CHAPTER II

REVIEW OF LITERATURE
METHODOLOGY OF THE STUDY
2.1 REVIEW OF LITERATURE:

- Athanasios.G.Noulas and John.A.Papanastasio (2005) evaluate the performance of Greek equity funds. The evaluation is based on the concept of risk and return. The risk is measured through co-efficient of variation and the systematic risk. Further techniques used for evaluation are Treynor’s method, Sharpe’s method and Jensen’s method. The study is based on a four-year period. The first three years are characterized by positive returns of the stock market, while the fourth year is the year of rapid fall of the stock market. The results show that, there are big differences among the equity mutual funds with respect to risk and return. In general, higher risk is associated with higher return. The beta of all mutual funds is lesser than one for the four-year period.

- Paniyotis.G.Artikis (2004) evaluates the performance of thirty nine domestic bond mutual funds operating in the Greek financial market over the period 15/3/1999 to 31/12/1999. In doing so the mutual funds under consideration were ranked on the basis of their return, total risk, co-efficient of variation and systematic risk using the capital asset pricing model with two independent variables – General Index of Athens stock exchange and a Bond index (Artikis 2003). The ranking of the sample mutual funds is different between the average daily return and the total risk. On the basis of co-efficient of variation the sample mutual funds are classified in to nine categories. The performance of thirty-three mutual funds is affected and can be explained to a satisfactory level by the movements in the bond index. On the other hand the performance of twenty-five mutual funds is affected and can be explained to a satisfactory level by the movements in the general index. The bond index appears to approximate the market portfolio closer than the general index. Twenty-seven from the sample mutual funds shows values for alpha co-efficient different than zero value that is assumed by the capital asset pricing model.

- Bala Ramaswamy and Mathew.C.H.Yeung (2003) examine the relative importance of factors considered important in the selection of mutual funds by
financial advisors in emerging markets. The survey focuses on Malaysia. The result of the survey point out to three important factors which dominate the choice of mutual funds. These are consistent past performance, size of funds and cost of transaction. Factors which relate to fund managers and investment style are not considered to be relatively important. Conjoint analysis was selected to study the importance of attributes for mutual fund selection.

- Edward.S.O'Neal (2002) examines the sources of performance for a sample of mutual funds that invest primarily in utility companies. In this study the traditional market model is augmented with additional indices that more completely span the potential market for mutual fund investments. The alpha in a regression of returns to the fund versus returns to the spanning indices serves as a measure of abnormal performance. The betas in such a regression can be interpreted as the weightings that the fund managers put in to the sectors of the market represented by the indexes. These weightings provide insights in to the type of securities utility fund managers are holding. The findings are extremely consistent with the prior studies in this area. Utility mutual fund managers on an average do not display the ability to beat a properly specified set of market indices.

- Thomas.A.Feuerborn (2001) examines the misplaced marketing techniques of investment companies. The study was done on over 1300 funds over a ten-year period. Author suggests that the most valuable tool for a new mutual fund is strong performance record. The author further observes that new funds are launched directly to the public with preferential treatment at the expense of other funds within the family or by providing a period of 'incubation' for the fund. However the consumer is often misdirected as the funds generally revert to average returns after couple of years. Author believes more government intervention is required in the market place.

- Pendaraki, C.Zopounidis and M.Doumpos (2003) examines an integrated methodological framework for the evaluation of mutual fund performance. The proposed methodology is based on the combination of discreet and continuous multi-criteria decision aid methods. This method is used to develop mutual funds
performance models supporting the selection of a small set of mutual funds. In the second stage, a goal-programming model is employed to determine the proportion of the selected mutual funds in the final portfolios. The methodology is applied on data of Greek mutual funds over the period 1999-2001.

- Martin J. Gruber (1996) studies the growth of actively managed mutual funds inspite of their under performance compared to Index funds. One possible explanation given by the author of why investors buy actively managed open end funds lies in the fact that they are bought and sold at net asset value, and thus management ability may not be priced. If management ability exists and it is not included in the price of open-end funds, then performance should be predictable. If performance is predictable and at least some investors are aware of this, then cash flows into and out of funds should be predictable by the very same metrics that predict performance. Finally, if predictors exist and at least some investors act on these predictors in investing in mutual funds, the return on new cash flows should be better than the average return for all investors in these funds. This article presents empirical evidence on all of these issues and shows that investors in actively managed mutual funds may have been more rational than what is generally assumed.

- Eduardo Borensztein (2003) examines whether there is a tendency for certain market participants to disregard fundamental economic conditions in emerging markets, responding only to what other investors are doing or are expected to do. The presence of such herding behavior could, to the extent it dominates international capital flows, help to explain the seemingly excessive observed volatility and have important policy implications. This article contributes to this literature by exploring a novel dataset that covers more than 400 dedicated emerging market equity funds on a monthly basis over the period January 1996-December 2000; it is the first study to document the behavior of mutual funds on a global scale. While the period is relatively short, it encompasses the Asian, Czech, Russian, and Brazilian crises.
Edwin J. Elton and Martin J. Gruber (1996) examine predictability for stock mutual funds using risk-adjusted returns. They find that past performance is predictive of future risk-adjusted performance. Applying modern portfolio theory techniques to past data improves selection and allows them to construct a portfolio of funds that significantly outperforms a rule based on past rank alone. In addition, they form a combination of actively managed portfolios with the same risk as a portfolio of index funds but with higher mean return. The portfolios selected have small but statistically significant positive risk-adjusted returns during a period where mutual funds in general had negative risk-adjusted returns.

Stephen J. Brown (1995) explore performance persistence in mutual funds using absolute and relative benchmarks. Their sample, largely free of survivorship bias, indicates that relative risk-adjusted performance of mutual funds persists; however, persistence is mostly due to funds that lag the S&P 500. A probit analysis indicates that poor performance increases the probability of disappearance. A year-by-year decomposition of the persistence effect demonstrates that the relative performance pattern depends upon the time period observed, and it is correlated across managers. Consequently, it is due to a common strategy that is not captured by standard stylistic categories or risk adjustment procedures.

Mark Grinblatt (1989) employs the 1975-84 quarterly holdings of a sample of mutual funds to construct an estimate of their gross returns. This sample, which is not subject to survivorship bias, is used in conjunction with a sample that contains the actual (net) returns of the mutual funds. In addition to allowing the authors to estimate the bias in measured performance that is due to the survival requirement and to estimate total transaction costs, the sample is used to test for the existence of abnormal performance. The tests indicate that the risk-adjusted gross returns of some funds were significantly positive.

Kent Daniel (1997) develops and applies new measures of portfolio performance, which use benchmarks based on the characteristics of stocks held by the portfolios that are evaluated. Specifically, the benchmarks are constructed from the returns
of 125 passive portfolios that are matched with stocks held in the evaluated portfolio on the basis of the market capitalization, book-to-market, and prior-year return characteristics of those stocks. Based on these benchmarks, "Characteristic Timing" and "Characteristic Selectivity" measures are developed that detect, respectively, whether portfolio managers successfully time their portfolio weightings on these characteristics and whether managers can select stocks that outperform the average stock having the same characteristics. The authors apply these measures to a new database of mutual fund holdings covering over 2500 equity funds from 1975 to 1994. The results show that mutual funds, particularly aggressive-growth funds, exhibit some selectivity ability, but that funds exhibit no characteristic timing ability.

- Diane Del Guercio (2002) compares the relations between asset flow and performance in the retail mutual fund and fiduciary pension fund segments of the money management industry, and relates empirical differences to fundamental differences in the clientele they serve. A striking difference is the shape of the flow-performance relation. In contrast to mutual fund investors, pension clients punish poorly performing managers by withdrawing assets under management and do not flock disproportionately to recent winners. The study interprets these and other empirical differences in the context of the manager evaluation procedures typical in each segment. Authors conclude that pension managers have little incentive to engage in the risk-shifting behavior previously identified among mutual fund managers.

