Performance Evolution of Unit Trust of India Mutual Funds

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Abstract

Mutual funds are the significant financial intermediary collecting funds mainly from small investors and investing them in financial market securities. Thus, the mutual funds industry offer several benefits to the investors like diversification, professional management, tax benefits, transparency, liquidity, flexibility, choice of schemes and low cost etc. The paper tries to find out the performance of mutual funds in public sector in respect of four parameters i.e. mobilization of funds, redemption/repurchase, cumulative net assets position and net inflow/outflow with the help of Trend Analysis, Growth Rate, Fixed-Base Index, Link-Relative Index, Coefficient of Correlation, 't' test and Coefficient of Determination. The study covers the period of twelve years i.e. from the year 1998-99 to 2009-10. The study based on the secondary data which has been collected from the fact books and published annual reports for the period of twelve years. The paper found that there is a good sound position in the public sector mutual funds with respect to mobilization of funds and redemption/repurchase during the study period. Further, the study indicates that there is a divergent trend is observed in respect of the cumulative net assets position and inflow/outflow of the funds. The paper also found that there is the high degree of relationship between the different-variables of mutual funds.

Keywords: Cumulative net assets position, Mobilization of funds, Public sector mutual funds, Redemption/ repurchase, and Net inflow/outflow.

1. INTRODUCTION

Mutual fund industry today is one of the most attractive investment avenues in India. Mutual fund is a good investment option for the medium and small investors who have the limited resources and do not have a professional knowledge about the stock market and other investment opportunities. Mutual funds are the significant financial intermediary collecting funds mainly from small investors and investing them in financial market securities. A mutual fund is an investment company or trust that pools the resources of thousands of its shareholders or unit holders and investment on behalf of these diversified securities and a cross section of companies to attain the objectives of the investors, which in turn achieve income or growth or both i.e. steady return or capital appreciation or both along with low risk. Thus, mutual funds offer several benefits to the investors like diversification, professional management, tax benefits, transparency, liquidity, flexibility, choice of schemes and low cost etc.

The basic purpose of the research is to analyze the performance of mutual funds in Indian mutual funds industry. There are sufficient methods, methodologies, test-applications to measure the performance of the industry to seek the performance's implication through the functioning of various mutual funds in the industry over a period of time. To measure the mutual funds the entire system has been primarily divided into five segments i.e. Private sector mutual funds, Unit Trust of India, Public sector mutual funds and Indian mutual funds industry as a whole. To know the growth patter of the whole mutual funds industry, the four fundamental variables viz. Mobilization of funds, Redemption/Repurchase of schemes, Cumulative net assets position and Net inflow/outflow have been taken for the analysis purpose. These variables are explained as:

1.1 MOBILISATION OF FUNDS

Mobilization of funds or resource mobilization is a major sociological, theory in the study of social movements which emerged in the 1970s. It stresses the ability of movement's members to 1) acquire resources and to 2) mobilize people towards accomplishing the movement's goals. In contrast to the traditional collective behaviour theory that views social movements as deviant and irrational, resource mobilization sees them as rational social institutions, created and populated by social actors with a goal of taking a political action.

1.2 REDENPTION/REPURCHASE OF FUNDS

Redemption is the act of buying something back, or paying a price to return something to your possession. Redemption is the English translation of the Greek word agorazo, meaning "to purchase in the marketplace." In ancient times, it often referred to the act of buying a slave. The Christian use of redemption means Jesus Christ, through his sacrificial death, purchased believers from the slavery of sin to set us free from that bondage.

Another Greek word relating to this term is exagorazo. Redemption always involves going from something to something else.Redemption allows an individual debtor (not a partnership or a corporation) to keep tangible, personal property intended primarily for personal, family, or household use. The debtor must pay the holder of a lien on the property the amount of the allowed secured claim on the property, which typically means the value of the property. Otherwise, in order to retain the property, the debtor would have to pay the entire amount of the secured creditor's debt, do a reaffirmation agreement and become legally obligated on the debt again. The property redeemed must be claimed as exempt or abandoned. With redemption, a debtor can often get liens released on personal household possessions for much less than the underlying debt on those secured possessions. Unless the creditor consents to periodic payments, redemption must generally be made in one lump sum payment to the creditor. Thus, redemptions are indicators or parameters of liquidity of the schemes.

1.3 CUMULATIVE NET ASSETS POSITION
Mutual funds issue the various schemes through which they collect the funds from investors and invest the same money in diversified and managed portfolio. This investment in various scripts becomes assets for the mutual funds. The net amount of these assets after deducting the relative liabilities cumulatively for all the schemes is called cumulative net assets position (CNAP). This is generally a stock item hence calculated on a particular date i.e., march 31st. Say if there are 5 schemes under UTI mutual fund then it's cumulative net assets will be calculated as ;
CNAP= $NAS_1 + NAS_2 + NAS_3 + NAS_4 + NAS_5$
Where; NAS is net assets of scheme, and the following numbers denotes the distinguished schemes.

