# Structure, Competition and Performance of Indian Mutual Funds:

# In the Context of Financial Liberalization

*Dissertation Submitted in the partial fulfillment of the requirements for the degree of*

*Master of Philosophy in Applied Economics of the Jawaharlal Nehru University*

**SUMALATHA.B.S**

M.Phil Programme in Applied Economics
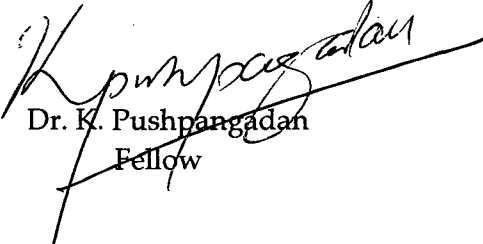
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June 2007

I hereby affirm that the work for this dissertation, **Structure, Competition and Performance of Indian Mutual Funds: In the Context of Financial Liberalization,** being submitted as part of the requirements of the M.Phil. Programme in Applied Economics of the Jawaharlal Nehru University, was carried out entirely by myself. I also affirm that it was not part of any other programme of study and has not been submitted to any other Institution/University for the award of any Degree.


June 25, 2007                                                                              Sumalatha .B.S


Certified that this study is the bona fide work of Sumalatha.B.S, carried out under our supervision at the Centre for Development Studies.



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*To My Parents*

*&*

*My Teacher*

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# ABSTRACT OF THE DISSERTATION

## Structure, Competition and Performance of Indian Mutual Funds: In the Context of Financial Liberalization

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The basic purpose of reforms in the financial sector was to enhance the mobilization of resources by opening up the economy to the rest of the world. This necessitated the need for financial institutions which can tap the vast potential of domestic savings and channalise them for profitable investments. In this Mutual funds are the important financial institutions, which can play a crucial role in an economy by mobilizing small savings and investing them in the capital market, thus establishing a link between savings and investment market. The structure of mutual funds has changed in the context of liberalization after it opened for the private participation. In the growing scenario of mutual funds in India, the present study is interested in analyzing the structure, competition and performance of different type of mutual funds in India.

The study provides an overview of financial sector reforms and its impacts on the changes in the structure and growth of mutual funds in India. Attempt has been done to analyze the changes in the structure of mutual funds before analyzing competition. The mutual fund industry was opened up for private participation as a result of financial reforms and has shown an increase in number, schemes and resource mobilization. Various policy measures have played their part in shaping the present mutual fund scenario of India. Against this background, one of the major objectives of the study is to estimate competition among the mutual funds in India in the context of increasing participation of private and foreign mutual funds. For analyzing this objective the present study has followed the methodology given by Baumol and Grossack. The study has used Herfindahl index and rank correlation to estimate the competition as well as the changes in the ranks of market shares of funds respectively. The study has also used the Grossack dynamic model of competition in order to explain the nature of competition among large firms and small firms. The major finding shows that the concentration has declined and competition increased in the mutual fund industry. The sector wise (among the public sector, private and foreign sectors and also within sectors) analysis of competition among mutual funds has also being done. The results show that the competition is moderate among the sectors. Within the sectors competition is high in the public sector and foreign sector and it has declined in the private sector.

Understanding the performance of mutual funds becomes essential in this context of increasing competition. This has been done by selecting few funds and schemes. The study has tried to examine the performance by analyzing the risk and return in the context of portfolio theory. For this purpose various performance indicators suggested in the literature has been used. The study result shows that the majority of the schemes come under the category of high return with low risk. It shows that majority of the schemes have return higher than the average return of total schemes with a risk higher than average risk of total schemes. The performance indicators like Sharpe ratio and Treynor ratio show that only few schemes out perform compared to market portfolio. Jensen measure of risk-adjusted return indicates that the average returns of all the selected schemes are less than the market return. But in the case of risk we could see that the scheme risk is low compared to the market risk. The capital asset pricing model assumes that those schemes with high risk provide high return and the schemes with low risk provide low return. In our model among the selected 16 schemes, only three keeps this one to one correspondence. All these indicate the schemes average return and this does not provide the differential return of schemes. The estimation of differential return by Sharpe's differential return (difference between actual return and expected return) for the schemes shows that out of 16 schemes only two schemes are able to provide the return higher than expected return. These two schemes are in the public sector where competition has increased. This in fact shows that increased competition among the funds could not provide better performance of all schemes in terms of return. Also the difference between the actual return of the portfolio and the market portfolio return shows that out of 16 schemes only three schemes are able to provide schemes portfolio return higher than market portfolio return. This indicates that majority of the schemes not performing well compared to market, but where competition is high as in the public sector, they are doing well. In short high competition among the funds in general is not reflected in the performance of schemes.

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# ACRONYMS

| | |
|---|---|
| ADRs | American Depository Receipts |
| AMC | Asset Management Company |
| AMFI | Association of Mutual Funds in India |
| AUM | Asset under Management |
| BOB | Bank of Baroda |
| BOI | Bank of India |
| BSE | Bombay Stock Exchange |
| CAPM | Capital Asset Pricing Model |
| DPEI | Data envelopment Portfolio Efficiency Index |
| ECBs | External Commercial Borrowings |
| ELSS | Equity linked savings scheme |
| FDI | Foreign Direct Investment |
| FIIs | Foreign Institutional Investors |
| FIs | Financial Institutions |
| FS | Financial Saving |
| GDP | Gross Domestic Product |
| GDRs | Global Depository Receipts |
| GDS | Gross Domestic savings |
| GIC | General Insurance Corporation of India |
| HDFC | Housing Development Finance Corporation |
| HHI | Herfindahl- Hirschman index |
| HHS | Household Saving |
| HSBC | Hong Kong and Shanghai Banking Corporation |
| ICICI | Industrial Credit and Investment Corporation of India |
| IDBI | Industrial Development Bank of India |
| IL & FS | Infrastructure Leasing and Financial services |
| LIC | Life Insurance Corporation of India |
| MFs | Mutual Funds |
| MPT | Modern Portfolio Theory |
| NATEX | National Index |
| NAV | Net Asset Value |
| NBFCs | Non-Banking Financial Companies |
| NSE | National Stock Exchanges |
| PAN | Permanent Account Number |
| PCS | Private Corporate Sector |
| PNB | Punjab National Bank |
| PS | Physical Saving |
| RBI | Reserve Bank of India |
| SBI | State Bank of India |
| SCP | Structure Conduct Performance |
| SEBI | Securities Exchange Board of India |
| TI | Treynor Index |
| UTI | Unit Trust of India |

# CHAPTER 1

# INTRODUCTION

## 1.1 Introduction

A country's financial system has a penetrating influence on its economic development. The development of financial system is a pre-condition to economic growth in the sense that markets, institutions, and instruments are the prime movers of economic growth. A well-developed financial system diverts the economy's savings towards more productive uses and thus helps to increase the output of the economy. Besides mobilizing savings, the financial system helps to accelerate the volume and rate of savings by providing a diversified range of financial instruments and services through intermediaries. This results in an increased competition in the financial system, which channelises resources towards investment with the highest return for a given degree of risk. This lowers financial intermediation costs and stimulates economic growth[1].

Historical evidence of the relationship between financial system and economic growth can be traced to observations by Gurley and Shaw (1960). They had perceived the role of financial institutions as to help realize the opportunities for savings and real investment in an economy[2]. Financial institutions play an intermediary role through mediating savers and investors of funds and thus have a significant relationship with the real sectors of the economy. Later Mc Kinnon and Shaw (1973)[3] argued that financial repression impedes the process of financial development and consequently reduces the economic growth especially in the developing countries and that there is a need for financial sector liberalization in such countries. The liberalization of the financial sector has its impact on the growth of financial intermediaries and the way in which it leads to the mobilization of more savings in the economy.

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[1] Pathak, (2003)

[2] Gurley and Shaw's (1955) discussed about the role of financial institutions in financial development and economic development of a nation.

[3] The original theoretical analysis which provided a rationale for financial sector liberalization as a means to promote financial development and hence growth was given by Mc Kinnon and Shaw (1973). Financial repression is characterized by ceilings imposed on interest rates, high reserve requirements on commercial banks and presence of directed or preferential credit policies and inflation taxes.

## Context of Financial Sector Liberalization

The role and importance of financial sector including financial institutions in the process of economic growth evolved over time along with the changing paradigms. Till the late 1960s, the role of financial intermediaries in general, and banks in particular, in the process of economic growth of a country was largely ignored. It was pointed out that there exists a strong positive correlation between financial development and economic growth of a country (McKinnon, 1973; Shaw, 1973). The McKinnon-Shaw paradigm highlighted the negative impact of financial repression on the economic growth. They argued that credit is not just an input and instead, credit is the engine of growth. Subsequently, the proponents of endogenous growth theories argued that with positive marginal productivity of capital, development of financial market induces economic growth in the short as well as long-run by improving efficiency of investment (Bencivenga and Smith, 1991). Under this approach, efficient financial intermediation is growth inducing through its role in allocating financial resources in the best possible manner.

Despite debates over the relative significance of the channels of financial intermediation in promoting economic growth, an efficient financial system is regarded as a necessary pre-condition for higher growth. Several developing countries, therefore, undertook programmes for reforming their financial systems. In the initial stages of the development process, the financial sector in developing countries was characterized by directed credit allocation, interest rate restrictions and lending criteria based on social needs, *etc.* These policies retarded the nature of financial intermediation in these countries and the recognition of the same paved the way for financial sector reforms. Since the late 1970s and the 1980s, financial sector reforms encompassing deregulation of interest rates, revamping of directed credit and the measures to promote competition in the financial services became an integral part of the overall structural adjustment programmes in many of the developing economies (Patrick, 1966 and Patrick &Park, 1994).

## Indian Situation

Until the early 1990s, the role of the financial system in India was primarily restricted to the function of channelising resources from the surplus to deficit sectors. Whereas the financial system performed this role reasonably well, its operations came to be marked by some serious deficiencies over the years. The banking sector suffered from lack of competition, low capital base, low productivity and high intermediation cost. The

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mutual fund industry also suffered from lack of competition and was dominated for a long time by one institution, viz., Unit Trust of India (UTI). It was against this backdrop that wide-ranging financial sector reforms in India were introduced as an integral part of the economic reforms initiated in the early 1990s. The key objective of reforms in the financial sector in India has been to enhance the stability and efficiency of financial institutions. To achieve this objective, various reform measures were initiated, that could be categorized broadly into three main groups: enabling measures, strengthening measures and institutional measures. The enabling measures were designed to create an environment where financial intermediaries could respond optimally to market signals on the basis of commercial considerations. The strengthening measures aimed at reducing the vulnerability of financial institutions in the face of economic crisis[4]. Institutional measures were aimed at creating an appropriate institutional framework conducive to development of markets and functioning of financial institutions.

Financial sector reforms are grounded on the belief that competitive efficiency in the real sectors of the economy will not be realized to its full potential unless the financial sector was reformed. The principal objective of financial sector reforms in India was to improve the allocative efficiency of resources and accelerate the growth process of the real sector by removing structural deficiencies affecting the performance of financial institutions and financial markets. Thus, the main thrust of reforms in the financial sector was on the creation of efficient and stable financial institutions and markets. Reforms in respect of the banking as well as non-banking financial institutions focused on creating a deregulated environment and enabling free play of market forces while at the same time strengthening the prudential norms and the supervisory system. In the case of non-banking financial intermediaries (NBFIs), reforms focused on removing sector-specific deficiencies. In the case of the insurance sector and mutual funds, reforms attempted to create a competitive environment by allowing private sector participation (RBI 2006). As a result, a major response to financial liberalization has been the growth of mutual funds in India and elsewhere. Against this background, the present study tries to look at the structure and growth of mutual funds in India.

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[4] The strengthening measures were necessitated by high fiscal deficit, high levels of current account deficit, and increasing levels of external debt, besides a repressive and weakening of financial system.

## Global and Indian Scenario of Mutual funds

One of the most interesting financial phenomena of the 1990s was the explosive growth of mutual funds. This was particularly true in the United States where total net assets of mutual funds grew from US $ 1.6 trillion in 1992 to 5.5 trillion in 1998, equivalent to an average annual rate of growth of 22.4 percent. But, with the exception of some East Asian countries including Japan, it is also true for most of other countries around the world. In the United States, not only did mutual fund assets grow explosively over this period, but household ownership of mutual funds also experienced rapid growth. One of the distinguishing features of mutual funds is a high level of operational transparency relative to other financial institutions, such as banks, thrifts, insurance companies and pension funds that also cater to the needs of households (Richard and Schmukler, 2000). In India also, among the financial intermediaries, mutual funds act as an increasingly important vehicle for financial intermediation. In India, the net resources mobilized by mutual funds increased sharply during 2005-06 led by higher inflows under equity-oriented schemes. Net assets of mutual funds also increased considerably by 55 per cent during 2005-06 as compared with 7.2 per cent during 2004-05 on account of increase in the market value of their equity portfolio. Net assets of mutual funds, thus, increased from 4.8 per cent of GDP at end-March 2005 to 6.6 percent of GDP at end-March 2006 (RBI, 2006)[5].

## 1.2 Rationale for the Study

The basic purpose of reforms in the financial sector was to enhance the generation of domestic resources. This calls for a market based institution which can tap the vast potential of domestic savings and channalise them for profitable investments. However, market risks associated with these investments provide ample space for a dynamic institution, which takes care of these problems. Mutual funds are best suited for this purpose since they are capable of meeting this challenge. Small investors face a lot of problem in the share market with limited resources, lack of professional advice, lack of information etc. An ordinary investor who applies for share in a public issue of any company is not assured of any firm allotment. But mutual funds that subscribe to the capital issue made by companies get firm allotment of shares. Mutual fund latter sells these shares in the same market and to the Promoters of the company at a much higher

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[5] Some reform measures under taken by SEBI towards securities market and mutual funds are given in Annex I-A and Annexure I-B.

price. Thus mutual funds have come, as a much needed help to these investors. Also it is a special type of institutional device or an investment vehicle through which the investors pool their savings which are to be invested under the guidance of a team of experts in a wide variety of portfolios of corporate securities so as to minimize risk, while ensuring safety and steady return on investment. It forms an important part of the capital market, providing the benefits of a diversified portfolio and expert fund management to a large number, particularly small investors.

The mutual funds create long-term investment possibilities by gaining control over the short-term funds of the small savers. Important changes have taken place in this sector during the last decade. For many years the mutual funds provided limited services but the competition ensured by the reforms has transformed the scope of mutual funds from being a provider of financial services into one offering differentiated products with different objectives of schemes (Nalini Prava and Tapan 2004). Given the growing importance of mutual funds in India, the present study is an attempt to analyze the growth performance of different type of mutual funds in India. More specifically, in the scenario of opening up of the economy it seems important to understand competition among the mutual funds and its impact on schemes performance. This is essential since there are hardly any studies addressing this issue in India. This study therefore tries to fill this gap. The rest of the chapter is organized as follows.

Section 2 provides overview of the literature. Section 3 gives the specific objectives of the study and section 4 discusses data source, methodology and organization of the study.

## 1.3 Literature Review

The review of literature broadly presents the issues relating to the growth and structure of mutual funds, the aspects relating to competition among the mutual funds and the literature pertaining to the performance of mutual funds analyzing risk and return of mutual fund schemes.

### 1.3.1 Literature related to Growth and structure

Sujan et.al (1994) and Uma et.al (1995) studies the growth of mutual funds and calculated the returns for the mutual funds. The study by Sujan showed that the average rate of return of mutual funds was marginally lower than the market return and the second study showed that the mutual funds outperformed in the market. Several

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empirical studies have analyzed the relationship between a mutual fund's prior performance and its choice of risk. Chevalier and Ellison (1997) have estimated the mutual funds' performance of fund's flows and used it to infer different funds' risk-taking incentives. Sadhak (1998) discussed the growth and performance of mutual funds including structure of Indian mutual funds and different types of funds emerging in the economy. The study showed that the role of mutual funds in the financial market has increased and there is further scope for mutual funds to grow. Narayana et.al (2000) evaluated performance of Indian mutual funds in a bear market through relative performance index[6], by using 269 open-ended schemes out of total schemes of 433 for computing relative performance index. The result 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. Chithra (2000) studied the growth and performance of mutual funds with a case study of Unit Trust of India (UTI). The result shows that UTI schemes are not able to provide the expected return to the investment during the period of study undertaken.

Panwar and Madhumathi (2005) used a sample of public sector sponsored and 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 2002 to 2005. The study found that public sector sponsored funds did not differ significantly from private sector sponsored funds in terms of mean returns percent. 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.

Mutual funds, as a medium to long-term investment option are preferred as a suitable investment option by investors. However, with several market entrants the question is the choice of mutual fund. Indian mutual fund industry has two types of sponsors, public sector and private sector. The numbers of funds floated by public sector sponsors are minimal compared to private sector players. There is a hypothetical assumption that private sector outperforms public sector due to several factors such as responsibility,

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[6]Relative Performance Index like Risk Returns Analysis, Treynor ratio, Sharpe's ratio Jensens and Fama's measure.

commitment and so on. How far this hypothesis is correct and has not been tested in the context of mutual funds in India. Although many studies document the investment performance of mutual funds they do not differentiate between the public sector sponsored and private sector sponsored funds.

Shujing Li's (2005), study which is related to the mutual fund fees and the differentiated products and reviews how much the mutual fund industry increases its fees by differentiating products. To avoid head-to-head competition, mutual fund' managers hold different portfolios. This enables mutual funds to obtain stochastic monopoly power and on average charge higher fees than otherwise. Through financial product differentiation, mutual funds can become top funds and obtain market power alternatively in different market situations to avoid competing head-to-head.

The existing literature relating to the growth, structure and performance of mutual funds in India has not been able to provide any clear cut idea regarding the different phases in the growth of mutual funds, what are the types of funds existing and what was happening in each phase of growth. The structural changes and the changes in the organizational pattern were really missed out in the literature.

### 1.3.2 Literature related to Competition

Since one of the major concerns of this study is to estimate the competition among the mutual funds in India, it is necessary to review some of the theoretical as well as empirical literature pertaining to this issue. There is lack of literature on the competitive aspects of mutual funds in Indian context. One such study in the international context, which really looked at the issues of industry structure and the concentration level in the mutual fund industry with a sound theoretical background, was Balmily et.al (1989). It is interesting to know about the existing competition among the mutual funds in India were a large number of mutual funds were started after the financial sector reforms. There is a need to study the nature of competition in Indian mutual fund industry in the context of growing number of mutual funds mostly in the private sector after the financial reforms were initiated. Also there is a need to understand whether the financial liberalization has enhanced competition. The present study tries to estimate the competition among the mutual funds by using the methodology given by Baumol et.al (1989) and Grossack (1965) for measuring competition. This estimation of competition is

important to understand whether the structure contributed to the competition among the mutual funds in the industry. The study becomes more relevant in the context where there are no studies related to competition among the mutual funds in India.

### 1.3.3 Analytical and Methodological Studies on Performance Evaluation

Some of the literature highlighting the issues related to the performance evaluation of mutual funds has been reviewed. The performance evaluation of managed portfolios by using risk-return analysis has been a widely debated issue in the area of finance. The subject has received serious attention from Markowitz (1952) and his innovative contribution has completely revolutionized thinking on the issue. This performance evaluation of portfolio is also credited to the genius of Sharpe, (1966) Treynor, (1965), Jensen (1968) and Fama, (1970) whose contribution is still considered as path breaking. It is commonly believed that empirical evidence on the mutual fund performance confirms original version of the so-called portfolio theory[7] as seen in the studies by Sharpe and Jensen during 1960's.

In literature, it is identified that there are two models, which helps portfolio choice - Mean-Variance framework of Markovitz (1959) and benchmark analysis. These frameworks were generally used in the international studies in developed country contexts. The most prominent study was the one conducted by Sharpe (1966) to develop a composite measure that considers return and risk and evaluated performance of 34 open -end mutual funds during the period 1944-63. Treynor (1965) devised a concept of fund performance, which takes investment risk into account. They used a concept of relating expected rate of return of a fund to the rate of return of a suitable market average so as to obtain satisfactory performance measure. Treynor (1966) conducted a study whether mutual fund managers can outguess the market. The study concluded that the best assumption for the investor could be that the fund managers have no ability to outguess the market and thus they should not be held responsible for failure to foresee changes in market climate. Jensen (1968) developed a risk adjusted return analysis and used it for evaluating 115 open-ended mutual funds during the period

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[7]Modern Portfolio Theory (MPT) was developed by Harry Markowitz and published under the title "Portfolio Selection" in the 1952 Journal of Finance. MPT says that it is not enough to look at the expected risk and return of one particular stock. By investing in more than one stock, an investor can reap the benefits of diversification and it reduces the riskiness of the portfolio. Theory says that an investment with high return and low risk though diversification.

