COMPARED TO NIFTY 50**

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### ***Abstract***

This Research Paper is a humble attempt to understand the behaviour of Exchange Traded Funds (ETFs) in Indian Market when compared with that of NIFTY50. Tracking error or active risk indicates how closely a portfolio follows the index to which it is benchmarked. Investing in securities i.e: shares, debentures, bonds are profitable as well as risky. For this it needs a scientific knowledge as well as analytical skills to deal with risk. ETFs are known to be highly attractive mean of Investment in today's Financial Markets. ETFs are common medium of Investment in Developed countries as their markets are highly stable and as a result, their Interest rates are not Floating. The performance of ETFs is measured and compared with their underlying indices. It is found that tracking error is having a positive relationship with expenses and risk of ETFs. This study uses daily closing prices of last financial year (2017-18) of 06 ETFs available on NSE website.

***Key words:*** Financial Market, Exchange Traded Funds

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### ***Introduction***

There was a time when portfolio management was an exotic term. A practice which is beyond the reach of the small investor, but the time has changed now. Portfolio management is now a common term and is widely practiced in India. The theories and concepts relating to portfolio management now find their way in the front pages of the financial newspapers and magazines. In early 90's India embarked on a program of economic liberalization and globalization, with high participation of private players. This reform process has made the Indian industry efficient, with rapid computerization, increased market transparency, better infrastructure and customer services, closer integration and higher volume. The markets are dominated by large institutional investors with their diversified portfolios. A large number of mutual funds have come up in the market since 1987. With this development investment in securities has gained considerable momentum.

Along with the spread of the securities investment way among Indian investors have changed due to the development of the quantitative techniques. Professional portfolio management, backed by research is now being adopted by mutual funds, investment

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consultants, individual investors and big brokers. The Securities Exchange Board of India (SEBI) is a regulatory body in India. It ensures that the stock market is free from fraud, and of course the main objective is to ensure that the investor's money is safe.

Portfolio not only now include domestic securities but foreign too. So financial investments can't be reaped without proper management. Another significant development in the field of investment management is the introduction to Derivatives with the availability of Options and Futures. This has broadened the scope of investment management. Investment is no longer a simple process. It requires a scientific knowledge, a systematic approach and also professional expertise. Portfolio management is the only way through which an investor can get good returns, while minimizing risk at the same time.

Hence, portfolio management objectives can be stated as: -

- ✓ Risk minimization.
- ✓ Safeguarding capital.
- ✓ Capital Appreciation.
- ✓ Choosing optimal mix of securities.
- ✓ Keeping track on performance.

#### ***ETFs launched on NSE***

Exchange Traded Funds are essentially Index Funds that are listed and traded on exchanges like stocks. An ETF is a portfolio of stocks that reflects the composition of an Index, like Nifty 50. The ETFs trading value is based on the net asset value of the underlying stocks that it represents.

#### ***ETF s Scheme launched on NSE:***

- ✓ ***Equity:*** Equity Exchange Traded Funds (ETFs) are simple investment products that combine the flexibility of stock investment and the simplicity of equity mutual funds. ETFs trade on the cash market of the National Stock Exchange, like any other company stock, and can be bought and sold continuously at market prices.

Equity ETFs are passive investment instruments that are based on indices and invest in securities in same proportion as the underlying index. Because of its index mirroring property, there is a complete transparency on the holdings of an ETF. Further due to its unique structure and creation mechanism, the ETFs have much lower expense ratios as compared to mutual funds.

- ✓ ***Debt:*** Debt Exchange Traded Funds (ETFs) are simple investment products that allow the investors to take an exposure to the fixed income securities. These debt ETFs combine the benefits of debt investments with the flexibility of stock investment and the simplicity of mutual funds. These Debt ETFs trade on the cash market of the National Stock Exchange, like any other company stock, and can be bought and sold continuously at live market prices.

Debt ETFs are passive investment instruments that are based on indices and invest in securities in same proportion as the underlying index. Because of its index mirroring property, there is a complete transparency on the holdings of an ETF. Further due to its unique structure and creation mechanism, the ETFs have much lower expense ratios as compared to mutual funds.

