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1.1 Introduction of Mutual fund Industry in India

Over the years, the financial services in India have undergone revolutionary changes and had become more sophisticated, in response to the varied needs of the economy. The process of financial sector reforms, economic liberalization and globalization of Indian Capital Market had generated and augmented the interest of the investors in equity. But, due to inadequate knowledge of the capital market and lack of professional expertise, the common investors are still hesitant to invest their hard earned money in the corporate securities. The advent of mutual funds has helped in garnering the investible funds of this category of investors in a significant way. As professional experts manage mutual funds, investment in them relieves investors from the emotional stress involved in buying and selling of the securities.

The mutual fund industry has been in India for a long time. Mutual funds are turned to be the most preferred choice worldwide for both small and big investors due to numerous advantages. Mutual fund is a device for pooling the resources by issuing units to the investors and investing funds in securities in accordance with objectives as disclosed in offer document. Investments in securities are spread across a wide cross-section of industries and sectors and thus the risk is reduced. Diversification reduces the risk because all stocks may not move in the same direction in the same proportion at the same time. Mutual fund issues units to the investors in accordance with quantum of money invested by them. Investors of mutual funds are known as unit holders. The profits or losses are shared by the investors in percentage to their investments. The mutual funds normally come out with a number of schemes with different investment objectives which are launched from time to time.
The foundation of Mutual funds in India was laid by the T.T.Krishnamachari, the Finance minister of India in 1963 with the enactment of UTI Act. UTI came out with its most popular open ended scheme known as US64 in 1964. Till 1987, UTI with its very few schemes hold a key position in Indian Mutual fund Industry. Realizing the importance of Mutual funds as an investment avenue in the Indian capital market, Government decided to permit the public sector banks and Insurance corporations of India to set up Mutual funds in 1987 and 1989 respectively. Further, keeping in tune with the economy policy of 1991, Finance Minister Proposal during 1993 to allow the Mutual fund Industry to be set up by foreign and private players was accepted. The entry of foreign and private players has accelerated the growth of the Industry. The AUM (Assets under Management) of mutual funds has grown to Rs. 6.14 trillion in March 2010 compared to Rs. 4.17 trillion on 31st March 2009, Rs. 5.05 trillion on 31st March, 2008 and just Rs. 0.47 trillion in 1993.

The Indian Financial sector has taken a turn around during the first half of 1990’s. In the year 1992, the Government of India in order to bring the country’s financial sector at par with the international standards accorded statutory status to SEBI as an autonomous body, for the promotion and regulation of the capital market. As far as mutual funds are concerned, SEBI formulates policies and regulates the mutual funds to protect the interest of the investors. SEBI notified regulations for the mutual funds in 1993. The regulations were fully revised in 1996 and have been amended thereafter from time to time. All mutual funds whether promoted by public sector or private sector entities including those promoted by foreign entities are governed by the same set of Regulations.

The mutual fund industry is considered as one of the most dominant players in the world economy and is an important constituent of the financial sector and India is no exception. The industry has witnessed startling growth in terms of the products and services offered, returns churned, volumes generated and the international players who have contributed to this growth. Today the industry
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offers different schemes ranging from equity and debt to fixed income and money market.

Mutual fund industry has seen a lot of changes in past few years with multinational companies coming into the country, bringing in their professional expertise in managing funds worldwide. In the past few months, there has been a consolidation phase going on in the mutual fund industry in India. Now investors have a wide range of Schemes to choose depending on their individual profiles.

The market has graduated from offering plain vanilla and equity debt products to an array of diverse products such as gold funds, Exchange Traded Funds (ETF’s), and capital protection oriented funds and even thematic funds. In addition, investments in overseas markets have also been a significant step. Due credit for this evolution can be given to the regulators for building an appropriate framework and to the fund houses for launching such different products. All these reasons have encouraged the traditional conservative investor, from parking fund in fixed deposits and government schemes to investing in other products giving higher returns.

The size of Indian Mutual Fund Industry has been growing fastest in recent few years. The total Asset under Management popularly known as AUM has increased from Rs. 107946 Crs. in March 2000 to Rs 613,979 Crs. in March 2010. The total number of Mutual funds have also grown steadily in the past decade such that by the end of March 2000 only 38 were in operation, compare to this in 2011 the figure increased to 41 Mutual funds out of which 35 are in private sector. Thus, over the last 10 years the Indian MF industry has witnessed a significant churn and the private sector has emerged as the biggest player. According to the Association of Mutual Funds in India, the growth of mutual fund industry has been exceptional. This industry has indeed come a very long way from being a single player, single scheme (US-64) industry to having 41 players in the market and more than 1131 schemes.
One of the major factors contributing to the growth of this industry in the Indian Capital market has been the booming stock market with an optimistic domestic economy. Second most important reason for this growth is a favorable regulatory regime which has been enforced by SEBI. This regulatory board has improved the market surveillance to protect the investor’s interest.

The present study, therefore, aims to find out the role of Mutual fund Industry in the Indian Capital Market to assess the advantage of investment in mutual funds and how public and private sector mutual funds have performed on various accounts so as to make the comparison between both of them on the basis of their performance.

1.1 Statement of Problems

During the last four decade, UTI which is a public sector mutual fund was the dominant player in the Mutual Fund Industry. But after witnessing the crisis arrived on account of its unit 64 scheme and bailing out three times in five years, led to the destruction of investor’s faith, trust and confidence in UTI. Mean while the private funds had consolidated and gained the ground of this market.

There are now several thousand mutual funds with different investments strategies goals and risks. However, the risk and return associated with the investment of Mutual Funds will particularly affect the investor. Indeed with so much at stake, it becomes difficult for an investor to choose the fund which will fulfills his / her objective of investment. Since the investors invest their money in different schemes offered by the two sectors which are public and private sector, their risk and return associated with the type of investment will also vary. Moreover, the entire fund industry suffers from a serious cost-control problem that contributes to the at par returns posted by too many funds.
1.3 Emerging Issues

1. Mutual funds came into existence to serve the needs of households, but rather in practice, Mutual funds are heavily used by corporations and institutional investors.

2. Mutual funds are still confined to urban India. These instruments are still unknown to the investors of rural areas. These people do not have faith in mutual fund as an investment avenue.

3. The Mutual funds Industry in India is very small in comparison with that of many developed and other countries.

4. Most of the savings of the people in India are in the form of bank deposits but in developed countries large proportion of savings are in Mutual funds. Thus, in India mutual fund could not make the place as far as investment is concerned.

5. The Mutual funds Industry was initiated in 1964 to win the faith of small investor but still could not become successful in achieving its objective.

1.4 A Review of the Literature

A large number of studies on the financial performance of mutual funds have been carried out in the developed and developing countries. Brief reviews of the following research works will reveal the wealth of contributions towards the performance evaluation of mutual fund, market timing and stock selection abilities of fund managers.

Books reviewed

Jain (1982) evaluated performance of Unit Trust of India (UTI) during 1964-65 to 1979-80, including the profitability aspects of Unit Scheme 1964, Unit Scheme 1971 and Unit Scheme 1976. He concluded that the real rate of return of UTI schemes has been less indicating overall poor performance. There has been no significant increase in the profitability over the years.

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Seema Vaid, (1994), study covers conceptual and the regulatory framework, review of the growth of mutual funds and primary information about mutual fund schemes.  

Jayadev M. (1995) in his book covers all the Indian public sector mutual funds and their schemes launched between September 1986 and March 1994. He has analyzed the investment policies with respect to investment pattern and examines the operations of mutual funds. He has also evaluated the performance of mutual fund schemes in terms of returns and risks. His study is limited to the analysis of public sector mutual funds only.  

Turan and Bodla (2001) examined the growth of mutual funds in India in terms of resource mobilization, promotion of various types of schemes and NAV based risk and return. The study reveals that mutual fund industry has registered a sharp rise in term of resource mobilization during the period 1990-1991 to 1997-1998.  