- Thomas Scheneewees and Richard Spurgin (1999) deals with the multi factor analysis. Managed futures investments, which are directed by commodity trading advisors (CTAs), and hedge funds have different investment opportunity sets from mutual funds. Hence, their returns are likely to be explained by different factors as well. CTA returns are positively related to commodity market trends, whereas hedge fund and mutual fund returns are related to index returns in the markets in which the fund invests. Interestingly, hedge funds offered higher risk-adjusted returns than mutual funds of CTAs in the study.
• Mark Grinblatt and Sheridan Titman (1993) introduces a new level of portfolio performance and applies it to study a large sample of mutual funds. In contrast to previous studies of mutual fund performance, the measure used in the study employs portfolio holdings and does not require the use of a benchmark portfolio. It finds that the portfolio choices of mutual fund managers, particularly those that managed aggressive growth funds, earned significantly positive risk-adjusted returns in the 1976-85 period. Marcin Kacperczyk of Saudere School of Buisness, University of British Columbia and Clemens Sialm of Stephen.M.Ross School of Business, University of Michigan have presented a paper titled ‘Industry Concentration of Actively Managed Equity Mutual Funds’ in ‘The Journal of Finance’ during August 2005. Mutual fund managers may decide to deviate from a well-diversified portfolio and concentrate their holdings in industries where they have informational advantages. In this paper, the study was on the relation between the industry concentration and the performance of actively managed U.S. mutual funds from 1984 to 1999. Results indicate that, on average, more concentrated funds perform better after controlling for risk and style differences using various performance measures. This finding suggests that investment ability is more evident among managers who hold portfolios concentrated in a few industries.

• Elizabeth F. Goldreyer and David Diltz (1999) outlines increased interest from investors in corporate social policies over the last ten years and previous research comparing the investment performance of “socially responsible” (SR) portfolios with others. Measures performance for a US sample of SR and conventional mutual funds using a variety of methods (including Jensen’s Alpha, the Sharpe Ratio and the Treynor ratio), analysing the funds by investment strategy, size, systematic risk and the use of inclusion screens. Presents the results, which do not give a clear advantage to either group, but show that funds with inclusion screens consistently outperform those without. Calls for further research on the relationship between corporate social performance and portfolio performance and comparisons between SR and conventional funds.
• Brad M. Barber and Terrance Odean (2005) argue that the purchase decisions of mutual fund investors are influenced by salient, attention-grabbing information. Investors are more sensitive to salient, in-your-face fees, like front-end loads and commissions, than operating expenses; they buy funds that attract their attention through exceptional performance, marketing, or advertising. Authors analyze mutual fund flows over the last 30 years and find negative relations between flows and front-end-load fees. In contrast, they find no relation between operating expenses and flows. Additional analyses indicate that marketing and advertising, the costs of which are often embedded in funds' operating expenses, account for this surprising result.

• Gregory Connor (2006) examines the risk and return characteristics of U.S. mutual funds. The authors employ an equilibrium version of the Arbitrage Pricing Theory (APT) and a principal-components-based statistical technique to identify performance benchmarks. They also consider the Capital Asset Pricing Model (CAPM) as an alternative. Authors implement a procedure for overcoming the rotational indeterminacy of factor models. This procedure is a hybrid of statistical factor estimation and pre specification of factors. They estimate measures of timing ability for the CAPM and extend it to the APT. They find that this timing test is not correctly specified due to non information-based changes in mutual fund betas. They develop a modification of the timing measure that, under certain conditions, distinguishes true timing ability from non information-based beta changes.

• Jonathan B. Berk and Richard C. Green (2004) derive a parsimonious rational model of active portfolio management that reproduces much regularity widely regarded as anomalous. Fund flows rationally respond to past performance in the model even though performance is not persistent and investments with active managers do not outperform passive benchmarks on average. The lack of persistence in returns does not imply that differential ability across managers is nonexistent or unrewarded or that gathering information about performance is socially wasteful. The model can quantitatively reproduce many salient features in
the data. The flow-performance relationship is consistent with high average levels of skills and considerable heterogeneity across managers.

- Vikas Agarwal (2003) characterizes the systematic risk exposures of hedge funds using buy-and-hold and option-based strategies. Results show that a large number of equity-oriented hedge fund strategies exhibit payoffs resembling a short position in a put option on the market index and therefore bear significant left-tail risk, risk that is ignored by the commonly used mean-variance framework. Using a mean-conditional value-at-risk framework, authors demonstrate the extent to which the mean-variance framework underestimates the tail risk. Finally, working with the systematic risk exposures of hedge funds, they show that their recent performance appears significantly better than their long-run performance.

- Ronald. T. Wilcox (2003) examines Investors who wish to purchase shares in mutual funds balance many types of information, from a variety of sources, when making their fund selection. This research examines how investors choose a mutual fund within a given class of funds. Among the major findings are that investors pay a great deal of attention to past performance and vastly overweight loads relative to expense ratios when evaluating a fund's overall fee structure. Author also find that investors with a greater knowledge of basic finance are less likely, not more likely, to make reasonable fund choices.

- Graciela L. Kaminsky (2001) state that International mutual funds are key contributors to the globalization of financial markets and one of the main sources of capital flows to emerging economies. Despite their importance in emerging markets, little is known about their investment allocation and strategies. This article provides an overview of mutual fund activity in emerging markets. It describes their size, asset allocation, and country allocation and then focuses on their behavior during crises in emerging markets in the 1990s. It analyzes data at both the fund-manager and fund-investor levels. Due to large redemptions and injections, funds' flows are not stable. Withdrawals from emerging markets during recent crises were large, which is consistent with the evidence on financial contagion.
Eric M. Engen and Andreas Lehnert (2000) explain about the fact that mutual funds have become an important intermediary between households and financial markets, especially the equity market. About half of all households have a mutual fund account, and mutual funds hold about one-fifth of household financial assets. Because households have favored equity investments in their mutual fund accounts, mutual funds currently hold about one-fifth of all publicly traded U.S. equities. In addition to discussing the recent growth of mutual funds and their role in household finances, this article analyzes the relationship between households' investment decisions in equity mutual funds and equity market prices.

Julia Sawicki (2000) contributes to the understanding of the role that past performance plays as a manager-choice criterion by exploring the relationship between recent performance and the movement of assets-under-management in the Australian wholesale managed funds industry. In addition to providing empirical measures of the influence of recent performance on funds flow, this study focuses on the institutional (as opposed to individual) investor. A majority of the research on professionally managed investment funds is conducted using data on mutual funds serving individual investors, leaving institutional investor's choice of outside portfolio manager relatively unexplored territory. Results of regression tests performed in this study corroborate results of studies using U.S. mutual funds' data in finding a positive relationship between funds flow and prior performance. The evidence of a statistically and economically significant relationship between funds flow and performance in the prior year is robust across performance measures, timing of flows, model specification and data subset used to measure the relationship. Tests comparing response coefficients do not find significant, systematic differences across measures, thus revealing no insight into which measures investors are using.

Busse J.A (1999) use daily mutual fund returns to shed new light on the question of whether or not mutual fund managers are successful market timers. Previous studies find that funds are unable to time the market return. I study the funds' ability to time market volatility. The author shows that volatility timing is an
important factor in the returns of mutual funds and has led to higher risk-adjusted returns. The returns of surviving funds are especially sensitive to market volatility; those of non-survivors are not.

- Nicholas, P.B. Bollen (2004) estimate parameters of standard stock selection and market timing models using daily mutual fund returns and quarterly measurement periods. They then rank funds quarterly by abnormal return and measure the performance of each decile the following quarter. The average abnormal return of the top decile in the post-ranking quarter is 39 basis points. The post-ranking abnormal return disappears when funds are evaluated over longer periods. These results suggest that superior performance is a short-lived phenomenon that is observable only when funds are evaluated several times a year.

- Katerina Simons (1998) describes a number of performance measures. Their common feature is that they all measure funds' returns relative to risk. However, they differ in how they define and measure risk and, consequently, in how they define risk-adjusted performance. The article also compares rankings of a large sample of funds using two popular measures. It finds a surprisingly good agreement between the two measures for both stock and bond funds during the three-year period between 1995 and 1997.

- Wayne, E. Ferson (1996) modifies classical performance measures to take account of well-known market indicators. The conditional performance evaluation approach avoids some of the biases that plague traditional measures. Applied to a sample of mutual funds, the conditional measures make the funds' performance look better.

- Agarwal, Georgiev and Georgi Pinato (2006) says a new approach for relative evaluation of fund managers within a portfolio is based on the explicit positions of the funds and the positions of the overall portfolio. The approach decomposes each fund's return into beta and alpha components relative to the overall book. Tests of this book benchmark analysis on a portfolio of equity-based hedge funds during a 31-month period indicate its alphas are significantly more predictive than
returns for short in-sample periods (six to nine months). This suggests that book benchmark alphas are a valuable quantitative tool for managing a portfolio of hedge funds with position-level transparency. While the analysis here is developed for a fund of hedge funds because of data considerations, the book benchmark concept is more general. It can be used in any circumstances involving manager selection as long as there is position-level transparency.