- ✓ **Gold:** Gold Exchange Traded Funds (ETFs) are simple investment products that combine the flexibility of stock investment and the simplicity of gold investments. ETFs trade on the cash market of the National Stock Exchange, like any other company stock, and can be bought and sold continuously at market prices.

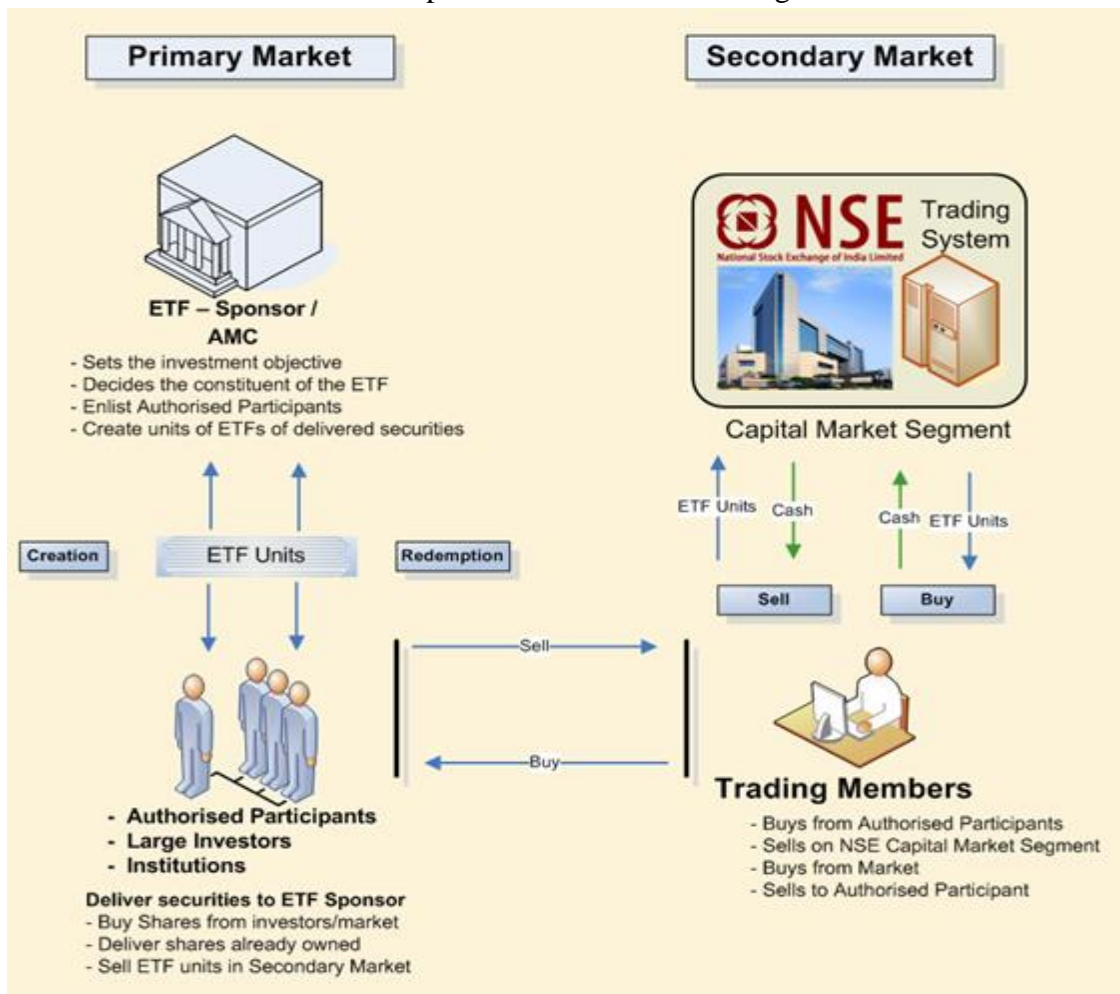
Gold ETFs are passive investment instruments that are based on gold prices and invest in gold bullion. Because of its direct gold pricing, there is a complete transparency on the holdings of an ETF. Further due to its unique structure and creation mechanism, the ETFs have much lower expenses as compared to physical gold investments.

