CHAPTER II

REVIEW OF LITERATURE

This chapter attempts to review the work done by other researchers in the field of index mutual funds and ETFs. This is likely to provide an insight into the problems facing the industry and methodologies adopted by earlier researchers to study the various aspects relating to index mutual funds and exchange traded funds. A brief description of such studies has been given as under:

Sharpe, W.F. (1991). The classic article “The Arithmetic of Active Management” by Sharpe explains why the average investor cannot hope to beat comprehensive equity index. Later in his article, stated that it is perfectly possible for some active managers to beat their passive counterparts, even after costs. These manager must, of course, manage a minority share of the actively managed dollars within specified market. Another important outcome of the article is that the best way to measure a fund manager’s performance is to compare his or her return with that of a comparable passive alternative.

Jayadev, M., (1996) studied “Mutual Fund Performance: An Analysis of Monthly Returns”, In this study an attempt is made to evaluate the performance of two growth oriented mutual funds (Master gain and Magnum Express) on the basis of monthly returns compared to benchmark returns. For this purpose, risk adjusted performance measures suggested by Jenson, Treynor and Sharpe are employed. It is found that, Master gain has performed better according to Jenson and Treynor measures and on the basis of Sharpe ratio its performance is not up to the benchmark. The performance of Magnum Express is poor on the basis of all these three measures. However, Magnum Express is well diversified and has reduced its unique risk.

whereas Master gain did not. These two funds are found to be poor in earning better returns either adopting marketing or in selecting underpriced securities. It can be concluded that, the two growth oriented funds have not performed better in terms of total risk and the funds are not offering advantages of diversification and professionalism to the investors.

Nalini Prava Tripathy (1996) examined “Mutual Fund in India: A Financial Service in Capital Market”, and found that the Indian capital market has been increasing tremendously during last few years. With the reforms of economy, reforms of industrial policy, reforms of public sector and reforms of financial sector, the economy has been opened up and many developments have been taking place in the Indian money market and capital market. In order to help the small investors, mutual fund industry has come to occupy an important place. The main objective of this study is to examine the importance and growth of mutual funds and evaluate the operations of mutual funds and suggest some measures to make it a successful scheme in India.

Many prior studies examined the pricing efficiency of ETFs, wherein the difference between ETF prices and NAVs was investigated. Ackert and Tian (2000) found that the United States of America ETFs are priced closer to their NAVs than the country ETFs are.

Arnold L. Redman, N.S. Gullett and Herman Manakyan, (2000) made a study titled “The Performance of Global and International Mutual Funds”, this study examines the risk-adjusted returns using Sharpe’s Index, Treynor’s Index, and

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Jensen’s Alpha for five portfolios of international mutual funds and for three time periods: 1985 through 1994, 1985-1989, and 1990-1994. The benchmarks for comparison were the U. S. market substituted by the Vanguard Index 500 mutual fund and a portfolio of funds that invest solely in U. S. stocks. The results show that for 1985 through 1994 the portfolios of international mutual funds outperformed the U. S. market and the portfolio of U. S. mutual funds under Sharpe’s and Treynor’s indices. During 1985-1989, the international fund portfolio outperformed both the U. S. market and the domestic fund portfolio, while the portfolio of Pacific Rim funds outperformed both benchmark portfolios. Returns declined below the stock market and domestic mutual funds during 1990-1994.

Irisappane, Aravazhi (2000) in their study entitled “Paradigm Shifts In The Performance Of Indian Mutual Funds: An Analysis With Reference To Close-Ended Funds Of Selected Institutions”, evaluated the investment pattern and performance of 34 close-end schemes from 1988-98 and elicited the views of investors and managers belonging to Chennai, Mumbai, Pune and Delhi. The survey identified that the investors desired a return equivalent to market. 16 schemes reported greater risk than the market volatility. Majority of the schemes had a lower beta. Negative values in the case of Treynor and Sharpe index among many schemes indicated the mockery of the market. He further identified that the fund managers of 26 schemes had missed the chance of gaining from scheduling with response to changes in the market.

Gupta Amitabh (2000) have analyzed “Investment Performance of Indian Mutual Funds: An Empirical Study”, and identified that the IMFI had come a long

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way since its inception in 1964. The transformation in the previous decade was the outcome of policy initiatives taken by the Government of India to break the monolithic structure of the industry in 1987 by permitting public sector banks and insurance sectors to enter the market.\(^7\)

Ramesh Chander (2000) has carried out “Performance Appraisal of Mutual Funds in India”, and examined 34 mutual fund schemes with reference to the three fund characteristics with 91-days treasury bills rated as risk-free investment from January 1994 to December 1997. Returns based on NAV of many sample schemes were superior and highly volatile compared to BSE SENSEX. Open-end schemes outperformed close-end schemes in term of return. Income funds outsmarted growth and balanced funds. Banks and UTI sponsored schemes performed fairly well in relation to sponsorship. Average annual return of sample schemes was 7.34 percent due to diversification and 4.1 percent due to stock selectivity. The study revealed the poor market timing ability of mutual fund investment. The researcher also identified that, 12 factors explained majority of total variance in portfolio management practices.\(^8\)