- Moshe Arye Milevsky (2001) use risk-neutral option pricing theory to value the guaranteed minimum death benefit (GMDB) in variable annuities (VAs) and some recently introduced mutual funds. A variety of death benefits, such as return-of-premium, rising floors, and "ratches," are analyzed. Specifically, the authors compute the fair insurance risk fee, charged to assets, that funds the embedded option. The authors derive analytic option prices for a simplified exponential mortality model and robust numerical estimates in the case of a properly calibrated Gompertz model. The authors label this contingent claim a Titanic option because its payoff structure is in-between European and American style but is triggered by death. The authors' main objective is to compare theoretical estimates against a cross-section of insurance risk charges, as reported by Morningstar, Inc. The authors' main conclusion is that a simple return-of-premium death benefit is worth between one and ten basis points, depending on gender, purchase age, and asset volatility. In contrast, the median Mortality and Expense risk charge for return-of-premium variable annuities is 115 basis points. Presumably, the remaining markup can be attributed to profits, model imperfections, or, more cynically, to an implicit payment for the tax-deferral privilege.

- Ajay Khorana (2001) examines the impact of mutual fund manager replacement on subsequent fund performance. Using a sample of 393 domestic equity and bond fund managers that were replaced over the 1979-1991 period, for the under performers, the author documents significant improvements in post-replacement performance relative to the past performance of the fund. On the other hand, the replacement of over performing managers results in deterioration in post-replacement performance. He finds evidence supporting the presence of strategic
risk shifting in the fund portfolios prior to replacement. Furthermore, consistent with the notion of window dressing, the author documents that the level of portfolio turnover activity decreases significantly in the post-replacement period. Lastly, the replacement of poor performers is preceded by significant decreases in net new inflows in the fund.

- FungW and D.A.Hsieh (1997) presents some new results on an unexplored dataset on hedge fund performance. The results indicate that hedge funds follow strategies that are dramatically different from mutual funds, and support the claim that these strategies are highly dynamic. The article finds five dominant investment styles in hedge funds, which when added to Sharpe's (1992) asset class factor model can provide an integrated framework for style analysis of both buy-and-hold and dynamic trading strategies.

- Cheng Few Lee (1990) examines market timing and selectivity performance of a sample of mutual funds. It uses a very simple regression technique to separate stock selection ability from timing ability. This technique, first suggested by Treynor and Mazuy and later refined by Bhattacharya and Pfeiderer, uses a modified security-market line approach to produce individual measures of timing and stock selection ability. The inputs to the model are only the returns earned on the fund and those earned on the market portfolio. The empirical results indicate that at the individual fund level there is some evidence of superior micro- and macro forecasting ability on the part of the fund manager.

- Eric.G.Falkenstein (1996) investigates the cross-section of mutual fund equity holdings for the years 1991 and 1992, which shows that mutual funds have a significant preference towards stocks with high visibility and low transaction costs, and are averse to stocks with low idiosyncratic volatility. These findings are relevant to theories concerning investor recognition, a potential agency problem in mutual funds, and tests of trend-following and herd behavior by mutual funds, and corporate finance.
• Stephen J. Brown (1999) examine the performance of the offshore hedge fund industry over the period 1989 through 1995 using a database that includes both defunct and currently operating funds. They observe that the industry is characterized by high attrition rates of funds, low covariance with the U.S. stock market, evidence consistent with positive risk-adjusted returns over the time, and little evidence of differential manager skill.

• John G. Gallo (2000) examine the performance of real estate mutual funds during January 1991–December 1997. As a group, the sampled funds outperformed the Wilshire Real Estate Securities Index on a risk-adjusted basis by more than 5 percentage points annually. They attempt to explain these surprising findings by examining the fund's asset allocations across stocks, bonds and real estate property types using Sharpe's effective mix test. They find that all of the superior performance is attributable to fund managers' decisions to overweight outperforming property types (apartments and health care) relative to the Wilshire Real Estate Securities Index weights. Performance of the funds matches a multiple-property-type benchmark that takes account of the fund's exposure to each property type. Therefore, real estate funds demonstrated superior allocation across property types, but neither superior nor inferior selection within property type, during 1991–1997. Findings emphasize the importance of asset allocation for real estate mutual-fund performance.

• Mark M. Carhart (2002) provides a comprehensive study of survivorship issues using the mutual fund data of Carhart (1997). Authors demonstrate theoretically that when survival depends on multi period performance, the survivorship bias in average performance typically increases with the sample length. This is empirically relevant because evidence suggests a multiyear survival rule for U.S. mutual funds. In the data they find the annual bias increases from 0.07% for 1-year samples to 1% for samples longer than 15 years. Authors find that survivor conditioning weakens evidence of performance persistence. Finally, they explain how survivor conditioning affects the relation between performance and fund characteristics.
• Elton, E.J and M. J. Gruber (1996) investigate the informational efficiency of mutual fund performance for the period 1965-84. Results are shown to be sensitive to the measurement of performance chosen. They find that returns on S&P stocks, returns on non-S&P stocks, and returns on bonds are significant factors in performance assessment. Once it is corrected for the impact of non-S&P assets on mutual fund returns, they find that mutual funds do not earn returns that justify their information acquisition costs. This is consistent with results for prior periods.

• Jonathan Reuter (2006) combines data on brokerage commissions that mutual fund families paid for trade execution between 1996 and 1999 with data on mutual fund holdings of initial public offerings (IPOs), the author document a robust, positive correlation between commissions paid to lead underwriters and reported holdings of the IPOs they underwrite. Moreover, he also finds that the correlation is limited to IPOs with nonnegative first-day returns and strongest for IPOs that occur shortly before mutual funds report their holdings, when the noise introduced by flipping is smallest. Overall, the evidence suggests that business relationships with lead underwriters increase investor access to underpriced IPOs.

• Geert Bekaert (1996) study a new class of unconditional and conditional mean-variance spanning tests that exploits the duality between Hansen-Jagannathan bounds (1991) and mean-standard deviation frontiers. The tests are shown to be equivalent to standard spanning tests in population, but they document substantial differences in the small sample performance of alternative tests. Their empirical application examines the diversification benefits from emerging equity markets using an extensive new data set on U.S. and U.K.-traded closed-end funds. They find significant diversification benefits for the U.K. country funds, but not for the U.S. funds. The difference appears to relate to differences in portfolio holdings rather than to the behavior of premiums in the United States versus the United Kingdom.

• Jose Miguel Gaspar (2006) investigate whether mutual fund families strategically transfer performance across member funds to favor those more likely to increase overall family profits. They find that "high family value" funds (i.e., high fees or
high past performers) overperform at the expense of "low value" funds. Such a performance gap is above the one existing between similar funds not affiliated with the same family. Better allocations of underpriced initial public offering deals and opposite trades across member funds partly explain why high value funds overperform. Their findings highlight how the family organization prevalent in the mutual fund industry generates distortions in delegated asset management.

- Lu Zheng (1999) finds evidence to support selection ability among active fund investors for equity funds listed in 1982. Using a large sample of equity funds, author finds evidence that funds that receive more money subsequently perform significantly better than those that lose money. This effect is short-lived and is largely but not completely explained by a strategy of betting on winners. In the aggregate, there is no significant evidence that funds that receive more money subsequently beat the market. However, it is possible to earn positive abnormal returns by using the cash flow information for small funds.

- Jongmoo Jay Choi (2004) examines the role of market segmentation on the valuation of the U.S. stock exchange-listed closed-end country funds and analyzes the determinants of net fund premium in a multivariate context. It is shown that fund returns are generally sensitive to both national and U.S. market factors, but only national factors are priced. Cross-section and time series estimation of net fund premium indicates the importance of market segmentation as a determinant of net fund premium. There is some evidence that exchange rate changes may exert an additional influence. However, market expectation variables such as economic growth of the country or relative capitalization rates are insignificant.

- Ravi Shukla (2005) test for the existence of superior performance and its persistence with mutual funds and mutual fund investment advisers on a data set of monthly returns from 1979 to 1989 for 1,387 mutual funds grouped by 243 advisers. They find no evidence of superior performance or its persistence but however they do find significant evidence of persistence of inferior performance.
Consistent with previous studies, their findings depend on the benchmark chosen, with multiple benchmarks producing a larger degree of inferior performance.