1945-66. So far we have discussed about the literature pertaining to the performance of mutual funds in the international scenario. There exists very little analytical literature on the performance of mutual funds in India. This may partly be attributed to the absence of relevant data for such studies.

Barua and Varma (1990) have examined the performance of the scheme (master shares) by using the all industries, all India Equity index computed as the market index. They have separately evaluated the performance based on the Net Asset Value (NAV)[8] and computed the Sharpe, Treynor, Jensen and Fama decomposition values. Obaidullah and Ganeshan (1991) have analyzed the performance of Master share and Can shares and have computed the Sharpe, Treynor and Jensen measures and the net selectivity based on Fama decomposition. They have conducted the study using both NAVs and market prices and concluded that both units provide abnormal returns. They have used both BSE national index and the BSE sensitive index as the market proxies[9]. Chandra (1993) discusses mutual funds along with other investment avenues available to the common investor and Kulshreshta (1994) provides a description of mutual funds in India and abroad and discusses some common problems faced by investor and major issues facing the industry. Gali (1995) examined 82 schemes in all and examined their performance using market prices, NAVs and repurchase prices over the period 1987-94 and computed the Sharpe and Jensen measure for the schemes and also compared the returns of schemes directly with the returns from the market indices, namely ET index, BSE sensex and BSE national index. When market prices were used the schemes did not perform better than the market indices. Their performance was better when NAVs were used. On the whole, the study found that mutual fund schemes did not out perform the market.

Madhusoodanan (1996) made a study to find out the relationship between the expected return and risk by using portfolio method rather than the individual security approach. Results indicated that the risk and expected return in the Indian market are not necessarily positively related. In Indian market the investor rationality and risk aversion

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[8]The net asset value of a fund is the market value of the assets minus the liabilities on the day of valuation. It is the amount, which the shareholders will collectively get if the fund is dissolved or liquidated. The NAV of a unit is the net asset value of fund divided by the number of outstanding units.

[9]They found that for CAN bank share; the Sharpe measure is smaller than that for the indices, while the Treynor measure is greater than that for the indices. In the case of master share, both the measure was higher than the corresponding measure for the market. The Jensen differential return measure was found to be positive for both the schemes. Using Fama decomposition, they found that the net selectivity is positive for master shares but negative for can shares

do not appear to be important. It is found that higher risk is not priced and investing in higher risky securities with the expectations of high returns in future may not produce good results. Sehgal (1997) empirically tested three parameters of Capital Asset Pricing Model (CAPM) in Indian capital market by taking monthly rates of return (adjusted for bonus, stock slits and right issues) for 80 securities included in BSE national index. The evidence indicated that CAPM is not a suitable model of asset pricing in Indian capital market for the period of the study. Sethu (1999) conducted a study to establish whether the fund portfolios are adequately diversified and do they give excess returns after adjusting for systematic risk. The excess return earned by funds is statistically insignificant. Majority of the funds showed negative returns. However, some funds showed excess positive returns.

Singla and Singh (2000) evaluated performance of mutual funds using risk return relationship models by Sharpe, Treynor and Jenson. The analysis of 12 growth oriented mutual fund schemes showed that during the period the mutual fund schemes provided less average monthly returns than the market index. Sharpe's ratio shows that mutual funds have performed poorly with regard to return on investment as compared to market. Treynor index (TI) showed that the investors did not recover adequate returns per unit of systematic risk under taken. Also Jensen measure calculated indicates that on an average fund earned about 0.2% less per month given their level of systematic risk. Gupta (2000) carried out an empirical research to study mutual fund managers market timing abilities. The results reported indicate that in terms of both the models only three schemes out of 73 exhibited market-timing abilities.

The review of empirical studies here has been under taken to earmark the problem areas related to mutual funds as well as to study about the different parameters that have been used generally for measuring performance of mutual funds so far.

All these theoretical and empirical studies have made an attempt to analyze the performance of different mutual fund schemes. There exists hardly any study, which reflected the performance evaluation of schemes in connection with the analysis of competition. This study tries to use various performance indicators for analyzing the performance of selected schemes suggested in literature.

### 1.3.4 Literature related to Risk-Return

The whole idea of risk – return relationship is very much important while talking about the investment in mutual funds. The major factor identified in the literature is that the risk and returns influencing the investment in the mutual funds. Literatures on the risk-return analysis are documented in order to understand the methods and concepts used to estimate risk and return for the mutual fund schemes. Most of the literatures were based on the capital asset pricing model and portfolio theory. Modern portfolio theory (MPT) proposes how rational investors will use diversification to optimize their portfolios, and how a risky asset should be priced Harry Markowitz 1952). The riskiness or volatility of share prices, as measured by the standard deviation of returns, is a crucial variable in financial decision-making. According to Markowitz (1952, 1959) diversification by investors into a portfolio of assets hedges fluctuations in returns and hence reduces volatility. Thus, there exists a close relationship between the mean and variance of returns in a portfolio of financial assets. The choice of an optimal portfolio in the mean - variance (M-V) approach aims at maximizing returns for an overall risk level or vice-versa. But in a dynamic environment characterized by shifting risk profiles the mean-variance approach loses much of its significance (Fama, 1965). As an extension or modification of the mean-variance approach, the capital assets pricing model (CAPM) was proposed by Sharpe (1964). According to the capital asset pricing model, the relationship between the risk and return is captured by a linear function, where risk is measured by beta. This is a model that derives the required return for an asset in a market, given the risk-free rate and the risk of the market available to investors.

Most of the studies have analyzed the performance of Indian mutual funds by using different performance indices. Several studies have really looked at the performance evaluation of mutual funds by using selected funds. But this study first tries to analyze the structure of the industry followed by analyzing the competition among the mutual fund schemes. Also the study tries to bring the theoretical link between the structure, competition and performance of mutual funds. The hypothesis is based on the concern that the structure influences the competition and hence the performance. Identifying the kind of structure existing in the mutual fund industry and measuring competition involves a significant task. The way or the method in which the competition is linked to the performance is difficult to explain. The literature pertaining to efficiency in mutual funds has used the cost structure, economies of scope and economies of scale for

analyzing the efficiency. The estimation of cost function for mutual funds has got difficulties in the Indian context even though there exists studies on the cost estimation in other economies. Hence as a proxy, the present study tries to analyze the performance of selected schemes using the risk-return method.

## Review of Studies

| Study | Period of the Study | Methodology | Results/Inferences |
|---|---|---|---|
| Treynor (1965) | 1953-62 | Performance Measures- Treynor Ratio. were used | In a sample of 54 American mutual funds, it was analyzed that ranking of fund remained unchanged for both the levels that is although the slope varies in relation to market rate of return, the ranking of the funds represented remains unchanged |
| Treynor & Mazuy (1966) | 1953-62 | Risk-adjusted Performance Measures | Analysis on the sample of 57 open-ended funds showed that none of the investment managers of these funds has successfully outguessed the market. |
| Sharpe (1966) | 1944-63 | Using CAPM | The performance analysis of 34 open ended mutual funds showed that funds with large average returns typically exhibit greater variability than those with small average returns. The relationship is linear approximately linear and significant. |
| Jensen (1968) | 1945-66 | Using CAPM | The evidence on the mutual fund performance indicates that not only these 115 funds were on an average not able to predict security prices well enough to out perform, but also individual funds were not able to do significantly better. |
| Baumol et.al (1989) | 1982-87 | Translog Model for estimating the const function | Result indicates that cost complementarities are present in the mutual fund industry and significant economies of scope between money market and other mutual funds are observed |
| Lockwood (1996) | 1978-91 | Performance Indicators | The study tested a model in which fund betas were linearly related to changes in macro economic factors using monthly returns. The result indicated negative relationship between equity fund betas and inflation changes |
| Madhusoodanan (1996) | 1994-96 | Portfolio method | Results indicated that the risk and expected return in the Indian market are not necessarily positively related. |
| Sehgal (1997) | 1993-95 | Empirical Testing of CAPM | The evidence indicated that CAPM is not suitable descriptor of asset pricing on the Indian capital market for the period of study for 80 securities included in BSE national index |

| | | | |
|---|---|---|---|
| Choi and Desai (1997) | 1992-96 | Data Envelopment Portfolio Efficiency index (DPEI) | Findings showed that the income and equity income funds are relatively efficient in utilizing resources and growth balanced growth-income funds are inefficient. |
| Gupta and Sehgal (1998) | 1992-96 | Performance Indicators | Results showed that out of sample of 80 schemes, income-growth schemes were the best performers |
| Sethu (1999) | 1985-99 | Performance Indicators | For 18 open-ended growth schemes, the systematic risk and diversification index shows low and this indicated poor performance and also the excess return earned by the funds is statistically insignificant. |
| Singla & Singh (2000) | 1991-99 | Using risk-return relationship model given by Sharpe, Treynor & Jensen | The analysis of 12 growth oriented mutual fund schemes showed that during the period the mutual fund schemes provided less average monthly return than the market index. |
| Gupta (2000) | 1991-99 | Performance Measure | The result reported indicate that three schemes out of 73 exhibited . market timing abilities |
| Chithra (2000) | 1987-99 | Performance Indicators of Coefficient of determination, Sharpe ratio, Treynor ratio and Jensen Measure | The result shows that out of 17 UTI schemes, only ten schemes are able to provide returns higher than the expected returns. |
| Chander & Singh (2004) | 2001-04 | Performance Indicators of Coefficient of determination, Sharpe ratio, Treynor ratio and Jensen Measure | The analysis has done for 23 growth schemes; result indicates that selected mutual funds schemes have not performed too badly. |

## 1.4 Objectives of the Study

The present study tries to analyze the structure, growth and performance of mutual fund industry in India. There being a need to highlight the changes in the structure of the mutual fund industry after the financial liberalization. The specific objectives of the study are as follows:

→ To examine the growth and Structure of mutual funds in India.

→ To evaluate the nature of competition existing in the Mutual Fund Industry in India.

→ Analyzing performance of selected mutual fund schemes in India using performance indices.

## 1.5 Data and Methodology

One of the objectives of the study is to analyze the structure and growth of mutual funds in India. Data regarding the schemes and resource mobilization are available from RBI, SEBI annual reports (1995 to 2006) and·Association of Mutual Funds in India (AMFI) for analysing the first objective. The study also aims to measure competition among the mutual funds in India. For analyzing the competition among the mutual funds, we need the data for the assets under management and these are obtained from Association of Mutual Funds in India and its Annual Reports. Another important objective is to examine the performance of mutual fund schemes using the risk and return relationships. It requires monthly data on the net asset values and these data are available in the Association of mutual funds in India for different time periods. For analyzing the first objective of the study, simple statistical tools will be used.

The estimation of competition among the mutual funds is relevant in the Indian context where no previous literature is available. The methodology proposed by Baumol et.al (1989) and Grossack (1965) will be used for analysing the competition among the Indian mutual funds. The data on the asset under management for different funds is available from the AMFI for estimating the competition among the mutual funds. For analyzing the performance, the estimation of risk and return for the schemes is important. AMFI provides data on the net asset value for calculating risk and return for the schemes. For analyzing the performance of schemes in relation to the market portfolio, various performance indicators like Sharpe ratio, Treynor ratio and Jensen measure can be used. The data on the market indices (BSE share price for 100 shares) is available with the Bombay Stock Exchange (BSE) for calculating the risk and return of the market. Also we are comparing portfolio risk and return with the risk free assets. For this purpose the study uses interest rate on deposits above three years as a proxy for risk free asset, which is available in the RBI annual reports.

### Organization of the Study

The organization of the study is as follows. The second chapter analyses the growth and structure of the mutual funds in India. The third chapter analyzes the competition among the mutual funds in India. The analysis of performance evaluation of selected mutual fund schemes will be done in the in the fourth chapter. Last chapter gives conclusions.

Chapter 2: Growth and Structure of Mutual Funds in India

Chapter 3: Competition among the Mutual Funds in India.

Chapter 4: Performance Evaluation of Selected Mutual Fund Schemes in India.

Chapter 5: Conclusion

# ANNEXURE I

## Annexure I-A: Reforms in Securities Market 1992-2004

| Features | 1992 | 2004 |
|---|---|---|
| Regulator | No specific regulator, but central govt. oversight | A specialized regulator for securities market (SEBI) vested with powers to protect investor's interest and to develop and regulate securities market. SROs strengthened. |
| Securities | Limited number of traditional instruments | Expanded to cover govt. securities, units of CISs and MFs, derivatives of securities, security receipts etc. |
| Form of securities | Physical | Dematerialized |
| Regulatory approach | Merit based regulation | Disclosure-based regulation |
| Intermediaries | Some of the intermediaries (Stock brokers, authorized clerks and remisiers) regulated by SROs | A variety of specialized intermediaries emerged. They are registered and regulated by SEBI (also by SROs). They as well as their employees are required to follow a code of conduct and are subject to a number of compliances. All participants are identified by a unique identification number. |
| Access to market | Granted by central govt. | Eligible issuers access the market after complying with the issue requirements |
| Disclosure | Voluntary, vague scanty and non-standardized | Standardized, systemic and at par with international standards. A dedicated website for corporate disclosures |
| Pricing of securities | DDetermined by central govt. | Determined by market, either by the issuer through fixed price or by the investors through book building |
| Access to international market | No access | Corporate allowed to issue ADRs/GDRs and rise ECBs ADRs/GDRs have two way fungibility. FIIs allowed trade in Indian market. MFs also allowed investing overseas. |
| Corporate compliance | Very little emphasis | Emphasis on disclosures, accounting standards and corporate governance |
| Mutual funds | Restricted to public sector | Open to private sector and emergence of a variety of funds and schemes. |

Source: Singh (2006)

**Annexure I - B: Important Circulars issued by SEBI in India related to Mutual Funds**

(Source: SEBI Reports)

| |
|---|
| **Year 1999**<br><br>    Guidelines for participation by mutual funds in stock lending schemes<br>    Investment in ADRs/GDRs by mutual funds<br>    Reporting of transactions by mutual funds |
| **Year 2000**<br><br>    AMFI recommendations for improving disclosures and compliance standards<br>    Frequency of portfolio disclosure, formation of audit and valuation committee<br>    Payment of interest for delay in dispatch of redemption or repurchase proceeds<br>    Guidelines for advertisement by mutual funds<br>    Recording of investment decisions by mutual funds |
| **Year 2001**<br><br>    Guidelines for updating of offer document, time frame for dispatch of dividend warrants and reporting of securities transactions by directors of AMCs on quarterly basis investment/trading in securities by employees of asset management companies<br>    Putting standard observation on website<br>    Clients codes for mutual funds<br>    Gazette notification, investments by mutual funds in venture capital funds<br>    Independent directors on boards of AMCs and trustee companies |
| **Year 2002**<br><br>    Guidelines for participation by mutual funds in trading in derivative products<br>    Registration of intermediaries<br>    Portfolio disclosures<br>    Calculation of sale and repurchase prices of units of mutual fund scheme<br>    Introduction of benchmarks |
| **Year 2003**<br><br>    Guidelines for investments in foreign securities by mutual funds<br>    Investment limits for government guaranteed debt securities<br>    Minimum number of investors in schemes/plans of mutual funds |
| **Year 2004**<br><br>    Uniform cut-off timings for applicability of NAV of mutual funds<br>    Investment in foreign securities by mutual funds<br>    Mentioning of bank account number and PAN by the investors<br>    Guidelines for participation by mutual funds in derivative trading<br>    Unique client code for schemes/plans of mutual funds |

# STRUCTURE AND GROWTH OF MUTUAL FUNDS: AN EXAMINATION OF THE INDIAN SCENARIO

## Introduction

This chapter tries to look at the structure and pattern of mutual fund industry in India. Before analyzing the state of competition in the mutual fund industry, it is better to provide an overview of the changing structure of the industry. The second section of this chapter discusses mutual funds as financial intermediaries and its role. The third section explains the over all growth of mutual funds in terms of both resource mobilization and schemes. Fourth section discusses the sector wise performance of mutual funds and the fifth section explains the scheme wise performance of mutual funds in India. Sixth section gives the conclusions.

## 2.1 Mutual Funds as Financial Intermediaries

The Indian economy is undergoing a process of reforms including the financial sector with a view of transforming the financial institutions into more competitive and efficient to achieve higher rate of economic growth (Sadhak, 1998). This is important in the Indian Mutual Fund Scenario, since considerable growth in size and structure was seen after the reforms. Among the financial intermediaries, mutual funds are becoming an increasingly important vehicle for financial intermediation in India. Even though the UTI was established in 1964 to mop up the household savings[10] and channalize them into capital market, the concept of mutual fund gained momentum by only in 1986, when UTI launched its first close ended equity oriented scheme and mobilized RS. 158 crores from investors. In 1987, the Government of India permitted banks to start mutual fund business and the RBI issued the necessary orders. Many public sector banks started mutual fund units and started mobilizing resources. After the liberalization, a number of private sector banks have also started the mutual fund business and now it is popularized all over India. The growth of mutual fund has helped Indian investors to pool their scattered small savings and to invest in securities which other wise would not have been possible individually.

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[10] Appendix II-A gives a detailed outline regarding the financial savings and its components. The share of financial savings to gross domestic product increases from 12 to 15 percent in the period 1999-00 to 2003-04.

The Securities and Exchange Board of India, (SEBI)[11] Mutual fund regulations, 1996 defines a mutual fund as a fund established in the form of a trust to raise money through the sale of units to the public or a section of the public under one or more schemes for investing in securities, including money market instruments. According to the above definition, a mutual fund in India can raise resource through sale of unit to the public. It can be set up in the form of a Trust under the Indian Trust Act. The definition has been further extended by allowing mutual funds to diversify their activities in the following areas: Portfolio management services, management of offshore funds, providing advice to offshore funds, management of pension or provident funds, management of venture capital funds, management of money market funds and management of real estate funds (Pathak, 2003). The benefits that the investors getting out of mutual fund investment are professional management, portfolio diversification, reduction in transaction costs, liquidity, convenience, flexibility, tax benefits and stability to the stock market.

## 2.1.1 Types of Mutual fund Schemes

The objectives of mutual funds are to provide continuous liquidity and higher yields with high degree of safety to investors. Based on these objectives, different types of mutual fund schemes have been evolved. Table 2.1 provides a precise view of the different types of mutual fund schemes, based on the structure and objective classification[12].

**Table 2.1: Different Types of Mutual Fund Schemes in India**

| Functional | Portfolio | Geographical | Other |
|---|---|---|---|
| Open-ended event Close-ended scheme Interval Scheme | Income funds Growth funds Balanced funds Money market mutual funds | Domestic Funds Off-shore | Sectoral specific Tax saving ELSS Special Delivery Gilt funds |

Source: Pathak (2003)

Mutual funds in India are open to investment by residents including resident Indian individuals, including high net worth individuals and the retail or small investors, Indian companies, Indian trusts/ charitable institutions, banks, non-banking finance companies, insurance companies and provident funds. Also Non- Residents including non-resident Indians and other corporate bodies are able to invest in mutual funds.

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[11] SEBI is the statutory, regulatory, agency set up by the Government of India in 1992 to regulate capital markets.
[12] An elaborate explanation on each scheme is made in Annexure II-B

Foreign entities namely, foreign institutional investors registered with SEBI can also invest in Mutual Funds. However, foreign citizens/entities are not allowed to invest in mutual funds in India.

Three key players namely sponsor, mutual fund trust, and asset management company (AMC) are involved in setting up a mutual fund. They are assisted by other independent administrative entities like banks, registrars, transfer agents, and custodians[13]. The major happenings in the Indian mutual fund industry during the period 1964-2004 were reviewed in Table 2.2.

**Table 2.2: Transitions in the Mutual Fund Industry in India**

| Year | Transitions in the Mutual Fund Industry in India |
|------|--------------------------------------------------|
| 1964 | UTI mutual fund started |
| 1987 | End of the monopoly of UTI, public sector banks like SBI and Can bank started mutual funds. |
| 1989 | Financial Institutions like LIC came up and started mutual funds |
| 1993 | Threat of competition. The industry is opened to private sector mutual funds like Kothari pioneer. |
| 1994 | The arrival of foreign mutual funds like Morgan mania. |
| 1998 | Problems related to some of the mutual funds like CRB mutual fund and US 64 |
| 2000 | Problems related to the safety and liquidity of investment in UTI. |
| 2001 | Committee formed to evolve bench mark for performance appraisal of debt schemes by SEBI and AMFI |
| 2002 | SEBI to control UTI also |
| 2003 | Funds of fund floated |
| 2004 | Mutual funds allowed investing overseas securities |

Source: RBI Reports

**2.1.2 Different Phases of Indian Mutual Fund Industry**

The growth of the mutual fund industry in India was very slow till the end of 1980s, primarily due to government controls and over regulation of the financial services industry. Severe entry barriers restricted the growth of the mutual fund industry in terms of number of players, mobilization of savings and creation of assets. This was the scenario till 1986-87; it was controlled by a single institution, Unit Trust of India[14]. It started functioning with a view to encouraging savings and investment and participation in the income, profits and gains accruing to the corporation from the acquisition, holding, management and disposal of securities. Today there are three types of players operating in the Indian market, UTI, non-UTI public sector mutual funds and private sector mutual funds including foreign mutual funds.