Russ Wermers, (2000) examined “Mutual Fund Performance: An Empirical Decomposition into Stock-Picking Talent, Style, Transactions Costs, and Expenses”, he used a new database to perform a comprehensive analysis of the mutual fund industry. They found that funds hold stocks that outperform the market by 1.3 percent per year, but their net returns underperform by one percent. Of the 2.3 percent difference between these results, 0.7 percent is due to the underperformance of non-stock holdings, whereas 1.6 percent is due to expenses and transactions costs. Thus,

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funds pick stocks well enough to cover their costs. Also, high-turnover funds beat the Vanguard Index 500 fund on a net return basis. This evidence supports the value of active mutual fund management⁹.

Klaas P. Baks, Andrew Metrick, and Jessica Wachter, (2001) made their study on, “Should Investors Avoid All Actively Managed Mutual Funds? A Study in Bayesian Performance Evaluation”. This study analyzes mutual-fund performance from an investor’s perspective. They studied the portfolio-choice problem for a mean-variance investor choosing among a risk-free asset, index funds, and actively managed mutual funds. To solve this problem, they employed a Bayesian method of performance evaluation; a key innovation in our approach is the development of a flexible set of prior beliefs about managerial skill. They then applied their methodology to a sample of 1,437 mutual funds. They found that some extremely skeptical prior beliefs nevertheless lead to economically significant allocations to active managers¹⁰.

Gupta Amitabh (2001) in his paper titled “Mutual Funds in India: A Study of Investment Management”, evaluated the performance of 73 selected schemes with different investment objectives, both from the public and private sector using Market Index and Fundex. NAV of both close-end and open-end schemes from April 1994 to March 1999 were tested. The sample schemes were not adequately diversified, risk and return of schemes were not in conformity with their objectives, and there was no evidence of market timing abilities of mutual fund industry in India¹¹.

Narasimhan M S and Vijayalakshmi S (2001) have carried out “Performance Analysis of Mutual Funds in India”, analyzed the top holding of 76 mutual fund schemes from January 1998 to March 1999. The study showed that, 62 stocks were held in portfolio of several schemes, of which only 26 companies provided positive gains. The top holdings represented more than 90 percent of the total corpus in the case of 11 funds. The top holdings showed higher risk levels compared to the return. The correlation between portfolio stocks and diversification benefits was significant at one percent level for 30 pairs and at five percent level for 53 pairs\(^\text{12}\).

Kothari, S. P. and Jerold B. Warner, (2001) in their work entitled “Evaluating Mutual Fund Performance”, they studied standard mutual fund performance measures, using simulated funds whose characteristics mimic actual funds. They found that performance measures used in previous mutual fund research have little ability to detect economically large magnitudes e.g., three percent per year of abnormal fund performance, particularly if a fund’s style characteristics differ from those of the value-weighted market portfolio. Power can be substantially improved, however, using event-study procedures that analyze a fund’s stock trades. These procedures are feasible using time series data sets on mutual fund portfolio holdings\(^\text{13}\).

Jonne M. Hill and Barbara Mueller (2001) 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\textsuperscript{14}.

\textbf{Elton et al.} (2002) Examined the tracking error and performance of ETFs, and found that SPDR ETFs underperformed the S&P 500 index by an average of 28 basis points per annum; they also found the tracking errors to be very small. Another important finding from the study was that daily trading prices of SPDRs moves closely to its NAV as a result of efficient arbitrage execution. While they reported that the premiums or discounts are economically not significant.\textsuperscript{15}

\textbf{Poterba and Shoven} (2002) examined the performance of SPDRs and highlighted the tax advantages of ETFs due to their unique in-kind creation and redemption. He compared the pre-tax and post-tax returns of the SPDRs and vanguard index funds, which both track the S&P 500 index. They conclude that these funds present a similar pre-tax and post-tax returns performance. Furthermore, they demonstrate that redemption in-kind is powerful means of reducing or eliminating embedded capital gains\textsuperscript{16}.

\textbf{Roshni Jayam’s} (2002) in her article titled “Debt Be Not Proud, Equity’s Back” brought out that equities had a good chance of appreciation in future. The researcher was of the view that, investors should correctly judge their investment objective and risk appetite before picking schemes, diversified equity funds were typically safer than others and index funds were the best when market movements

\textsuperscript{14} Jonne M. Hill and Barbara Mueller, “The appeal of ETF’s” (2001), Benchmark Mutual Fund
were not certain. The researcher suggested Systematic Withdrawal Plan (SWP) with growth option was more suitable for investors in need of regular cash inflows\textsuperscript{17}.