- Alex Frino and David R. Gallagher (2002) examines the performance of index equity funds in Australia. Despite the significant growth in index funds since 1976, when the first index mutual fund was launched in the U.S., research on their performance is sparse in the U.S. and non-existent in Australia. This study documents the existence of significant tracking error for Australian index funds. For example, the magnitude of the difference between index fund returns and index returns averages between 7.4 and 22.3 basis points per month across index funds operating for more than five years. However, there is little evidence of bias in tracking error implying that these funds neither systematically outperform nor underperform their benchmark on a before cost basis. Further analysis provides evidence that the magnitude of tracking error is related to fund cash flows, market volatility, transaction costs and index replication strategies used by the manager.

- Daniel C. Indro and Christine X. Jiang (1999) examine the variation in performance for a sample of 770 actively managed mutual funds during the 1993-95 period. They find that not only investment style but also style consistency affects the rate of return. Funds that change both their value versus growth and small- versus large-capitalization stock allocation strategies belong to the worst-performing group. Funds that change only their value versus growth or small-versus large-cap stock orientation do no better than style-consistent funds. In addition, style-consistent funds are not all alike. Growth/large-cap stock funds are the worst-performing style-consistent funds. Growth/small-cap funds have the biggest rate of return but are also the least diversified.

- Miguel A. Ferrira (2006) studies the performance of mutual funds around the world using a sample of 10,568 open-end actively managed equity funds from 19 countries between 1999 and 2005. Performance is measured using four alternative benchmark models, including an international version of the Carhart four-factor model. Authors regress abnormal performance on fund attributes such as age, size, fees, management structure, and management tenure. They also investigate
whether country characteristics such as economic development, financial
development, familiarity, and investor protection have additional explanatory
power. The results show that large funds tend to perform better, which suggests
the presence of significant economies of scale. When investing abroad, young
funds are more able to obtain better performance. Performance is higher in funds
with higher fees and an individual manager with more experience manages that.
Mutual fund performance is better in countries with stronger legal institutions.
Domestic funds located in developed countries, in particular with liquid stock
markets, perform better. When investing abroad, familiarity and proximity
enhances the performance of the funds.

- Martin J. Guber (1996) says that, Mutual funds represent one of the fastest
growing type of financial intermediary in the American economy. The question
remains as to why mutual funds and in particular actively managed mutual funds
have grown so fast, when their performance on average has been inferior to that
of index funds. One possible explanation of why investors buy actively managed
open end funds lies in the fact that they are bought and sold at net asset value, and
thus management ability may not be priced. If management ability exists and it is
not included in the price of open end funds, then performance should be
predictable. If performance is predictable and at least some investors are aware of
this, then cash flows into and out of funds should be predictable by the very same
metrics that predict performance. Finally, if predictors exist and at least some
investors act on these predictors in investing in mutual funds, the return on new
cash flows should be better than the average return for all investors in these funds.
This article presents empirical evidence on all of these issues and shows that
investors in actively managed mutual funds may have been more rational than one
has assumed.

- Eduardo Borensztein and R. Gaston Gelos (2003) contributes to this literature by
exploring a novel dataset that covers more than 400 dedicated emerging market
equity funds on a monthly basis over the period January 1996-December 2000; it
is the first study to document the behavior of mutual funds on a global scale.
While the period is relatively short, it encompasses the Asian, Czech, Russian,
and Brazilian crises. Assessing the behavior of international investors in a systematic way, however, poses big challenges. Most of the available financial information consists of data on prices. It is nearly hopeless to attempt to control for all "fundamental" news that leads to changes in asset prices, making it impossible to convincingly establish that a specific change in asset prices was due to herding behavior by certain groups of investors. Moreover, herding behavior by international investors may have adverse consequences for countries even in the absence of a large impact on prices. For these reasons, researchers have begun to examine investor behavior in emerging markets directly using data on investors' portfolios and transactions. Such data are scarce, however, and the evidence presented so far for emerging markets is limited. The most comprehensive dataset used so far is probably the daily data from State Street Bank and Trust examined by Froot, O'Connell, and Seasholes (2001). The authors find evidence for persistence and trend following in portfolio flows. In addition, their data indicate that inflows have forecasting power for future returns in emerging markets, but not mature markets. While their dataset is very detailed on transactions, it does not allow the researcher to differentiate between different classes of investors. Other studies have had a regional or country-specific focus.

- Mark M. Carhart, Jennifer N. Carpenter, Anthony W. Lynch and David K. Musto (2002) provides a comprehensive study of survivorship issues using the mutual fund data of Carhart (1997). Authors demonstrate theoretically that when survival depends on multiperiod performance, the survivorship bias in average performance typically increases with the sample length. This is empirically relevant because evidence suggests a multiyear survival rule for U.S. mutual funds. In the data we find the annual bias increases from 0.07% for 1-year samples to 1% for samples longer than 15 years. Authors find that survivor conditioning weakens evidence of performance persistence. Finally, they explain how survivor conditioning affects the relation between performance and fund characteristics.

- Keith C. Brown, W. V. Harlow and Laura T. Starks (1996) test the hypothesis that when manager's compensation is linked to relative performance, managers of investment portfolios likely to end up, as "losers" will manipulate fund risk
differently than those managing portfolios likely to be "winners." An empirical investigation of the performance of 334 growth-oriented mutual funds during 1976 to 1991 demonstrates that mid-year losers tend to increase fund volatility in the latter part of an annual assessment period to a greater extent than mid-year winners. Furthermore, they show that this effect became stronger as industry growth and investor awareness of fund performance increased over time.

- Noel Capon, Gavan. J. Fitzimons and Russ Alan Prince (1996) study investigates the manner in which consumers make investment decisions for mutual funds. Investors report that they consider many nonperformance related variables. When investors are grouped by similarity of investment decision process, a single small group appears to be highly knowledgeable about its investments. However, most investors appear to be naive, having little knowledge of the investment strategies or financial details of their investments. Implications for mutual fund companies are discussed.

- Bradford De Long and Andrei Shleifer (1991) use the difference between prices and net asset values of closed-end mutual funds at the end of the 1920s to estimate the degree to which the stock market was overvalued on the eve of the 1929 crash. They conclude that the stocks making up the S & P composite were priced at least 30 percent above fundamentals in late summer, 1929.

- Vance P. Lesseig, D. Michael Long and Thomas I. Smythe (2002) argue that the Multiple Share Class (MS) structure leads to cost savings, which can be passed onto investors as lower expenses. However, if the structure lowers costs, sponsors are likely to profit from it. Though investors are concerned about the base expense ratio, the sum of administrative and management fees, fund sponsors generate profits from the management fees. As such, they would prefer to increase the management fee if they can simultaneously lower administrative fees. Authors results indicate that MS fund investors pay lower administrative fees, but management fees are approximately 7 basis points higher than single-class funds. Overall, base expense ratios are higher than for single-class funds, suggesting
fund sponsors capture the cost benefits the MS structure provides. Their results are robust to different model specifications and different estimation techniques.

- Andrei Shleifer (1997) says that, textbook arbitrage in financial markets requires no capital and entails no risk. In reality, almost all arbitrage requires capital, and is typically risky. Moreover, professional arbitrage is conducted by a relatively small number of highly specialized investors using other people's capital. Such professional arbitrage has a number of interesting implications for security pricing, including the possibility that arbitrage becomes ineffective in extreme circumstances, when prices diverge far from fundamental values. The model also suggests where anomalies in financial markets are likely to appear, and why arbitrage fails to eliminate them.

- Doron Avramov and Russ Wermers (2006) form investment strategies in US domestic equity mutual funds, incorporating predictability in (i) manager skills, (ii) fund risk loadings, and (iii) benchmark returns. Authors find predictability in manager skills to be the dominant source of investment profitability—long-only strategies that incorporate such predictability outperform their Fama-French and momentum benchmarks by 2 to 4%/year by timing industries over the business cycle, and by an additional 3 to 6%/year by choosing funds that outperform their industry benchmarks. Their findings indicate that active management adds significant value, and that industries are important in locating outperforming mutual funds.