- ✓ **World Indices:** Global Equity Exchange Traded Funds (ETFs) are simple investment products that allow the domestic investors to take an exposure to international indices. These ETFs trade on the cash market of the National Stock Exchange, like any other company stock, and can be bought and sold continuously at market prices.

ETFs are passive investment instruments that are based on indices and invest in securities in same proportion as the underlying index. Because of its index mirroring property, there is a complete transparency on the holdings of an ETF. Further due to its unique structure and creation mechanism, the ETFs have much lower expense ratios as compared to mutual funds.

**Structure of the ETF**

The structure of the ETF is as depicted with a schematic diagram:-



### Comparison of ETFs with other mutual funds

In essence, ETFs trade like stocks and therefore offer a degree of flexibility unavailable with traditional mutual funds. Specifically, investors can trade ETFs throughout the trading day as in stocks. In comparison, in a traditional mutual fund, investors can purchase units only at the fund's NAV, which is published at the end of each trading day. In fact, investors cannot purchase ETFs at the closing NAV. This difference gives rise to an important advantage of ETFs over traditional funds: ETFs are immediately tradable and consequently, the risk of price differential between the time of investment and time of trade is substantially less in the case of ETFs.

ETFs are cheaper than traditional mutual funds and index funds in terms of fees. However, while investing in an ETF, an investor pays a commission to the broker. The tracking error of ETFs is generally lower than traditional index funds due to the "in-kind" creation / redemption facility and the low expense ratio. This "in-kind" creation / redemption facility ensures that long-term investors do not suffer at the cost of short-term investor activity.

ETFs can be bought / sold through trading terminals anywhere across the country. Table No. 1 presents a comparative view ETFs vis-à-vis other funds.

#### ETFs Vs. Open Ended Funds Vs. Close Ended Funds

Parameter	Open Ended Fund	Closed Ended Fund	Exchange Traded Fund
Fund Size	Flexible	Fixed	Flexible
NAV	Daily	Daily	Real Time
Liquidity Provider	Fund itself	Stock Market	Stock Market / Fund itself
Sale Price	At NAV plus load, if any	Significant Premium / Discount to NAV	Very close to actual NAV of Scheme
Availability	Fund itself	Through Exchange where listed	Through Exchange where listed / Fund itself.
Portfolio Disclosure	Monthly	Monthly	Daily/Real-time
Uses	Equitising cash	-	Equitising Cash, Hedging, Arbitrage
Intra-Day Trading	Not possible	Expensive	Possible at low cost

In recent times, Exchange-traded funds (ETFs) have gained a wider acceptance as financial instruments whose unique advantages over mutual funds have caught the eye of many an investor. These instruments are beneficial for Investors that find it difficult to master the tricks of the trade of analyzing and picking stocks for their portfolio. Various mutual funds provide ETF products that attempt to replicate the indices on NSE, so as to provide returns that closely correspond to the total returns of the securities represented in the index. ETF's

available on NSE are diverse lot. Equity, Debt, Gold and International Indices ETF's are available

### **Advantages of ETFs**

While many investors have similar outlooks, no two are exactly alike. Due to the unique structure of ETFs, all types of investors, whether retail or institutional, long-term or short-term, can use it to their advantage without being at a disadvantage to others. They allow long-term investors to diversify their portfolio at one shot at low cost and insulate them from short-term trading activity due to the unique "in-kind" creation / redemption process. They provide liquidity for investors with a shorter-term horizon as they can trade intra-day and can have quotes near NAV during the course of trading day. As initial investment is low, retail investors find it simple and convenient to buy / sell. They facilitate FIIs, Institutions and Mutual Funds to have easy asset allocation, hedging, equitising cash at a low cost. They enable arbitrageurs to carry out arbitrage between the Cash and the Futures markets at low impact cost.