**Kostovetsky** (2003) models the difference in costs between ETFs and index mutual funds in terms of management fees, shareholders transaction fees and taxation efficiency. He also makes note of other qualitative differences between ETFs and index mutual funds. The author compares the sources of underperformance in relation to benchmark indices for both ETFs and index funds demonstrating that these sources are mainly different because of the structural and operating formation of these investing products\textsuperscript{18}.

**Kshama Fernandes**, (2003) in their work titled “Evaluating index fund implementation in India”, since the first index fund launched in 1999, found that the index fund market in India had been growing steadily. In this paper, we seek to measure and understand the tracking error of index funds in India. The consistency and level of tracking errors obtained by some well–run index funds suggests that it is possible to attain low levels of tracking error under Indian conditions. At the same time, there do seem to be periods where certain index funds appear to depart from the discipline of indexation\textsuperscript{19}.

**Singh, Jaspal and Subhash Chander** (2003) have analyzed “What Drives the Investors towards Mutual Funds: An Empirical Analysis”, and identified that past record and growth prospects influenced the choice of scheme. Investors in mutual funds expected repurchase facility, prompt service and adequate information. Return, portfolio selection and NAV were important criteria’s for mutual fund appraisal. The ANOVA results indicated that, occupational status; age had insignificant influence on

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the choice of scheme. Salaried and retired categories had priority for past record and safety in their mutual fund investment decisions\textsuperscript{20}.

**Sharath Jutur** (2004) in his paper titled “Evaluating Indian Mutual Funds”, studied 58 schemes during the bear period (September 1998 to April 2002). He identified that the risk was low for 37 schemes, below average risk for 11 and of average risk for 10 schemes. Risk-return analysis revealed that, average mutual funds were found to be with low unsystematic and high total risk. The return was positive in the case of 46 schemes, with 30 schemes yielding above 5 percent. 32 schemes had positive Treynor ratio, 30 schemes had positive Sharpe ratio, 35 schemes had positive Jensen measure due to the bearish market with low CAPM returns\textsuperscript{21}.

**Elango’s** (2004) has analyzed “Which fund yields more returns?” and analytical results indicated that, private funds had a high positive association between the past and current year NAV compared to public sector. The private sector schemes outperformed public sector in terms of NAV range value, innovative products and in deployment of funds. Public sector funds showed low volatility as against greater variability for private sector indicating low consistency. The Student $t$ test indicated the existence of a high significant difference between the mean NAV of private sector funds and public sector with a high statistical significance of (-) 5.95\textsuperscript{22}.

**Gastineau** (2004) suggests that the pre-tax return of ETFs generally displays inferior performance in comparison to the index mutual funds, which track the same indices. The author attributes a portion of the blame for the low returns to the lack of aggressiveness of ETF managers in changing an indexed portfolio when announcement is made. In addition, the in-kind process of ETFs creation and

redemption restricts the ability of managers to follow accurately, immediately and inexpensively the adjustments of the tracking indices, resulting in lower returns\textsuperscript{23}.

**Alexandros Koulis, Christina Beneki, Maria Adam and Charalampos Botsaris**, (2004) in their study entitled, “An Assessment of the Performance of Greek Mutual Equity Funds Selectivity and Market Timing”, they have empirically examined the performance of fifteen Greek mutual equity funds. The data on which this study was based is monthly and refer to the period January, 2000 to December, 2008. Based on the Treynor-Mazuy model and Sharpe and Treynor measures, the study evaluates which equity fund entails selectivity and market timing. Our results demonstrate that the examined domestic mutual equity funds have not exhibited selectivity and showed minimum market timing ability during the study period\textsuperscript{24}.

**Rogér Ottena, Dennis Bams**, (2004) made research on “How to measure mutual fund performance: economic versus statistical relevance”. They presented a comprehensive assessment of existing mutual fund performance models. Using a survivor-bias free database of all US mutual funds, they explored the added value of introducing extra variables such as size, book-to-market, momentum and a bond index. In addition to that they evaluated the use of introducing time-variation in betas and alpha. The search for the most suitable model to measure mutual fund performance will be addressed along two lines. First, they were interested in the statistical significance of adding more factors to the single factor model. Second, they focused on the economic importance of more elaborate model specifications. The added value of the present study lies both in the step-wise process of identifying


\textsuperscript{24} Alexandros Koulis, Christina Beneki, Maria Adam and Charalampos Botsaris, “An Assessment of the Performance of Greek Mutual Equity Funds Selectivity and Market Timing”, Applied Mathematical Sciences, Vol. 5, 2011, no. 4, pp.159 - 171
relevant factors, and the use of a rich US mutual fund database that was recently released by the Center for Research in Security Prices.\textsuperscript{25}