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[13] This classification of mutual fund schemes are given in the literature, Pathak, (2003)
[14] UTI which was formed by the Government of India under an Act of Parliament 1963

**Phase 1: Monopoly of UTI (1964-87)**

The period 1964-87 was marked by the operations of single institution, named UTI, which prepared ground for the future mutual fund industry. This period was the formative period; two schemes were launched in this period (Unit 64 and Unit Linked Insurance plan). The second phase of operations (1974-84) was one of consolidation and expansion. In this period UTI was delinked from Reserve Bank of India (RBI). The period was marked by the introduction of open -ended growth funds. Six new schemes were introduced during 1981-84. During 1984-87, innovative and widely accepted schemes were launched (like Children's gift growth fund (1986) and Master share (1987), Indian offshore fund (1986), unit capital of UTI (1987). UTI's investible funds, at market value grew from RS 49 crore in 1965 to Rs. 219 crore in 1970-71 and further to Rs. 5068 crore by 1987. Thus UTI maintained its monopoly and experienced a consistent growth till 1987.

**Phase 2: Expansion of Public Sector (1987-1993)**

This period was marked by the entry of non-UTI public sector mutual funds in the market, bringing in competition. With the opening up of the economy many public sector financial institutions established mutual funds in India. However the mutual funds industry remained the exclusive domain of public sector in this period. The first non-UTI mutual fund (SBI mutual fund) was launched by the state bank of India 1987. This was followed by Can bank mutual fund scheme (1987), LIC mutual fund scheme (1989), and the Indian bank mutual fund scheme (1990). In 1989, the first regulatory guidelines were issued by the RBI, but they were applicable only to the mutual funds sponsored by banks. Subsequently, the government of India issued comprehensive guidelines in 1990 covering all mutual funds.

With the entry of public sector funds, there was a tremendous growth in the size of the mutual fund industry with investible funds increasing to Rs. 53462 crore and the number of investors increasing to over 23 million. Also the entry of public sector mutual funds created waves in the market and attracted small investors. With the entry of three more mutual funds in the market, namely Bank of India mutual fund, GIC mutual fund and PNB mutual fund, the resource mobilization has further increased. However, UTI continued to remain the dominant player in the market, though its share to total mutual fund declined marginally from 87.9 percent in 1988-89 to 84 percent in 1991-92.

## Phase 3: Emergence of a Competitive Market: Arrival of Private Sector and Foreign Mutual Funds (1993 on wards)

A new era in the mutual fund industry began with the entry of private sector mutual funds in 1993, leading to a serious competition to the existing public sector mutual funds. This phase is marked as a turning point in the history of mutual funds in India. The SEBI issued the mutual fund regulations in January 1993. SEBI notified regulations bringing all mutual funds except UTI under a common regulatory framework. Private domestic and foreign players were allowed entry in the mutual fund industry. The number of private sector mutual funds and its alliance with the foreign mutual funds are increased. Their resource mobilization compared to other mutual funds also started to increase. The number of schemes provided by the private sector mutual funds compared to public sector is high. The first private sector mutual fund to launch a scheme was the Madras based Kothari Pioneer mutual fund. This was followed by ICICI mutual fund 20th century mutual fund, Morgan Stanley mutual fund and Taurus mutual fund, launched their schemes[15].

### 2.2 Growth of Mutual Funds

The growth of the mutual fund industry can be analyzed in terms of number of funds, types of funds, number of schemes and in terms of their resources mobilization. The growth structure of Indian mutual funds in both the pre-liberalization and post liberalization periods were analyzed. The gross resources mobilized by over all mutual funds shows an increasing trend over the years. In 1995-96, the gross resources mobilized by mutual funds was Rs. 6508 crore and it increased to Rs. 1098149 crore in 2005-06, indicating a drastic increase in the resource mobilization[16].

The share of gross mobilization of resources in the gross domestic product[17] shows a tremendous increase in the resource mobilization. This is depicted in Figure 2.1. The share was 0.6 percent during 1995-96 and it increased to 31 percent in 2005-06. This in fact shows the increasing role of mutual funds in mobilizing resources particularly in the liberalized scenario.

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[15] Sadhak, (1998), Singh, (2006)
[16] SEBI Annual Reports (1995-96 to 2005-06)
[17] GDP at market prices (Current Prices)

21

## Figure 2.1: Trends in the Gross Resource Mobilization by Mutual Funds
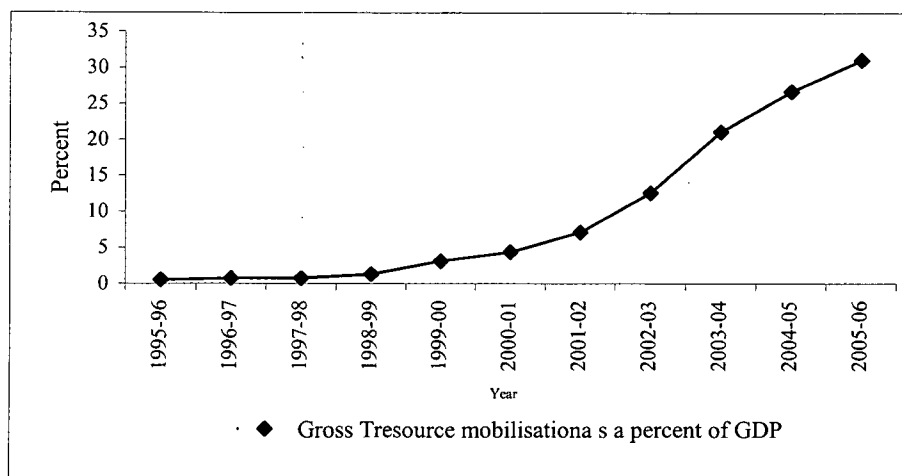


Source: Author's calculations using data from the RBI.

When we consider the net resources mobilization as a percent of gross domestic product by the all mutual funds, it shows a fluctuating trend over the years. This fluctuation was mainly attributed due to the high variations in the in the outflow and inflow of funds which is clearly seen in Figure 2.2. It was 1.7 percent of GDP during 1991-92 and it decreased to 1.4 percent in the period 2005-06.

## Figure 2.2: Trends in the Net Resource Mobilization by Mutual Funds
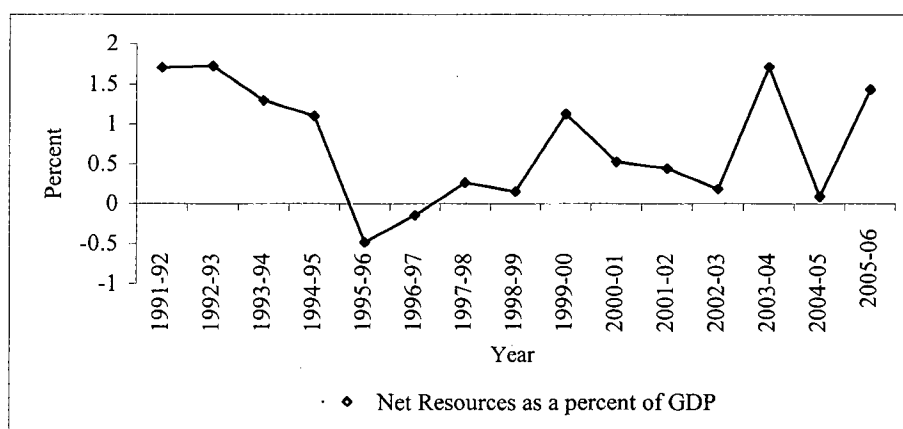


Source: Author's calculations using data from the RBI.

### 2.3 Sector Wise Performance of Mutual Funds

The different types of mutual fund companies currently operating in India in the public sector and the private sector are analyzed here. They are bank sponsored and the financial institution sponsored in the public sector and the private sector (without any joint venture and with foreign joint ventures). Bank sponsored mutual funds includes

SBI mutual funds, Canbank mutual fund, Indian bank mutual fund, Bank of India (BOI), Punjab National Bank (PNB) and Bank of Baroda (BOB) mutual fund. Financial institution sponsored mutual funds includes LIC mutual fund, GIC mutual fund and IDBI mutual fund. Presently in India, the number of private sector mutual fund companies is greater than the public sector companies. According to the RBI (2006), during the period 2003-06, there were 6 funds including bank-sponsored and financial institution sponsored mutual fund companies, 10 and 14 private sector funds without any joint venture with foreign company and private sector with foreign joint ventures respectively. This reflects the growth and changing structure of funds consequent to the opening up of our economy. We now examine the growth of schemes and the resource mobilized by different funds.

Table 2.3: Number of Schemes and Resource Mobilization by Different Types of Funds (Growth rate)

| Year | UTI | | Public Sector | | Private Sector | | Total | |
|---|---|---|---|---|---|---|---|---|
| | No: of Schemes | Amount | No: of Schemes | Amount | No: of Schemes | Amount | No: of Schemes | Amount |
| 1997-98 | 0.1 | 2.1 | 0.4 | 1.4 | 0.2 | -0.2 | 0.2 | -3.0 |
| 1998-99 | 0.1 | -15.9 | 0.4 | 1.1 | 0.9 | 2.7 | 0.3 | -0.1 |
| 1999-00 | - | 1.0 | 0.9 | -0.4 | 0.6 | 4.9 | -0.1 | 4.5 |
| 2000-01 | - | -13.1 | 0.3 | 2.0 | 0.3 | -0.4 | 0.9 | -0.4 |
| 2001-02 | -0.2 | 1.0 | 0.2 | 0.0 | 0.6 | 0.4 | 0.3 | -0.4 |
| 2002-03 | -0.2 | 0.2 | 0.0 | 0.3 | 0.2 | -0.1 | 0.1 | -0.4 |
| 2003-04 | -0.3 | 10.0 | -0.1 | 1.0 | 0.1 | 2.5 | 0.0 | 9.4 |

Source: RBI Annual Report 1996-97 to 2003-04

Table 2.3 provides the number of schemes and the net resources mobilized by different sectors including UTI, public sector and private sector[18]. It can be seen that the annual growth rate of number of schemes has declined from 0.1 percent to -0.3 percent, 0.4 percent to -0.1 percent and 0.2 percent to 0.1 percent in UTI, public sector and private sector respectively[19]. The growth of total number of schemes is also declining. This indicates that even though the absolute number of schemes is increasing in different sectors, their rate of growth is comparatively low[20]. In the case of net resource mobilization, UTI has the highest share to total followed by the private sector (annual growth rate of resource mobilization has increased for UTI from 2.1 to 10 and it is -0.2 to 2.5 in the case of private sector).

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[18] Public sector includes both the bank-sponsored and the financial institution sponsored mutual funds. Private sector includes both private sector mutual funds and the joint ventures predominantly Indian and foreign funds.
[19] Here the private sector includes foreign mutual funds as well.
[20] Absolute figure given in Annexure II-C.

There is a decline in the growth rate of mobilization of resources by the public sector excluding UTI. But the growth rate of total resource mobilized by the mutual funds has increased from –3 percent to 9.4 percent. This shows that over all the resource mobilization has been increased in the industry. At the same time, like the resource mobilization and the number of schemes it is equally important to know the expenses incurred by mutual funds along with their asset mobilization.

Figure 2.3 analyses the resource mobilization of both the public and private sector from the period 1995-2006. The percentage share of gross resource mobilization by the public and private sector mutual funds to total mutual funds were used to understand the comparative performance of public and private sector mutual funds in India.

**Figure 2.3: Component -Wise analysis of Gross Resources Mobilized by Mutual Funds**
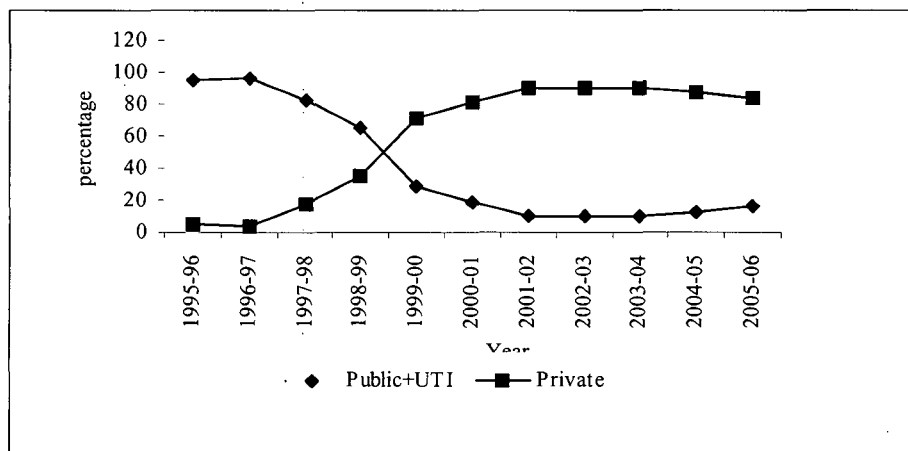


Source: Author's calculations using data from the RBI.

In 1995-96, it can be seen that the share of public sector, including UTI was around 95 percent (UTI=90, Public = 5) comparing that of 5 percent share of private sector gross resource mobilization. There is drastic increase in percent share of gross resource mobilization by private sector mutual funds in 2005-06 is 83 percent while there is drastic decline of 17 percent (UTI = 7, public = 10) of both public and UTI.

**Table 2.4: Expense Ratio of Different Categories of Mutual Funds**

| Sector | UTI | PS | Pvt. S | FS |
|--------|------|------|------|------|
| 1996 | 0.04 | 0.23 | 0.62 | 0.60 |
| 1997 | 0.07 | 0.46 | 0.59 | 0.85 |
| 1998 | 0.21 | 0.47 | 0.18 | 0.54 |
| 1999 | 0.14 | 0.30 | 0.19 | 0.17 |
| 2000 | 0.09 | 0.15 | 0.07 | 0.10 |

Source: AMFI Year Book 2000.

Taking the case of expenses incurred by different sectors of mutual funds in relation to their assets, it can be seen from the Table 2.4 that the expense ratio[21] (ratio of expenses to net assets) has declined for all sectors of mutual funds including UTI, Public Sector, private sector and foreign sector[22]. This ratio in fact shows that in all sectors the assets are growing and the expenses declining. This declining expense ratio implies that all the sectors are able to meet their expenses out of their net assets. Also it has been shown that the resource mobilization has increased in all these sectors. It is important to see the various other transactions by the mutual funds along with their schemes and resource mobilization.

### 2.3.1 Resource Mobilization of Public sector Mutual Funds

The resource mobilization of Public sector mutual funds is shown in Table 2.5. In 1987-90, the number of public sector mutual funds was 4 and it increased to 9 in 2002-06. Also the net resources mobilization has increased from Rs.1203 crores to Rs.6390 crores in the period 1987-06. This indicates that there is steady growth in the public sector mutual funds in terms of number of funds and their net resource mobilization. Also it is observed that the performance of bank-sponsored mutual funds is better than the financial institution sponsored mutual funds among the public sector mutual funds. The bank-sponsored mutual fund includes SBI, CAN bank, Indian bank, BOI, PNB, BOB mutual fund while financial institution sponsored mutual fund includes GIC, LIC and IDBI mutual fund. In 2005-06, SBI is having highest amount of 4193.5 crore resource mobilization followed by LIC (2111.9 crores).

**Table 2.5: Number of Funds and Net Resources Mobilized by Public Sector Mutual Funds**

| Years | Cumulative number of funds | Net resource mobilization (Crore) |
|-------|---------------------------|-----------------------------------|
| 1987-90 | 4 | 1203 |
| 1990-93 | 7 | 1964 |
| 1993-96 | 9 | 348 |
| 1996-99 | 9 | 458 |
| 1999-02 | 9 | 1270 |
| 2002-06 | 9 | 6390 |

Source: Handbook of Statistics on Indian economy, RBI 2005-06

It can be seen that the share of net resources mobilized by the bank-sponsored mutual fund is comparatively higher than financial institution sponsored in the Figure 2.4. But in some years, net resources mobilized by bank-sponsored mutual fund are being negative, due to the increased outflow than the inflow of money.

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[21] Generally expense ratio is considered as a measure for estimating cost functions for the mutual funds Michael Siconolfi, (1988) Baumol et.al, (1989).

[22] Here we have taken private sector and foreign sector separately.

**Figure 2.4: Component-Wise Trends in Net Resources Mobilization by Public Sector Mutual Funds**
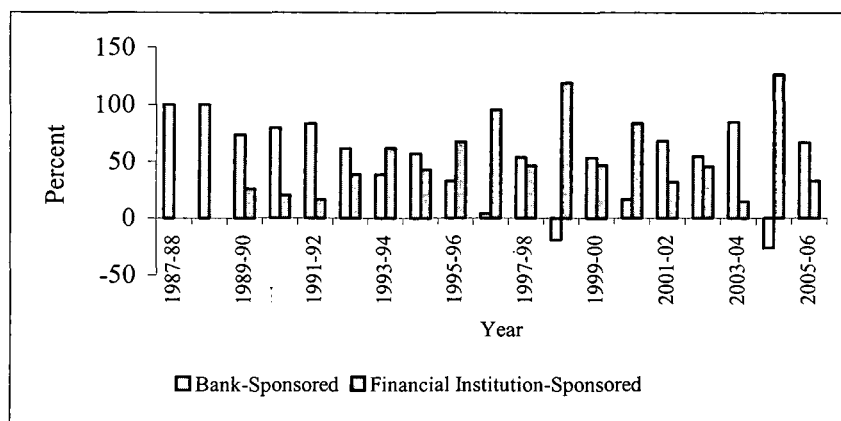


Source: Author's calculations using data from the RBI.

## 2.3.2 Resource Mobilization of Private Sector Mutual Funds

A new era in the mutual fund industry began with the entry of private sector mutual funds in 1993, portending a serious competition to the existing public sector mutual funds. The number of private sector mutual funds and its alliance with the foreign mutual funds are increasing. As earlier, it was mentioned that the gross resource mobilized by private sector is comparatively higher than public and the number of schemes also comparatively higher. Under the category of private sector mutual fund, it is visible in Table 2.6 that in 1993-94 the number of funds is 5 and it is increased to 37 in 2005-06. In the same way, their net resource mobilization also increased from 1560 crore in 1993-94 to 40829 crore in 2005-06. This shows that the resource mobilized by the private sector mutual funds has increased after the reforms.

**Table 2.6: Number of Funds and Net Resources Mobilized by Private Sector Mutual Funds**

| Year | Cumulative number | Net resource Mobilization (Rs. Crores) |
|---|---|---|
| 1993-94 | 5 | 1560 |
| 1994-95 | 11 | 1322 |
| 1995-96 | 15 | 133 |
| 1996-97 | 22 | 864 |
| 1997-98 | 21 | 749 |
| 1998-99 | 26 | 2067 |
| 1999-00 | 28 | 16938 |
| 2000-01 | 30 | 9292 |
| 2001-02 | 33 | 16134 |
| 2002-03 | 33 | 12122 |
| 2003-04 | 34 | 41510 |
| 2004-05 | 35 | 7933 |
| 2005-06 | 37 | • 40829 |

Source: Handbook of Statistics on Indian economy, RBI 2005-06

## 2.3.3 Number of Schemes under different Types of mutual funds

The Table 2.7 gives the number of schemes under different mutual funds including both private and public sector mutual funds during 1999-07 period[23]. The category wise number of schemes by the mutual funds shows that Tata mutual fund and ICICI prudential has the highest number of schemes. While SBI and UTI mutual funds has the highest number of schemes within the public sector mutual funds.