ETFs provide exposure to an index or a basket of securities that trade on the exchange like a single stock. They offer a number of advantages over traditional open-ended index funds as follows:

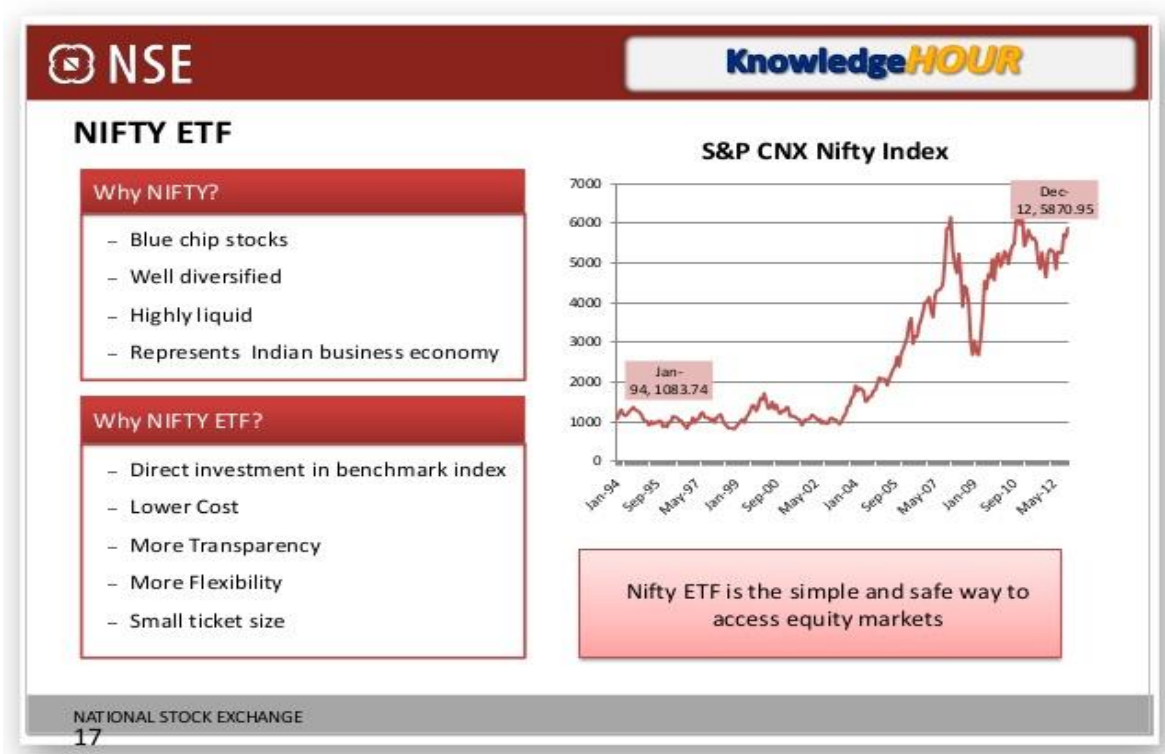
- While redemptions of Index fund units takes place at a fixed NAV price (usually end of day), ETFs offer the convenience of intra-day purchase and sale on the Exchange, to take advantage of the prevailing price, which is close to the actual NAV of the scheme at any point in time.
- They provide investors a fund that closely tracks the performance of an index throughout the day with the ability to buy/sell at any time, whereby trading opportunities that arise during a day may be better utilized.
- They are low cost.
- Unlike listed closed-ended funds, which trade at substantial premia or more frequently at discounts to NAV, ETFs are structured in a manner which allows Authorized Participants and Large Institutions to create new units and redeem outstanding units directly with the fund, thereby ensuring that ETFs trade close to their actual NAVs.
- ETFs are like any other index fund, wherein, subscription / redemption of units work on the concept of exchange with underlying securities instead of cash (for large deals).
- Since an ETF is listed on an Exchange, costs of distribution are much lower and the reach is wider. These savings in cost are passed on to the investors in the form of lower costs. Further, the structure helps reduce collection, disbursement and other processing charges.
- ETFs protect long-term investors from inflows and outflows of short-term investors. This is because the fund does not incur extra transaction cost for buying/selling the index shares due to frequent subscriptions and redemptions.
- Tracking error, which is divergence between the NAV of the ETF and the underlying Index, is generally observed to be low as compared to a normal index fund due to lower expenses and the unique in-kind creation / redemption process.
- ETFs are highly flexible and can be used as a tool for gaining instant exposure to the equity markets, equitising cash or for arbitraging between the cash and futures market.