\textbf{Gallagher and Segara} (2004) examined the performance of Australian ETFs between January 2002 and December 2003 and they found that evidence of significant tracking errors for ETFs while there is no significant bias in performance over majority of half yearly intervals examined. They also document small dollar and percentage differences in price and NAV that do not persist over time, but rather disappear within a day, indicating the pricing efficiency of Australian ETF market. However, an analysis of the trading profile of ETFs reveals lack of trading activity for ETFs in Australia, since the average trading volume of ETFs as a percentage of total issues outstanding was found to be below 0.5% over most of the time periods analyzed.\textsuperscript{26}

\textbf{Rompotis} (2006) empirically examined the performance of 73 equity ishares ETFs from 3/10/2005 to 29/9/2006 using daily data. The study founds that ishares returns move in line with the return of indices and follow relatively perfect replication of the index portfolio. Further, the study finds significant tracking errors for ishares. Examining the relation among performance and premium, the study finds that the lagged premium is negatively related to return and the concurrent premium influences it positively.\textsuperscript{27}


schemes earned returns higher than the market but lower than 91 days Treasury bill rate. The average risk of the schemes was higher than the market. 15 schemes had an above average monthly return. Growth schemes earned average monthly return. The risk and return of the schemes were not always in conformity with their stated investment objectives. The sample schemes were not adequately diversified, as the average unique risk was 7.45 percent with an average diversification of 35.01 percent. 23 schemes outperformed both in terms of total risk and systematic risk. 19 schemes with positive alpha values indicated superior performance. The study concluded that, the Indian Mutual Funds were not properly diversified.\footnote{Muthappan P K & Damodharan E, “Risk-Adjusted Performance Evaluation of Indian Mutual Funds Schemes”, Finance India, Vol. XX (3), (September 2006), pp.965-983.}

**Engle and Sarkar** (2006) examined the end-of-day and intra-daily premiums for a collection of 21 domestic and 16 international ETFs and measures both the magnitude and the persistence of the premiums. The overall findings of the study suggests that once mismatches in timing are accounted for, the premiums (discounts) for the domestic ETFs are generally small and highly transient, typically lasting only several minutes.\footnote{Engle, R. & Sarkar, D. “Premiums-discounts and Exchange Traded Funds”, Journal of Derivatives (summer), (2006), pp.27–45.}

**Joel T. Harper, Jeff Madura and Oliver Schnusenberg** (2006) have compared the risk and return performance of Exchange-Traded Funds (ETFs) available for foreign markets and closed-end country funds. They utilized 29 closed-end country funds (CEFs) for 14 countries over the sample period from April 1996 to December 2001. The performance proxies are mean returns and risk-adjusted returns. Results indicates that ETFs exhibit higher mean returns and higher Sharpe ratios than foreign closed-end funds, while CEFs exhibit negative alphas. This indicates that a passive investment strategy utilizing ETFs may be superior to an active investment
strategy using CEFs. The findings reported here offer some insight on the relative advantages of each type of investment. Specifically, there may be some potential for additional types of ETFs that offer higher risk-adjusted returns than closed-end funds. Such ETFs may be able to offer higher risk-adjusted returns as part of an internationally diversified portfolio.\textsuperscript{30}

Sanjay Kant Khare (2007) made a study titled “Mutual Funds: A Refuge for Small Investors” and opined that investors could purchase stocks or bonds with much lower trading costs through mutual funds and enjoy the advantages of diversification and lower risk. The researcher identified that, with a higher savings rate of 23 percent, channeling savings into mutual funds sector has been growing rapidly as retail investors were gradually keeping out of the primary and secondary market. Mutual funds have to penetrate into rural areas with diversified products, better corporate governance and through introduction of financial planners. The present work is based on the review of 27 foreign and 46 Indian studies relating to mutual funds. The review of foreign studies ensures that, mutual funds have a significant impact on the price movement in the stock market, the average return from the schemes were below that of their benchmark, all the three models provided identical results, good performance were associated with low expense ratio and not with the size. The aforementioned studies indicate that the evaluation of mutual funds has been a matter of concern in India for the researchers, academicians, fund managers and financial analysts to a greater extent after 1985. The reviews bring to light the importance of mutual funds in the Indian financial scenario; highlight the need for adequate investor protection, single regulatory authority, higher return for a given risk as per investors’ expectation,

\textsuperscript{30}Joel T. Harper, Jeff Madura and Oliver Schnusenberg “Performance comparison between exchange-traded funds and closed-end country funds” (2006)
greater convenience and liquidity, and the expectations that mutual funds should act as a catalytic agent of economic growth and foster investors’ interest\(^{31}\).