Chander (2002) examined the risk-return of Mutual Funds with a view to investigate Mutual Funds performance in terms of theoretical performance evaluation model developed by Sharpe, Treynor and Jenson. In this study, he also made a comprehensive decomposition of portfolio performance to attribute it to various activities of fund manager such as stock selectivity, market timing risk bearing and diversification. In addition, the author has also examined the contemporary portfolio management, portfolio performance evaluation and investor service and disclosure practices.  

Sadhak (2003) in his book suggested several improvements in the strategic and operational practices of mutual funds are suggested keeping in mind the mechanisms used by fund managers in developed economies.
Shashi, Nisha and Neeta (2004) have described about the concept and types of mutual fund. He has covered in his book various problems faced by this industry and also analyses the performance of mutual fund. The performance of mutual fund in 1995-96 and 1996-97 had not been encouraging. However, the position was improved in 1997-98 and the gross mobilization of resources by all mutual fund schemes during this year was around Rs 13000 cores which were for the first time higher than the resource mobilized by the primary market. Private sector mutual funds accounted for 89.2 percent of the total resource mobilization during April-December 2001, compared to 80 percent in the previous year. The public sector mutual funds accounted for 7.1 percent while UTI accounted for 3.7 percent during this period.  

Bhole (2006) has presented in his book the working of UTI and other mutual funds in India. He has compared the working of mutual funds in India to those of MFs in some other countries. It is found in spite of overall growth of MFs in India over the last 40 years, the industry is very small compared to the similar industry in many countries in the world. He has suggested in order judging the performance of mutual fund schemes the most popular ranking is by CRISIL, Value Research India, and Credence Analytics. The stagnation in the mutual fund industry is due to the continued stock market scams, fall of UTI and the unattractive returns on investment in MFs schemes. 

Tripathy (2007) in her book, “Mutual funds in India emerging issues” highlighted the basic concepts of mutual funds, operational polices, practices, investment in securities, some aspect of portfolio management, selection, mutual fund marketing and detailed analysis of the latest development in the mutual fund industry. Apart from this, the author also emphasize on the fundamentals of research with details of statistical tools required for analysis in research working discuss in detail about the current status of development and future prospects of mutual fund industry in India.
Articles and Research Papers

Shah Ajay and Thomas Susan (1994) made an extensive and systematic study of 11 mutual fund schemes. On the basis of market price data, the weekly returns were computed for these schemes since their commencement to April 1994. Jensen and Sharpe measures were used to evaluate the superior performance of the schemes. They concluded that except UGS 2000 of UTI, none of the schemes earned superior returns than the market in general. The risk of these schemes is very high and funds might be inadequately diversified.\(^{17}\)

Jaideep and Majumdar (1994), evaluated the performance of five growth oriented schemes for the period February 1991 to August 1993. They have employed the CAPM and Jensen measure to evaluate the performance. They have also evaluated the boom period performance of the scheme during the first quarter of 1992 by employing Jensen (adjusted) model. They concluded that the selected mutual fund schemes have not offered superior returns during the study period than the market in general. However, they conclude that in the boom period the funds performed well.\(^{18}\)

Jaydev (1996) in his paper has made an attempt 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 where as Master Gain did not. These two funds are found to be poor in earning better returns either adopting marketing or in selecting under priced 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.\(^{19}\)
Panigrati (1996) examines the impact of capital market reforms on Mutual Funds. He found that there has been a shift in focus from individual investor to institutional investor's. The investible resources of mutual fund have increased manifold mainly due to economic reforms and liberalization.

Syama (1998) conducted a survey to get an insight into the mutual fund Operations of private institutions with special reference to Kothari Pioneer. The survey revealed that awareness about Mutual Fund concept was poor during that time in small cities like Visakhapatnam. Agents play a vital role in spreading the Mutual Fund culture; open-end schemes were much preferred then; age and income are the two important determinants in the selection of the fund/scheme; brand image and return are the prime considerations while investing in any Mutual Fund.

Gupta Amitabh (2001) evaluated the performance of selected mutual fund schemes and also tested the market timing abilities of mutual fund managers during the period 94 to 99. He has also examined in his study the growth of mutual fund since 87 to 89. Two type of benchmark portfolio are used (a) a market index (b) fundex. The result of sample of 73 mutual fund schemes indicate that 38 (52%) schemes earned higher return in comparison to the market return while remaining 35 schemes 48%) generated lower return than that of market. It is also found that any unique risk of the sample scheme was 2.73 (per week) while the average diversification came to 34.3%. This implies that the sample is not adequately diversified. The result of his study provides no evidence for the market timing of abilities of mutual fund managers.

Mishra and Mahmud (2002) measured mutual fund performance using lower partial moment. In this paper, measures of evaluating portfolio performance based on lower partial moment is developed Risk from the lower partial moment is measured by taking into account only those states in which return is below a pre-specified “target rate” like risk-free rate.
Dalal (2003), reflects that the government has encouraged the Indian retail investors to invest through mutual fund as the professional fund managers will keep their money safer. Instead of becoming a common man’s vehicle, the SEBI has recently discovered that mutual funds too have turned in to a vehicle for high net worth individuals and companies, who take the advantage of tax shelter that is provided by the government to attract the retail investors in the mutual fund industry. He found that failure to attract individual investor could affect the survival of several funds.24

Sengupta (2003) developed a set of non parametric tests which includes the cover null method and the stochastic dominance criteria for evaluating the performance of Mutual Fund portfolios. On the basis of empirical results, it is evident that some group of funds based on new technology tends to outperform others and in most cases the investor shows a preference for skewness, emphasizing on the mean, variance relationship. Technology funds tend to exhibit second order stochastic dominance over the income and growth funds. This shows some new features of the mean variance efficiency frontier.25

Mohanan (2006) has explained in his work that the Indian mutual fund industry is one of the fastest growing sectors in the Indian capital and financial markets. The mutual fund industry in India has seen dramatic improvements in quantity as well as quality of product and service offerings in recent years. Mutual funds assets under management grew by 96% between the end of 1997 and June 2003 and as a result it rose from 8% of GDP to 15%. The industry has grown in size and manages total assets of more than $30351 million. Of the various sectors, the private sector accounts for nearly 91% of the resources mobilized showing their overwhelming dominance in the market. Individuals constitute 98.04% of the total number of investors and contribute US $12062 million, which is 55.16% of the net assets under management.26

Bodla and Sunita, (2007) examined the growth of Indian mutual fund industry in terms of increase in number of schemes and funds mobilized. The analysis has been carried across nature, type and sector of the schemes. The result shows
that the total schemes have grown to above 1200 and the total purchases during 2006 crossed Rs. 3.5 lakh crores. The private sector funds and joint ventures have outperformed the public sector funds.\(^{27}\)

Bhaskara Rao, V.K. (2007) in their study has described that an economic development of the country to a large extent depend upon the growth of the capital market. Capital market growth depends upon the savings by the community. In India, a common investor has a lack of knowledge and expertise in capital market. In this context, mutual funds have emerged as an important segment in the Indian financial sector to operate which would ensure a reasonable capital appreciation to the investors. The number of mutual funds from one in 1964 is increased to 30 players in May 2005 (offering 460 schemes). The growth of mutual funds in the Indian capital market is increasing rapidly at the rate of 9\% for the last five years. He revealed that mutual fund consist 1/10th of total bank deposit. In USA, the corpus of mutual fund is three times that of bank deposit. In India, mutual funds account only 6\% of GDP. Thus there is a large scope of mutual fund industry. Things are changing as there is a shift from saving culture to investment culture. Tax exemptions' and increasing bank rates have pushed the focus of investors on mutual fund. Entry of public and private sector has widened the area of competition and also choice among the investors. The share of UTI was 57\% in 2001 and that of private sector was 38\%. Now the situation started reversing. The share of private sector rose to 79\%. He found the bright future outlook for the mutual fund. He suggested that the mutual funds should give priority to the investor’s interest and public sector mutual funds should initiate steps to compete with the private sector to the mutual funds. The industry should expand the market share in rural areas and also have to play significant role in increasing equity cult among the investors.\(^{28}\)

Rustagi Hemant (2007) in his study has analyzed some of the opportunities as well as challenges in the Indian mutual fund industry. He found that most of the traditional avenues are providing much lower returns than before, more and more investors will have to look for instruments like MFs that have the potential to beat
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inflation on a consistent basis. Besides this tax efficiency of the instrument, diverse asset classes to invest in, entry of new players, opening of the pension sector are the various opportunities available to the investors in the Mutual Fund industry. Moreover industry is likely to face some of the challenges like spreading the Mutual fund cult, product differentiation and client segmentation, consistency in performance, tapping the rural market.