1.4 NET INFLOW/OUTFLOW OF FUNDS
Net inflow/outflow of the mutual funds industry is the grand total of inflow/outflow of all primary segments, under the study. Gross inflow in a mutual fund is through selling the new schemes, in a particular accounting year. When liabilities (relevant expenditures and obligations) are deducted out of it along with the outflow of funds in the form of redemption or repurchase of any previous schemes then it may be termed as net inflow or outflow, as the case may be, for the particular previous year. Inflow or outflow is a measure of liquidity released by the mutual funds.

2. REWIV OF LITURATURE
Sahadevan and Thiripalraju (1997) analyzed the performance of private sector funds they compiled and analyzed the monthly average return and standard deviation of 10-selected private sector funds. The investigation reveals that in terms of the rate of return, 5 funds viz., Alliance 95, ICICI Power, Kothari Prima, Kothari Pioneer Blue Chip and Morgan Stanley Growth Fund out performed the market, during the period of comparison. The author also analyzed the average monthly return on 32 schemes of public sector mutual funds. Moreover, a comparison of the performance of 14 growth schemes of UTI was made with that of the BSE National Index. According to this analysis, seven schemes of UTI were judged as outperforming of the market. The analysis also shows that, by and large, performance of a fund is not closely associated with its size. **Jaya Dev (1998)** explained the state of Indian public sector mutual funds. The study covers the rate of return, risk investment policy regulation and pricing of mutual funds schemes. The main stress of the study was on in investing in mutual funds means the investor is expected to high risk. A strong regulating framework is advocated of mutual funds to protect the investor. **Gupta and Sehgal (1998)** tried to find out the investment performance of 80 schemes managed by 25 mutual funds, 15 in private sector and 10 in public sector for the time period of June 1992-96. The study has examined the performance in terms of funds diversification and consistency of performance. The study concluded that mutual fund industry's portfolio diversification has performed well. But it supported the consistency of performance. **Singh and Meera (2001)** presented a framework for conduction critical appraisal of mutual fund performance in the Indian context and reviewed the performance of Unit Trust of India, private and money market mutual funds. **Bodla and Sunita (2007)** examined the growth of Indian mutual funds industry in terms of increase in number of schemes and funds mobilized. The analysis has been carried across nature, type and sector of the schemes. The result shows that the total schemes have grown to above 1200 and the total purchases during 2006 crossed Rs. 3.5 lakh crores. The private sector funds and joint ventures have outperformed the public sector funds. **Parteek Motwani (2008)** examined the evolution of the Indian mutual fund industry and then progresses with the comparison of the current scenario of Indian mutual fund industry. It also encompasses certain economic conditions like the savings of the people in the initial phase and what it is today. And based on the savings how the changes thereon investment strategies in mutual fund industry are being analyzed for decision.

3. JUSTIFICATION OF THE STUDY
The growth of mutual funds in India has attracted the attention of Indian researchers, individuals and institutional

investors over the last couple of years. Mutual funds are the vehicles for mobilization and canalization of savings from individuals and house holds towards the capital markets. In other words, the concept of mutual funds was conceived to pool the resources of small and retail investors and deploy the same in the capital market through participation in equity and debt instruments. Therefore, mutual funds are significant financial intermediary collecting funds mainly from small investors and investing them in financial market securities. Resource mobilization means the movement of money or money–equals from the non / less productive section to the productive section. Redemption is the act of buying something back, or paying a price to return something to your possession. The net amount of these assets after deducting the relative liabilities cumulatively for all the schemes is called cumulative net assets position (CNAP). Gross inflow in a mutual fund is through selling the new schemes, in a particular accounting year. Inflow or outflow is a measure of liquidity released by the mutual funds.

An effort has been made in this study to examine the performance of mutual funds in the private sector in the form of four variables i.e. Mobilization of funds, Redemption/Repurchase of schemes, Cumulative net assets position and Net inflow/outflow with the help of Trend Analysis, Growth Rate, Fixed-Base Index, Link-Relative Index and Coefficient of Determination. The coefficient of correlation has also been used to examine the relationship between the different parameters of the mutual funds in private sector. The findings may help the small investors, households, institutional investors to find out the new ideas techniques or methods to make the investment strategies.

4. OBJECTIVES OF THE STUDY
The following are the main objectives of the study:
1. To study the concept of mutual fund in India.
2. To know the performance of Unit Trust of India mutual funds over a period of time with the help of different growth models and techniques.
3. To analysis the relationship between the different variables of mutual funds in Unit Trust of India with the help of coefficient of correlation.