### Table 2.7: Number of Schemes in Different Mutual Funds

| Public sector | Total Number of Schemes |
|---|---|
| GIC Mutual Fund | 19 |
| LIC Mutual Fund | 45 |
| IL And FS Mutual Fund | 49 |
| BOB Mutual Fund | 21 |
| Can bank Mutual Fund | 67 |
| PNB Mutual Fund | 18 |
| SBI Mutual Fund | 147 |
| UTI Mutual fund | 108 |
| **Indian private sector Mutual funds** | |
| Escorts Mutual Fund | 24 |
| JM Financial Mutual Fund | 59 |
| Kotak Mahindra Mutual fund | 98 |
| Reliance Mutual fund | 68 |
| **Joint venture predominantly Indian funds and foreign funds** | |
| Alliance Capital Mutual Fund | 78 |
| DSP Merril Lynch Mutual Fund | 48 |
| ING Vyasa Mutual Fund | 37 |
| Morgan Stanley Mutual Fund | 3 |
| Prudential ICICI Mutual fund | 119 |
| SUN F&C Mutual Fund | 75 |
| Birla Sun Life Mutual Fund | 133 |
| Sundaram BNP Paribas Mutual Fund | 48 |
| Tata Mutual Fund | 78 |
| Taurus Mutual fund | 31 |

Source: AMFI (2006)

The absolute figure does not reveal the improvement in the number of schemes by different mutual funds over this period. Here we have calculated the compound growth rate of schemes for the period 1999-07 for all funds. The compound growth rate of the number of schemes is high for CAN bank mutual fund (3438.1 percent ), Tata mutual fund (3438.1 percent) followed by Kotak Mahindra (1205.7 percent) standard chartered

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[23] A detailed picture is provided in Annexure II-D.

(624 percent), JM financial (624 percent) and SBI mutual fund (282.9 percent). Mere number does not reveal any specific pattern and hence we looks at the resource mobilization. This is shown in Annexure II-E.

### 2.3.4 Pattern of Transactions by Mutual funds

Mainly mutual funds were making transactions in the stock exchanges in both equity as well as debt instruments. The sales and purchases of both equity and debt instruments are shown in Table 2.8. This reveals that the share of gross sales of equity funds has declined in the period 2000-01 to 2005-06 even though the share of equity funds are still high. But in the case of purchase, the share of purchase in the equity funds is declining and it is increasing in the case of debt funds. The transaction in both markets by the mutual funds shows that both the share of purchases and sales are increasing in the debt market and it is declining in the equity market. That is earlier equity funds were preferred and now they prefer the debt funds. This may be due to the interest rate differential in both the markets. Also the trends in the sales and purchases of mutual funds in the equity and debt market show the changing composition of transactions in both the market[24].

**Table 2.8: Trends in Transactions on Stock Exchanges by Mutual Funds (percent share)**

| Year | Equity | | Debt | |
|---|---|---|---|---|
| | Gross Sales | Gross Purchase | Gross Sales | Gross Purchase |
| 2000-01 | 70.4 | 56.3 | 29.6 | 43.7 |
| 2001-02 | 41.3 | 26.5 | 58.7 | 73.5 |
| 2002-03 | 32.8 | 23.7 | 67.2 | 76.3 |
| 2003-04 | 46.6 | 36.7 | 53.4 | 63.3 |
| 2004-05 | 49.7 | 42.0 | 50.3 | 58.0 |
| 2005-06 | 54.1 | 47.8 | 45.9 | 52.2 |

Source: SEBI Handbook of statistics on the Indian securities market, various years (2006)

### 2.3.5 Holding of Foreign Assets and Liabilities

Taking into account the international importance that the mutual funds in the country has received, the RBI initiated a detailed survey in the year 2005-06 on mutual fund companies in India to assess the foreign assets and liabilities held by the sector. The

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[24] The debt market is the market where debt instruments are traded. Debt instruments are assets that require a fixed payment to the holder, usually with interest. Examples of debt instruments include bonds (government or corporate) and mortgages. The equity market (often referred to as the stock market) is the market for trading equity instruments.

results of the study reflects that mutual fund companies set up in the private sector accounted for a major share in total foreign assets and liabilities of mutual fund companies. It was also observed that entire non-resident equity holding in mutual fund companies with foreign joint venture was on account of foreign collaborators only.

The Table 2.9 reveals that mutual fund companies in India did not have significant foreign assets in the year 2003-05. Total foreign assets increased from Rs. 46.25 in 2003 to 101.33 crore in 2004, but it declined to Rs. 86.57 crore in 2005. Most of the foreign assets were in the nature of portfolio investments (equities, ADR/GDRs, MF scheme etc.). Foreign assets on account of direct investment were very insignificant. As against this, foreign liabilities of the sector were relatively large and increased from Rs 1250.27 crore in 2003 to Rs 2941.54 crore in 2004 and further to Rs. 5298.83 crore in 2005. Like the foreign assets, in the case of foreign liabilities also, portfolio investments were the most dominant component.

**Table 2.9: Total Foreign Assets and Liabilities of Mutual Fund Companies in India**
**(Rs.Crore)**

| | 2003 | 2004 | 2005 |
|---|---|---|---|
| **Foreign Assets** | | | |
| 1. FDI | 0.34 (0.74) | 0.31 (0.31) | 0.30 (0.35) |
| 2. Portfolio Investment | 44.34 (95.87) | 99.75 (98.44) | 83.90 (96.92) |
| 3. Other Investments | 1.57 (3.39) | 1.27 (1.25) | 2.37 (2.73) |
| Total Foreign Assets | 46.25 | 101.33 | 86.57 |
| **Foreign Liabilities** | | | |
| 1. FDI | 255.71 (17.25) | 264.80 (9) | 305.13 (5.76) |
| 2. Portfolio Investment of which Outstanding MFs units that were issued to non- residents Unpaid Dividend | 1029.06 (82.31) 1027.85 (82.21) 1.21 (0.10) | 2667.29 (90.68) 2663.82 (90.56) 3.47 (0.12) | 4965.79 (93.80) 4965.79 (93.71) 4.31 (0.08) |
| 3. Other investments | 5.50 (0.44) | 9.44 (0.32) | 23.60 (0.45) |
| Total Foreign Liabilities | 1250.27 | 2941.53 | 5298.83 |

Source: RBI Survey 2005-06
Note: Figures in parentheses represent percentages to respective total

### 2.3.6 Sector Wise Foreign Assets and Liabilities

This section presents the share of foreign assets and liabilities of the mutual fund companies set up by the public sector and the private sector. It is observed in Table 2.10 that the share of private sector in total foreign assets as well as foreign liabilities of mutual fund companies was significantly higher than the same of the public sector mutual fund companies. The point is that the role of private sector has increased both in the share of foreign assets and foreign liabilities in the recent times.

**Table 2.10: Sector wise Foreign Assets and Liabilities (percent to total)**

| Sectors | 2003 | 2004 | 2005 |
|---|---|---|---|
| **Assets** | | | |
| Public Sector Organizations | 30.23 | 13.80 | 16.15 |
| Private Sector | 69.77 | 86.20 | 83.85 |
| **Liabilities** | | | |
| Public Sector Organizations | 24.57 | 16.90 | 8.66 |
| Private Sector | 75.43 | 83.10 | 91.34 |

Source: RBI Survey 2005-06

## 2.4 Scheme Wise Performance of Mutual Funds

Broadly there are three major types of mutual fund schemes classified by structure, investment objective (portfolio schemes) and other schemes (Pathak 2003). Under the classification of structure, it included the major two categories of open-ended and close-ended schemes[25]. By investment objective we have growth schemes, income schemes, balanced schemes and money market schemes. The number of schemes under the category of open ended is 1098 and close ended 492 in the year 2006. It shows that the investor's preference is more towards the open-ended category of schemes[26]. The number of schemes under the category of growth, income, liquid and funds of funds ELSS (Equity linked savings scheme), balanced, gilt, floating assured and money market mutual funds are shown figure 2.5. It shows that income funds are having highest number of schemes followed by growth funds in the year 2006.

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[25] Open ended funds are the funds; do not have a fixed maturity. Investors can conveniently buy and sell units at Net Asset Value (NAV) related prices. The key feature of open- ended schemes is liquidity. A closed-end fund has a stipulated maturity period which generally ranging from 3 to 15 years. The fund is open for subscription only during a specified period. Investors can invest in the scheme at the time of the time of the initial public issue and thereafter they can buy and sell the units of the scheme on the stock exchanges where they are listed.

[26] Association of Mutual Funds in India, (2006).

**Figure 2.5: Types of Mutual Fund Schemes**
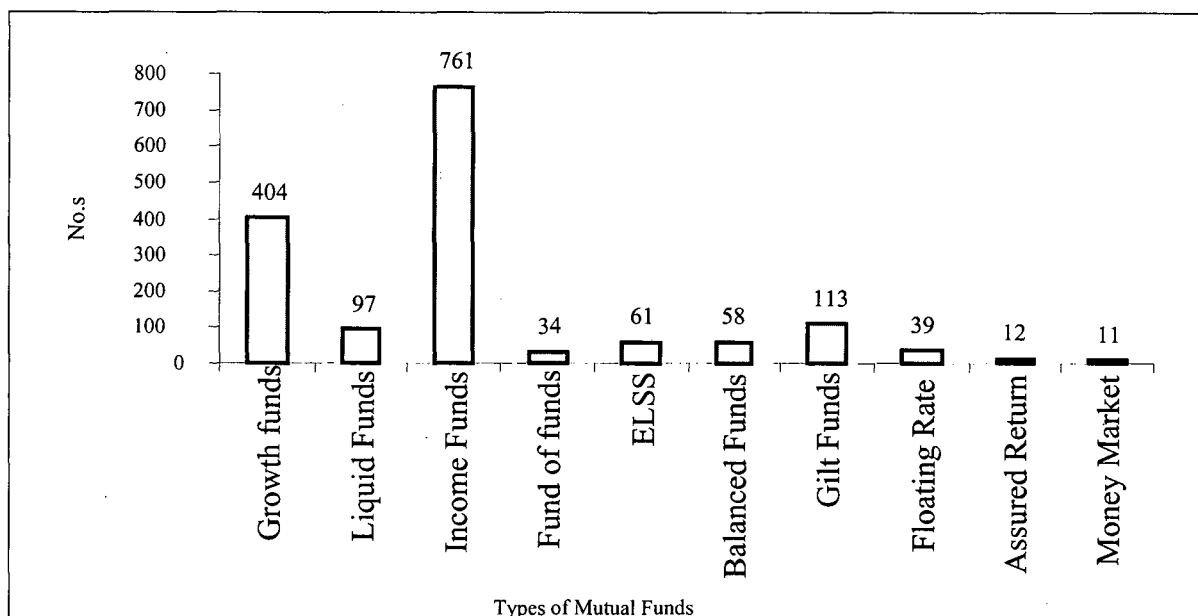


Source: AMFI 2006

## 2.4.1 Scheme Wise Resource Mobilization

There is a need to look at the performance of different mutual fund schemes by their mobilization of net assets, sales and purchases in the economy. In Table 2.11, the share of net assets of income schemes has shown decline from 78 percent to 53 percent during 2003-06 even though these shares is still high. But the net assets share of growth schemes increased from 18 percent to 43 percent while the case of balanced funds and funds of fund schemes, the share is very low. This shows that the income funds still mobilize assets larger than the other types of schemes[27].

**Table 2.11: Share of Net Assets by Different Schemes**

| Schemes | 2003-04 | 2004-05 | 2005-06 |
|---|---|---|---|
| Income/debt oriented schemes | 78.5 | 70.6 | 53.6 |
| Growth/equity oriented scheme | 18.0 | 25.6 | 42.7 |
| Balanced schemes | 2.9 | 3.2 | 3.2 |
| Funds of fund scheme | 0.6 | 0.7 | 0.4 |

Source: SEBI Handbook of Statistics on the Indian Securities Market (2006).

When we look at the transactions (sales and purchases) of open-ended and close-ended schemes, the share of sales and purchases of open-ended funds has much higher than that of close-ended funds over the period. A very low percentage share of sales and purchase is seen in the case of close-ended schemes. In Table 2.12 the share of sales shows a decline from 8.5 to 3.7 and purchases from 9.1 to 1.3 percent during the period

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[27] Actual figure is given in the Annexure II-E

1999-00 to 2005-06. The share of sales and purchases of open-ended funds were very high with sales increased from 91 to 96 percent and purchases from 91 to 99 percent over the same period. This shows that it was under the open-ended schemes that more transaction was taking place and the number of schemes exchanged also was more under this category.

**Table 2.12: Scheme-Wise Transactions by Mutual Funds**

| Year | Open-ended | | Close-ended | |
|---|---|---|---|---|
| | Sale | Purchase | Sale | Purchase |
| 1999-00 | 91.5 | 90.9 | 8.5 | 9.1 |
| 2000-01 | 94.0 | 98.0 | 6.0 | 2.0 |
| 2001-02 | 99.2 | 97.8 | 0.8 | 2.2 |
| 2002-03 | 99.9 | 97.3 | 0.1 | 2.7 |
| 2003-04 | 99.5 | 99.6 | 0.5 | 0.4 |
| 2004-05 | 97.9 | 98.6 | 2.1 | 1.4 |
| 2005-06 | 96.3 | 98.7 | 3.7 | 1.3 |

Source: SEBI Handbook of statistics on the Indian securities market (2006).

A scenario of the transaction-taking place in other categories of funds including income/debt-oriented schemes, growth/equity schemes[28] and balanced schemes is also discussed here. It can be seen in the Table 2.13 that the income schemes leads the market compared to other schemes in terms of sales and purchases. The share of sales is 92 percent in the case of income schemes and it is 8 and 0.4 percent respectively for the growth and balanced schemes for the year 2005-06. The same pattern is observed in the case of purchases of schemes as well. Over all, there has been an increasing trend in sales and purchases of income-oriented schemes where as a declining trend is observed in the case of sales and purchases of both growth and balanced schemes.

**Table 2.13: Market Transactions by Different types of Schemes**

| | Income/Debt oriented Schemes | | Growth / Equity oriented Schemes | | Balanced Schemes | |
|---|---|---|---|---|---|---|
| Year | Sale | Purchase | Sale | Purchase | Sale | Purchase |
| 2000-01 | 71.5 | 72.1 | 22.6 | 19.6 | 5.9 | 8.3 |
| 2001-02 | 98.5 | 94.7 | 1.2 | 1.6 | 0.3 | 3.7 |
| 2002-03 | 98.4 | 97.9 | 1.5 | 1.5 | 0.1 | 0.7 |
| 2003-04 | 95.0 | 95.9 | 4.5 | 3.6 | 0.4 | 0.5 |
| 2004-05 | 95.1 | 96.0 | 4.4 | 3.6 | 0.4 | 0.4 |
| 2005-06 | 91.8 | 94.8 | 7.8 | 4.9 | 0.4 | 0.3 |

Source: SEBI, Handbook of statistics on the Indian securities market (2006)

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[28] The income/debt oriented schemes include liquid/money market, gilt, debt (other than assured return) and debt (assured return), Growth/equity oriented schemes include ELSS and other.

## 2.5 Conclusion

In this chapter an attempt has been made to analyze the growth and structure of mutual fund industry in India before and after financial liberalization. The mutual fund industry remained in the domain of public sector till 1993. Only after reforms were initiated the mutual fund activities were opened to private sector participation in 1993 including foreign mutual funds. Along with domestic players, many International players like Morgan Stanley Jardine Fleming, JP Morgan, George Soros and capital international entered in the sector. At present, majority of the mutual funds in India are in the private sector, both with and without foreign joint ventures (The private sector includes only Indian private sector mutual funds and the foreign sector includes joint venture predominantly Indian and predominantly foreign).

A large number of mutual funds operating in the country has intensified competition and led to product innovation. According to AMFI, presently there are 37 mutual funds including public, private and foreign funds (Joint ventures Indian and Foreign). Product innovation is happening by way of new plans or schemes. Thus from the monopoly of a single mutual fund like UTI, mutual fund industry moved to public with a few public sector funds and has now with the entry of private and foreign funds, it has moved to a competitive environment. Mutual funds presently offer a variety of options to investors such as income funds, balanced funds, liquid funds, gilt funds, index funds, exchange traded funds and sectoral funds etc (Report on Currency and Finance, RBI, 2006). This diversification of funds and schemes may be attributed to the increasing competition among the players. The growth in net resources mobilized by mutual funds in India since their inception, trends of fund mobilization by UTI, private sector and public sector mutual funds, net resource mobilization by different mutual funds within private sector and scheme-wise breakup of resource mobilization are also analyzed. It is observed that after the reforms, mutual funds has increased its resources mobilization especially the private sector and also we can see that the number of mutual funds and its schemes has increased over the years particularly in the private mutual funds.

## Annexure II-A: Financial Savings and its Components

| Item | 1999-00 | 2000-01 | 2001-02 | 2002-03 | 2003-04 |
|---|---|---|---|---|---|
| 1 currency | 8.8 (1.1) | 6.3 (0.7) | 9.7 (1.2) | 8.5 (1.2) | 10.1(1.5) |
| 2 Deposits | 36.3(4.4) | 41 (4.9) | 39.4 (5) | 41.5 (5.7) | 42.9 (6.5) |
| With banks | 30.8 | 32.5 | 35.3 | 36.3 | 40.5 |
| With non-banking companies | 1.7 | 2.9 | 2.6 | 1.6 | 0.2 |
| With co-operative banks and societies | 4.3 | 5.6 | 3.6 | 3.7 | 2.3 |
| Trade debt (net) | -0.4 | 0.1 | -2.1 | -0.1 | -0.1 |
| 3 Shares and debentures | 7.7 (0.9) | 4.1 (0.5) | 2.7 (0.3) | 1.6 (0.2) | 1.4 (0.2) |
| Private corporate business | 3.4 | 3.1 | 1.5 | 0.8 | 0.7 |
| Co-operative banks and societies | 0 | 0 | 0.1 | 0 | 0 |
| Units of UTI | 0.8 | -0.4 | -0.6 | -0.5 | -0.4 |
| Bonds of PSUs | 0.1 | 0.1 | 0 | 0 | 0 |
| Mutual funds other than UTI | 3.4 | 1.3 | 1.8 | 1.3 | 1.1 |
| 4 Claims on government | 12.3 (1.5) | 15.7 (1.9) | 17.9 (2.3) | 18.6 (2.5) | 17.7 (2.7 |
| Investment in government securities | 0.9 | 1.7 | 5.8 | 4.3 | 4 |
| Investment in small savings etc | 11.3 | 14 | 12.1 | 14.3 | 13.7 |
| 5 insurance funds | 12.1 (1.5) | 13.6 (1.6) | 14.2 (1.8) | 15.5(2.1) | 14.9 (2.2) |
| Life insurance funds | 11.2 | 12.9 | 13.5 | 14.8 | 14.5 |
| Postal insurance | 0.3 | 0.2 | 0.3 | 0.2 | 0.1 |
| State insurance | 0.6 | 0.5 | 0.4 | 0.5 | 0.3 |
| 6 provident and pension funds | 22.8 (2.8) | 19.3 (2.3) | 16.1 (2) | 14.3 (2) | 13 (2) |
| Financial Savings (Gross) | 100 (12.2) | 100 (11.9) | 100 (12.7) | 100 (13.6) | 100 (15.1) |

Source: RBI (2003-04), Figures in parentheses are percentages to GDP at current market prices

## Annexure II-B: Types of Mutual Fund Schemes (Source: Pathak, 2003)

Mutual fund schemes may be classified on the basis of its structure and its investment objective. By Structure, includes Open-ended funds, closed end funds and Interval funds. By objective, includes Growth Funds, Income funds, balanced funds, Money market funds, Load Funds No-load funds.

**Open-Ended Funds**-An open-end fund is one that is available for subscription all through the year. These do not have a fixed maturity. Investors can conveniently buy and sell units at Net Asset Value (NAV) related prices. The key feature of open- ended schemes is liquidity.

**Closed-Ended Funds**- A closed-end fund has a stipulated maturity period which generally ranging from 3 to 15 years. The fund is open for subscription only during a specified period. Investors can invest in the scheme at the time of the time of the initial public issue and thereafter they can buy and sell the units of the scheme on the stock exchanges where they are listed. In order t provide an exit route to the investors; some

close ended funds give an option of selling back the units through periodic repurchase at NAV related prices. SEBI Regulations stipulate that at least one of the two exit routes is provided to the investor.

**Interval Fund**-Interval fund combine the features of Open ended and Close ended schemes. They are open for sales or redemption during predetermined intervals at NAV related prices.

**Growth Funds-** The aim of the growth funds is to provide capital appreciation over the medium to long term. Such schemes invest a majority of their corpus in their equities. It has been proven that returns from stocks have out performed most other kind of investments held over the long term. Growth schemes are ideal for investors having a long term outlook seeking growth over a period of time.

**Income Funds**-The aim of Income funds is to provide regular and steady income to investors. Such schemes generally invest in fixed income securities such as bonds, corporate debentures and government securities. Income funds are ideal for capital stability and regular income.