The first ETF in India, "Nifty BeEs (Nifty Benchmark Exchange Traded Scheme) based on Nifty 50, was launched in January 2002 by Benchmark Mutual Fund. It may be bought and sold like any other stock on NSE. Its symbol on NSE is "NIFTYBEES".

### *Applications of ETFs*

- **Efficient Trading:** ETFs provide investors a convenient way to gain market exposure viz. an index that trades like a stock. In comparison to a stock, an investment in an ETF index product provides a diversified exposure to the market. Depending on the index, investors may obtain exposure to countries/ markets or sectors.
- **Equitising Cash:** Investors with idle cash in their portfolios may want to invest in a product tied to a market benchmark like an index as a temporary investment before deciding which stocks to buy or waiting for the right price.
- **Managing Cash Flows:** Investment managers who see regular inflows and outflows may use ETFs because of their liquidity and their ability to represent the market.
- **Diversifying Exposure:** If an investor is not sure about which particular stock to buy but likes the overall sector, investing in shares tied to an index or basket of stocks provides diversified exposure and reduces stock specific risk.
- **Filling Gaps:** ETFs tied to a sector or industry may be used to gain exposure to new and important sectors. Such strategies may also be used to reduce an overweight or increase an underweight sector.
- **Shorting or Hedging:** Investors who have a negative view on a market segment or specific sector may want to establish a short position to capitalize on that view. ETFs may be sold short against long stock holdings as a hedge against a decline in the market or specific sector.



### *Literature Review*

Mr. S Narend and Dr. M Thenmozhi (2000) examined the performance of ETFs and index

funds that tracked their underlying index, either the S&P BSE SENSEX index or the CNX Nifty index. The study also examined the Jensen's alpha for both ETFs as well as index funds to determine whether the fund managers were able to generate excess returns. The study examined the tracking error of ETFs and index funds. This study was limited to those funds that had AUM of more than INR 5 crore and restricted to those funds for which data was available. Since index funds have higher management fees and are also subject to higher capital gains tax compared to ETFs, underperformance would be seen more in the case of index funds than in the case of ETFs.

NamanSethi (2000) focuses on Indian ETFs listed on the National Stock Exchange while most of the literature covers the US and Canadian ETFs. The results show that average percentage turnover is increasing across the years, implying a significant growth and increased interest of investors in ETFs. This study investigates the percentage risk and return of ETFs and their underlying indices and finds that ETFs underperform their benchmarks and load their investors with extra risk than their underlying indices. These results indicate that the Indian ETFs are not able to fully replicate their benchmarks. Their less than unity betas are preventing them from full replication of underlying indices, while protecting them during bear markets. Study estimates tracking error of ETFs which is equal to a substantial 7.47%, on an average which reflects the incomplete replication of the underlying indices by the ETFs. Tracking error is having a positive relationship with expenses and risk of ETFs. Expenses are found to be having a negative impact on the performance of ETFs. The study found a positive impact of intraday volatility on the volume of ETFs. Interestingly, the average number of trades and the lagged return of previous day do not affect the volume of shares.

The popularity of Exchange Traded Funds has increased manifold attracting a lot of attention from both the investors and the market participants resulting in a continuous innovation in the Exchange Traded Funds. ETFs are essentially IFs that are listed and traded on exchanges like stock. The introduction of Gold Exchange Traded Funds and growth in the prices of Gold has led to the increased performance of Exchange Traded Funds compared to Index Funds. Exchange Traded Funds can become best investment alternative if awareness is created among the investors.

*Jonne M. Hill and Barbara Mueller (2017)*. They made a research on ETFs and they concluded that Tracking errors and returns based on fund NAV relative to the index reflect some factors characteristic of the product structure. In addition, price-to-index returns and tracking error reflect ETF prices that are captured at a different time from the underlying index and the short-supply and demand factors relevant to the ETF, as well as the hedging instruments used by the market makers. NAV tracking error is much lower than price-to-index tracking error and is the most useful measure in assessing the long-term characteristics of an ETF relative to its underlying index.