Pathik and Vijay (2007) have thrown light on the concept, performance, structure and recent trends in Mutual Fund Industry. The most important trend in the mutual fund industry is the aggressive expansion of the foreign owned mutual fund companies and the decline of the companies floated by nationalized banks and smaller private sector players. The industry is also having a profound impact on financial markets. Funds have shifted their focus to the recession free sectors like pharmaceuticals, FMCG and technology sector. Funds collection, which averaged at less than Rs 100bn per annum over five-year period spanning 1993-98 doubled to Rs 210bn in 1998-99. In the current year mobilization till now have exceeded Rs300bn. Total collection for the current financial year ending March 2000 is expected to reach Rs450bn. Fund are selected on quantitative parameters like volatility, FAMA Model, risk adjusted returns, and rolling return coupled with a qualitative analysis of fund performance and investment styles through regular interactions / due diligence processes with fund managers. They found that the Fund are selected on quantitative parameters like volatility, FAMA Model, risk adjusted returns, and rolling return coupled with a qualitative analysis of fund performance and investment styles through regular interactions / due diligence processes with fund managers.

Agarwal (2008) in his study provides an overview of mutual fund activity in emerging markets and has describes their size and asset allocation. The paper has analyzed Prices of Mutual Fund Investments (NAV) and the SENSEX movements. He has studied the relationship between the Mutual funds NAV and the SENSEX movement which affects the MF performance. He has also analyzed data at both the fund-manager and fund-investor levels. He found
that the movements in the SENSEX affect the prices of the Mutual funds. He concluded that there has been a tremendous growth in the mutual fund industry in India, attracting large investments not only from the domestic investments but also from the foreign investors.\textsuperscript{31}

Gera (2008) in his study 'Macro-Economic & Basis for Evaluating Mutual Fund Performance' emphasized that there are certain criteria on the basis of which the performance of a mutual fund can be assessed such as NAV, portfolio turnover, risk and return as well as various expense ratios like Sharpe ratio, Beta Ratio, etc. The article has also focused on an insight on the futuristic outlook of the Mutual Funds in India. New Funds are coming in the market such as Gold Funds, Real Estate Funds etc. The various new trends in the field are explored to understand diversified growth and opportunities that are prevalent and that could be the probable future of Mutual Funds.\textsuperscript{32}

Parvinder (2008) in his study "Performance Evaluation of Indian Mutual Funds" analyzed the performance of the Indian Mutual Funds Vis-à- Vis the Indian stock market. For the purpose of this study, 21 open ended equity based growth mutual funds were selected as the sample. The data, which is the weekly NAV's of the funds and the closing of the BSE SENSEX, were collected for a period of 5 years starting 19/03/2004 to 13/02/2009 Different statistical tools were used on the data obtained to get the average returns, absolute returns, standard deviation, Fund Beta, R-squared value, residual value, Relative Performance Index were calculated. These variables of the funds were compared with the same variables of the market to assess how the different funds have performed against the market. All the mutual funds gave similar returns with respect to the market expect for certain time period which was during the late 2005 and early 2006. There is a positive correlation with the absolute returns of the market and the mutual funds over the period of time. The study showed that the standard deviation of the funds were high during the boom period in comparison with the market and were comparatively lower when the recessionary trend started. The fund betas also show that there is significant correlation between the fund returns
and the market returns. Of the 21 funds considered for this study, 7 funds had RPI less than 0.7, 3 funds had RPI of almost 1 and 11 funds had RPI of more than 1.33

Kelly, (2009) in his case study of ethics and mutual funds mismanagement at Putnam examines the failure of top management at Putnam. There were six employees, including two portfolio managers who were repeatedly engaged in market timing activities from 1998 to 2003, generated over a million dollars in personal profits. The study found that CEO and key senior executives had factual knowledge of the abuses but the management failed to stop the abuses or to discipline those involved until faced with charges by Government regulators. Top management thus breached the ethical duties to its shareholders and inflicted serious damage to the organization. The end result of top management was significant outflow of assets from Putnam's funds, payments of penalties and loss of trust among investors. The author raised concern about the ethical issues surrounding mutual fund trading practices and the impact that the top management can have on the ethical behavior of the employees.34

Swaroop (2009) focused on the issues relating to the backdrop of liberalization and private participation in the Indian mutual fund industry, the challenge to survive and retain investor confidence by 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. In this paper, an attempt has been made to study the performance of selected schemes of mutual funds based on risk-return relationship models and measures. A total of 23 schemes offered by six private sector mutual funds and three public sector mutual funds have been studied over the time period April 1996 to March 2009 (13 years). The analysis has been made on the basis of mean return, beta risk, and coefficient of determination, Sharpe ratio, Treynor ratio and Jensen Alpha. The overall analysis finds Franklin
Templeton and UTI being the best performers and Birla Sun Life, HDFC and LIC mutual funds showing poor below-average performance when measured against the risk-return relationship models.  

Harilal and Morusu (2010) have thrown light on the performance and the SEBI regulation on the functioning of Mutual Fund industry. He described that Mutual Funds are the significant source of investment in both govt. and corporate securities. Presently numerous private and foreign companies exist in mutual fund industry. He has define the meaning of NAV, Average annual return, Expenses and TER'S, Management fees, non management expenses, investors fees and expenses, Brokerage and commission. Comparison is also done between Mutual Fund and other investments.

Journals

Treynor (1965) used ‘characteristic line’ for relating expected rate of return of a fund to the rate of return of a suitable market average. He coined a fund performance measure taking investment risk into account. Further, to deal with a portfolio, ‘portfolio-possibility line’ was used to relate expected return to the portfolio owner’s risk preference.

Sharpe (1966) developed a composite measure to consider return and risk. Based on this he evaluated the performance of 34 open ended Mutual Fund schemes during the period 1944-63. He observed that 11 funds have outperformed the benchmark. Based on this evidence he concluded that average mutual fund performance was inferior to an investment in stock market. An analysis of relationship between fund performance and its expense ratio indicated that good performance was associated with low expense ratio. On the other hand only allow relationship was discovered between size and performance.

Jensen (1968) developed a composite portfolio evaluation technique that considered return adjusted for risk difference and used it for evaluating 115 open ended mutual fund schemes during the period 1945-66. For the full period
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Jensen examined net expenses and gross expenses. The analysis of net return indicated that 89 funds have above return adjusted for risk while 76 experienced abnormally poor return. On the basis of this analysis Jensen concluded that for the sample of 115 mutual funds were not able to forecast security prices well enough to recover expenses and fees. 39

Gupta & Sehgal (1998) tried to find out the investment performance of 80 schemes managed by 25 mutual funds, 15 in private sector and 10 in public sector for the time period of June 1992-1996. The study has examined the performance in terms of fund diversification and consistency of performance. The paper concludes that mutual fund industry’s portfolio diversification has performed well. But it supported the consistency of performance. 40

Chakarabarti and Rungta (2000) in their study stressed the importance of brand effect in determining the competitive position of the AMCs. Their study reveals that brand image factor, though cannot be easily captured by computable performance measures, influences the investor's perception and hence his Fund/scheme selection. 41