**Balanced Funds-** The aim of balanced funds is to provide both growth and regular income. Such schemes periodically distribute a part of their earning and invest both in equities and fixed income securities in the proportion indicated in their offered documents. In a rising stock market, the NAV of these schemes may not normally keep pace, or fall equally when the market falls. These are ideal for investors looking for a combination of income and moderate growth.

**Money Market Funds-** the aim of the money market funds is to provide easy liquidity preservation of capital and moderate income. These schemes generally invest in safer short term instruments such as treasury bills, certificates of deposits, commercial paper and inter bank call money. Returns on these schemes may fluctuate depending upon the interest rates prevailing in the market. These are idea for the corporate and individual investors as a means to park their surplus funds for short periods.

**Load Funds-** A load fund is one that charges a commission for entry or exit. i.e., each time you buy or sell units in the fund a commission will be payable. Typically entry and exit loads range from one percent to two percent. It could be worth paying the load, if the fund has a good performance history.

**No-Load Funds-** A no load fund is one that does not charge commission for entry or exit. The advantage of a no load fund is that the entire corpus is put to work

**Other Schemes**

**Tax saving schemes-** These schemes offer tax rebates to the investors under specific provisions of the Indian Income Tax laws as the government offers tax incentives for investment in specified avenues. Investment made in Equity Linked Savings Schemes (ELSS) and pension schemes are allowed as deduction u/s 88 of the Income Tax Act, 1961. The Act also provides opportunity to investors to save capital gains u/s 54EA and 54EB by investing in mutual funds.

**Special Schemes Industry Specific Schemes-**Industry Specific Schemes invest only in the industries specified in the offer document. The investment of these funds is limited to the specific industries like Info Tech, FMCG, and Pharmaceuticals etc. **Index-Schemes-**Index funds attempt to replicate the performance of a particular index such as the BSE sensex or the NSE 50.

**Sectoral Schemes-** Sectoral funds are those, which invest exclusively in a specified industry or a group of industries or various segments such as 'A' group shares or initial public offerings.

**Annexure II-C: Net Resource Mobilization by Types of Mutual Funds (Rs. Crore)**

| Year | UTI | | Public Sector | | Private sector | | Total | |
|---|---|---|---|---|---|---|---|---|
| | No: of Schemes | Amount | No: of Schemes | Amount | No: of Schemes | Amount | No: of Schemes | Amount |
| 1996-97 | 73 | -3043 | 12 | 186.8 | 34 | 874.9 | 119 | -1981.3 |
| 1997-98 | 79 | 2875 | 17 | 448.5 | 41 | 678.3 | 137 | 4001.8 |
| 1998-99 | 84 | 170 | 23 | 922 | 76 | 2518.7 | 183 | 3610.7 |
| 1999-00 | - | 4548 | 44 | 513 | 121 | 14892.2 | 165 | 19953.2 |
| 2000-01 | 87 | 322 | 57 | 1520.6 | 163 | 9292.1 | 307 | 11134.7 |
| 2001-02 | 72 | -7284 | 69 | 1474 | 266 | 12947 | 407 | 7137 |
| 2002-03 | 59 | -9434 | 70 | 1895 | 324 | 12122 | 453 | 4583 |
| 2003-04 | 41 | 1050 | 64 | 3761 | 362 | 42873 | 467 | 47684 |

Source: RBI Annual Report 1996-97 to 2003-04

## Annexure II-D: Number of Schemes by Different Mutual Funds

| Mutual Funds | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| ABN Amro Mutual Fund | | | | | | 4 | 4 | 3 | 4 | 15 |
| Alliance Mutual fund | 7 | 7 | 28 | 17 | 11 | 8 | | | | 78 |
| Anagram Wellington Mutual Fund | | | | | | | | | | 0 |
| Bench Mark Mutual Fund | | | 1 | 5 | 3 | 6 | 3 | | 2 | 20 |
| Birla Mutual Fund | 17 | 7 | 17 | 36 | 19 | 14 | 11 | 9 | 3 | 133 |
| BOB Mutual Fund | | 2 | 4 | 8 | 2 | 1 | 2 | 1 | 1 | 21 |
| BOI Mutual Fund | | 3 | 5 | 1 | | | | | | 9 |
| Canbank Mutual Fund | 7 | 7 | 13 | 15 | 4 | 5 | 10 | 4 | 2 | 67 |
| DBS Chola Mutual Fund | 3 | 1 | 12 | 10 | 9 | 11 | 16 | 6 | 2 | 70 |
| Deuche Mutual Fund | | | | | 5 | 2 | | 3 | | 10 |
| DSP merril lynch Mutual Fund | 4 | 7 | 7 | 10 | 5 | 3 | 4 | 6 | 2 | 48 |
| Dundee Mutual Fund | 5 | 5 | 7 | 5 | | | | | | 22 |
| Escorts Mutual Fund | | 2 | 11 | 4 | 3 | 1 | 1 | 1 | 1 | 24 |
| Fidelity Mutual Fund | | | | | | | 5 | 4 | | 9 |
| Franklin templeton investmnet | 3 | 8 | 12 | 22 | 9 | 14 | 7 | 10 | 4 | 89 |
| GIC Mutual Fund | 3 | 3 | 6 | 5 | | 2 | | | | 19 |
| HDFC Mutual Fund | | 5 | 22 | 8 | 17 | 12 | 4 | 1 | 4 | 73 |
| HSBC Mutual Fund | | | | 1 | 6 | 4 | 3 | 1 | 2 | 17 |
| IL and Fs Mutual Fund | 2 | 3 | 16 | 13 | 11 | 4 | | | | 49 |
| Indian bank Mutual Fund | | 5 | 1 | 2 | | | | | | 8 |
| ING vysya Mutual Fund | 1 | 2 | 5 | 1 | 2 | 11 | 5 | 8 | 2 | 37 |
| ITC treadneedle Mutual Fund | 2 | | | | | | | | | 2 |
| JP morgan Mutual Fund | | | | | | | | | 1 | 1 |
| JF Mutual Fund | | | 5 | 2 | | | | | | 7 |
| JM financial Mutual Fund | 5 | 3 | 16 | 7 | 6 | 9 | 5 | 7 | 1 | 59 |
| Kotak mahindra Mutual Fund | 9 | 10 | 19 | 15 | 7 | 12 | 15 | 7 | 4 | 98 |
| LIC Mutual Fund | 5 | 1 | 10 | 10 | 3 | 8 | 2 | 6 | | 45 |
| Lotus india Mutual Fund | | | | | | | | 1 | 1 | 2 |
| Morgan stanley Mutual Fund | | | 1 | | | 1 | | 1 | | 3 |
| Pioneer iti Mutual Fund | 7 | 14 | 14 | 13 | 1 | | | | | 49 |
| PNB Mutual Fund | 3 | 3 | 8 | 3 | 1 | | | | | 18 |
| Principal Mutual Fund | 3 | 4 | 19 | 24 | 6 | 10 | 10 | 5 | 3 | 84 |
| Prudential ICICI Mutual Fund | 4 | 15 | 18 | 19 | 19 | 12 | 16 | 12 | 4 | 119 |
| Quantum Mutual Fund | | | | | | | | 1 | | 1 |
| Relaince Mutual Fund | 1 | 1 | 12 | 11 | 14 | 15 | 7 | 4 | 3 | 68 |
| Sahara Mutual Fund | | | 1 | 6 | 3 | 3 | 5 | 1 | | 19 |
| SBI Mutual Fund | 7 | 10 | 38 | 32 | 23 | 17 | 13 | 4 | 3 | 147 |
| Shriram Mutual Fund | | 4 | 1 | | | | | | | 5 |
| Standard chartered Mutual Fund | 5 | 13 | 14 | 7 | 7 | 7 | 4 | 3 | 1 | 61 |
| Sun Fand C Mutual Fund | 9 | 15 | 19 | 21 | 8 | 3 | | | | 75 |
| Sundaram Mutual Fund | 2 | 2 | 9 | 8 | 5 | 6 | 7 | 6 | 3 | 48 |
| Tata Mutual Fund | 7 | 5 | 6 | 12 | 11 | 17 | 13 | 5 | 2 | 78 |
| Taurus Mutual Fund | 1 | 6 | 10 | 6 | 2 | 2 | 1 | 2 | 1 | 31 |
| UTI | 25 | 78 | 122 | 182 | 63 | 2 | 1 | | | 473 |
| UTI Mutual Fund | | | | | 13 | 30 | 38 | 22 | 5 | 108 |
| Zurich india Mutual Fund | 3 | 7 | 18 | 18 | 2 | | | | | 48 |

Source: www.mutualfundsindia.com

**Annexure II-E: Category Wise Compound Growth Rate**

| | Compound Growth Rate |
|---|---|
| **Public sector Mutual Funds** | |
| BOB MF | 1 |
| LIC MF | -0.6 |
| SBI MF | 282.9 |
| UTI | 3.5 |
| **Private sector Mutual Funds** | |
| Benchmark MF | -0.3 |
| Canbahk MF | 3438.1 |
| DBS Chola Mutual Fund | 1.8 |
| DSP Merrill Lynch MF | 10.3 |
| Escorts Mutual Fund | 1 |
| Franklin Templeton MF | -0.5 |
| HDFC MF | 1.9 |
| HSBC MF | -0.3 |
| ING Vysya MF | -0.3 |
| JM Financial MF | 624 |
| Kotak Mahindra MF | 1205.7 |
| PRINCIPAL MF | 0 |
| Prudential ICICI MF | 0 |
| Reliance MF | -0.5 |
| Standard Chartered MF | 624 |
| Sundaram BNP Paribas MF | -0.5 |
| Tata MF | 3438.1 |
| Taurus MF | 0 |

Source: Calculated from Annexure II-D

# CHAPTER 3

# STATE OF COMPETITION AMONG THE MUTUAL FUNDS IN INDIA: AN OVER VIEW

## Introduction

In the previous chapter we have discussed about the structural changes in the mutual fund industry. It clearly shows that the structure of mutual fund industry has changed after the financial reforms in terms of different types of funds and schemes. In this context, it is necessary to analyze competition among the mutual funds in India. Apart from this, it is necessary to know the pattern of competition existing among different types of mutual funds and within different types of mutual funds as well as for different types of schemes.

This chapter has been divided into four sections

Section 3.2: Theoretical Underpinnings

Section 3.3: Methodology and Data

Section 3.4: Empirical Analysis

Section 3.5: Conclusion

## 3.1 Market Structure and Competition: Theoretical Propositions

In this chapter an attempt is made to discuss the market structure and competition in the context of mutual fund industry in India. Since mutual funds is not an industry and it falls within the domain of financial institutions, it is important to know how theoretically it has been treated as an industry before analyzing competition in the mutual fund industry. Also we need to know about various concepts related to industry structure, competition and performance while analyzing competition in the context of mutual funds.

### 3.1.1 Market Structure, Competition and Efficiency

The structure conduct performance (SCP) paradigm has played an influential role in industrial organization research (Bain, 1956; Needham, 1979; Scherer 1980)[29]. The basic idea is that the industrial structure directs the conduct (strategy) of firms in the industry

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[29] Bain first developed the theoretical and empirical work on the SCP paradigm in paper series, 1949, 1950 and 1951. Also Bain suggests that barriers to entry and market concentration are essential to the industry structure and performance

and may influence their performance as well[30]. Most industrial organization studies have been directed towards examining variations in structure, conduct and performance across industries (Scherer, 1980). Later it has been noted that the basic ideas underlying the SCP paradigm can be useful for assessing within-industry competition of crucial importance for the firm's choice of strategy (Caves, 1980; Porter, 1981)[31]. Each factors of this theorem has been explained in detail in the following sections[32].

### 3.1.2 Industry Structure

The industry structure can be described by a variety of characteristics such as number of buyers and sellers, their size-distributions, product differentiation, regulations, barriers to entry and exit etc (Scherer, 1980; Porter, 1980). The SCP paradigm implies that structural changes may lead to subsequent changes in industry behavior; industry performance and the ownership patterns of types of organizations etc and such changes can be initiated by governmental interventions[33]. The industrial structure may however change without such interventions in the sense that the creation and adoption of technological innovations can influence firms' performance, which may lead to changing industrial structure. Improved firm performance may lead to higher market shares and elimination of competitors. The entry of new and better performing firms may in a similar way change the industrial structure. Thus industry structure is assumed to influence conduct (strategy) and performance, but changes in conduct (strategy) and performance may change industry structure as well (Scherer 1980).

Also economists seek to measure market structure because theory suggests that it has an important influence on the behavior or performance of firms in the market. The measures are an attempt to link the organization of firms to the degree of competition in a market and hence to predict the departure of price or rate of return from the competitive level. The structure measure used should reflect characteristics of markets that are common elements in a wide variety of market structures. An alternative approach for evaluating structure measures is to focus upon the information they convey

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[30] Conduct in the industrial organization may be considered comparable to strategy in the strategic management literature (Caves, 1980).

[31] Kjell Grønhaug; Tor Fredriksen 1988, In this literature a detailed discussion has been done about the SCP paradigm

[32] The structure, competition and performance are explained separately.

[33] The anti-trust policy in the USA and the multitude of regulations observed in most European and other countries can be seen as devices to influence industry structure, conduct and performance, as well as consumer welfare (Utton, 1970).

about common elements in all market structures. Two such market characteristics are the number of firms in the market and their relative size distribution. While these two characteristics do not completely describe a given market structure, they are the two most important elements in any definition of a structure (Jacquemin, 1972)[34].

The most obvious characteristic of any market structure is the number of participants. If all firms are of equal size one number completely describes the structure. Once it is recognized that firms are not all of the same size, characterization of a market structure by some measure becomes more complex. The distribution of shares among the firms affects behavior and should be reflected in a structure measure. Commonly used market structure measures reflect both the number of firms in the market and their size distribution, but they implicitly assign different weights to them. In this range differences in the relative size of firms and their numbers are most likely to affect the degree of competitiveness. Using different structural measures studies have reached different conclusions concerning the relationship between structure and performance. Also the main elements of market structure are concentration, product differentiation and barriers to entry of new firms. (White, 1982).

Baumol et.al (1989) gives a detailed discussion for treating mutual funds as an industry by explaining the features of an industry. On the basis of the number of firms existing, types of products (Schemes) and conditions to entry the study has treated mutual funds as an industry. The study has analyzed about the market structure, concentration and performance by using Structure Conduct Performance (SCP) framework in the context of mutual funds.

The presence of entry barriers impedes the optimal flow of resources into an industry. The strongest evidence of the ease of entry that characterizes the mutual fund industry is the remarkable amount of entry that has actually occurred in the form of new funds (Weizsacker, 1980). Our earlier chapter has already established that several structural changes have taken place in the mutual fund industry in India and also that various conditions to competition prevailed.

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[34] Specification of these structural characteristics comes prior to hypotheses about the types of firm behavior in models. The main elements of market structure are concentration, product differentiation and barriers to entry of new firms. Market performance is concerned with the appraisal of the industry's contribution to efficiency.

### 3.1.3 Competitions and Performance

The presence of more than one firm in an industry or the presence of substitute products offered by firms in other industries implies competition[35]. The various conditions to the competition and features of the different markets in general and particular to the mutual fund industry are clearly mentioned in the literature (Baumol 1982 and Baumol et.al 1989)[36]. In general concentration ratios are widely used for characterizing industrial structures (Utton 1970). The popularity of such measures is easy to grasp[37]. But there is lack of literature pertaining to the field of competition in the mutual fund industry in Indian context. Boumol et.al (1989) has really looked into the aspects of competition among the mutual funds in the context of United Kingdom. Baumol has used concentration measures for analyzing competition. This study has followed Baumol's methodology for estimating competition among the mutual funds in Indian context.

It is generally recognized that strong competition is the instrument of market mechanism that ensures good performance. In particular, there are two forms of industry structure (perfect competition and perfect contestability[38]) that constitute theoretical ideals of highly effective competition (Baumol, Panzer and Willig, 1988). Baumol (1989) clearly showed that the changes in the industry concentration would lead to the variations in prices, output, and product quality. The question is that how this competition will ensure the performance. In the context of this study, the relevant question is how the existing competition will enhance the efficiency of schemes. By analyzing competition and performance the study tries to answer this question.

### 3.2 Methodological Framework

The present study tries to find out the extent of competition taking place in the mutual fund industry in India. One of objectives of this study is to measure competition among the mutual funds by taking each fund as a firm in the mutual fund industry. To estimate the degree of competition in the mutual fund industry, this study uses a generally

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[35] In order to stay in business, the firm has to cover its costs in the long run. From the individual firm's point of view excess profit is desirable.' Inability to cover all costs in the long run will inevitably force the firm to exit the industry

[36] Baumol et al (1982), Theory of contestable markets, the condition of mobility barriers to the competition were mentioned in the literature of Porter (1980).

[37] They are simple to calculate; they are quantitative; and they convey the impression of 'objectivity'. It is, however, easy to point at several inherent weaknesses (Carter, 1984); for example, the firm may operate in foreign markets as well as in the domestic one. By considering concentration among the domestic producers only (as do most studies applying concentration ratios) the possibility that firms may operate in several markets is overlooked. The mere notion of concentration ratio implies restriction to specific geographical area, such as the domestic market.

[38] Perfect contestability refers to a case in which, whether firms are large or small, new firms can enter or exit without restriction and without incurring any sunk costs.

accepted measure of concentration - Herfindahl- Hirschman index (HHI), following the methodology proposed by Baumol (1989). In Baumol's study, they have used assets as a variable for measuring competition among the mutual funds. The present study has used Asset under Management (AUM) as a variable for calculating competition [39]. This variable is taken for understanding how much assets each mutual fund is holding.

In this study we have taken asset under management as a share of total AUM for each mutual fund as a variable for estimating the concentration. The analysis is done for the period 2003-06 due to the problem of availability of data. These data have been taken from Association of Mutual Funds in India (AMFI), 2006. As stated earlier this study has used HHI for measuring competition among the mutual funds. This has its own limitation and tells only whether competition has increased or not. Also it gives only the extent of competition taking place rather than the nature and intensity of competition. However from the literature it has been seen that to really understand the market structure it is not the change in the firms rank, but the changes in their respective market shares that need to be measured (Gort, 1963). This is because many of changes in rank may be associated with only minor changes in market share while it is possible that large changes in market shares can occur without any change in rank (Curry and George, 1983). In this context, the Grossack (1965) model which satisfies the two requirements of measuring competition and capturing share cutting seems valid for a proper understanding of market structure and competition. So this study uses Grossack model to test the intensity of competition in the Indian mutual fund industry.

### 3.2.1 Variable Construction

To estimate the competition among the mutual funds, the market share of each mutual fund in the industry is necessary[40]. In the case of mutual funds, earlier studies have used the assets share as the market share and considered it as the variable for estimating the competition. This study also uses the asset share to total assets as the variable. For the analysis, the study uses 35 mutual funds consisting private sector, Joint ventures both predominantly Indian and predominantly foreign and public sector (Bank-sponsored, financial institution sponsored) funds. The study could not get time series data of assets for all mutual funds due to non-availability of data. So it uses last four years data for the analysis i.e. from 2003-06.

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[39] Assets under management imply the volume of assets managed by the mutual funds.
[40] Here market share is the share of assets to the total assets for all mutual funds.