- Samuel A. Mueller (1991) studies, whether there is any difference in returns for mutual funds, which are run ethically. Iannaccone's (1988) formal model of church and sect predicts that members of sects, defined as groups with moral or ethical standards at variance with the social environment, should suffer costs because of their adherence to their standards. After noting the strong resemblance of this notion to that of Bonhoeffer's concept of costly grace (1963), the empirical validity of the hypothesis is tested by examining the performance of ten mutual funds that impose ethical restrictions on their portfolios. Nine of the ten had risk-adjusted returns lower than their category average over a five-year period. On
average, an ethical investor sacrificed about one percentage point of return per year compared to comparable funds, or about ten percent of the return that otherwise could have been expected. This finding provides solid support for Iannaccone's hypothesis. Certain implications and extensions of this finding are then discussed.

- Yusen Xia (2001) considers the portfolio selection problem with transaction costs which are assumed to be a V-shaped function of the difference between an existing portfolio and a new one. Under some assumptions on the variance–covariance matrix of returns, we derive a compromise solution to this portfolio selection problem by solving a linear program. The compromise solution is then extended to include a riskless asset which allows short sale. We also compare the results of our compromise solution with results derived by the direct utility function method, which is solved by a specially designed genetic algorithm in this paper. Results show that the expected return and the standard deviation of the compromise solution are both smaller than those solutions from the direct utility function method.

- Brian M. Neuberger and Chris A. La Chapelle (1983) examines empirically whether or not there exists a significant difference in the unseasoned new issues pricing policies of underwriters in three different tiers of prestige. The study included underwriters from the classifications of prestigious and non-prestigious as earlier research. In addition, the authors analyzed the price movement patterns in a third tier defined as underwriters who manage new issues with an initial offer price of one dollar or less. Based on a sample of 118 new issues selected from this period, the authors conclude that there is a significant difference in the price appreciation of issues offered by different tiers of investment banking firms. The paper also concludes that the average excess return can be expected to be higher on new issues offered by successively lower (non-prestigious) tiers. For example, the mean excess returns for the three tiers were 5.3%, 9.6%, and 43.3%, respectively in the time period from the point of offer until one week after the offer. The results confirm studies during earlier time periods, which have demonstrated that unseasoned new issues generally show excess returns.
• Woodrow, T. Johnson (2004) analyzes the distribution of investment horizons in a large, proprietary panel of all shareholders in one no-load mutual fund family. A proportional hazards model shows that there are observable shareholder characteristics that enable the fund to predict reliably on the day each account is opened whether the account will be short term or long term. Simulations show that the liquidity costs imposed on the fund by the expected short-term shareholders are significantly greater than those imposed by the expected long-term shareholders.

• Julia Sawicki (2002) extends the literature on the relationship between recent performance and the movement of managed funds' assets by investigating the effects of fund size and age. The results confirm a size effect, as well as an age effect. Tests distinguishing between the two favor a size rather than an age interpretation. The evidence that flows of small funds are more sensitive to recent performance than flows of large funds is consistent with Gruber's (1996) notion of sophisticated investors using information in past performance to identify superior funds. Zheng's (1998) evidence that the good performers tend to be small funds suggests that the smart money should be following small funds, as confirmed in this study. Support for the 'smart money size effect' is also provided here with evidence confirming that small funds tend to be superior performers.

• Elroy Dimson (1999) reviews the evolving literature on closed-end fund discounts. Many studies have attempted to explain the existence and the behavior of the discount to net asset value, emphasizing biases in the calculation of NAV, agency costs, tax-timing options and market segmentation. None has been able to provide a full explanation. As a result, some researchers have found it necessary to resort to models of limited rationality, gives rise to potential opportunities for exploiting the discount. The Authors summarize the findings from over 70 studies of closed-end funds, and present directions for future research.

• Aigbe Akhigbe (2001) examine the motivation and performance of closed-end funds that engage in seasoned public or rights offerings. They find that closed-end
funds are more motivated to engage in seasoned offerings when their shares exhibit a relatively high premium (compared to their corresponding NAV) and have a high degree of liquidity. They also find a significant negative valuation effect on average in response to seasoned offerings by closed-end funds. Cross-sectional analysis reveals that the valuation effect at the time of the seasoned offering is more unfavorable for funds that have relatively high expense ratios and are relatively large. Furthermore, they find that the closed-end funds experience significant negative valuation effects over the three-year period subsequent to the seasoned offering, implying poor post-offering performance.

- Mohanan.S (2006) says 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 mobilised 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.

- Philpot, James and Jhonson (2007) conducted a cross-sectional examination of the writing clarity of mutual fund prospectuses from 20 major US mutual fund families. They focused on the language and principle risk sections, using flesch and word counts to measure writing clarity. There is considerable variation in readability among funds and fund families.

- Bijan Roy and Saikat Sovan Deb (2005) says that the traditional techniques use the unconditional moments of returns. Such techniques can not capture the time-varying element of expected return. As a consequence, Ferson and Schadt advocate a technique called conditional performance evaluation, designed to address this problem. Their study utilises that technique on a sample of 89 Indian
mutual fund schemes over the period of 1999 to 2003. This study measures the performance with both unconditional and conditional form of CAPM, Treynor model and Henriksson-Merton model. The results suggest that the use of conditioning lagged information variables improves the performance of mutual fund schemes, causing the alphas to shift towards the right and reducing the number of negative timing co-efficients.

- Anand.S (2004) attempts to examine the components and sources of investment performance in order to attribute it to specific activities of Indian fund managers. He also attempts to identify a part of observed return, which is due to the ability to pick up the best securities at given level of risks. 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% of corpus to equity stocks of 25 fund houses. The empirical results reported here 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 returns by the funds.

- Mishra (2002) measured mutual fund performance using lower partial moment. In this paper, measures of evaluating portfolio performance based on lower partial moment are developed. Risk from lower partial moment is measured taking in to account only those states in which returns are below a pre-specified target rate like risk-free rate.

- Kshama Fernandes (2003) evaluated Index Fund implementation in India. In this paper tracking error of index funds in India is measured. 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.
Narayan Rao.S and Ravindran.M (2005) carries out the performance evaluation of Indian mutual funds in a bear market through relative performance index, risk-return analysis, Treynor's ratio, Sharp's ratio and Jensen's measure. The research was carried out with a sample of 269 open ended schemes for computing relative performance index. Then after excluding the funds whose returns are less than risk-free returns, 58 schemes were used for further analysis. The results of performance measures suggest that most of the mutual fund schemes in the sample of 58 were able to satisfy investors expectations by giving excess returns over expected returns based on both premium for systematic risk and total risk.

Sanjay Sehgal and Manoj Jhanwar (2003) have done a research on Short Term Persistence in Mutual Funds Performance - Evidence from India. The researchers find no evidence that confirms persistence using monthly data. Using daily data, the researchers observe that, for fund schemes sorted on prior period four-factor abnormal returns, the winners portfolio does provide gross abnormal returns of 10% per annum on post-formation basis. Their empirical findings are consistent with the efficient market hypothesis and have implications for hedge funds and other managed portfolios who rely on innovative investment styles including the “fund of funds” trading strategies that implicitly assume short-term persistence.

John C. Bogle (1999) takes a critical look at the mutual fund industry and how we invest, and charts a compelling course for change. Written in Bogle’s inimitable style, this eye-opening book examines the fundamentals of mutual fund investing alongside industry practices that are often in conflict with a sound long-term investment program. Common Sense on Mutual Funds shows investors how to revolutionize their portfolios by embracing simplicity and then avoiding industry pitfalls. Just as Thomas Paine argued for a new way of thinking about independence in "Common Sense," so Bogle sets forth a new way of looking at mutual funds. He presents a platform for intelligent investing and then uncovers the ills that beset the mutual fund industry, serious ills that thwart our efforts to accumulate adequate financial resources. He analyzes costs, scrutinizes asset size, exposes tax inefficiencies, warns of "empty suit" directors, and reveals the severe conflict between fund principles and fund pro-motion. Emphasizing long-term
investing and asset allocation, Bogle finds in simplicity the solution to the riddle of fund selection by investors. From stock and bond funds to global investing and index funds, Common Sense on Mutual Funds provides insight, illumination, and enlightenment.

- Charles P. Jones (2002) reviews everything investors need to watch out for in order to achieve their objectives — including costs, tax issues, sector volatility, and other key issues. He also introduces and explains important new alternatives to mutual funds, such as folio investing, comparing their advantages, risks, and potential yields.