Singh and Vanita (2002) in their work have investigated the Mutual Fund investor's perception and preferences. Their study is based on a survey of 150 respondents in Delhi and for this purpose a structured questionnaire was designed to collect the primary data. The survey reported that investors in general, do not perceive the risk inherent in mutual fund investment and use it primarily as a tax saving instrument. Among various financial instruments available to the investors. Mutual funds are ranked below NSCs, PPF and LIC policies. However among the various mutual funds and schemes available for investment, private mutual funds, open end schemes and balanced funds are most preferred by the investors. The study also provides useful suggestions to various market players and investors. 42

Sondhi and Jain (2005) has elaborated in their study that Mutual funds are popular financial intermediaries and manage disposable income of the investors
so as to bring them the benefits of equity investment. History of mutual funds management in India is rather new, vis-à-vis, mutual funds in USA or UK. Yet, the Mutual Fund Industry in India has caught the attention of millions of investors with diverse interests around the basic principles of investments viz., safety, liquidity and returns. The paper examines the rates of returns generated by equity mutual funds, vis-à-vis, 364 days T-bills and the Bombay Stock Exchange-100 (BSE-100) National Index during the period 1993-2002. Rate of return on 364 days T-bill is the surrogate measure for risk-free return and the BSE-100 National Index has been chosen as proxy for market portfolio in their analysis. Equity mutual funds predominantly invest in company equities, and hence, are risky investments. While choosing to invest in equity mutual funds, the investors expect not only risk premium but also better returns than the market portfolio. Risk premium refers to the returns earned by the investment in excess of risk-free returns. Thus, the investors expect equity mutual funds to earn better returns than the risk-free returns as also the market returns.  

Rao and Satya (2006) in their study invested the relationship between mutual fund attributes and performance to find out Leaders and laggards. Funds in the same investment objective category are classified into two portfolios according to mutual fund attributes, including load/no load, size, turnover, expenses, and past performance. In the long run analysis, the funds have been ranked on the risk adjusted return basis by using Sharpe ratio. One year return for a fund is computed by taking the average of the weekly returns of the fund for 52 weeks. It was observed that quarterly performance cannot be an indicator of past performance. Also, in the long run, mutual fund's performance may be more or less than that of short run. This may because of the fluctuations in performance of portfolio management by respective fund managers. Leaders are top 10 performers and laggards are Bottom 10 performers. They found that laggards will become leaders and vice versa during the long run. Several experts suggested different ways to rank the mutual funds. It can be said that performance is always related with return and risk. This study reveals about importance of time factor. The longer the investment is the lesser on return. It was also found that there is a
nominal positive correlation between Sharpe measure and NAV. It is suggested that Net Asset Value Analysis ‘NAV can be utilized for long term investors, Hence it was concluded that performance in the short run may not give the same results in the long run.\textsuperscript{44}

Anand and Murugaiah (2006) examined the components and sources of investment performance in order to attribute it to specific activities of Indian fund managers. They also attempted to identify a part of observed return which is due to the ability to pick up the best securities at given level of risk. For this purpose, Fama’s methodology is adopted here. The study covers the period between April 1999 and March 2003 and evaluates the performance of mutual funds based on 113 selected schemes having exposure more than 90 percent of corpus to equity stocks of 25 fund houses. The empirical results reported reveal the fact that the mutual funds were not able to compensate the investors for the additional risk that they have taken by investing in the mutual funds. The study concludes that the influence of market factor was more severe during negative performance of the funds while the impact selectivity skills of fund managers was more than the other factors on the fund performance in times of generating positive return by the funds. It can also be observed from the study that selectivity, expected market risk and market return factors have shown closer correlation with the fund return.\textsuperscript{45}

Sidana and Acharya (2007) attempted to classify hundred mutual funds employing cluster analysis and using a host of criteria like the 1 year total return, 2 year annualized return, 3 year annualized return, 5 year annualized return, alpha, beta, R-squared, Sharpe’s ratio, mean and standard deviation etc. They concluded that the evidence form cluster analysis is in of favor some inconsistencies between the investment style / objective classification and the return obtained by the fund. However, for an investor with inadequate knowledge and urge for an investment the results indicate how one can diversify investment in Mutual Fund across sector and style. \textsuperscript{46}
Dr. Venugopal and Prof. Subramanyam (2007) have measured and analyzed the investment performance of sample mutual fund schemes and also critically evaluated the working of various mutual fund schemes to identify the hurdles in their smooth functioning. For this purpose, sample schemes are chosen from well-known and established mutual fund companies. An analysis of mutual fund performance suggests that the industry's scorecard looks impressive, especially, in case of equity-oriented mutual funds. Debt funds, however, have not been able to repeat their performance as the era of falling interest rates comes to an end. It was found that almost all the sample fund's NAV had a negative impact till 2003 and 2004. But after that, the NAVs are all gone up to a large extent, the basic reason behind this is good image of the Indian capital market. Some of the sample fund's NAV stood as high as Reliance Growth Fund at Rs 227.45, Franklin India Prima Fund at Rs 201.53, HDFC Equity fund at Rs 130.82 Birla MNC Fund at Rs 123.18 as on March 2006 and also Industries AUM have valued from Rs 101565 crore in January 2000 to Rs 221642 crore as on 31st March 2006.

Sharan (2007) highlighted in his work the SEBI regulations 1993, several policies which were taken to reform the functioning of Mutual funds in India and also analyses their impact. SEBI regulations 1993 were revised in December 1996 in which more responsibility of the trustee was increased. The minimum net worth of the AMC was raised to Rs 100 million and minimum corpus amount limit for open-ended and close-ended schemes was withdrawn. Further various regulatory measures were taken in 2000, 2001 and 2002 regarding advertisement code of conduct, records of all decision, uniform method was evolved to calculate the sale and repurchase price of the units respectively. Investment policy was also liberalized in the fiscal year 1998-99. All these reforms had positive impact in the functioning of Mutual fund industry. The number of registered funds was 21 other than UTI in 1994 which was rose to 40 by the end of March 2007, there was also fast growth in AUM from Rs 905.87 billion at the end of March 2001 to Rs 3263.88 billion at the end of March 2007. It was concluded that open-ended schemes and income/debt schemes proved more
attractive to the investors and the positive impact of reform was also evident in fast growing net asset under management. In this case too, the private sector companies fared far well.48

Dissertations

Fazlul (2000) has revealed in his study about the credibility scenario of both the public sector and private sector mutual Funds in India. The work is limited to their performance and no comparison is made between them.49

Kashif (2002) reveals in his work the problems of UTI regulations and small investors. It also revealed that how UTI faces the liquidity gap. His work is limited to only UTI Mutual Fund.50

Amanulla (2001) in his paper studied the portfolio efficiency of mutual funds of Unit Trust of India (UTI). Employing Granger Causality and Co-integration tests, the paper also investigated the performance evaluation of mutual funds. The study used the Average weekly net asset values of 16 mutual funds of UTI and two stock market price indices i.e. Bombay Stock Exchange (BSE) sensitive index as well as S & P CNX Nifty index for the period June, 1992 to July, 2000. The results from traditional measures provided a mixed evidence of performance evaluation while the evidence from Granger causality suggested the existence of uni-directional causality in BSE sensitive index and bi-directional causality in Nifty index. In the study it is found that the market index and mutual funds were co-integrated, indicating a long-run relationship.51

Servan (2003) reveals in his study the different schemes of MF of bank of Baroda their performance and investment policy. This work is limited to the mutual fund of bank of Baroda. It does not make any comparison with other private/foreign and public sector MF in India. So the work done is a review of similar studies in the context of Mutual Fund of India reveals that with the exception of a few studies and scanty articles written in newspapers and magazines, very little work has been done in respect of this.52
Asim Khan (2005) has revealed in his study the performance of mutual fund industry. According to the study during the year 1999-2000 the net inflow of mutual fund was Rs 1500 crores. The said year witnessed the bad performance of most of the mutual funds. It was found that investor's complaints are increasing like rude behavior of the registrar, delayed redemption, handing out of back dated cheques. Investors also complained about the long time taken by the mutual fund particularly UTI in repurchase of unit. Comparatively private sector is all out to woo investors with better services. A case study of HDFC MUTUAL FUND is also done and found that it has major advantage of professionalism and diversification of funds but is confined to only urban areas.