## 3.3 The Estimation

For estimating competition we have taken the data on share of assets for each fund in total assets for the period 2003-06. The number of funds in different categories of mutual funds were given in the Annexure III-A

### Table 3.1: Asset Share and Ranks of Different Mutual Funds

| No: of Funds | Mutual funds | 2003 Share (Rank) | 2004 Share (Rank) | 2005 Share (Rank) | 2006 Share (Rank) |
|---|---|---|---|---|---|
| 1 | UTI Mutual fund | 14.8 (1) | 12.9 (1) | 12.6 (1) | 11.7 (1) |
| 2 | Prudential ICICI Mutual fund | 12.3 (2) | 10.6 (2) | 10.8 (2) | 10.8 (2) |
| 3 | Franklin Templeton Mutual fund | 12 (3) | 10.4 (3) | 8.9 (4) | 8.0 (5) |
| 4 | HDFC Mutual fund | 11.9 (4) | 9.9 (4) | 9.3 (3) | 8.9 (4) |
| 5 | Birla Sun Life Mutual Fund | 7.6 (5) | 6.1 (6) | 6.2 (6) | 5.9 (6) |
| 6 | Standard Chartered Mutual fund | 7 (6) | 5.4 (7) | 4.2 (9) | 4.2 (8) |
| 7 | Reliance Mutual fund | 5.8 ( 7) | 7.2 (5) | 7.6 (5) | 9.5 (3) |
| 8 | Kotak Mahindra Mutual fund | 3.6 ( 8) | 3.9 (9) | 4.0 (10) | 4.1 (11) |
| 9 | JM Financial Mutual Fund | 3.3 ( 9) | 2.2 (15) | 2.0 (15) | 1.3 (19) |
| 10 | SBI Mutual Fund | 2.9 (10) | 4.0 (8) | 4.8 (7) | 5.3 (7) |
| 11 | LIC Mutual Fund | 2.7 ( 11) | 2.9 (14) | 2.3 (14) | 3.0 (14) |
| 12 | HSBC Mutual fund | 2.5 (12) | 3.8 (10) | 4.0 (11) | 3.7 (12) |
| 13 | Tata Mutual Fund | 2.5 ( 13) | 3.7 (11) | 4.7 (8) | 4.1 (10) |
| 14 | Principal Mutual Fund | 2.2 ( 14) | 3.3 (13) | 3.6 (13) | 3.6 (13) |
| 15 | IL And FS Mutual Fund | 1.7 ( 15) | 0.5 (24) | 0.0 (34) | 0.0 (33) |
| 16 | Deutsche Mutual Fund | 1.3 (16) | 1.6 (16) | 1.6 (16) | 1.7 (16) |
| 17 | DSP Merril Lynch Mutual Fund | 1.3 (17) | 3.5 (12) | 3.9 (12) | 4.2 (9) |
| 18 | Morgan Stanley Mutual Fund | 1(18) | 0.9 (20) | 1.0 (21) | 1.0 (22) |
| 19 | ING Vyasa Mutual Fund | 0.9 (19) | 1.1 (18) | 1.3 (18) | 1.3 (18) |
| 20 | Canbank Mutual Fund | 0.8 (20) | 0.6 (22) | 1.0 (22) | 1.1 (21) |
| 21 | DBS Chola Mutual Fund | 0.6 (21) | 0.8 (21) | 0.8 (24) | 0.9 (23) |
| 22 | Sahara Mutual Fund | 0.2 (22) | 0.3 (26) | 0.2 (26) | 0.1 (25) |
| 23 | SUN F&C Mutual Fund | 0.2 (23) | 0.0 (32) | 0.0 (30) | 0.0 (31) |
| 24 | BOB Mutual Fund | 0.2 (24) | 0.2 (28) | 0.1 (28) | 0.1 (26) |
| 25 | PNB Mutual Fund | 0.1 (25) | 0.0 (34) | 0.0 (31) | 0.0 (32) |
| 26 | Escorts Mutual Fund | 0.1 (26) | 0.1 (29) | 0.1 (27) | 0.1 (28) |
| 27 | GIC Mutual Fund | 0.1 (27) | 0.0 (33) | 0.0 (35) | 0.0 (35) |
| 28 | Taurus Mutual fund | 0.1 (28) | 0.1 (30) | 0.1 (29) | 0.1 (27) |
| 29 | Fidelity Mutual Fund | 0.0 (29) | 0.5 (25) | 1.1 (20) | 1.6 (17) |
| 30 | Quntum Mutual fund | 0.0 (30) | 0.0 (31) | 0.0 (32) | 0.0 (34) |
| 31 | Sundaram BNP Paribas Mutual Fund | 0.0 (31) | 1.5 (17) | 1.5 (17) | 1.8 (15) |
| 32 | ABN Amro Mutual Funds | 0.0 (32) | 0.6 (23) | 1.2 (19) | 1.3 (20) |
| 33 | Bench Mark Mutual Fund | 0.0 (33) | 0.2 (27) | 0.9 (23) | 0.6 (24) |
| 34 | Lotus India Mutual Fund | 0.0 (34) | 0.0 (35) | 0.0 (33) | 0.0 (29) |
| 35 | Alliance Capital Mutual Fund | 0.0 (35) | 1.0 (19) | 0.3 (25) | 0.0 (30) |

It is seen from the Table 3.1 that the large firms still retain market share with slight changes in their ranks. Even though there are small changes in the market shares of funds over the years, there is not much difference in their ranks.

## 3.3.1 Measuring Competition

Here we have estimated the four firm concentration ratios for mutual funds by taking the market share of four large firms. The ratio depicted in Table 3.2 has shown a decline over the years. It was 51 in 2003 and declined to 41 in 2006. The estimated concentration ratio shows decline and this indicates that the competition has increased in the mutual fund industry. It also reveals that, over the years the four large firms still continue to have high market share. This conventional measure takes in to account only information about the industry's leading firms.

### Table 3.2: Four-Firm Concentration Ratio

| Four - Firm Concentration Ratio | | | | |
|---|---|---|---|---|
| Year | 2003 | 2004 | 2005 | 2006 |
| Concentration Ratio | 51.0 | 43.9 | 41.6 | 41.0 |

So we have calculated Herfindahl-Hirschman index (HHI) (which is a better measure of industry concentration because it is based upon the information about all firms in the industry) to measure concentration in the mutual funds for 35 funds by using their market shares (assets as percent of total assets) for the year 2003 to 2006. The HHI is calculated by summing the squared market shares of all funds in the market. It ranges on a scale from 0 to 10, 000. The larger the HHI, the more concentrated is the industry or market. An industry with an HHI greater than 1800 is a highly concentrated one. Also an industry with the value of HHI between 1000 and 1800 is moderately concentrated one and one with HHI less than 1000 is unconcentrated (Baumol and Panzar, 1988).

The formula,

$$HHI = \sum_{i=1}^{n} \left( s_i^2 \right)$$

Where $s_i$ the market is share of firm $i$ in the industry and 'n' is the number of firms.

### Table 3.3: HHI for Mutual Funds

| Herfindahl-Hirschman Index for all Mutual Funds from 2003-06 | | | | |
|---|---|---|---|---|
| Year | 2003 | 2004 | 2005 | 2006 |
| HHI | 866 | 709 | 682 | 672 |

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Table 3.3 presents the HHI values for mutual funds. In 2003, the HHI was 866. By 2006, the index had fallen to 672. It clearly shows that the mutual funds compete in an unconcentrated industry. The low level of concentration in the mutual fund industry is the evidence of the substantial degree of competition among the mutual funds. Also the downward trend in concentration indicates that competition in the mutual fund industry is increasing. The Figure 3.1 gives the trends in the concentration among the mutual funds. It is a downward sloping curve showing concentration among the funds has declined over the periods. That means competition is increasing.

**Figure 3.1: Trends in Herfindal Index for Mutual Funds**
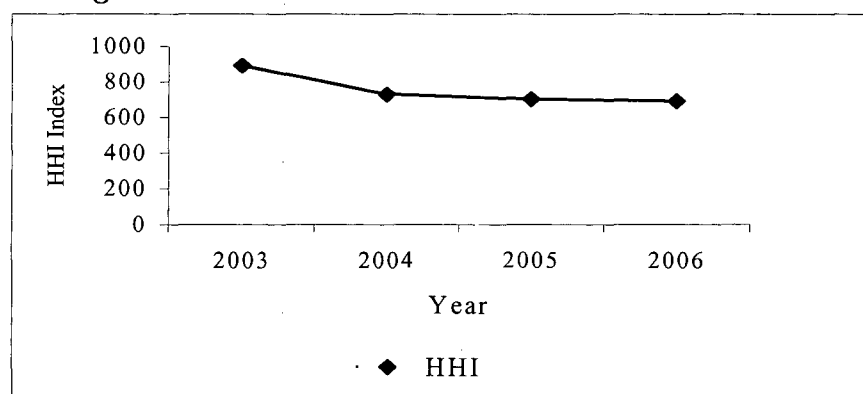


Source: Authors own Estimation

### 3.3.2 Normalized HHI

In order to remove the size inequality in the market shares of funds, we have calculated the normalized Herfinhahl index and are shown in the Table 3.4[41]. The normalized HHI for mutual funds also gives the same results as that of general HHI values. It also shows the decreasing concentration indicating increasing competition. There is not much difference in the value of index.

**Table 3.4: Normalized Herfinhahl Hirshman Index for Mutual Funds from 2003-06**

| Normalized Herfinhahl - Hirshman Index for Mutual Funds from 2003-06 | | | | |
|---|---|---|---|---|
| Year | 2003 | 2004 | 2005 | 2006 |
| HHI | 891 | 730 | 702 | 692 |

To understand whether the rank (position) changes according to their market shares, the study uses the method of rank correlation coefficient. The result shown in Table 3.5 indicates that the rank correlation coefficient is very high. From this it can be inferred that there is not much difference in the ranks of market share over the years.

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[41]Davies, (1979), Bajo and Salas (2002), explained clearly about this index.

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**Table 3.5: Rank Correlation Coefficient of Market Shares**

| Rank Correlation Coefficient of Market Shares | | | | | |
|---|---|---|---|---|---|
| 2003-04 | 2003-05 | 2003-06 | 2004-05 | 2004-06 | 2005-06 |
| 0.86 | 0.81 | 0.80 | 0.97 | 0.94 | 0.98 |

The method of using HHI index to measure concentration also has its own limitation that it only gives an idea of whether concentration has increased or not. To understand the nature of competition we use Grossack model (a model which confines state and dynamic measures). This model would be able to explain whether large firms of some initial years have been able to maintain their market shares up to some terminal year and whether large firms have lost their share to small firms, new entrants or to other large firms. The Grossack model of regression coefficient is obtained by estimating the regression of market shares in the terminal year of all firms on the initial year. Here the initial and terminal year is 2003 and 2006 respectively.

The formula,

$$b = \frac{\sum x_i y_i}{\sum x_i^2}$$

Where $x_i, y_i$ are the deviations of the market share of the $i^{th}$ firm from the mean for the initial year 'x' and terminal year 'y' respectively. Alternatively the regression coefficient can be written as:

$$b = 1 + \sum_i w_i \left( \frac{y_i - x_i}{x_i} \right)$$

$$\text{Where } w_i = \frac{x_i^2}{\sum x_i^2}$$

Thus the regression coefficient will differ from one in an amount and direction that is a function of a weighted average of the relative changes from year X to year Y in the deviations of the firm's market shares from their means. In this average, greater weight is accorded to the firms that are farther from the mean market share in the initial year as indicated by the definition of w.

**Table 3.6: Regression Coefficient**

| Regression Coefficient | 2003 - 2006 |
|---|---|
| b | 0.85 |

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The regression coefficient (b) assumes the value of 0.85. This indicates that the concentration has comedown in the mutual fund industry and competition has increased. The value of regression coefficient (b) is less than one. This indicates that the movement of a firm's share towards the average market share. This implies that the deviation between the firm's market share and average market share is reducing. But the value of 'b' alone will not help to understand the movement of the shares across size classes. To capture this, Grossack devises an ingenious decomposition exercise wherein the regression coefficient is expressed as a product of the correlation coefficient and the concentration ratio. This is an integration of the static and dynamic measure of concentration.

The formula,

$$b = \frac{\sum x_i\, y_i}{\sum x_i^2} = r^* \frac{\sigma_y}{\sigma_x}$$

Where r is the coefficient of correlation of the market shares in the two years, and $\sigma_x$ and $\sigma_y$ are the standard deviation of the shares in the respective years.

There are two conditions respect to this dynamic model

If b>1 and the value of r close to unity, then it implies increase in concentration

If b<I three situations can be identified depending on the value of r and concentration ratio.

(1) r is low and concentration ratio equal to 1 implying large firms lost market to each other

(2) r is high and concentration ratio is low implying large firms lost market to small firms

(3) Both low, implying large firms as a group lost market to each other and to small firms.

Table 3.7: Model Results

| Model Result | |
|---|---|
| Correlation Coefficient  (r) | 0.92 |
| Concentration Ratio    ( $\frac{\sigma_y}{\sigma_x}$ ) | 0.82 |
| Regression Coefficient  ( b) | 0.75 |

Here the estimated regression coefficient is 0.75 that is b<1, the estimated correlation coefficient is 0.82, high and the concentration ratio is 0.82, low (< 1). This indicates that large firms lost market to small firms.

This gives only information on the state of competition regarding over all mutual funds in India. It is interesting to know about the nature of competition happening among the sectors and also within the sectors. For this purpose we have estimated the sector wise competition, competition within the sector and also the scheme wise competition by using Herfinhdal index of concentration.

### Table 3.8: Competition among Different Sectors of Mutual Funds

| Year | 2003 | 2004 | 2005 | 2006 |
|------|------|------|------|------|
| HHI  | 1383 | 1452 | 1515 | 1525 |

As for the competition among the public sector, Indian private sector and joint ventures (both the Indian and foreign) HHI value shown in Table 3.8 lies between 1000 to 1800, indicating that the sector are moderately concentrated and there exists moderate competition among the sectors for funds.

### Table 3.9: Competition within the Sectors

| Year | 2003 | 2004 | 2005 | 2006 |
|------|------|------|------|------|
| Public sector | 235.4 | 192.9 | 188.7 | 175.5 |
| Private Sector | 58.4 | 71.7 | 77.4 | 108.8 |
| Joint venture predominantly Indian and predominantly Foreign Funds | 217.9 | 182.4 | 198.8 | 192.3 |

The analysis of concentration within the sector gives a different picture regarding the nature of competition existing within each sector of funds. This is depicted in Table 3.9. The earlier analysis of competition among all mutual funds shows that the concentration has declined. The analysis of competition within in the sector shows that the concentration in the public sector mutual funds has declined and competition increased. This is also true in the case of joint venture predominantly Indian and predominantly foreign funds. On the other hand the concentration ratio in the private sector mutual funds has increased and this means the competition among the private sector mutual funds has declined. The result is interesting since within the private sector the competition among the funds has declined and the competition has increased within in the joint ventures Indian and foreign funds. Therefore further analysis is needed to know about the competition among the private and foreign funds (predominantly Indian and foreign funds).

### Table 3.10: Competition among the Private and Foreign Funds

| Year | 2003 | 2004 | 2005 | 2006 |
|------|------|------|------|------|
| HHI | 837.9 | 939.708 | 1061.25 | 1075.2 |

The analysis given in Table 3.10 shows that the value of concentration index (HHI) exhibits both the characteristics of moderately concentrated and unconcentrated nature of industry. This indicates that both the sectors were unconcentrated with less competition and now there exists moderate concentration with moderate competition among the private and foreign mutual funds (both joint ventures predominantly Indian and predominantly foreign). We next move to the structure wise analysis of competition.

### 3.3.3 Scheme wise analysis of competition

The share of net assets to total assets among the type of schemes including income growth, balanced and funds of fund scheme are given in table 3.11. Among the type of schemes, the share of net assets has declined (79 to 54) for income schemes in 2003-06 and it has increased for growth and balanced schemes.

### Table 3.11: Share of Net Assets by Different types of Mutual Fund Schemes

| Schemes | 2003-04 | 2004-05 | 2005-06 |
|---------|---------|---------|---------|
| Income/debt oriented schemes | 78.5 | 70.6 | 53.6 |
| Growth/equity oriented schemes | 18.0 | 25.6 | 42.7 |
| Balanced schemes | 2.9 | 3.2 | 3.2 |
| Funds of fund scheme | 0.6 | 0.7 | 0.4 |

Source: RBI Annual Report (2005-06).

Here we have calculated the concentration index (HHI) for estimating the competitions among the different types of schemes. We want to know whether the competition among the schemes is increasing or not. The index in Table 3.12 shows a decline from 0.65 to 0.47, indicating that competition has been increasing among the types of schemes.

### Table 3.12: Herfindahl-Hirschman Index for Different types of Mutual Fund Schemes

| Year | 2003-04 | 2004-05 | 2005-06 |
|------|---------|---------|---------|
| HHI | 0.65 | 0.56 | 0.47 |

## 3.4 Conclusion

In this chapter the study tries to find out the existing competition in the mutual fund industry. It also analyzed the nature of competition among the sectors and within the sectors. Here the study has followed the methodology given by Baumol (1989) and Grossack (1965). The major findings show that the concentration has declined and competition increased in the mutual fund industry in terms of both funds and schemes. The regression coefficient for funds indicates that the concentration has declined and the large firms lost their share to small firms. Sector wise (among the public sector, private and foreign sectors and also within sectors) analysis of competition among mutual funds has also being attempted. The result shows that the competition is moderate among the sectors. Within the sectors competition is high in the public sector and foreign sector and it has declined in the private sector. Also at the same time the concentration index has declined and competition increased among the schemes.

# ANNEXURE III

## Annexure III-B:

| Public sector Mutual funds (8 funds) |
| --- |
| GIC Mutual Fund |
| LIC Mutual Fund |
| IL And FS Mutual Fund |
| BOB Mutual Fund |
| Can bank Mutual Fund |
| PNB Mutual Fund |
| SBI Mutual Fund |
| UTI Mutual fund |
| **Private Sector Mutual Funds (5 funds)** |
| Escorts Mutual Fund |
| JM Financial Mutual Fund |
| Kotak Mahindra Mutual fund |
| Reliance Mutual fund |
| HDFC Mutual fund |
| **Joint venture predominantly Indian and foreign(22 funds)** |
| Alliance Capital Mutual Fund |
| DSP Merrill Lynch Mutual Fund |
| ING Vyasa Mutual Fund |
| Morgan Stanley Mutual Fund |
| Prudential ICICI Mutual fund |
| SUN F&C Mutual Fund |
| Birla Sun Life Mutual Fund |
| Sundaram BNP Paribas Mutual Fund |
| Tata Mutual Fund |
| Taurus Mutual fund |
| Franklin Templeton Mutual fund |
| HSBC Mutual fund |
| Principal Mutual Fund |
| IL And FS Mutual Fund |
| Deutsche Mutual Fund |
| DBS Chola Mutual Fund |
| Sahara Mutual Fund |
| Fidelity Mutual Fund |
| Quntum Mutual fund |
| ABN Amro Mutual Funds |
| Bench Mark Mutual Fund |
| Lotus India Mutual Fund |

Source: Pathak (2003)

# PERFORMANCE EVALUATION OF SELECTED MUTUAL FUND SCHEMES IN INDIA: AN EXAMINATION

## Introduction

The estimation of competition among the mutual funds shows that concentration has declined and hence the competition among the mutual funds has increased. This study tries to look at whether the increased competition among the mutual funds has improved the performance of schemes in comparison with the market indices. This study looks in to whether the schemes are able to provide a return higher than the expected return. The performance evaluation can be done by analyzing the risk and return associated with the mutual fund investment since the investment in mutual funds are mainly based on the risk and return. So the objective of this chapter is to analyze the performance of selected mutual fund schemes in the framework of risk and return analysis.

This chapter has been divided into four sections.

Section 4.2 Theoretical Framework

Section 4.3 Methodology and Data

Section 4.4 Empirical Results

Section 4.5 Conclusion

## 4.1 Theoretical Framework

The capital asset pricing model (CAPM) is generally used in the literature to determine a theoretically appropriate rate of return of an asset with its portfolio risk. This describes the relationship between risk and expected return and that is used in the pricing of risky securities[42]. According to this model the expected return from an investment is a linear function of the expected return on the market portfolio. The existing literature has used the risk – return approach to evaluate the performance of schemes on the basis of capital

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[42] Capital Asset Pricing Model developed by Sharpe (1964) and others (These mutual fund studies include Friend, Blume and Crockett (1970) Jensen (1968) Sharpe (1966) and Treynor (1965), detailed discussion on the CAPM model was done in the study Ippolito (1989).

asset pricing model. According to the risk-return relationship, a scheme with high risk is expected to provide high return. Similarly a low return is only expected from low risk schemes. One of the strategies of the schemes to reduce risk is to hold a diversified portfolio. Modern Portfolio Theory followed by the development of this capital asset pricing model specified the implication of the diversification strategy and further elaborated it in the works of Treynor (1961) and Sharpe (1964). The performance of a portfolio can be examined by comparing its performance with that of a portfolio of similar risk. There are several methods for measuring the performance of managed portfolios (mutual fund scheme). The risk adjusted performance evaluation framework is one that is generally used for this purpose. Here the rate of return of managed portfolio (mutual fund scheme) is compared with benchmark or market portfolio (in our case NATEX returns). Generally the risk-adjusted performance indicators developed by Sharpe (1964), Treynor (1961) and Jensen (1968) are used to analyze the performance of schemes in terms of risk and return. This study also tries to use these three performance Indicators.