- Seth C. Anderson and Parvez Ahmed (2005) says Mutual funds are the dominant form of investment companies in the United States today, with approximately $7 trillion in assets under management. Over the past half century an important body of academic research has addressed various issues about the nature of these companies. These works focus on a wide range of topics, including fund performance, investment style, and expense issues, among others. Mutual Funds: Fifty Years of Research Findings is designed for the academic researcher interested in the various issues surrounding mutual funds and for the practitioner interested in funds for investment purposes. The authors briefly trace the historical evolution of funds, present important aspects of the Investment Company Act of 1940, and then summarize a substantial portion of the academic literature, which has been written over the past five decades.

- John A. Haslem (2003) enables readers to evaluate the various performance and risk attributes of mutual funds, while also serving as a comprehensive reference for students, academics, and general investors alike. Providing a balance of theory and application, the chapters combine clear summaries of existing research with practical guidelines for mutual fund analysis. The chapters cover a broad range of topics, including understanding the advantages and disadvantages of mutual funds and long and short-term investing, evaluating stock/bond allocations within fund portfolios, assessing fund diversification risk, measuring fund returns and risk, and making fund buy/sell decisions. Throughout the text, step-by-step decision
checklists guide readers in the analysis and selection of various mutual funds. Treating all the major theoretical issues in mutual fund analysis and portfolio management, this book is both a thorough resource and a practical guide.

- Paul B. Farrell (1997) has written a book, which is a do-it-yourself guide to mutual funds online. The Internet can be an incredibly rich source of financial information for those who know how to use it. This book shows the millions of curious Net users how to zero in on and fully exploit the information they need to make wise mutual fund investments. It shows exactly how to make the most of investment resources by going right to sites like Fidelity and Schwab, and also through Prodigy, America Online, and other Web locations-- Contains step-by-step lessons on how to use online mutual fund brokers-- Tells where and how to access the top 20 mutual fund families online as well as online newsletters and financial news-- Lists locations of individual and government databases, private bulletin boards, and mutual fund investment clubs.

- Mark Mobius (2007) in his book cuts through the jargon and mystique of the financial markets to give the reader a clear picture of how and why these markets function as they do. Key features include: clear definitions of financial terms worked examples of transactions and contracts summaries and overviews valuation techniques quick Quiz questions to reinforce the learning experience strip cartoons to explain complex trades entertaining cartoons from Alex to lighten the load war stories and anecdotes from Mark Mobius based on his remarkable experiences other resources section to guide the reader to other useful books, websites and reference material.

- Ronald K. Rutherford (1998) covers the statistical and non-statistical issues involved in selecting and managing a balanced portfolio of mutual funds. He explains investment policy development techniques, explores all asset classes of mutual funds, and covers the critical issues of style analysis, data interpretation and style management.
• Albert J. Fredman and Russ Wiles (1996) provides readers with a clear, easy-to-follow way of investing in mutual funds, specifically how to put together a tailor-made portfolio of funds based on an individual's age, circumstances, risk tolerance, and other factors. A special chapter, "101 Tips for a Profitable Journey", summarizes the book's key routes to success.

• Christine Benz (2005) allows readers to take the next step in their mutual fund journey. With discussions of topics such as gauging risk and return together, how to choose index and international funds, and the importance of knowing your mutual fund manager, this practical guide will help readers sharpen their mutual fund investing skills.

• Kurt Brouwer and Stephen Janachowski (1997) founders of Brouwer and Janachowski, Inc., which manage $400 million in mutual fund investments for corporations, charities, and private investors. Their insights into mutual funds and the markets are regularly featured in the national print and broadcast media. Mutual Fund Mastery is a complete guide to choosing and managing the right mutual fund portfolio and contains many unique features: clear explanations of the eight basic fund types, ways to choose among them, and the best funds for today in each category; simple, step-by-step portfolio-building plans for differing investment objectives (retirement, school, home) and risk tolerances (conservative to speculative); "toolbox" section with essential money-saving, profit-building techniques, such as an in-depth discussion of how to use Morningstar mutual fund ratings, tips on maximizing your 401(k)/IRA income, the Retirement Income Calculator, and much more; real-life investor profiles that illustrate winning strategies and dangerous pitfalls; detailed profiles of today's top ten mutual fund families, including Fidelity, with a guide to choosing and using them; and exclusive interviews with insights from today's most savvy mutual fund managers.

• Dian Vujovich, A and Michael Vujovich (1992) considers mutual fund investing and attempts to provide answers to the type of questions the reader may have, in clear terms. It aims to provide a source of to-the-point explanations and insider's
advice, helping the reader to fully understand the investment products they purchase.

- Sharpe, William F. (1966) suggested a measure for the evaluation of portfolio performance. Drawing on results obtained in the field of portfolio analysis, economist Jack L. Treynor has suggested a new predictor of mutual fund performance, one that differs from virtually all those used previously by incorporating the volatility of a fund's return in a simple yet meaningful manner.

- Michael C. Jensen (1967) derived a risk-adjusted measure of portfolio performance (Jensen's alpha) that estimates how much a manager's forecasting ability contributes to fund's returns. As indicated by Statman (2000), the e SDAR of a fund portfolio is the excess return of the portfolio over the return of the benchmark index, where the portfolio is leveraged to have the benchmark index's standard deviation. S.Narayan Rao., 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. Bijan Roy 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. Mishra, (2002) measured mutual fund performance using lower partial moment. In this paper, measures of evaluating portfolio performance based on lower partial moment are 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.

2.2 NEED FOR THE STUDY:

The impressive growth of mutual funds in India has attracted the attention of Indian researchers, individuals and institutional investors during the past ten years. A number of research studies have been conducted to examine the growth, performance competition and regulation of mutual funds in India. There are number of studies in International as well as Indian context on mutual funds. Studies were carried out on evaluation of mutual funds, growth patterns in mutual funds, persistence in mutual fund performance. However there is no study to specifically analyse the growth funds with respect to its performance and investors satisfaction in Indian context. There is no doubt that competition would intensify in Indian mutual fund industry in the coming years. Hence it is appropriate to focus our attention as to how mutual fund industry would emerge in the coming years. The idea behind performance evaluation is to find the returns provided by the individual schemes and the risk levels at which they are delivered in comparison with the market and the risk free rates.

This study would help Investors, existing and prospective mutual fund companies to get an idea of the performance of select mutual fund companies in Indian context, which will have broad implications for developing competitive strategies, becoming more investor oriented and developing appropriate policies for the growth of Indian mutual funds. From an academic perspective the goal of identifying superior fund managers is interesting as it encourages application of new models and theories.
2.3 SCOPE OF THE STUDY:

This study covers two aspects:

1. It makes an attempt to investigate the performance of select mutual fund companies in India. The schemes selected for the study are only growth schemes and the period of study is 5 years i.e., from financial year 2002-03 to financial year 2006-07.

2. It makes an attempt to study the satisfaction level of investors.

2.4 OBJECTIVES OF THE STUDY:

1. To study the evolution and growth of Mutual Funds over the years.

2. To compare and correlate the market return with the portfolio return of the select mutual fund companies.

3. To make a comparative study between public sector companies and private sector companies and also to understand the variations between the returns under different groups.

4. To evaluate the performance of each portfolio by considering both risk and return by using Treynor's index, Sharpe’s index, Jenson’s alpha, Fema’s measure and $M^2$ measure.

5. To study the perception of Investors, who have put their money in growth funds of these companies.

2.5 HYPOTHESIS:

$H_1$: The mean returns of private sector mutual fund companies are more than the mean returns of public sector mutual fund companies.

$H_2$: There is probability of variance between returns of four groups chosen for the study.

$H_3$: Investors selection of funds varies according to age group.
H₄: Investment horizon is different for investors of different age groups.

2.6 METHODOLOGY OF THE STUDY:

2.6.1 Data Collection:

Data is collected both from primary and secondary sources.

The secondary data source is daily-adjusted NAV obtained from the websites mutualfundsindia.com, amfiindia.com and NSE S&P CNX Nifty data is obtained from the website nseindia.com. Monthly data on adjusted NAVs and NSE S&P CNX Nifty covering for a period from April 2002 to March 2007 has been analysed. Besides this secondary data was also collected from magazines, other websites, books, journals, thesis, company bulletins and reports.

The primary data relating to investors perception was collected with the help of a questionnaire. The questionnaire consists of four parts – personal details, investment pattern, investor satisfaction and investor opinion. The questionnaire consists of 30 questions.

2.6.2 Sample Design:

Using secondary data the study analysis the performance of 24 schemes from 6 fund houses. Four schemes are selected from each fund houses. Out of these three are public sector mutual fund companies and three private sector mutual fund companies, which also includes one multi national mutual fund company.