5. RESEARCH METHODOLOGY
Unit Trust of India (UTI) has been selected for the purpose of this study. The UTI is a well known organization in the mutual fund industry which is playing a crucial role in the Indian economy. The data spread over a period of 12-years from 1998-99 to 2009-10 on four components of the UTI mutual funds i.e. mobilization of funds, redemption/repurchase, Cumulative Net Asset Position and Net Inflow/Outflow of funds constituted the basis of the study. The present study is based on secondary data for both the stages of stratification. The need of study is basically related with accuracy of data, for this purpose, secondary data from most reliable sources have been taken such as various related fact-books along with AMFI, SEBI published data, published annual reports, manuals and other office records. Among duplication or multiplication of some variables' variability SEBI published data have been given priority over all. For each component, analysis was carried out for estimation of trend by applying appropriate statistical techniques and the best trend suited for the type of data was selected to draw logical and scientific conclusions. The data was annual in nature and hence no seasonality was no traced out. To measure the trend the graphical method, least squares method and moving average method will be selected. To see the flow and type of movement XY charts were used for seeking the trends in mobilization of funds, redemption/repurchase, net inflow/out flow, cumulative net Assets position on a particular data for the public sector mutual funds. The trend and the original data have also been shown on the same graph paper. The Co-efficient of Determination (R^2) will be used to measure the efficiency/reliability of the regression model selected for the purpose of measuring trend. The growth rates were also measured. In order to measure the relationship between different components, Karl-Pearson's coefficient of correlation was calculated as per the standard formula. The significance of the correlation was tested by 't' test at 1 % and 5 % level of significance. In order to measure the relative changes in the time series data on different components Fixed-Base-Index and Link-Relatives-Indices were also calculated.

6. LIMITATION OF THE STUDY
The following are the main limitations of the study:
1. The study confined only Unit Trust of India mutual funds in India.
2. The study is covers only twelve years i.e. from 1998-99 to 2009-10.
3. The study is based only the secondary sources of information.
4. A symmetry problem of timing for getting equal times results of mutual funds was the main problem.

7. PROFILE OF THE UNIT TURST OF INDIA
UNIT TRUST OF INDIA (UTI), a pioneer organization in India for working as a mutual fund industry enjoyed

its monopoly in the sector till 1987 before allowance to public sector banks in the same industry. The UTI was established through an act for its own, in 1963 known as Unit Trust of India act 1963 with the help of Reserve Bank of India. It started doing operations in February 1964. Subsequently its ownership passed to government of India in 1976. After this Industrial and Development Bank of India (IDBI), Life Insurance Corporation of India (LIC), State Bank of India (SBI), General Insurance Corporation (GIC), Punjab National Bank (PNB) and Bank of Baroda (BOB) also became its shareholders. Initially it had a paid-up-capital of ₹ 5cr and it was the only unit trust or mutual fund in the public sector, allowed to operate. It was also accorded with a special tax-treatment as various deductions allowed to the investors, having their investments with the unit trust of India.

The main objective of setting up of this entity is mobilizing the funds from small-savers towards the financial system of India, in order to increase the number of investors in the financial system with providing faith-gaining facilities. Here, faith-gaining facilities are comparatively low size of amount to be invested, expertise-assistance in setting the portfolio, diversified portfolio and in many cases some assured income. Its one of great feature that might attract the public is liquidity provided with the facility of repurchase. Funds are being mobilized through launching the new units.

The UTI have been serving with a variety of services to the corporate sector as well as to the small but large investors. Since 1996 UTI Bank has been working as one of the UTI's main banker. Unit Scheme 1964 was the first and perpetual scheme transferable and repurchased by the UTI. Unit-Linked Insurance Plan (ULIP) 1971 was the scheme of 10-year and 15-year periods available for both life insurance and accident insurance. Some other important schemes have been Capital Gains Unit Scheme (CGUS), Children's Gift Growth Plan and various close-ended schemes. The UTI along with all its funds have total investible funds of about ₹ 60,000 crores at the end of March 2002 with more than 60 schemes, before its bifurcation.

8. ANALYSIS AND INTERPRETATION

The four variables viz. Mobilization of funds, Redemption/Repurchase of schemes, Cumulative net assets position and Net inflow/outflow have been analyzed with the help of Table 1, 2, 3, 4, 5, 6, and Graph 1.1, 1.2, 2.1, 2.2, 3.1, 3.2 and 4.1

8.1 MOBILIZATION OF FUNDS BY PUBLIC SECTOR MUTUAL FUNDS

As the public sector mutual funds comprise the unit trust of India and other public sector mutual funds, this sector is responsible for the major movements in the industry, as a whole. This section is also helpful to make a comparison between the public sector and private sector mutual funds. In this section the combined effect of mobilization of funds by UTI and other public sector mutual funds is discussed in the form of a time series spread over a period of 12 year from 1998-99 to 2009-10. The Table 1 gives the total mobilization of funds by public sector mutual funds.