Meenu (2006) has made an overview of mutual fund industry, regulatory aspect of mutual fund and also has made a case study on HDFC Mutual Fund. She suggested for the growth of mutual fund industry restoring the credibility of the product is required and therefore, transforming the expectations in favor of mutual fund.

Shazia (2007) reveals in her study the growth of Mutual Funds in India. Indian Mutual Fund industry reached Rs 150537 Crore in 2004. It is estimated that by 2010 March end, the total assets of all scheduled commercial banks should be Rs 4090,000 cr. Profitability is calculated on the basis of some ratios. The work is also done on ICICI Mutual Funds Prudential ICICI Asset Management company is one of the largest asset management companies in the country with asset under management of Rs 23559.60Cr. There are some problems faced by ICICI Mutual Funds. Like no guarantees, Commission and fees are charged for day to day expenses and Taxes have to be paid on the income received.

Naveen Lamba (2008) discussed about various Mutual Fund companies in India and also the types of schemes offered by them. He has made a comparative analysis of diversified equity funds. He has also gone through how investors can be helped through financial planning. His study is limited to only comparison of equity oriented schemes.
Prasenjit Pande (2009) has worked on the fund performance, load structure, fund snapshot, funds average. He found that all equity and debt performance has been changed in every month. The performance of mutual fund suffered qualitatively due to the volatility of market. He concluded that measures should be taken to make the mutual fund key instrument for long term saving.

Websites

Kothari (1997) in his study examined the empirical properties of performance measures for mutual funds using Simulation procedures combined with random and random-stratified samples of NYSE and AMEX securities and other performance measurement tools employed are Sharpe measure, Jensen alpha, Treynor measure, appraisal ratio, and Fama-French three-factor model alpha. The study revealed that standard mutual fund performance was unreliable and could result in false inferences. In particular, it was easy to detect abnormal performance and market-timing ability when none exists. The results also showed that the range of measured performance was quite large even when true performance was ordinary. This provided a benchmark to gauge mutual fund performance. Comparisons of their numerical results with those reported in actual mutual fund studies raised the possibility that reported results were due to misspecification, rather than abnormal performance. Finally, the results indicated that procedures based on the Fama-French 3-factor model were somewhat better than CAPM based measures.

Kothari, and Jerold (1997) examined the empirical properties of performance measures for mutual funds using Simulation procedures combined with random and random-stratified samples of NYSE and AMEX securities and other performance measurement tools employed are Sharpe measure, Jensen alpha, Treynor measure, appraisal ratio, and Fama-French three-factor model alpha. The study revealed that standard mutual fund performance was unreliable and could result in false inferences. In particular, it was easy to detect abnormal performance and market-timing ability when none exists. The results also showed that the range of measured performance was quite large even when true
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Rajeswar, Moorthy and Nilayam (2001) in their study conducted a survey among 350 Mutual Fund Investors in 10 Urban and Semi Urban centers to study the factors influencing the fund/scheme selection behavior of Retail Investors. The survey reveals that the most preferred investment vehicle is Bank Deposits, with MFs ranking 4th in the order among 8 choices (Annex – Table 4). Growth schemes are ranked first, followed by Income Schemes and Balanced Schemes (Annex – Table 5). Based on the duration of operation of schemes, the 1st preference is for open-ended schemes (84.57%) and only 15.43% of the respondents favor close-ended schemes. The investors look for safety first in MF products, followed by good returns, Tax Benefits, liquidity and capital appreciation (Annex – Table 6 8.86% have no preference. The findings regarding influential fund selection factor reveals that the investor considers all the 10 variables as important in his election of the fund/scheme. They are basically influenced by the intrinsic qualities of the product followed by efficient fund management and general image of the fund/scheme in their selection of fund schemes. It is further revealed that the investors are influenced by the infrastructural facilities of the sponsor and the reputation enjoyed by the sponsor, the extent and quality of disclosure of information in their selection of the schemes The falling interest rates and a reasonably good performance of many growth schemes during the turn of the century might have been the reason for the high preference of Growth Schemes during the period under study. Now the scale is in favour of Income Schemes. So, it is suggested that AMCs should react in time to the changing market moods by launching new products or repositioning old ones. The survey further reveals that the scheme selection decision is made
by respondents on their own Further 44% of the respondents reported that they use internet facility to know more about MFs.  

Richard and Olaf (2001) examined the risk-adjusted performance of open-end mutual funds which invest mainly in German stocks using Jenson’s measure and Sharpe’s measure. The study finds out that the rates of return of the mutual funds and the rates of return of the chosen benchmark both must include identical return components. Either both must include dividends or exclude them. The performance estimates are not very sensitive with respect to the benchmark choice. When we look at an investment strategy in which the investment in a specific fund has the same risk as the chosen benchmark, the average underperformance is small when we weight the individual fund returns equally. The average performance is neutral, when we weight the individual fund returns according to fund size, measured by assets under management.  

Bijan Roy, has conducted an empirical study on conditional performance of Indian mutual funds. This paper uses a technique called conditional performance evaluation on a sample of eighty-nine Indian mutual fund schemes. This paper measures the performance of various mutual funds with both unconditional and conditional form of CAPM, Treynor- Mazuy model and Henriksson-Merton Model. The effect of incorporating lagged information variables into the evaluation of mutual fund managers’ performance is examined in the Indian context. The results suggest that the use of Conditioning lagged information variables improves the performance of mutual fund schemes, causing alphas to shift towards right and reducing the number of negative timing coefficients.  

Juan (2005), analyzed whether it was more appropriate to apply a factor-based or a characteristic-based model - both known as benchmarks in portfolio performance measurement using the linear model, asset pricing model and Fama and French factors. The study showed that if information on returns was used and a linear model was proposed that adjusted return to a set of exogenous variables, then the right side of the equation reported the achieved performance and the passive benchmark that replicated the style or risk of the assessed
portfolio. While, a factor model utilizes a replicate benchmark with short positions implicitly symmetrical to the long positions. Performance of Russell indexes was analyzed by applying various factor models, constructed from the indexes themselves, and other models that use the indexes directly as benchmarks; the presence of biases was detected. Therefore, according to the empirical findings, selection of exogenous variables that define the replicate benchmark would appear to be more relevant than the type of model applied.  

Ashok Banerjee (2007) in their study used Return Based Style Analysis (RBSA) to evaluate equity mutual funds in India using quadratic optimization of an asset class factor model proposed by William Sharpe and analysis of the relative performance of the funds with respect to their style benchmarks. Their study found that the mutual funds generated positive monthly returns on the average, during the study period of January 2000 through June 2005. The ELSS funds lagged the Growth funds or all funds taken together, with respect to returns generated. The mean returns of the growth funds or all funds were not only positive but also significant. The ELSS funds also demonstrated marginally higher volatility (standard deviation) than the Growth funds.

Rao Neelakanteswar Dabbeeru (2006) study aimed at analyzing performance of selected open-ended equity mutual fund and return based on yield for the period 1st April 2005 – 31st March 2006. The most important finding of the study had been that only four Growth plans and one Dividend plan (5 out of the 42 plans studied) could generate higher returns than that of the market which is contrary to the general opinion prevailing in the Indian mutual fund market. Even the Sharpe ratios of Growth plans and the corresponding Dividend plans stand testimony to the relatively better performance of Growth plans. The statistical tests in terms of F-test and t-Test further corroborate the significant performance differences between the Growth plans and Dividend plans.

Rogér and Dennis (2009) investigated mutual fund performance using a survivorship bias controlled sample of 506 funds from the 5 most important mutual fund countries using Carhart (1997) 4-factor asset-pricing model. The
study revealed a preference of European funds for small and high book-to-market stocks (value). Secondly, it showed that small cap mutual funds as an investment style out-performed their benchmark, even after control for common factors in stock returns. Finally 4 out of 5 countries delivered positive aggregate alphas, where only UK funds out-performed significantly.