**Treynor Ratio**

Jack Treynor (1965) has developed a composite measure of portfolio performance (including risks). He has contended that there are two components of risk viz., risk produced by general market fluctuations (systematic risk) and risk associated with particular securities in the portfolio (unsystematic risk). To identify the systematic risk Treynor has introduced the characteristic line to define the relationship between the rates of returns for a portfolio over time and the rates of return for an appropriate market portfolio. The slope (beta coefficient) of the characteristic line is used to measure relative volatility. The deviation from the characteristic line is used to measure the unique returns to the fund relative to the market. A higher correlation of the fund with the market would mean less unique risk and better diversification of portfolio. There for the Treynor measure based on the systematic risk of the portfolio (beta) shows the rates of returns above risk free rates during a given period of time.

This ratio measures the relationship between fund's additional return over risk free return $(R_p - R_f)$ and fund's volatility (market risk) measured by beta. This is called as Reward to Volatility Ratio (RVOL), which can be expressed as

$$RVOL_p = \frac{AR_p - AR_f}{\beta}$$

Where $AR_p$ is the average return on the portfolio

$AR_f$ is average risk free return

$\beta$ is systematic risk of the portfolio.

The benchmark for comparison with this measure of performance is

$$RVOL_m = AR_m - AR_f$$

Where $AR_m$ is average return on market portfolio (bench mark). As the beta of the market portfolio shall always be one. If the $RVOL_p$ is greater than the bench mark comparison, the portfolio has out performed the market, otherwise it has not.

**Sharpe Ratio**

Sharpe (1960) has developed a composite performance measure called Sharpe ratio in order to evaluate mutual funds following the Capital Market Line. Sharpe ratio indicates the relationship between the portfolios additional return over risk free return and total risk of the portfolio measured in terms of standard deviation.

This ratio is referred to as reward to variability ratio (RVARp).

$$RVAR_p = \frac{AR_p - AR_f}{\sigma_p}$$

The benchmark comparison is

$$RVAR_m = \frac{AR_m - AR_f}{\sigma_m}$$

If is greater than the bench mark comparison, the portfolio lies above the *ex-post* CML indicating the fund's superior performance over the market. Alternatively if $RVAR_p$ is less than $RVAR_m$, the fund's performance is not good as the market.

The superiority of the Sharpe ratio over the Treynor ratio is, it considers the point whether investors are reasonably rewarded for the total risk taken by the fund in comparison to market. A fund which may have out performed according to the Treynor ratio (in terms of market risk) may indicate inferior performance according to the Sharpe ratio. Thus the two measures rank differently.

**Jensen Measure**

Sharpe and Treynor measures rely mainly on ranking of portfolios in comparison to the market portfolio. They express relative performance, whereas Jensen (1968) studied the absolute measure of performance. Jensen has given a different dimension to the portfolio performance. Also this measure takes the effects of risk on returns of the portfolio.

Jensen Equation,

$$R_{pt} - R_{ft} = \alpha + \beta \left[ R_{mt} - R_{ft} \right] + U_{pt}$$

Where

$\alpha$ is the differential return earned by the scheme, out of the ability of fund manager in selection of the securities.

$\beta$ is the systematic risk of the scheme portfolio.

A positive value of Alpha for a portfolio would indicate that the portfolio had an average return greater than the bench mark return (equilibrium portfolio return) indicating the superior performance. Alternatively a negative value of alpha would indicate that the fund (portfolio) had a return less than the benchmark.

**4.2 Data and Methodology**

In this section, the data sources and methodology used for the analysis are explained in detail. Further, the sample of schemes selected and variables used for the analysis has been discussed.

**4.2.1 Sample Selection**

The competition analysis for the mutual funds has been done in the previous chapter. The analysis shows that the competition among the mutual funds has increased. Concentration was measured by using the asset share of each mutual fund and also ranking of funds was done on the basis of their market share. The fund having highest

market share in both public and private sector mutual funds has been taken for the analysis of performance. UTI mutual fund and SBI mutual fund has the highest market share in the public sector and the Reliance mutual fund and ICICI prudential mutual fund has the highest share in the private sector. This selection is because we could not get data for all funds and schemes. A sample of four schemes from each category has been taken for the analysis.

The performance evaluation of mutual fund schemes is done by taking the selected funds and schemes of public sector and private sector mutual funds namely Unit Trust of India mutual fund (UTI), State Bank of India mutual fund (SBI) in the public sector and Reliance mutual fund and Industrial Credit and Investment Corporation of India (ICICI) mutual fund in the private sector. The logic for selecting these funds and schemes are on the basis of holding asset shares compared to other funds. In the competition analysis we got the result that the large firms still have the position even though their share has declined compared to the small firms. These selected funds come under the category of large firms and are taken for the purpose of analysis (Annexure IV-A).

Here we have taken schemes from four different mutual funds, including UTI mutual fund, SBI mutual fund, reliance mutual funds and ICICI mutual fund. The included schemes are basically growth, income and dividend oriented. These schemes come under open-ended fund category since most of the investment has taken place in the open-ended category. We have got different periods of data for different schemes and hence the number of observations is different for different schemes. Sixteen schemes from four mutual funds representing public and private sector mutual funds were taken. To represent both private and public sector mutual funds two mutual funds from each category were selected.

### 4.2.2 Data Source and Measures of Variables

The methodology explained in detail in the earlier section was adopted here for analyzing the performance of schemes. Apart from the simple method of calculating risk and return, various performance indicators like Sharpe Ratio, Treynor Ratio and Jensen Measure were also used. For calculating the returns for the schemes, the monthly Net Asset Values (NAV)[43] of the selected schemes was taken. The net asset values are available in the Association of Mutual funds in India (AMFI). For analyzing the

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[43]The net asset value of a fund is the market value of the assets minus the liabilities on the day of valuation. It is the amount, which the shareholders will collectively get if the fund is dissolved or liquidated. The NAV of a unit is the net asset value of fund divided by the number of outstanding units

performance of mutual fund scheme with the market portfolio, the study used the NATEX (for 100 shares) as benchmark index. The data on these market indices were taken from the Bombay Stock Exchanges (BSE). Also we need data on the risk free asset for analyzing the performance of mutual fund schemes with the risk free assets. Here the interest rates on deposits above 3 years are taken as the risk free rate and the data are collected from RBI annual reports. In order to reduce the risk of the portfolio, diversification is considered as a strategy.

**Return**

For each mutual fund scheme in the sample, the returns have been calculated taking the month end Net Asset Value and month beginning NAV. The returns are computed as follows.

$$Rpt = \ln \left[ \frac{NAV_t}{NAV_{t-1}} \right]$$

Where $Rpt$ is return of the mutual fund scheme (portfolio) on the basis of NAV for 't' period. The NAVs are adjusted for dividends, assuming dividends are reinvested at the ex-dividend date.

't' and 't-1' indicate month end and month beginning respectively, t= 1, 2 3, ……..n

ln is the natural logarithm to the base 'e'

The average return on the portfolio is determined as follows.

$$AR_p = \frac{\sum_{t=1}^{n} R_{pt}}{n}$$

Where $AR_p$ is average return on the mutual fund schemes.

It is also called average return on the portfolio. These returns are not annualized. For most of the schemes the observations are very less and it is hence felt that annualization is not appropriate.

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## Benchmark Portfolio

Similarly the returns on the market index are also computed. Bombay Stock Exchange (BSE) and National Index (NATEX) are assumed as benchmark. NATEX is a value-weighted portfolio consists of 100 companies[44]. It is a broad based index in comparison to BSE sensitive index. So it represents market portfolio. The value of market index on the respective date of NAV is taken and market returns are computed.

The returns on market portfolio are computed as follows.

$$R_{mt} = \ln\left[\frac{I_t}{I_{t-1}}\right]$$

Where $R_{mt}$ is the return on the market index and I is the index value.

In is the natural logarithm to the base 'e'.

Returns on market index are averaged as follows:

$$AR_m = \frac{\sum_{t=1}^{n} R_{mt}}{n}$$

Where $AR_m$ is average return on the market portfolio.

The performance evaluation is mainly concentrated to comparison of the scheme return with the bench mark portfolio and risk free return.

## Risk

Standard deviation of such monthly return is to be taken as risk as per the literature. Although standard deviation of returns may not completely accord with one's interpretation of the term risk. As Sharpe pointed out it is generally highly correlated with familiar measures and thus provides an adequate substitute.

$$\sigma_p = \left\{\frac{1}{n}\sum_{t=1}^{n}\left(R_{pt} - AR_p\right)^2\right\}^{\frac{1}{2}}$$

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[44] Large number of literature like Basu (1977, 1983) Banz (1981) and Reinganum (1981) has shown that the most widely used proxies for the market portfolio, that is portfolios composed of equally weighted and value weighted combinations of stock exchange listed stocks. The concept and methodology on the performance measure have given in the literature Tinic (1986).

Where $\sigma_p$ is total risk of the scheme portfolio. The total risk on the market portfolio is computed as follows:

$$\sigma_m = \left\{ \frac{1}{n} \sum_{t=1}^{n} (R_{mt} - AR_m)^2 \right\}^{\frac{1}{2}}$$

Where $\sigma_m$ is total risk of the market portfolio

In order to obtain the systematic risk (beta) of the portfolio, CAPM version of market model is applied. The estimable form of CAPM is

$$R_{pt} = a + \beta_p R_{mt} + e_p$$

Where

$R_{pt}$ is the return on the mutual fund scheme

$R_{mt}$ is the return on market index i.e. NATEX

$e_p$ is the error term

$a$ is the constant term

$\beta$ is the systematic risk

Higher value of $\beta$ indicates a high sensitivity of fund returns against market returns; the lower value indicates a low sensitivity. The $e_p$ is an approximation for unique risk of the portfolio. There are unequal sample observations and non-identical time periods for the selected mutual fund schemes. It is assumed that beta is stationary during the period. The equation also provides value of $R^2$ which indicates the extent of diversification of mutual fund portfolio against market portfolio.

**Risk Free Asset**

The performance evaluation of mutual fund scheme with related to the risk free asset is also important in the sense that the investors have the opportunities to make investment in the risk free asset[45]. As there is no uncertainty about the terminal value of the asset and the standard deviation of the risk free asset is zero. All types of corporate securities have an

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[45] If the investor purchases the asset at the beginning of the holding period and knows exactly the terminal value of the asset is called as risk free asset.

element of default risk. Therefore, the corporate security cannot be a risk-free asset. The study considers interest rate on bank deposits as a risk free asset. Here we have taken the monthly interest rate on the deposits of above 3 years maturity as the risk free asset.

## 4.3 Empirical Results

In this section, the result of analysing the performance of selected mutual fund schemes is discussed. For this, the calculated return and risk and the classification of schemes according to the risk and return will be dealt with. Finally the findings of the risk-adjusted performance will be discussed.

### 4.3.1 Pattern of Risk and Return

The computed average return and risk for the selected schemes given in Annexure IV-B. There is no clear picture on the pattern of risk and return regarding the selected schemes. The average monthly rate of return and risk of the 16 schemes is -0.00483 and 0.06915 respectively. This shows that 12 schemes out of 16 schemes have return higher than average return. At the same time 13 schemes out of 16 schemes have risk less than average risk. This shows that majority of schemes has return higher than average return with risk lower than average risk. This comparison of risk and return does not give one to one correspondence.

### 4.3.2 Classification of Schemes

The average values of the rate of return and risk are used as the bench mark point for classifying the schemes as low and high with respect to return and risk. Here we have classified the schemes according to risk and return respectively. There are four categories under which we included the schemes.

1. High Return - High Risk

2. Low Return – Low Risk

3. High Return – Low Risk

4. Low Return - High Risk

Table 4.1 gives the results of the classification of schemes according to the return and risk

## Table 4.1: Classification of Return and Risk

| High Return - High Risk | Return | Risk |
|---|---|---|
| SBI MGLF 94Original Investors | -0.01656 | 0.100245 |
| **Low Return - Low Risk** | | |
| SBI Magnum Income Fund | -0.0054 | 0.046196 |
| SBI MGF 99 | -0.00749 | 0.064291 |
| **High Return - Low Risk** | | |
| UTI Liquid Fund Cash Plan | 0.0092 | 0.020401 |
| UTI Liquid Fund Cash Plan INST | -0.00409 | 0.02033 |
| ICICI Prudential Floating Rate plan | 0.002789 | 0.022708 |
| ICICI prudential Blended Plan A | -0.000063 | 0.016375 |
| Reliance Medium term fund Retail Plan | 0.002967 | 0.048437 |
| Reliance Liquid Fund Treasury Plan | 0.000109 | 0.041638 |
| Reliance Income fund Retail Plan | 0.003197 | 0.017386 |
| Reliance Income fund Retail Plan | 0.005865 | 0.007783 |
| UTI Liquid Fund Cash Plan INST | 0.00911 | 0.01914 |
| ICICI Prudential Floating Rate Plan | 0.003725 | 0.002955 |
| SBI Magnum Income Fund | 0.021981 | 0.046653 |
| **Low Return - High Risk** | | |
| UTI Liquid Fund Cash Plan | -0.09664 | 0.4544 |
| ICICI Prudential FMCG Plan | -0.005974 | 0.177463 |

There is only one scheme out of the selected 16 schemes providing high return with high risks. The category of low risk provides low return includes two schemes and these two schemes are from SBI mutual fund. The high return - low risk categories of schemes includes 11 schemes and are from UTI, Reliance and ICICI and one scheme from SBI mutual fund. This indicates that these schemes are providing comparatively high average return with a low risk. There is certainty of getting high return for the investors with minimum risk. Two schemes are included in the last category of low return provided by high risk. The majority of schemes fall under the category of high return-low risk. This shows that majority of the schemes are able to give return higher than average return of all 16 schemes with a risk lower than the average risk of all 16 schemes. From the analysis, only three schemes give one to one correspondence.

### 4.3.3 Comparison between the Mutual fund Scheme and Benchmark Portfolio

It is observed from table 4.2 that, out of the 16 schemes except three schemes, all other schemes market return is higher than portfolio return. This indicates that the market portfolio performs better than scheme portfolio. In the case of three schemes the portfolio return is relatively higher than the market portfolio (SBI Magnum Income Fund, ICICI Prudential Floating Rate Plan and ICICI Prudential FMCG Plan). When we comparing the schemes return with the risk free return (Interest rate is taken as a proxy), it can be seen that the risk free return is higher than the scheme return in the case of all selected schemes.

Similarly, while comparing the portfolio risk with the market risk we could see that in most of the schemes the market risk is higher than scheme portfolio risk (12 out of 16). Only in the case of four schemes, the portfolio risk is higher than its market risk. From this we can derive that those schemes having high market risk provided high market return than the portfolio return. In the same way, those schemes having high portfolio risk provided high scheme return. Here the interesting result is that the market return and risk are high and the scheme return and risk are comparatively low. This shows that since the market risk and return are high, the investors preferring mutual funds because the risk is comparatively low.

### Table 4.2: Risk and Return: Mutual Fund Schemes Vs Benchmark Portfolio

| Scheme | Arp | SD p | Arm | SD m | Arf |
|---|---|---|---|---|---|
| UTI Liquid Fund Cash Plan | 0.00920 | 0.020401 | 0.011277 | 0.08097 | 1.848202 |
| UTI Liquid Fund Cash Plan | -0.09664 | 0.4544 | 1.011277 | 0.08097 | 1.848202 |
| UTI Liquid Fund Cash Plan INST | -0.00409 | 0.02033 | 0.011277 | 0.08097 | 1.848202 |
| UTI Liquid Fund Cash Plan INST | 0.00911 | 0.01914 | 1.011277 | 0.08097 | 1.848202 |
| SBI Magnum Income Fund | -0.0054 | 0.046196 | 0.004907 | 0.091014 | 1.975403 |
| SBI Magnum Income Fund | 0.021981 | 0.046653 | 0.004907 | 0.091014 | 1.975403 |
| SBI MGF 99 | -0.00749 | 0.064291 | 0.004907 | 0.091014 | 1.975403 |
| SBI MGLF 94Original Investors | -0.01656 | 0.100245 | 0.004907 | 0.091014 | 1.975403 |
| ICICI Prudential Floating Rate plan | 0.002789 | 0.022708 | 0.028515 | 0.058948 | 1.833917 |
| ICICI prudential Blended Plan A | -0.000063 | 0.016375 | 0.025489 | 0.062648 | 1.930971 |
| ICICI Prudential Floating Rate Plan | 0.003725 | 0.002955 | -0.19564 | 1.010325 | 1.914624 |
| ICICI Prudential FMCG Plan | -0.005974 | 0.177463 | -0.02096 | 0.221222 | 1.771061 |
| Reliance Income Fund Retail Plan | 0.003197 | 0.017386 | 0.021306 | 0.072924 | 1.885262 |
| Reliance Medium term fund Retail Plan | 0.002967 | 0.048437 | 0.018255 | 0.009127 | 1.867987 |
| Reliance Liquid Fund Treasury Plan | 0.000109 | 0.041638 | 0.009199 | 0.004599 | 1.906097 |
| Reliance Income fund Retail Plan | 0.005865 | 0.007783 | 0.015699 | 0.071361 | 1.869391 |

Note: Arp = Average return on the Portfolio

  SDp= Standard Deviation of the Portfolio return

  Arm = Average Market return

  SDm= Standard Deviation of the Market Return

  Arf  = Average Risk Free Return

### 4.3.4 Risk adjusted Performance: Sharpe and Treynor Ratio

The most common measure of performance first adjust the market return for the risk of the fund using beta from the capital asset pricing model, then measures excess return or alpha, as the return of the portfolio relative to the risk adjusted market return. Later on wards the literature focused on the issue of the measurement of risk-adjusted returns of schemes. Since the pioneering work of Sharpe (1966), the accepted measure of risk-adjusted returns has been the Sharpe ratio. The performance of the portfolio is judged by

the return on that portfolio relative to a benchmark, but the return is first adjusted so that the portfolio has the same risk as the benchmark. Here we are following the standard performance indicators like Sharpe and Treynor ratios for evaluating the performance of the schemes.

Here we have calculated Sharpe and Treynor ratio for the selected schemes for analyzing the risk adjusted performance, which is reported in Table 4.3. The Treynor ratio of the schemes shows that, out of 16 schemes, the 5 schemes portfolio out performed the market portfolio. The value of Treynor ratio is higher for the fund portfolio than the market portfolio. For the remaining majority of schemes the market portfolio out performed the fund portfolio. This means that in most of the schemes, the market is rather well performing compared to the schemes. But the Sharpe ratio explains that in most of the schemes (14 out of 16), the market portfolio performed well compared with the fund portfolio. Remaining two schemes (two reliance mutual fund schemes) shows the fund portfolio is higher than that of market portfolio according to the Sharpe ratio. Even though the Treynor ratio favorable to 5 schemes, the Sharpe ratio is favorable for two schemes only.

**Table 4.3: Sharpe and Treynor Ratios for Selected Schemes**

| Scheme | Sharpe Ratios of selected Schemes | | Treynor Ratios of Selected Schemes | |
|---|---|---|---|---|
| | RVARp | RVARm | RVOLp | RVOLm |
| UTI Liquid Fund Cash Plan | -92.2650 | -22.6800 | 15.04068 | -1.8369 |
| UTI Liquid Fund Cash Plan | -4.38073 | 22.6800 | -5.33342 | -1.8369 |
| UTI Liquid Fund Cash Plan INST | -93.2428 | 22.6800 | -15.4015 | -1.8369 |
| UTI Liquid Fund Cash Plan INST | -98.3479 | 22.6800 | 15.95589 | -1.8369 |
| SBI Magnum Income Fund | -42.8777 | -21.6505 | -179.031 | -1.9705 |
| SBI Magnum Income Fund | -41.8716 | -21.6505 | -17.6744 | -1.9705 |
| SBI MGF 99 | -30.8426 | -21.6505 | -4.20384 | -1.9705 |
| SBI MGLF 94Original Investors | -19.8709 | -21.6505 | -3.7563 | -1.9705 |
| ICICI Prudential Floating Rate plan | -80.6366 | -30.6271 | 21.83793 | -1.8054 |
| ICICI prudential Blended Plan A | -117.9237 | -30.4159 | 49.13138 | -1.9054 |
| ICICI Prudential Floating Rate Plan | -646.4657 | -2.0887 | 5752.253 | -2.1103 |
| ICICI Prudential FMCG Plan | -10.01355 | -8.10057 | -2.3645 | -1.79202 |
| Reliance Income Fund Retail Plan | -108.2508 | -25.5600 | -108.3601 | -1.86396 |
| Reliance Medium term fund Retail Plan | -38.5037 | -202.6538 | -12.3524 | -1.84973 |
| Reliance Liquid Fund Treasury Plan | -45.7751 | -412.3734 | -75.1282 | -1.8969 |
| Reliance Income fund Retail Plan | -239.4206 | -25.9759 | -67.9189 | -1.85369 |

RVARp = Reward to Variability Ratio of the Portfolio
RVARm= Reward to Variability Ratio of the Market Portfolio
RVOLp = Reward to Volatility Ratio of the Portfolio
RVOLm= Reward to Volatility Ratio of the Market Portfolio

## 4.3.5 Jensen measure of performance

Since the Sharpe and the Treynor ratio give the relative performance of portfolio, we are going for the absolute measure of performance (Jensen measure of performance). This measure is obtained by regressing the portfolio return adjusted with the risk free asset with the market portfolio adjusted with the risk free return. From the analysis, we have got the negative value of alpha[46], indicating that the fund (portfolio) had an average return less than the benchmark. This is same for all schemes, as clearly shown in Table 4.4, which reflects the high systematic risk, indicating high market returns and low portfolio return.