*M.Hassine and T.Roncalli (2013)*. The study is undertaken to evaluate the performance measure based on the value-at-risk framework depending on three parameters (performance difference, tracking error volatility and liquidity spread), this shows how liquidity is more of an issue for institutional investors than retail investors. Lei Gao, Yufeng Han, Sophia Zhengzi Li, Guofu Zhou(2014)<sup>11</sup> stated that intraday momentum pattern that the first half-hour return on the market predicts the last half-hour return on the

market. The predictability is both statistically and economically significant, and is stronger on more volatile days, higher volume days, recession days and some macroeconomic news release days. Moreover, the intraday momentum is also strong for ten other most actively traded ETFs. Denys Glushkov (2015)<sup>12</sup> study is undertaken to analyze whether these funds beat their Benchmarks by tilting their portfolios to well-known factors such as size, value, momentum, quality, beta and volatility and to test if Smart Beta funds harvest factor premiums more efficiently than their traditional cap-weighted benchmarks by periodic trading against price movements.

### ***Objective Of The Study***

✓ To analyze the performance of Exchange Traded Funds tracking NIFTY50 in India.

### ***Research Methodology***

#### ***Research Design***

This research is based on descriptive analysis. The research relates to measures the role of ETFs in managing a portfolio and analysing the performance of top ETFs tracking NIFTY in India.

ETFs data are collected and then are compared with that of NIFTY50 so as to get the tracking error using Beta, covariance, correlation.

#### ***Sampling Size***

According to Goode and Hatte, a sample is a smaller representation of the larger population. The sample size of this study is limited to 6 top ETFs.

The data of the following ETFs were available on the website of NSE has been considered:-

- NIFTYEES
- QNIFTY
- NIFTYBEES
- M50
- BSLNIFTY
- KOTAKNIFTY

#### ***Sources Of Data***

The secondary data was collected as a part of the research. Secondary data about Exchange Traded Funds and Index were collected from websites of NSE and AMFI. Data of past one year has been collected and sorted. The closing data of various ETFs along with that of NIFTY Index has been taken into account.

#### ***Findings And Interpretation***

- The ETF which has higher AUM has shown lesser tracking error. The NIFTYBEES, the oldest ETF, has highest AUM and has shown lesser tracking error.
- The ETF which has higher AUM has generated alpha. The NIFTYBEES, the oldest ETF, has highest AUM and has generated alpha compared to other ETFs.
- The ETFs which have comparatively higher AUM have shown lesser beta and positive beta with underlying index NIFTY. The NIFTYBEES, M50, BSLNIFTY and KOTAKNIFTY have shown lesser and positive beta.
- The ETFs which have comparatively higher AUM have shown positive correlation with underlying index NIFTY. The NIFTYBEES, M50, BSLNIFTY and KOTAKNIFTY have shown positive correlation.



- The ETFs which have comparatively higher AUM have shown positive covariance with underlying index NIFTY. The NIFTYBEES, M50, BSLNIFTY and KOTAKNIFTY have shown positive covariance.
- The ETFs which have comparatively higher AUM have shown reasonably less annual volatility. The NIFTYBEES, M50, and BSLNIFTY (except KOTAKNIFTY) have shown reasonably less annual volatility.
- The ETFs which have comparatively higher AUM have shown reasonably less daily volatility. The NIFTYBEES, M50, and BSLNIFTY (except KOTAKNIFTY) have shown reasonably less daily volatility.
- The ETFs which have comparatively higher AUM have shown positive average daily returns. The NIFTYBEES, M50, and BSLNIFTY (except KOTAKNIFTY) have shown positive average daily returns.

### ***Conclusion***

Overall ETFs provide exposure to an index or a basket of securities that trade on the exchange like a single stock. ETFs are highly flexible and can be used as a tool for gaining instant exposure to the equity markets, equitising cash or for arbitraging between the cash and futures market. In this research, we have compared the top 06 ETFs with that of NIFTY50 and found that the ETFs with higher AUM fare better than their peers with lower AUM in generating alpha, volatility and tracking.

### ***References***

<https://nseindia.com/>