Hewad, in his study looked at some measures of composite performance that combine risk and return levels into a single value using Treynor’s ratio, Sharpe’s ratio, Jensen’s measure. The study analyzed the performance of 80 mutual funds and based on the analysis of these 80 funds, it was found that none of the mutual funds were fully diversified. This implied there is still some degree of unsystematic risk that one cannot get rid of through diversification. This also led to another conclusion that none of those funds would land on Markowitz’s efficient portfolio curve.

Sanjay and Manoj (2007) their study aimed to evaluate if mutual fund managers exhibit persistently superior stock selection skills over a short-horizon of one year using risk-adjusted abnormal returns (RAR), One-factor capital asset pricing model or CAPM three-factor, Fama-French model, Four-factor Carhart model. Their study demonstrated that short-term persistence in equity mutual funds performance does not necessarily imply superior stock selection skills. Common factors in stock returns explained some of the abnormal returns in top ranking mutual fund schemes. Only the winner portfolios sorted on four-factor alphas’ provided an annual abnormal return of about 10% on post-formation basis using daily data. The short-term persistence results were much better when daily data was used rather than monthly observations, thus implying that data frequency does affect inferences about fund performance.

Kothari, and Jerold (1997) examined the empirical properties of performance measures for mutual funds using Simulation procedures combined with random and random-stratified samples of NYSE and AMEX securities and other performance measurement tools employed are Sharpe measure, Jensen alpha, Treynor measure, appraisal ratio, and Fama-French three-factor model alpha.
The study revealed that standard mutual fund performance was unreliable and could result in false inferences. In particular, it was easy to detect abnormal performance and market-timing ability when none exists. The results also showed that the range of measured performance was quite large even when true performance was ordinary. This provided a benchmark to gauge mutual fund performance. Comparisons of their numerical results with those reported in actual mutual fund studies raised the possibility that reported results were due to misspecification, rather than abnormal performance. Finally, the results indicated that procedures based on the Fama-French 3-factor model were somewhat better than CAPM based measures.\(^69\)

**Kaushik and Bijan (2006)** evaluated whether or not the selected mutual funds were able to outperform the market on the average over the studied time period. In addition to that by examining the strength of interrelationships of values of PCMs for successive time periods, the study also tried to infer about the extent to which the future values of fund performance were related to its past by using single index model. The study revealed that there were positive signals of information asymmetry in the market with mutual fund managers having superior information about the returns of stocks as a whole. PCM also indicated that on an average mutual funds provided excess (above-average) return, but only when unit of time period was longer (1 qtr or 4 qtr). Therefore, they concluded that for assessing the true performance of a particular mutual fund, a longer time horizon is better.\(^70\)

**Bijan and Saikat (2003)** in their paper examined the effect of incorporating lagged information variables into the evaluation of mutual fund managers' performance in Indian context with the monthly data for 89 Indian mutual fund schemes. The study revealed the use of conditioning lagged information variables causing the alphas to shift towards the right and reducing the number of negative timing coefficients, though it could not be concluded that alphas of conditional model were better compared to its unconditional counterpart as they were not found to be statistically significant. The noticeably different results of the unconditional
timing models vis-à-vis conditional timing models testified superiority of the model.\textsuperscript{71}

Aymen and Iwan (Paper studied the performance and portfolio characteristics of 828 newly launched U.S. equity mutual funds over the time period 1991-2005 using Carhart (1997) 4-factor asset-pricing model. Their study revealed new U.S. equity mutual funds outperformed their peers by 0.12% per month over the first three years. However, there were distinct patterns in this superior risk-adjusted performance estimated using Carhart's (1997) 4-factor model. The number of fund that started to outperform older funds shrunk substantially after one to three years. These results suggested that the initially favorable performance was to some extent due to risk taking and not necessarily superior manager skill. Scrutinizing the returns further confirmed that the returns of fund started to exhibit higher standard deviations and higher unsystematic risk that could not be explained by the risk exposure to the four factors of the Carhart model.\textsuperscript{72}

Deepak (2007) in his paper analyzed the Indian Mutual Fund Industry pricing mechanism with empirical studies on its valuation. It also analyzed data at both the fund-manager and fund-investor levels. It stated that mispricing of the Mutual funds could be evaluated by comparing the return on market and return on stock. During the pricing period, if the return on stock is negative, then it indicates overpricing and if are positive indicates under pricing. Relative performance measurement was used to measure the performance of the MF with SENSEX and it used Standard Deviation, Correlation analysis, Co-efficient of Determination and Null Hypothesis. This study revealed that standard deviations of the 3-month returns were significant with the increase in the period. The Standard Deviation increase indicated higher deviations from the actual means. The variance and coefficient of variation (COV) were also significant. Variance increases in the later periods indicated higher variability in the returns. As the time horizon increased COV decreased implying value are less consistent as compared to small duration of investments.\textsuperscript{73}
Stefan (2004) provided extensive evidence on portfolio characteristics of mutual funds and studied the relation between fund performance and the fund manager's investment strategy using both the traditional unconditional alpha model, as in Jensen (1968), and the conditional alpha, following Ferson and Schadt (1996). The study showed that a weak negative relation exists between performance and past stock returns in the portfolio. Investing in value stocks could help to improve overall performance. It also showed that mutual funds with a more diversified portfolio performed somewhat better than funds with a less diversified portfolio. However, diversification could be achieved by extending the funds' investment universe and investing in non-listed stocks. Elton, Gruber, Das and Hlavka (1993) showed that funds investing in these types of assets could achieve superior performance simply because these assets were not captured within the benchmark model. This paper, however, found no evidence to indicate that investment outside the fund's primary investment universe would enhance performance. Moreover, the effects of cash holdings on performance were explored, and some weak evidence suggested that large cash holdings implied better tactical decisions.\textsuperscript{74}

Parvez, Partha & Sudhir (2001) examined the performance of equity and bond mutual funds that invested primarily in the emerging markets. With this research they found that on an average the U.S. stock market outperformed emerging equity markets but the emerging market bonds outperformed U.S. bonds. They also found that overall emerging market stock funds under-performed the respective MSCI indexes. These were evident by their lower return, higher risk, and thus lower Sharpe ratios.\textsuperscript{75}

Miguel, António & Sofiann (2006) studied the performance of mutual funds around the world using a sample of 10,568 open-end actively managed equity funds from 19 countries using different models, mainly, domestic market model, international market model, Carhart (1997) domestic four-factor model, Carhart (1997) international four-factor model. With the help of this research they came to a conclusion that the funds size was positively related with fund performance.
Larger funds performed better suggesting the presence of significant economies of scale in the mutual fund industry worldwide. This conclusion is consistent among domestic and foreign funds, and in several other robustness tests. Fund age is negatively related with fund performance indicating that younger funds tend to perform better. This finding seemed mainly driven by the samples of foreign and U.S. funds. When investing abroad, young mutual funds seemed to offer investors higher returns.\(^{76}\)

Soumya, Ashok and Chakrabarti (2007), in their paper used Return Based Style Analysis (RBSA) to evaluate equity mutual funds in India using quadratic optimization of an asset class factor model proposed by William Sharpe and analysis of the relative performance of the funds with respect to their style benchmarks. Their study found that the mutual funds generated positive monthly returns on the average, during the study period of January 2000 through June 2005. The ELSS funds lagged the Growth funds or all funds taken together, with respect to returns generated. The mean returns of the growth funds or all funds were not only positive but also significant. The ELSS funds also demonstrated marginally higher volatility (standard deviation) than the Growth funds.\(^{77}\)

Sharad and Madhumathi (2006) used sample of public-sector sponsored & private-sector sponsored mutual funds of varied net assets to investigate the differences in characteristics of assets held, portfolio diversification, and variable effects of diversification on investment performance for the period May, 2002 to May, 2005. The study found that public-sector sponsored funds do not differ significantly from private-sector sponsored funds in terms of mean returns\(^{\%}\). However, there is a significant difference between public-sector sponsored mutual funds and private-sector sponsored mutual funds in terms of mean returns\(^{\%}\). However, there is a significant difference between public-sector sponsored mutual funds and private-sector sponsored mutual funds in terms of average standard deviation, average variance and average coefficient of variation (COV). The study also found that there is a statistical difference between sponsorship classes in terms of excess standard deviation adjusted...
returns) as a performance measure. When residual variance (RV) is used as the measure of mutual fund portfolio diversification characteristic, there is a statistical difference between public-sector sponsored mutual funds and private-sector sponsored mutual funds for the study period. The model built on testing the impact of diversification on fund performance and found a statistical difference among sponsorship classes when residual variance is used as a measure of portfolio diversification and excess standard deviation adjusted returns as a performance measure. RV, however, has a direct impact on Sharpe fund performance measure.  