### Table 4.4: Jensen Measure of Performance

| Scheme | Alpha | Beta (Systematic Risk) |
|---|---|---|
| UTI Liquid Fund Cash Plan | -0.8982391 | 0.5121395 |
| UTI Liquid Fund Cash Plan | -0.9613661 | 0.5353922 |
| UTI Liquid Fund Cash Plan INST | -0.8205318 | 0.5616771 |
| UTI Liquid Fund Cash Plan INST | -0.8962623 | 0.5132637 |
| SBI Magnum Income Fund | -0.1106617 | 0.9392611 |
| SBI Magnum Income Fund | -0.298577 | 0.8311126 |
| SBI MGF 99 | -0.024075 | 0.9837775 |
| SBI MGLF 94Original Investors | -0.010247 | 0.9952755 |
| ICICI Prudential Floating Rate plan | -1.192278 | 0.3302691 |
| ICICI prudential Blended Plan A | -1.154474 | 0.4075406 |
| ICICI Prudential Floating Rate Plan | -1.873796 | 0.017582 |
| ICICI Prudential FMCG Plan | -0.3867938 | 0.7757951 |
| Reliance Income Fund Retail Plan | -0.3349003 | 0.830257 |
| Reliance Medium term fund Retail Plan | -0.3200587 | 0.8352349 |
| Reliance Liquid Fund Treasury Plan | -0.3010621 | 0.8472883 |
| Reliance Income fund Retail Plan | -0.3498856 | 0.8166062 |

## 4.3.6 Sharpe Differential Return

The already estimated performance indicators do not give the expected return and the differential return. Our objective is to know whether schemes are able to provide the return higher than the expected return. For calculating the differential return we have used the Sharpe's differential return.

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[46] A measure of performance on a risk-adjusted basis. Alpha takes the volatility (price risk) of a mutual fund and compares its risk-adjusted performance to a benchmark index. The excess return of the fund relative to the return of the benchmark index is a fund's alpha.

$$\text{Differential Return} = AR_p - \left[ AR_f + \frac{(AR_m - AR_f)\sigma_p}{\sigma_m} \right]$$

$AR_p$ = Average Return on the Portfolio

$AR_f$ = Average Risk free Return

$AR_m$ = Average Return on the Market

$\sigma_p$ = Total Risk of Scheme Portfolio

$\sigma_m$ = Total Risk of the Market Portfolio

Using this methodology, differential return of the selected schemes is estimated and is shown in the Table 4.5.

**Table 4.5: Differential Return of the Selected Schemes**

| Scheme | Actual Return | Expected Return | Differential Return |
|---|---|---|---|
| UTI Liquid Fund Cash Plan | 0.009 | 1.739 | -1.730 |
| UTI Liquid Fund Cash Plan | -0.097 | -22.894 | 22.797 |
| UTI Liquid Fund Cash Plan INST | -0.004 | 1.739 | -1.744 |
| UTI Liquid Fund Cash Plan INST | 0.009 | 1.804 | -1.795 |
| SBI Magnum Income Fund | -0.005 | 1.468 | -1.473 |
| SBI Magnum Income Fund | 0.022 | 1.458 | -1.436 |
| SBI MGF 99 | -0.007 | 0.992 | -1.000 |
| SBI MGLF 94Original Investors | -0.017 | -0.415 | 0.399 |
| ICICI Prudential Floating Rate plan | 0.003 | 1.566 | -1.563 |
| ICICI prudential Blended Plan A | 0.000 | 1.801 | -1.801 |
| ICICI Prudential Floating Rate Plan | 0.004 | 1.915 | -1.911 |
| ICICI Prudential FMCG Plan | -0.006 | 0.618 | -0.624 |
| Reliance Income Fund Retail Plan | 0.003 | 1.779 | -1.776 |
| Reliance Medium term fund Retail Plan | 0.003 | 1.085 | -1.082 |
| Reliance Liquid Fund Treasury Plan | 0.000 | 1.292 | -1.292 |
| Reliance Income fund Retail Plan | 0.006 | 1.847 | -1.841 |

The basic purpose is to estimate the differential return of the selected schemes by using the actual return and expected return of the schemes. The difference between the actual return and expected return (differential return) for the selected schemes shows that out of 16 schemes only 2 schemes are able to provide the return higher than expected return. Also the result indicates that these two schemes are from public sector mutual funds. This suggests that competition has not enhanced the performance of schemes. It also means that the competition does not enhance the scheme to provide return higher than

the expected return. But the difference between the schemes portfolio return and the market portfolio return given in Table 4.6 indicates that out of 16 schemes only three schemes are able to provide the scheme's average return higher than market portfolio return.

**Table 4.6: Difference between the Scheme Return and Market Portfolio Return**

| Scheme | Arp | Arm | Difference (Arp – Arm) |
|---|---|---|---|
| UTI Liquid Fund Cash Plan | 0.0092 | 0.011277 | -0.00208 |
| UTI Liquid Fund Cash Plan | -0.09664 | 1.011277 | -1.10792 |
| UTI Liquid Fund Cash Plan INST | -0.00409 | 0.011277 | -0.01537 |
| UTI Liquid Fund Cash Plan INST | 0.00911 | 1.011277 | -1.00217 |
| SBI Magnum Income Fund | -0.0054 | 0.004907 | -0.01031 |
| SBI Magnum Income Fund | 0.021981 | 0.004907 | 0.017074 |
| SBI MGF 99 | -0.00749 | 0.004907 | -0.0124 |
| SBI MGLF 94Original Investors | -0.01656 | 0.004907 | -0.02147 |
| ICICI Prudential Floating Rate plan | 0.002789 | 0.028515 | -0.02573 |
| ICICI prudential Blended Plan A | -6.3E-05 | 0.025489 | -0.02555 |
| ICICI Prudential Floating Rate Plan | 0.003725 | -0.19564 | 0.199365 |
| ICICI Prudential FMCG Plan | -0.00597 | -0.02096 | 0.014986 |
| Reliance Income Fund Retail Plan | 0.003197 | 0.021306 | -0.01811 |
| Reliance Medium term fund Retail Plan | 0.002967 | 0.018255 | -0.01529 |
| Reliance Liquid Fund Treasury Plan | 0.000109 | 0.009199 | -0.00909 |
| Reliance Income fund Retail Plan | 0.005865 | 0.015699 | -0.00983 |

Arp = Average portfolio Return
Arm = Average Market Return

## 4.4 Conclusion

This chapter provides an over view regarding the concepts, methodology and various indicators used for analyzing the performance of mutual fund schemes. An attempt has been made to analyze the performance of mutual fund schemes by selecting a few schemes from both the public and private sector mutual funds. The aim was to compare the portfolio return and risk with the market portfolio and the risk free asset. Here we have calculated the risk and return of the selected schemes by using the net asset values of the schemes. The national index of BSE was used to calculate the market return and risk as considered as benchmark index. The interest rates were taken for calculating the risk free asset. The different performance indicators like the Sharpe ratio; Treynor ratio and Jensen measure were used for analyzing the performance evaluation.

The analysis of the risk and return for the selected schemes shows that majority of schemes come under the category of high return and low risk. Very few schemes (only

three schemes) come under the categories of high return-high risk and low return-low risk. This classification of schemes was made on the basis of average return and risk of total schemes. It shows that majority of the schemes have return higher than the average return of total schemes with a risk higher than average risk of total schemes. According to the theoretical model, the scheme with high risk provides high return and the scheme with low risk provides low return. In our analysis only three schemes keeps this one to one correspondence.

In this study we have compared the portfolio return and risk with the market return and risk. The result shows that out of the 16 schemes, 13 schemes have high market return with low portfolio return. This indicates that the market portfolio performs better than scheme portfolio in the case of selected schemes. But in the case of three schemes the portfolio return is relatively higher than the market portfolio (SBI Magnum Income Fund, ICICI Prudential Floating Rate Plan and ICICI Prudential FMCG Plan). When we compare the schemes return with the risk free return (bank rate is taken as a proxy), it can be seen that the risk free return is higher than the scheme returns in the case of all schemes. Similarly, while comparing the portfolio risk with the market risk we could see that in most of the schemes the market risk is higher than scheme portfolio risk (12 out of 16). Only in the case of four schemes, the portfolio risk is higher than its market risk.

The risk adjusted return has been calculated by using the Sharpe, Treynor ratio and Jensen measure. This result shows that the Treynor ratio favors 5 schemes; the Sharpe ratio only favors two schemes. This indicates that according to the Treynor ratio, out of the selected 16 schemes, five schemes perform better than market portfolio. On the other hand only two schemes perform better than market portfolio according to the Sharpe ratio. In order to understand the absolute performance of schemes, we have calculated the Jensen performance measure. The Jensen alpha shows negative value for all schemes, indicating that the fund had an average return less than the benchmark return. The calculated differential return for the schemes shows that out of 16 schemes only two schemes are able to provide the return higher than expected return. These two schemes are in the public sector where competition is high. But the difference between the schemes portfolio return and the market portfolio return indicates that out of 16 schemes only three schemes are able to provide the schemes return higher than market return. All these performance measures indicate that only few schemes from the selected schemes are able to perform well. In short high competition among the funds is not reflected in the performance of schemes. This may be due to the fact that the existence of differentiated products makes the schemes not competitive.

# ANNEXURE IV

## Annexure IV-A: Selected Schemes fort the Analysis

| Schemes | Category | Period of Study | No: of Observations |
|---|---|---|---|
| UTI Liquid Fund Cash Plan | Growth (O) | Feb 2005 – March 2007 | 22 |
| UTI Liquid Fund Cash Plan | Income (O) | Feb 2005 – March 2007 | 22 |
| UTI Liquid Fund Cash Plan INST | Income (O) | Feb 2005 – March 2007 | 22 |
| UTI Liquid Fund Cash Plan INST | Growth (O) | Feb 2005 – March 2007 | 22 |
| SBI Magnum Income Fund | Dividend(O) | Jan 2001 – March 2005 | 16 |
| SBI Magnum Income Fund | Growth (O) | Jan 2001 – March 2005 | 16 |
| SBI MGF 99 | Growth (O) | Jan 2001 – March 2005 | 16 |
| SBI MGLF 94Original Investors | Growth (O) | Jan 2001 – March 2005 | 16 |
| ICICI Prudential Floating Rate plan | Income (O) | Jan 2004 – March 2007 | 28 |
| ICICI prudential Blended Plan A | Growth (O) | Feb 2005 – March 2007 | 20 |
| ICICI Prudential Floating Rate Plan A | Income (O) | Feb 2005 – March 2007 | 22 |
| ICICI Prudential FMCG Plan | Growth (O) | Apr 2003 – March 2007 | 31 |
| Reliance Income Fund Retail Plan | Dividend(O) | Feb 2001 – Jan 2007 | 62 |
| Reliance Medium term fund Retail Plan | Growth (O) | Feb 2001 – Jan 2007 | 53 |
| Reliance Liquid Fund Treasury Plan | Growth (O) | Dec 2000 – Feb 2007 | 50 |
| Reliance Income fund Retail Plan | Growth (O) | Dec 2000 – Nov 2006 | 60 |

Source: AMFI        Notes: O - open ended schemes

## Annexure IV-B: Return and Risk for Various Schemes

| Schemes | Return | Risk |
|---|---|---|
| UTI Liquid Fund Cash Plan | 0.00920 | 0.020401 |
| UTI Liquid Fund Cash Plan | -0.09664 | 0.4544 |
| UTI Liquid Fund Cash Plan INST | -0.00409 | 0.02033 |
| UTI Liquid Fund Cash Plan INST | 0.00911 | 0.01914 |
| SBI Magnum Income Fund | -0.0054 | 0.046196 |
| SBI Magnum Income Fund | 0.021981 | 0.046653 |
| SBI MGF 99 | -0.00749 | 0.064291 |
| SBI MGLF 94Original Investors | -0.01656 | 0.100245 |
| ICICI Prudential Floating Rate plan | 0.002789 | 0.022708 |
| ICICI prudential Blended Plan A | -0.000063 | 0.016375 |
| ICICI Prudential Floating Rate Plan | 0.003725 | 0.002955 |
| ICICI Prudential FMCG Plan | -0.005974 | 0.177463 |
| Reliance Income Fund Retail Plan | 0.003197 | 0.017386 |
| Reliance Medium term fund Retail Plan | 0.002967 | 0.048437 |
| Reliance Liquid Fund Treasury Plan | 0.000109 | 0.041638 |
| Reliance Income fund Retail Plan | 0.005865 | 0.007783 |

# CHAPTER 5

# CONCLUSION

Financial sector liberalization was one of the major reforms, which have taken place in majority of the developing countries in the eighties. This financial sector reforms are the outcome of the financial crisis that occurred in most of the developing countries in the world, which spurred economies to move from financial repression to the financial liberalization. The major objectives of financial sector reform were to improve the allocative efficiency of resources and accelerate the growth process of the real sector by removing structural deficiencies affecting the performance of financial institutions and financial markets. Also the main thrust of reforms in the financial sector was on the creation of efficient and stable financial institutions and markets. In response to reforms, the Indian financial sector has undergone radical transformation in the post financial liberalization period. Reforms have altered the organizational structure, ownership pattern and domain of operations of institutions and infused competition in the financial sector.

Coupled with this, there has been increase in the growth of financial institutions like mutual funds in many of the developing nations in recent years. This is also relevant in the Indian context where a large number of mutual funds were started after the financial sector reforms. In the case of financial sector and mutual funds, reforms attempted to create a competitive environment by allowing private sector participation. When the mutual funds industry was liberalized in 1992, the UTI had held a monopoly in the market for almost 30 years. Indian retail investors had been familiarized to guaranteed high returns on their UTI investments. This good record, combined with aggressive marketing by new entrants, led to expectations of high profits by investors who began to invest strongly in the new private mutual funds. The stock market supervisory authority has recently adopted a set of measures creating a transparent and competitive environment for mutual funds. These include relaxing investment restrictions into money market and debt instruments, listing open-ended funds, and permitting mutual funds to launch pension schemes. In response to these changes, the UTI is to be reorganized internally into a number of separate, competing units, and foreign banks have again begun to launch new funds. The intention is that mutual funds could become the key instrument for long-term saving, offering a variety of investments ranging from pure equity funds to debt funds and pension plans. These measures should help to increase public confidence in the stock market. Nevertheless, the key to a revival of investor interest would be a solid recovery of Indian stock markets something that depends to a large extent on government policies.

The Mutual fund industry in India has emerged as a dominant financial intermediary in Indian capital market since it got liberalized. As of April 2006, the mutual fund industry comprising of 33 Asset Management Companies managed financial assets of over Rs.2000 billions (equivalent of US $45 billions) contributed by an estimated 20 million investors spread all over the country. Majority of the funds (approximately) 96% of the funds are open-ended type and the remaining 4% of the funds are close-ended type. The assets have grown at a compound annual growth rate of 48 per cent over a period of four decades1965-2005, which is an evidence of the growing popularity of mutual funds in the country (as per the figures made available by Association of Mutual Funds in India). The impressive growth can be attributed to the entry of private players in the mutual fund industry coupled with the rapid growth of the Indian capital markets during the last couple of years. This background motivated the need to explore more about the Indian scenario of mutual funds. In other words the study is motivated by the recent growth in mutual fund and the setting up of large number of private sector funds in the context of financial liberalization which has its implications for competition and performance.

The literature pertaining to the growth of mutual funds in developed and developing countries which flourished in the last few decades was mostly at a general level. But very few studies have been made in the context of India. Even though there exists lot of literature regarding various issues related to the mutual funds, there is lack of analytical studies, which really focused on the crucial issues of structural and organizational changes and the resultant competition in the industry. This study aims to look at the major issues of structural changes in the industry, nature of competition and performance of schemes. It seems interesting to look at the structure of Indian mutual fund industry in the context of financial sector reforms. Also there is no particular study, which looks at the aspect of competition in the Indian mutual fund industry. Thus the present study is deviating from the existing literature by analyzing competition among the Indian mutual funds.

In this context of growing importance of mutual funds in the countries like India, the study objectives are to analyze the structure of the mutual fund industry in India, to examine the state of competition among the mutual funds, sector wise competition and within sector competition and to analyze the performance of mutual fund schemes by analyzing the risk and returns for the selected mutual funds in India. As a corollary to this we look at the share of mutual funds in the financial savings. This shows that the

share of mutual funds to shares and debentures is 1.1 percent. The aim of analyzing the first objective is to provide a broad over view of mutual fund industry in India. It has looked at the various types of mutual funds, schemes and their organizational pattern. Our preliminary analysis shows that there occurred drastic changes in the industry after liberalization. The entry of large number of private and the foreign mutual funds (both joint venture predominantly Indian and foreign) has changed the structure of the industry as a whole. This could have made changes in the total resources mobilization and the product innovation (new schemes under each mutual fund). This large number of new entrants could have led to competition among the mutual funds in the industry for their existence. An attempt was made to understand whether the structural changes in the industry have led to the competition among the mutual funds.

For this purpose, the study analyzed competition among the mutual funds which includes private sector, public sector and foreign sector mutual funds. The methodology proposed by William J Baumol and Grossack were used to analyze the state of competition in the mutual fund industry. As per the literature the Herfindal – Hirshman Index (HHI) of concentration was used to estimate the competition among the mutual funds. Over all the concentration measure shows that the concentration has declined in the industry and competition has increased among the mutual funds over the period 2003-06. The results of Grossack model also suggest the same. It shows that over all, large funds lost to small funds. This indicates high level of competition. However, an analysis of the competition among different sectors and competition within the sectors provided different results. The sector wise analysis of competition shows that the competition is moderate among the sectors since the value of concentration index lies between 1000 to 1800 (as per Baumol's methodology). Within the sectors, competition is high in the public sector and foreign sector and it has declined in the private sector. This difference in the results on the competition at a more disaggregated level could provide some policy guidelines for improving the state of mutual funds in India. We need a kind of policy, which helps the domestic mutual funds to compete with the foreign mutual funds. The industry now with a large number of funds having different schemes indicating product differentiation seems to be a strategic behavior to withstand competition.

Finally the study focused on the performance evaluation of mutual funds schemes by analyzing risk and return. The study has analyzed the risk and returns for mutual fund schemes on the basis of capital asset pricing model. The various performance indicators related to risk and return were used to analyze the over all performance of mutual fund schemes. The analysis of performance is limited to selecting few funds with few schemes

due to limitations of data. This is basically to analyse the pattern of risk and return of the schemes and to see how it is theoretically working. The study result shows that the majority of the schemes come under the category of high return with low risk. It shows that majority of the schemes have return higher than the average return of total schemes with a risk higher than average risk of total schemes. The performance indicators like Sharpe ratio and Treynor ratio show that only few schemes out perform compared to market portfolio. Jensen measure of risk-adjusted return indicates that the average returns of all the selected schemes are less than the market return. But in the case of risk we could see that the scheme risk is low compared to the market risk. The capital asset pricing model assumes that those schemes with high risk provide high return and the schemes with low risk provide low return. In our model among the selected 16 schemes, only three schemes keep this one to one correspondence. This reflects that even though there exists competition among the different mutual funds, schemes may not be performing well.

Though all these indicate the schemes average return, this does not provide the differential return of schemes. The estimation of differential return (difference between actual return and expected return) for the schemes shows that out of 16 schemes only two schemes are able to provide the return higher than expected return. These two schemes are in the public sector where competition has increased. This in fact shows that increased competition among the funds could not provide better performance of all schemes in terms of return. Also the difference between the actual return of the portfolio and the market portfolio return shows that out of 16 schemes only three schemes are able to provide schemes portfolio return higher than market portfolio return. This indicates that majority of the schemes are not performing well compared to market, but where competition is high as in the public sector, they are doing well. In short, high competition among the funds in general is not reflected in the performance of schemes. This may be due to the fact that the existence of differentiated products makes the schemes not competitive.

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