**Rompotis** (2008) provides empirical insight of ETFs return characteristics. He performed a statistical comparison between ETFs and index funds that track exactly the benchmark indices. The author estimated average return and volatility, finding that ETFs and index funds achieve approximately similar performance and risk records. Furthermore, ETFs and index funds do not produce any excess returns relative to their indices’ returns. Three alternative methods to estimate tracking error are used and the findings are that ETFs and index funds, on average, present qualitatively the same tracking error records. Moreover, regression analysis revealed that a positive relation between ETF’s return and expenses exist. The respective relationship for index funds is also positive but insignificant\(^{32}\).

**Talat Afza and Ali Rauf**, (2009) made a study titled, “Performance Evaluation of Pakistani Mutual Funds”, The purpose of their study is to provide guidelines to the managers of open-ended Pakistani mutual funds and benefit small investors by pointing out the significant variables influencing the fund performance. An effort has been made to measure the fund performance by using Sharpe ratio with the help of pooled time-series and cross-sectional data and focusing on different fund attributes such as fund size, expenses, age, turnover, loads and liquidity. The quarterly sample data are collected for all the open-ended mutual funds listed on Mutual Fund Association of Pakistan (MUFAP), for the years 1999-2006. The results indicate that


among various funds attributes lagged return, liquidity and 12B-1 had significant impact on fund performance\(^{33}\).

**Marta Charron**, (2010) made research on “Real Estate Closed-end Funds and Exchange Traded Funds: A Style Analysis and Return Attribution”, and examined the performance of real estate closed-end funds and exchange traded funds using style analysis and attribution analysis which are return-based methods. The style analysis determines the fund’s exposure to different asset classes and is used to evaluate the fund’s portfolio compositions. Attribution analysis measures performance in terms of managerial skill. A sample of monthly net asset values returns and market returns for the years 1993-2009 is used. The asset classes to determine exposure are the Association of Real Estate Investment Trusts (NAREIT) equity, mortgage, hybrid indexes, and 1-month T-bill as a proxy for cash. They concluded that real estate closed-end funds and exchange traded funds invest primarily in equity assets and they found no evidence that either of the managers possess any forecasting skill as showed by the attribution return analysis. They found perceived managerial ability in closed-end funds attribution analysis when using market returns as proxy of investor sentiment toward managerial skill\(^{34}\).

**Sangheon Shin, Gokce Soydemir** (2010) made their study on “Exchange Traded Funds, persistence in tracking errors and information dissemination” and stated that tracking errors from 26 exchange-traded funds (ETFs) utilizing three different methods and test their relative performance using Jensen's model. They found that tracking errors are significantly different from zero and display persistence. Based on Jensen's alpha, risk adjusted returns are significantly inferior to benchmark

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returns for all ETFs with two exceptions at conventional significance levels revealing
that passive investment strategy does not outperform market returns. They then
examined the degree to which frequently used factors such as expense ratio,
dividends, exchange rate and spreads of trading prices may be underlying sources of
tracking errors causing this underperformance\textsuperscript{35}.

**Prashanta Athma And K.Raj Kumar** (2011) in their study entitled, “ETF
Vis-À-Vis Index Funds: An Evaluation”, focuses an Exchange-Traded Fund (ETF)
and Index Funds are an innovative products which puts together favorable
characteristics of open-ended and closed-ended mutual funds and presents a more
flexible and liquid product for investors. The study covers the trends and progress of
ETFs and Index Funds in India and to evaluate the performance of ETFs vis-à-vis
Index Funds in India. The study is based on secondary data and covering the period of
five years from 2005 to 2009 for the purpose of evaluating performance of select
ETFs and Index Funds in India. Since inception, the data has been collected for the
purpose of analyzing trends and progress of ETFs and Index funds in India. The
parameters for evaluating the performance are Net Asset Value, Risk, Return,
Expenses Ratio, Tracking Error, Reward to Variability and Differential Return. The
statistical tools like Standard Deviation, Beta, Alpha, R-squared and Sharpe Ratio are
used for data analysis. It is concluded that ETFs have given better opportunity for the
small investors in terms of diversified portfolio with a small amount of money; low
expense ratio, reduced tracking error, lower risk and volatility as compared to Index
Funds. The ETFs can become a best investment alternative, provided, awareness is
created among the investors\textsuperscript{36}.