The Mutual Fund Companies selected are as follows:

Public Sector Mutual Fund Companies:

(1) UTI Mutual Fund
(2) SBI Mutual Fund
(3) LIC Mutual Fund
Private Sector Mutual Fund Companies:

(4) ICICI Prudential Mutual Fund
(5) HDFC Mutual Fund
(6) Franklin Templeton Investments

All the sample schemes are open ended in nature and are predominantly equity based with growth as their objective. The schemes are divided into four groups. The four groups are selected on the basis of the following criteria:

- Group I – Equity Fund
- Group II – Balanced Fund
- Group III – Tax Saving Fund
- Group IV – Index Fund

For primary data analysis the questionnaire was distributed to as many as 260 investors in Tirupathi, Chittoor and Nellore. The questionnaire consisted of closed-end questions. Permission was obtained from four stock broking companies in their branches in the above-mentioned places to meet the investors. 42 of the investors have not invested in growth funds. So their opinion could not be considered for the study. The response could not be obtained from 38. So finally 180 of them responded and it was the sample size for this study.

2.6.3 Data Analysis:

The data collected were analysed with the help of statistical techniques like Karl Pearson’s Co-efficient of correlation, t – test and f – test. Apart from these statistical techniques it is necessary to evaluate the performance of portfolio it is necessary to consider both risk and return. This is what the popularly employed risk adjusted performance measures namely Treynor’s index, Sharpe’s Index, Jenson’s alpha, Fema’s Measure and M² Measure precisely do. These five techniques are employed in this study to measure the performance of selected schemes of selected mutual fund companies. These techniques are explained in detail.

70
2.6.3. a Statistical Tools:

Karl Pearson's Co-efficient of Correlation:
The mathematical method for measuring the intensity or the magnitude of linear relationship between the two variable series was suggested by Karl Pearson. Co-efficient of correlation describes the magnitude and direction of correlation analysis and always lie between +1 and -1. It is usually denoted by \( r \). When \( r = +1 \), there is perfect positive correlation and when \( r = -1 \), there is perfect negative correlation.

Testing of Hypothesis using t-test:

A statistical hypothesis is some assumption or statement, which may or may not be true, about a population or equivalently about the probability distribution characterising the given population, which we want to test on the basis of the evidence from the random sample. When the sample size is less than and equal to 30, we use t-test. In this study we use one tailed t-test to test the difference between means.

From the knowledge of the sampling distribution of a statistic, it is possible to find out the probability that a sample statistic would differ from a given parameter or from another sample value, by more than a certain amount and hence to answer the question of significance. For this study we have tested hypothesis at 1% and 5% level of significance.

For applying test of significance we first set up a hypothesis. Null hypothesis is the hypothesis is the hypothesis of no difference. It is denoted by \( H_0 \). Any hypothesis, which is complementary to null hypothesis, is alternate hypothesis. It is denoted by \( H_1 \). It is important to explicitly state alternate hypothesis in respect of any null hypothesis \( H_0 \) because the acceptance or rejection of \( H_0 \) is meaningful only if it is tested against a rival hypothesis.

In the present study t-test is conducted on returns from mutual fund schemes of private sector and public sector companies for a period of five years based on the following hypothesis:

\[ H_0: \mu_1 = \mu_2 \] (There is no difference in the mean returns of the private sector mutual fund companies and public sector mutual fund companies.)
$H_1: \mu_1 > \mu_2$ (The mean returns of private sector mutual fund companies are more than the mean returns of public sector mutual fund companies)

We use the following formula to arrive at the result:

\[
\text{Estimate of } \sigma^2 = \frac{(n_1 - 1) s_1^2 + (n_2 - 1) s_2^2}{n_1 + n_2 - 1}
\]

Where

- \(n_1\) = Sample size of private sector mutual fund companies schemes
- \(n_2\) = Sample size of public sector mutual fund companies schemes
- \(s_1\) = Standard deviation of the sample of the private sector mutual fund schemes
- \(s_2\) = Standard deviation of the sample of the public sector mutual fund schemes
- \(n_1 + n_2 - 1\) = Degrees of freedom

\[
\text{Standard Error} = \frac{\sigma}{\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}
\]

\[
t = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\text{Standard Error}}
\]

Where

- \(\bar{x}_1\) = Mean of the sample of Private sector mutual fund companies
- \(\bar{x}_2\) = Mean of the sample of the Public sector mutual fund companies
- \(\mu_1\) = Mean return of the population of private sector mutual fund companies
- \(\mu_2\) = Mean return of the population of public sector mutual fund companies

**Testing of Hypothesis using F Statistic:**

Analysis of variance (ANOVA) enables us to test for significance of differences between more than two sample means. Using ANOVA we will be able to make inferences about whether our samples are drawn from populations having the same mean. In this study we used ANOVA to find out the probability of variance between returns of four groups chosen for the study, which are as follows:
Group I - Equity Fund
Group II - Balanced Fund
Group III - Tax Saving Fund
Group IV - Index Fund

For applying test of significance we first set up a hypothesis, which are as follows:

\[ H_0 : \mu_1 = \mu_2 = \mu_3 = \mu_4 \]
\[ H_1 : \mu_1, \mu_2, \mu_3 \text{ and } \mu_4 \text{ are not equal} \]

From the knowledge of the sampling distribution of a statistic, it is possible to find out the probability that a sample statistic would differ from a given parameter or from another sample value, by more than a certain amount and hence to answer the question of significance. For this study we have tested hypothesis at 5% level of significance.

Following is the formula for calculating F Statistic:

\[
F = \frac{\text{between - column variance}}{\text{within - column variance}}
\]

F distribution is a whole family of distribution. Here we have a pair of degrees of freedom. The first number of degrees of freedom is the numerator of the F ratio; the second is the degrees of freedom of the denominator.

F statistic was also used in this study for primary data analysis, for this purpose SPSS package was used.

2.6.4.b Financial Tools:

Treynor’s Index:

According to Jack Treynor, systematic risk or beta is the appropriate measure of risk, as suggested by Capital Asset Pricing Model. He assumes that an investor can eliminate
unsystematic risk by holding a diversified portfolio. Treynor’s Index is also termed as reward to volatility ratio. This index is given by the following equation:

\[
    \frac{(R_p - R_f)}{\beta_p}
\]

Where

- \(T_p\) = Treynor’s Index
- \(R_p\) = Return on portfolio
- \(R_f\) = Risk less rate of return
- \(\beta_p\) = Beta coefficient of the portfolio

Beta is the measure of systematic risk of the portfolio. Higher values of \(\beta\) indicate a high sensitivity of fund returns to the market returns; the lower value indicates low sensitivity. The formula used for calculating \(\beta\) in this study is as follows:

\[
    \beta_p = \frac{\text{COV}(R_p, R_M)}{\text{Variance of } (R_M)}
\]

Where

\[
    \text{COV}(R_p, R_M) = \frac{1}{n} \sum (R_p - R_f)(R_M - R_f)
\]

\[
    \text{Variance of } (R_M) = (\sigma_{R_M})^2
\]

Where

- \(R_p\) = Return on portfolio
- \(R_M\) = Market Return

The numerator of the Treynor’s measure is the risk premium earned by the portfolio, where risk premium equals the difference between the return on portfolio and the risk free rate of return while the denominator is the systematic risk (beta). High value of
Treynor's ratio indicates better performance of portfolio and vice versa. The Treynor's measure of portfolio performance is a relative measure that ranks the funds in terms of risk (market risk) and return.

The major limitation of Treynor's Index is that it can be applied to schemes with positive betas during the bull phase of the market. The results will mislead if applied during the bear phase of the market to the schemes with negative betas. Next limitation is that it ignores the reward for unsystematic risk. As the Treynor Ratio focuses on the systematic risk, it cannot provide any evidence on whether the fund manager has sufficiently diversified the portfolio. The beta of the portfolio is just a simple weighted average of the risk of each security in the portfolio.