Narayan Rao (2003) evaluated performance of Indian mutual funds in a bear market through relative performance index, risk-return analysis, Treynor's ratio, Sharpe's ratio, Sharpe's measure, Jensen's measure, and Fama's measure. The study used 269 open-ended schemes (out of total schemes of 433) for computing relative performance index. Then after excluding funds whose returns are less than risk-free returns, 58 schemes are finally used for further analysis. The results of performance measures suggest that most of mutual fund schemes in the sample of 58 were able to satisfy investor's expectations by giving excess returns over expected returns based on both premium for systematic risk and total risk.

**Theses**

Alam Naushad (2010), has discussed various issues and prospects of the Indian mutual fund industry since 1991. The research mainly focuses on the evolution of the regulatory framework, growth of net resources, mobilized by the mutual fund since 1981, its role in mobilization of the household sector savings, the role of AMFI in the promotion of the industry and the growth trend of the industry since liberalization. The study also makes an empirical analysis of the HDFC mutual funds by making use of various financial and statistical tools.
1.5 Research Gap

After going through review of literature related to the Mutual Fund industry in India, it is evident that although huge work has been done since the inception of UTI on the related topics like the performance of mutual fund schemes, Investors preferences for the different mutual funds schemes, Growth of the Mutual fund industry. With the literature review done, I came to know that, the detailed work is not undertaken to assess the comparative performance between the public sector Mutual Funds and private sector Mutual Funds. Thus, comparison between the different schemes of public and private sector mutual fund has not been done in detail.

1.6 Objectives of the Study

The overriding objective of the study is to assess the relationship between the public sector Mutual Funds and private sector Mutual Funds in India. However, the proposed work has been undertaken to achieve the following specific objectives as well:

1. The main purpose of doing this research work is to know about mutual fund and its functioning and to know in details about mutual fund industry right from its inception stage, growth and future prospects.
2. To understand different schemes of mutual funds in India like equity, income, balance as well as the returns associated with those schemes.
3. The project study was done to ascertain the asset allocation, entry load, exit load, associated with the mutual funds. Ultimately this would help in understanding the benefits of mutual funds to investors.
4. To study the various changes in Indian mutual funds industry after liberalization.
5. To examine the role of mutual funds in promoting the economic development.
6. To study the role of mutual funds in Indian capital market.
7. To examine the resource Mobilisation and Asset under Management of the Public and Private Sector Mutual Funds in India.
8. To compare the market return of mutual fund Vis a Vis NIFTY S&PCNX.

9. To compare the performance of schemes of public-sector and private-sector mutual funds in India.

10. To make a comparative study of public-sector mutual funds and private-sector mutual funds of Indian mutual funds industry.

11. To study the risk-return profile of equity growth and balanced funds.

12. To analyze the risk-return profile of equity linked growth and balanced funds managed by different categories of AMC’s.

1.7 Need and Significance of the Study

The present research thus aims at analyzing the overall comparison of the performance of public and private sector mutual funds of India. Since the mutual fund is a very broad market and on the basis of the research gap a confined area has been studied. The study will help the researchers, academicians, corporations, investors, institutions and other entities which are involve directly or indirectly with the mutual fund operation to understand the following thing which have emerged as a matter of this research:

1. The study will definitely help the investors in deciding the various schemes of mutual funds in regard to investment. This will help the different investors in formulating their strategies to make the best use of their saving in mutual funds.

2. The study will help the investors in knowing the evaluation of various schemes of mutual funds.

3. The study will help the investors in knowing the mechanism of the operation of mutual fund industry in India.

4. The study will help the investors in knowing the various important factors affecting the performance of mutual fund industry.

5. This study will help in knowing the profitability, liquidity, marketability and competitiveness of the Indian mutual fund industry.
6. The study will also help the various authorities of mutual fund to bring further improvement in the market in regard to protect the larger interest of the small investors.

1.8 Hypothesis of the Study: The following hypotheses have been made to support the gap and objectives of the study:

**Null hypothesis H₀-1:** There is no significant difference between the returns and risk of public mutual funds and private mutual funds of respective schemes/products of Mutual funds.

Further this hypothesis is tested between the four different categories of Public and Private sector mutual funds.

**Null hypothesis H₀-1 A:** There is no significant difference between the public and private mutual funds in terms of return and risk of growth schemes.

**Null hypothesis H₀-1 B:** There is no significant difference between the public and private mutual funds in terms of return and risk of tax saving schemes. (Stands accepted for return and rejected for risk.

**Null hypothesis H₀-1 C:** There is no significant difference between the public and private mutual funds in terms of return and risk of equity oriented schemes.

**Null hypothesis H₀-1 D:** There is no significant difference between the public and private mutual funds in terms of return and risk of debt schemes.

**Null hypothesis H₀-2:** There is no significant difference between the public sector mutual funds and private sector mutual funds the on the basis of Sharpe, Treynor and Jenson ratio's.

**Null hypothesis H₀-3:** There is no significant difference in the profitability of public sector and private sector mutual funds AMCs.

**Null hypothesis H₀-4:** There is no significant difference between public sector and private sector mutual funds in terms of resource mobilization.
**Null hypothesis** $H_0-5$: There is no significant difference between the Public and Private sector Mutual funds in terms of asset under management.

**Null hypothesis** $H_0-6$: There is no significant difference of transaction cost between public and private sector mutual funds

**1.9 Research Methodology of the Study**

To achieve the objectives of the present study, the secondary sources of information have been utilized.®

1. The history, genesis, components, growth, performances of the mutual fund have been examined on the basis of secondary data like periodicals, text books, journals, reports, office records of various organizations like SEBI, RBI and ministry of finance, and different websites containing information of Indian mutual fund. Thus, the research work is heavily banked on the secondary source of information.

2. The actual performance and effectiveness of the Indian mutual fund have also been examined in the light of the perception of investors and various functionaries involved in the system. For this purpose general discussions and interviews were conducted with a certain number of officials and experts who are associated with the Indian mutual fund operation like investors and brokers.

**1.9.1 Data collection Method**

Data pertain to the performance of the funds were drawn from secondary sources such as NAV (Net Asset Value). The monthly NAVs of the sample schemes have been collected from the respective company’s websites and on that basis returns of the schemes have been calculated. The S&P CNX Nifty has been chosen as the benchmark index, being wider than the BSE SENSEX. Closing Index values of S&P CNXNIFTY has been collected from the nifty website for calculating monthly returns of the market. The weekly yields on 91-day US Treasury bills are taken as a risk free return i.e. 0.09% as on 31st march
The basic information regarding the schemes and the investment pattern are also collected from the respective company's fact sheets and also from the company's common application forms. The information related to the key statistics of the schemes is taken from the annual accounts of the companies. Data of resource mobilization as well as Asset under Management has been collected from the SEBI website and RBI websites. In formal discussions were made with the industry staff. During the course of discussions the staff expresses their opinions regarding the funds. The data collected is compiled in the form of tables and graphs and scrutinized through statistical tools and techniques.