\textsuperscript{35} Shin, Sangheon and Soydemir, Gokce, “Exchange-Traded Funds, Persistence in Tracking Errors and
\textsuperscript{36} Prashanta Athma and K. Raj Kumar, “ETF Vis-À-Vis Index Funds: An Evaluation”, Sri Krishna
Gerasimos G. Rompotis, (2011) made a study titled, “ETFs vs. Mutual Funds: Evidence from the Greek Market”, they expanded the debate on “Exchange Traded Funds vs. Traditional Mutual Funds” using for the first time data from the emerging Greek ETF market. In particular, trading and business data of the first ETF launched in Greek market, namely the ALPHA ETF FTSE ATHEX 20 are employed along with the respective data of its mutual funds counterparts (one index fund and 3 active mutual funds) so that they examined various issues concerning return, risk and expense features of these competitive investment vehicles. Four different open ended mutual funds are used in the study, each of which has the same benchmark as the ETF considered. The applied empirical analysis provides various interesting findings. At first, the classic mutual funds are more expensive than the ETF but they perform better and are less volatile. Going further, the ETF is more conservative that the open-ended mutual funds. Moreover, the relevant performance of the ETF in respect of the return of the tracking index is better than the corresponding performance of the funds. Finally, the tracking error of the ETF is reasonably found to be lower than the tracking error of the actively managed funds but it is greater than the tracking error of the index fund.

Nooney Lenin Kumar and Vangapandu Rama Devi, (2011) have analyzed “Performance Evaluation of Private and Public Sponsored Mutual Funds in India”. In the current complex financial scenario, mutual funds are an ideal investment vehicle to the small investors. Mutual funds which have been operating for greater than five years and performing during the period of study (i.e. 2003 – 2007) are selected for the present research. The sample for the study consists of 340 mutual funds belonging to four categories - Money market category funds, Debt Category Funds, Equity

category funds and balanced category funds. These are further classified into private and public mutual funds. The performance of selected funds is evaluated using average rate of return of fund, standard deviation, Risk/Return, Sharpe Ratio, Treynor ratio and Jensen ratio. Benchmark comparison is also made as it indicates to what extent the fund managers were able to produce better performance of managed portfolio compared to the market or index portfolios\textsuperscript{38}.

Deepika Sharma, Poonam Loothra, Ashish Sharma, (2011) have carried out “Comparative Study of Selected Equity diversified Mutual Fund Schemes”, With the plethora of schemes available in the Indian markets, an investors needs to evaluate and consider various factors before making an investment decision. The present investigation is aimed to examine the performance of safest investment instrument in the security market in the eyes of investors i.e., mutual funds by specially focusing on equity-diversified schemes. Eight mutual fund schemes have been selected for this purpose. The examination is achieved by assessing various financial tests like Sharpe Ratio, Standard Deviation, Alpha, Beta (b) and Coefficient of Determination ($R^2$). Furthermore, in-depth analysis also has been done by considering return over the period of last five years on various basis, expenses ratio, corpus-size etc. the data has been taken from various websites of mutual fund schemes and from www.amfiindia.com. Calculated results are in the favor of Reliance Regular Savings Equity in terms of returns over the last five years and Birla Sun Life Dividend Yield Plus in terms of maximum returns by taking minimum risks. The study will be helpful

for the researchers and financial analysts to analyze various securities or funds while selecting the best investment alternative out of the galaxy of investment alternatives.\textsuperscript{39}

\textbf{Jatinder Loomba,} (2011) made a study titled “Investigating performance of Equity-Based Mutual Fund Schemes and Comparison with Indian Equity Market” and found that the backdrop of liberalization and private participation in the Indian mutual fund industry, the challenge to survive and retain investor confidence has been a prime area of concern for fund managers. For small investors who do not have the time or the expertise to take direct investment decision in equities successfully, the alternative is to invest in mutual funds. The performance of the mutual fund products become more complex in context of accommodating both return and risk measurements while giving due importance to investment objectives. The main objective of the study was to evaluate the performance and growth of Indian mutual funds vis-à-vis the Indian equity market. For the purpose of this study, Franklin Templeton Large Cap Equity mutual funds have been studied over the time period of 15th Sept 2010 to 15th Sept 2011 (1 year). Performance evaluation of mutual funds is one of the preferred areas of research where a good amount of study has been carried out. The area of research provides diverse views of the same. The analysis has been made on the basis of Sharpe ratio, Maan Whitney’s U-Test and Kruskal Wallis Test. The overall analysis finds that Nifty returns outperformed Franklin Templeton Large Cap Equity Scheme returns. Kruskal Wallis H-test was applied to know whether the returns significantly differ or not and the results indicated that the returns of schemes don’t differ significantly.\textsuperscript{40}

Jai Prakash, K.C, (2012) has carried out “Performance Evaluation of Mutual Funds in India”. Financial system in a country plays a dominant role in assets formation and intermediation, and contributes substantially in macroeconomic development. In this process of development mutual funds have emerged as strong financial intermediaries and are playing a very important role in bringing stability to the financial system and efficiency to resource allocation. Mutual funds play a crucial role in an economy by mobilizing savings and investing them in the capital market, thus establishing a link between savings and the capital market. The activities of mutual funds have both short-and long-term impact on the savings and capital markets, and the national economy. The Indian Mutual fund Industry has witnessed a structural transformation during the past few years. Therefore it becomes important to examine the performance of the mutual fund in the changed environment. This research report has evaluate the performance of Indian Mutual fund equity scheme by using monthly NAV returns of 10 equity Growth funds of 3 years past data from 1-1-2003 to 31-12-2005. BSE Sensex has been used as a proxy for the market portfolio, while 364 day Treasury bills (T-bills) have been used as a surrogate for risk free rate of return. The performance of funds has been computed by using Sharpes ratio, Treynors ratio and Jensens ratio. There is no conclusive evidence which suggests that performance mutual funds superior to the market. However there is some evidence that some of the funds are performing better than the market41.