**Sharpe's Index:**

William Sharpe attempted to get a summary measure of portfolio performance. The Sharpe's measure is similar to Treynor's measure except that it employs standard deviation, not beta as the measure of risk. He assumes that a small investor invests fully in a mutual fund and does not hold any portfolio to eliminate unsystematic risk and hence demands a premium for total risk. Sharpe's index is also termed as a reward for variability ratio.

\[
S_T = \frac{(R_P - R_f)}{\sigma_P}
\]

Where

- \( S_T \) = Sharpe's Index
- \( R_P \) = Return on portfolio
- \( R_f \) = Risk free rate of return
- \( \sigma_P \) = Standard deviations (total risk) of the return of the portfolios. It is calculated using the following formula:

\[
\sigma_P = \sqrt{\frac{1}{n} \sum (R_p - R_f)^2}
\]
The numerator of the Sharpe’s measure is the risk premium earned by the portfolio, where risk premium equals the difference between the return on portfolio and the risk free rate of return while the denominator is the total risk (standard deviation). Thus Sharpe’s measure reflects excess return earned on a portfolio per unit of its total risk. Higher value of the Sharpe’s Index indicates better performance of portfolio and vice versa. The Sharpe measure of portfolio performance is also relative measure that ranks the funds in terms of total risk and return.

The major limitation of Sharpe Index is that it is based on Capital Market Line (CML). The major character of CML is that only efficient portfolios can be plotted on the CML but not inefficient. Hence we assume that a mutual fund scheme is an efficient portfolio.

**Jenson’s Alpha:**

The Treynor’s and Sharpe’s Indexes provides measures for measuring relative performance of various portfolios on a risk-adjusted basis and they rely on ranking portfolios in comparison to the market portfolio. They did not consider the expected return from a portfolio.

Michael C. Jenson has given a different dimension and attempts to construct an absolute portfolio on a risk adjusted basis where there is definite standard against which performances of various funds can be measured. Jensen attempts to construct a measure based on the security market line as a benchmark. The index shows the difference between the expected rate of return of the portfolio and the expected return of a benchmark portfolio that would be positioned on the security market line.

This standard is based on measuring the manager’s predictive ability, which is his ability to earn returns through successful prediction of security prices, which are higher than those, which we would expect, given the level of riskiness of his portfolio. The formula is as follows:

\[ R_p - R_f = \alpha + \beta_p (R_m - R_f) \]

Where
\( R_p \) = Return on portfolio

\( R_f \) = Risk free rate of return

\( \alpha \) = Alpha, intercept that measures the forecasting ability of the portfolio manager.

\( \beta_p \) = Beta is the measure of systematic risk of the portfolio and is calculated using the following formulae:

\[
\beta_p = \frac{\text{COV}(R_p, R_M)}{\text{Variance of } (R_M)}
\]

Where

\[
\text{COV}(R_p, R_M) = \frac{1}{n} \sum (R_p - \bar{R}_p) (R_M - \bar{R}_M)
\]

\[
\text{Variance of } (R_M) = (\sigma R_M)^2
\]

Jenson's alpha evaluates the fund manager's ability of providing higher returns to the investors. It measures the performance as the excess return provided by the portfolio over the expected (CAPM) return, that is it reflects the difference between the return actually earned on a portfolio and the return the portfolio was supposed to earn, given its beta.

When \( \alpha \) = a positive value, it represents the average superior extra return accruing to that particular portfolio because of superior managerial talent. When \( \alpha = 0 \), it indicates neutral performance by management; that is, management has done well as an unmanaged market portfolio. When \( \alpha \) = a negative value, it indicates inferior management performance, because management did not do as well as an unmanaged portfolio of equal systematic risk.

In theory, rankings based on the Jensen Alpha should be insensitive to fund risk and market performance. It does not relate to whether the manager was able to reshuffle and diversify its portfolio to benefit of the changing market conditions. Jensen’s model assumes that the portfolio is fully invested and is subjected to the limitations of CAPM.
**Fema's Measure:**

Jenson's Measure excess returns over expected returns based on premium for systematic risk. Eugene F Fema (1972) goes a step ahead he suggests a measure to find out performance in terms of excess returns over expected returns based on premium for total risk. In other words, excess returns are computed based on Capital Market Line (CML). Fema suggests a framework of performance breakdown that distinguishes the part of an observed return that is due to the ability to pick the best securities of a given level of risk (Selectivity) from the part that is due to predictions of general market price movements (Timing). Here too, CAPM is used as a benchmark. The framework splits the overall performance, which is the difference between the return on the chosen portfolio and the risk-free return, into selectivity and risk. The measure of selectivity is further split into net selectivity and compromise in diversification. Fema says portfolio performance can be judged by net superior returns due to selectivity. His performance measure denoted by $F_p$ is defined as follows.

$$F_p = (R_p - R_f) - \left( \frac{\sigma_p}{\sigma_m} \right) [R_M - R_f]$$

Where

- $F_p =$ Fema's measure of portfolio
- $R_p =$ Portfolio return
- $R_f =$ Risk free return
- $\sigma_p =$ Standard deviation of portfolio return
- $\sigma_m =$ Standard deviation of market return
- $R_M =$ Market Return

A positive value of $F_p$ indicates that the fund earned returns higher than expected returns and lies above CML, and a negative value indicates that the fund earned returns less than expected returns and lies below CML.

**$M^2$ Measure:**

The relative measures of performance like Sharpe or Treynor index are simple and being used primarily to rank the funds. But the numerical values of these measures are not easy to interpret. In 'The Journal of Portfolio Management' (1997), Nobel laureate Franco
Modigliani and his grand daughter Leah Modigliani proposed a variant of Sharpe index. Their approach has been named $M^2$ measure (Modigliani-squared). Unlike Sharpe index, $M^2$ is an absolute measure of return. This measure, like Sharpe index, uses total volatility as a measure of risk. It reflects the proposition that by choosing a portfolio for investing, what matters in measuring its performance is total risk, not just systematic risk. However, its risk-adjusted measure of performance has the easy interpretation of a differential return relative to the benchmark index. Performance could be measured simply by comparing the returns from market index and that of adjusted portfolio. This performance measure is defined as follows:

$$M^2 = \frac{\sigma_{RM}}{\sigma_{RP}} (R_P) + 1 - \left[ \frac{\sigma_{RM}}{\sigma_{RP}} (R_F) \right] - R_M$$

Where
- $\sigma_{RM}$ = Standard deviation of market return
- $\sigma_{RP}$ = Standard deviation of portfolio return
- $R_P$ = Portfolio return
- $R_M$ = Market Return
- $R_F$ = Risk free return

The $M^2$ measure is the difference between these two returns. When the Capital Allocation Line (CAL) of the portfolio is less steep than CML, the $M^2$ measure would be negative, signifying below-normal performance of the fund manager. On the other hand, when CAL is steeper than CML, it would result in a positive value for $M^2$ measure, signifying above-normal performance of the fund manager.

2.7 LIMITATIONS OF THE STUDY:

(1) The study deals with only selected growth schemes of selected mutual fund companies in India.

(2) The study is restricted to five years i.e., from April 2002 to March 2007 only.
(3) The data used in this study is collected from websites like nseindia.com, mutualfundsindia.com and amfiindia.com without examining their accuracy and correctness any further.

(4) All limitations associated with tools like correlation analysis, t-test, standard deviation, coefficient of variation, Sharpe's index, Treynor's index, Jenson's alpha, Fema's measure and $M^2$ measure which are used to analyse and interpret the data, are applicable to this study.

(5) The study covers only schemes which was introduced at least five years earlier except few schemes like LIC Index Fund – Nifty Plan – Growth and HDFC Index Fund - Nifty Plan which was introduced in the year 2002, hence analysis could be done only for four years.

(6) Banks are free to accept deposits at any interest rates with in the ceilings fixed by Reserve Bank of India. Hence there can be inaccuracy in the risk free rates.

(7) There is also possibility of personal bias on the part of the investor that influences the study in case of primary data.

2.8 CHAPTERISATION

Chapter I give a brief description about mutual funds, its evolution and growth.

Chapter II provides review of literature and also the objectives, scope, methodology of the study.

Chapter III gives description of the Company and the schemes selected for the secondary data analysis.

Chapter IV analyses the data obtained from secondary sources and gives the interpretation of the study.

Chapter V analysis the data obtained from Investors and interprets them.

Chapter VI summarizes findings, provides suggestion and draws conclusion.
References


17. Christine Benz (2005), *Diversify Your Mutual Fund Portfolio*, John Wiley & Sons


42. John C. Bogle (1999), Common Sense on Mutual Funds. John Wiley and Sons


74. Sanjay Sehgal and Manoj Jhanwar (2003), Short Term Persistence in Mutual Funds Performance – Evidence from India, ICFAI Seminar Paper

75. Seth C. Anderson and Parvez Ahmed (2005), Mutual Funds: Fifty Years of Research Findings, Springer