1.9.2 Sample Size

The present study is a sample study. Samples were selected at random from equity growth funds, Tax saving funds and balanced funds offered by public and private MFs operating in India. On this basis, 5 private sector mutual fund companies and 5 public sector mutual fund companies were short listed. Mutual funds which have been operating for greater than five years and performing during the period of study are selected for the present research. From these funds, those schemes which are growth-oriented open-ended schemes, tax saving schemes, hybrid –equity oriented, debt oriented with availability of data and minimum five year of inception was selected. Thus, Private Sector Mutual Funds and Public sector Mutual funds, when combined accounted for 26 schemes.

1.9.3 Span of time

The present study aimed at analyzing the comparison between the performance of the public sector Mutual funds and Private sector mutual funds. The study covers the period from 1997 to 2011 to collect the data of resource mobilized as well as the AUM by both the sector, as the private sector entered in this Industry in 1993 and the SEBI guidelines were issued in 1996 for both the sectors. The researcher has evaluated the performance of the mutual funds schemes over longer period of time since their inception and those mutual funds having a
minimum of five years of operation were selected. The comparative analysis of the selected schemes covers the period from 26th Feb 2006 to 31 March 2011.

1.9.4 Research design

For this study the researcher has used the descriptive method for analyzing the comparative performance of the funds. Descriptive research study is concerned with describing the characteristics of particular individual or of a group. In descriptive analysis the researcher must be able to define clearly what he wants to measure and must find adequate method for measuring analysis.

1.10 Tools for Analysis

The performance of selected funds is evaluated using Statistical tools such as average rate of return of fund, standard deviation, Risk/Return, Sharpe Ratio, Treynor ratio and Jensen ratio. Return alone should not be considered as the basis of measurement of the performance of a mutual fund scheme, it should also include the risk taken by the fund manager because different funds will have different levels of risk attached to them. Risk associated with a fund, in a general, can be defined as variability or fluctuations in the returns generated by it. The higher the fluctuations in the returns of a fund during a given period, higher will be the risk associated with it. The most common measures that combine both risk and reward are Treynor ratio, Sharpe Ratio and Jensen ratio to realize the objectives of the study.83

1.10.1 Return

The returns are computed on the basis of the monthly NAV of the different schemes and returns in the market index are calculated on the basis of NSE Nifty closing index values. The return from a Mutual fund scheme (Rst) at time t, given in Equation-1, is as follows:
Chapter-1 Introductory Background and Framework of the Study

\[ R_{st} = \frac{NAV_t - NAV_{t-1}}{NAV_{t-1}} \]  
(1)

Where, NAV\(_t\) and NAV\(_{t-1}\) are net assets values for time period \(t\) and \(t-1\), respectively.

The Mean Return of the mutual fund scheme (Rmt) over a period of time, given in Equation-2, is as follows:

\[ R_m = \frac{\sum_{t=1}^{n} R_{st}}{n} \]  
(2)

Where \(R_{st}\) is the return from a Mutual fund scheme at time \(t\) and \(n\) is the total number of time period studied.

The return on the market (representative by a stock index) at time \(t\), given in Equation-3, is as follows:

\[ R_{mt} = \frac{l_t - l_{t-1}}{l_{t-1}} \]  
(3)

Where, \(l_t\) and \(l_{t-1}\) are value of a benchmark stock market index at period \(t\) and \(t-1\), respectively. In our case, we have taken the NSE Nifty as the benchmark stock index representing the broad market.

The mean Return of the market portfolio (Rmt) over a period of time, given in Equation-4, is as follows:
Where \( R_{mt} \) is the return from a stock market index (for our case, NSE Nifty) at time \( t \) and \( n \) is the total number of time periods studied.

**Risk-Free Rate of Return (\( R_f \))**

In this study, the weekly yields on 91-day Treasury bills have been used as risk free rate.

1.10.2 Risk

The following measures of risks associated with mutual funds have been for the study:

(i) **Beta: Market risk** is commonly measured by the Beta co-efficient. Beta reflects the sensitivity of the fund's return to fluctuations in the Market Index. The formula for calculating Beta may be stated as:

\[
\text{Beta value} = \frac{S_i}{S_m} \times R_f
\]

Where, \( S_i \) is the standard deviation of the fund,

"\( S_m \)" is the standard deviation of the Market, and

"\( R_f \)" is the correlation coefficient of the portfolio with market.

(ii) **Standard Deviation (\( \sigma \)):** STD measures fund's volatility or variation from the average expected return over a certain period. A higher STD indicates that the fund is more volatile.

In this formula, \( x \) is the value of the mean, \( N \) is the sample size, and \( x_i \) represents each data value from \( i=1 \) to \( i=N \)
(iii) **Co-efficient of Determination (R2):** R-squared measures a fund's movement against the benchmark and a value close to 100 means the fund follows the benchmark very closely. Also, R-squared can help investor assess the usefulness of a fund's beta or alpha statistics. A higher R-squared means the fund's beta is more trustworthy. The r-squared value can be interpreted as the proportion of the variance in y attributable to the variance in x.\textsuperscript{64}

\[ R^2 = \text{RSQ}(\text{known}_y's, \text{known}_x's) \]

Known \_y's is an array or range of market data points.

Known \_x's is an array or range of funds data points.

**1.10.3 Risk-Return Measures**

For further evaluating the performance of mutual funds, the risk-return relation models given by Sharpe (1966), Treynor (1965) and Jensen (1968) have been applied.

(a) **Sharpe's Ratio**

Sharpe ratio was given by W. F. Sharpe in 1966 and is expressed as the excess return per unit of risk, where risk is measured by the standard deviation of the rate of return. The Sharpe measure provides the reward to volatility trade-off. It is the ratio of the fund portfolio's average excess return divided by the standard deviation of returns. The Sharpe ratio measures the risk premium earned per unit of risk exposure. In other words, this ratio measures the change in the portfolio's return with respect to a one unit change in the portfolio's risk. The higher this "Reward-to-Variability-Ratio" the more attractive is the evaluated portfolio because the investor receives more compensation for the same increase in risk.

\[ S_p = \frac{(R_p - R_f)}{\sigma_p} \]

Where, \( S_p \) = Sharpe’s ratio for fund \( p \).

\( R_p \) = Average Return on fund \( p \).
σ_p = Standard Deviation of Return on fund p, and
R_f= Return on risk-free asset

(b) Treynor Ratio

Treynor’s ratio was given by Jack Treynor in 1965 and is expressed as a ratio of returns to systematic risk (Beta). The Treynor measure is similar to the Sharpe ratio, except that it defines reward (average excess return) as a ratio of the CAPM beta risk. Treynor's performance measure is defined as the risk premium earned per unit of risk taken. Thus, the Treynor ratio is computed as the average return of the portfolio in excess of the risk-free return divided by the portfolio's beta.

T_p = (R_p - R_f) / β_p

Where, T_p = Treynor’s ratio for fund p.

β_p = Sensitivity of fund return to market
R_p = Average return on fund p, and
R_f = Return on risk free asset

(c) Jensen Alpha

It is a regression of excess fund return with excess market return given by M.C.Jensen in 1968. The Jensen alpha measure is the intercept form the Sharpe-Litner CAPM regression of portfolio excess returns on the market portfolio excess returns over the sample period. Jensen's alpha is the arithmetic difference of the portfolio's return from the return of a portfolio on the securities market line with the same beta. Jensen defines his measure of portfolio performance as the difference between the actual returns on a portfolio in any particular holding period and the expected returns on that portfolio conditional on the risk-free rate, its level of “systematic risk”, and the actual returns on the market portfolio. It is expressed as –
\( R_p - R_f = \alpha + \beta (R_m - R_f) + e_i \)

Where,

\( \alpha = \) the intercept

\( \beta = \) Systematic Risk

\( R_m = \) Market Return

\( R_p = \) Fund Return for time period \( t \).

\( R_f = \) Return on risk-free asset.

1.11 Limitations of the Study

1. The study is restricted to secondary data
2. Different tools used for the study may suggest different results as the approach differs
3. The study consider data of only limited duration of time
4. The study is based on selected schemes therefore limiting the area of research
5. This analysis is carried on certain assumptions hence the assumptions would be biased.
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