schemes) of selected banks (State Bank of India, Canara Bank- Public Bank, ICICI Bank, HDFC Bank-Private Bank). The objectives of this research work is to analysis the financial performance of selected mutual fund schemes through the statistical parameters (Standard Deviation, Beta and Alpha) and ratio analysis (Sharpe Ratio, Treynor Ratio, Jenson Ratio, Information Ratio). The results of the research work concern Among the Open ended – Tax Saving schemes, Canara Robeco Equity Diversified is the preferred and ranked top most, at the same time among the Open ended – Midcap schemes, HDFC Capital Builder is the preferred and ranked top through various tools. These research findings useful to the investors in terms of understanding the financial performance of the mutual fund schemes. Also this research finding is useful to the Mutual Fund Company in terms of behavioral aspects of mutual funds\textsuperscript{42}.

Prasanna K. Baral (2012) made a study on “Exchange Traded Funds: an Indian Perspective”. The last two decades witnessed new product innovations in the financial markets across the globe. Designing of new innovative financial products which promise to meet investors’ return expectations as market conditions and global risk appetite change is of a great challenge for the professionals in the financial markets. In recent years, investors are looking for alternative investment vehicles to structured products which gave birth to a new kind of cost and tax-efficient financial instrument, i.e. Exchange Traded Funds popularly known as, ETFs. The investment professionals are always in search of new and sophisticated investment strategies and ETFs can provide them new ways to form building blocks of investment strategies. The present paper studies the growth trend of ETFs and a comparative study of Index based ETFs and Gold based ETFs in India. There is a huge potentiality for the

introduction of more gold ETF products in India. However, the ETFs can become a best investment alternative, provided, awareness is created among the investor.43

Sandeep Bansal, Deepak Garg and Sanjeev K Saini, (2012) made a research on the “Impact of Sharpe Ratio & Treynor’s Ratio on Selected Mutual Fund Schemes” and examined the performance of selected mutual fund schemes, that the risk profile of the aggregate mutual fund universe can be accurately compared by a simple market index that offers comparative monthly liquidity, returns, systematic & unsystematic risk and complete fund analysis by using the special reference of Sharpe ratio and Treynor’s ratio. The fluctuating characteristics of the mutual fund schemes in the benchmark portfolio allows us to evaluate appropriate required rates of return and switch it as of market returns. This simple analysis produces a number of unique predictions about the cost of capital of different mutual fund schemes with the help of different models and its impact on alternatives investment analysis for the investors in the most fluctuated capital market scenario.44

Sweta Goel, Rahul Sharma, Mukta Mani, (2012) in their work titled “A study of performance and characteristics of open ended mutual funds” investigated the performance related characteristics of open ended mutual funds. For the purpose of performance evaluation, risk adjusted performance, asset size and expense ratio of the mutual funds have been studied for past five years i.e. from April 2006 to March 2011. Through this study, the relation between performance related characteristics and the performance of Indian mutual funds has been studied. Multiple regression models have been used for the analysis. Results have confirmed the presence of performance persistence in mutual funds. This shows that the past

performance record is very useful in predicting the future performance of mutual fund. Investors must look at the past performance before investing in any fund and fund managers may track the best performing strategies by looking at the past performing record. Also, empirical analysis has shown that low expense ratio and large asset size of the mutual funds has resulted in their high risk adjusted returns. This study has contributed towards existing knowledge for the relationship between mutual fund’s performance and their characteristics. It will also help mutual fund investors to judge the investment options on the basis of several fund’s characteristics apart from just the return performance.

Hema Divya, K. (2012) has carried out “A Comparative study on Evaluation of Selected Mutual Funds in India”. Mutual Funds industry has grown up by leaps & bounds, particularly during the last 2 decades of the 20th century. Proper assessment of fund performance would facilitate the peer comparison among investment managers, help average investors successfully identify skilled managers. Further the growing competition in the market forces the fund managers to work hard to satisfy investors & management. Therefore regular performance evaluation of mutual funds is essential for investors and fund managers also. The study was confined to evaluate the performance of mutual funds on the basis of yearly returns compared with BSE Indices.

Majid Abbasi, Elham Kalantari, Hamideh Abbasi, (2012) in their study entitled “Effect of Fund Size on the Performance of Mutual Funds Evidence from Iran” found that Mutual Fund is one of the most important mechanisms for indirect investment in financial markets, which provides better conditions in terms of risk and

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return, especially for amateur investors. This research examined the effect of fund size on the performance of Iranian mutual funds. The research was carried out on all Iranian mutual funds during 2007 to 2011. There are several aspects and dimensions in evaluating the performance of mutual funds, but this study focused on five aspects: namely Sharpe measure; Jensen differential measure; Treynor measure; Sortino measure and Information measure. Correlation coefficients between all the parameters were computed to assess the degree of relationship between fund size and performance of mutual funds. The findings highlighted no significant relationship between fund size and performance, whether Fixed Income Instruments or Big and Small Cap Stock mutual funds.

Mohamed Zaheeruddin, Pinninti Sivakumar, and Srinivas Reddy, K., (2013) in their study entitled, “Performance evaluation of mutual funds in India with special reference to selected financial intermediaries”, explains that mutual fund companies are financial intermediaries providing financial services to small investors through mobilization of funds, when the investors invest in a mutual fund they are buying shares or units of the mutual fund and become a shareholder of the fund. Mutual funds are one of the best investments ever created because they are very cost efficient and very easy to invest in. Thus the Rupee is generated in the form of big returns to promote financial excellence. The financial reforms and cut throat competition in the economic environment the mutual fund industry has opened new vistas to interested investors and imparted much needed liquidity to the Indian financial system. In a jungle evolution of financial service sector in India investors are

unable to recognize and select the benchmarking companies. The study examines the performance of mutual funds based on their fund return, risk and performance ratios\(^48\).

Narayanasamy, R., and Rathnamani, V., (2013) made a study entitled, “Performance Evaluation of Equity Mutual Funds (On Selected Equity Large Cap Funds)”. In India, capital market provide various investment avenues to the investors, to help them to invest in various industries and to ensure the profitable return. Among various financial products, mutual fund ensures the minimum risks and maximum return to the investors, Growth and developments of various mutual funds products in the Indian capital market has proved to be one of the most catalytic instruments in generating momentous investment growth in the capital market. In this context, close monitoring and evaluation of mutual funds has become essential. Therefore, choosing profitable mutual funds for investment is a very important issue. This study, basically, dealt with the equity mutual funds that are offered for investment by the various fund houses in India, The study mainly focused on the performance of selected equity large cap mutual fund schemes in terms of risk-return relationship. The main objectives of this research work were to analysis financial performance of selected mutual fund schemes through the statistical parameters such as (alpha, beta, standard deviation, r-squared, Sharpe ratio). The findings of this research study will be helpful to investors for his future investment decisions\(^49\).

Swati Garg (2014) made a research on “The Performance and Trading Characteristics of Exchange Traded Funds in India: An Empirical Study” and empirically examined the performance and trading characteristics of Exchange Traded

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Funds (ETFs) in India. A sample of twelve ETFs listed on the National Stock Exchange of India has been analyzed in this study over a period ranging from January 2002 to December 2009. The study found evidence of significant daily tracking errors for ETFs, however no significant bias in performance is found over long term investment horizon. Moreover, ETFs were found to follow nearly full portfolio replication strategy as promised by them. However, significant pricing deviations (premiums and discounts) were found to exist in the trading of these instruments. Also, such deviations were found to persist over a number of days indicating gross pricing inefficiencies and the presence of unexploited arbitrage opportunities in the Indian ETF market which commands immediate attention of the market players. To the best of our knowledge there has been no previous published research study which empirically examines the performance and trading characteristics of Exchange Traded Funds in India.\(^5\)

**RESEARCH GAP**

Thus, in the extant literature, the performance of ETFs has been compared with other ETFs. However, the performance of ETFs vis-à-vis index funds has not been explored. This study aims to fill this void using publicly available data and examines the performance of ETFs, Index Funds and Gold ETFs with respect to their underlying indices.

Mutual funds are considered as one of the best available investment options as compared to other alternatives. While the Asset under Management has grown from approximately 470 billion INR as on 31 March 1993 to approximately 8,250 billion INR as on 31 March 2014 (reflecting a CAGR of 14.6% over the last 21 years), the Sensex has grown from approximately 2280.52 as on 31 March 1993 to 22,386.27 as

on 31 March 2014 (reflecting a CAGR of approximately 11.5%). Quite naturally, the
growth of the Sensex and the Asset under Management feed off one another and thus
a portion of the Asset under Management growth can be attributed to the growth of
underlying stocks and indices. As it can be noted, there is huge growth and potential
in the mutual fund industry. Hence this research is an opportunity to identify how
ETF and mutual funds perform over a period of time in India, one of the world’s most
exciting emerging markets that has a great potential for growth and expansion.