Table 1 depicts the data on mobilization of funds by UTI spread over a period of 12 years from 1998-99 to 2009-10 was screened for its behaviour over the period of study. It is observed that there was a certain trough after 1999-2000 and it regained its growth after 2003-04 onwards. It is also seen that after 2007-08 there is a sharp increase in mobilization of funds. The original time-series data has shown a compound growth of the order of 53 % p.a. the compound growth model as suggested earlier has shown a good fit with a co-efficient of determination 83%. The original data and the trend-values are shown in Graph 1.1. The geometric mean is the most appropriate measure of central value for the present set of observations and which was calculated to be ₹ 46827.38 crore. The trend values in the form of log-transformation are also calculated and are shown in the column 3 of the Table 1.

The Table 1 also shows the fixed base and link-relative index numbers to compare the fluctuations in funds on 1998-99 as base and previous year base for the current year observation respectively. The study shows clearly that after registering small growth of 3.8 % during 1999-2000 sharp declines up to 2002-03. This decline may be due to the bifurcation of unit trust of India into specialized undertaking of UTI and UTI mutual fund. The real increase started during 2006-07 as a measure of tax-saving device chosen by tax-payers. Thereafter, the index has shown manifolds increase; this may be attributed to the fact that the domestic market was able to sustain the impact of global liquidity crunch while so called developed markets were suffering from its adversities. Further, the column 5 of the table shows that except 2000-01 and 2001-02 in all other years link-relative index has shown as increase compared to its previous year. It is interesting to know that during 2007-08 this increase is almost 2 ½ times approximately over its previous year of the study (2009-10) the funds have doubled. Although quantum wise the funds were comparatively low but more than three times (highest) growth was seen during 2003-04 compared to its previous year. The foregoing analysis suggests that the selected trend model is quite appropriate to draw logical conclusions. Since data is annual in nature no seasonal impact was studied, but some irregular fluctuations are also seen.

The Graph 1.2 shows the logarithmic trend and the log value of the observations as expected a straight line trend of the log is observed and is found to be quiet satisfactory.

8.2 REPURCHASE/REDEMPTION BY UTI MUTUAL FUNDS

Redemption/repurchase facilities the investors with liquidity, which backs-up the confidence of investors in capital market of the country. As public sector mutual funds contain a dominant market share in the industry, this sub-segment is the indication of consistency in commitments of schemes. The analysis of data on Repurchase/Redemption by the public sector mutual funds spread over a period of 12 years from 1998-99 to 2009-10 has been summarized in the Table 2.

Table 2 exhibits the data on redemption/repurchase in the form of time-series from 1998-99 to 2009-10. A glimpse of the table suggests that there is a fast growth in the redemption/repurchase starting from about ₹ 16000 crores in 1998-99 to ₹ 86000 crores in 2009-10. It is observed that the growth is very fast during 2007-08 onwards, but however a small decline was also seen in 1999-2000 and 2001-02, compared to their respective previous years. The growth in the form of a trend was analyzed with the help of an exponential growth model as discussed earlier, in research methodology because this model was found appropriate as seen in Graph 2.1. This phenomena was further confirmed by the co-efficient of determination (R^2) and the value of R^2 was significantly high i.e., 90.25%. It means that the model selected for the trend analysis is quiet appropriate to estimate the trend values (col. 3) and also for further projections. The original set of observations on redemption/repurchase along with trend-values is shown in Graph 2.1. Both the curves are showing quiet closeness and the residuals are very small in nature. It is further clarified that the growth curve-model was fitted with the help of method of least squares. Further, it is pointed out that the compound growth-rate in redemption/repurchase is of the order of 51.6 % p.a. and since growth is compound the geometric mean is calculated and is found to be ₹52582.72cr.

Table 2 also gives the fixed-base and chain-base index numbers in column 3 and 4 respectively. It is interesting to note that fixed base index {1998-99 as base (100)} has shown decline up to 2001 to 2002 and the index is as high as 5437 during 2009-10 as mentioned earlier. During 2007-08 there is sharp increase in the redemption/repurchase and continue thereafter. On the other hand, during 2002-03 to 2005-06 the growth is quite marginal. Further, the chain-base indices suggest that the rate of change was highest during 2007-08 (248.5) and decline is seen during 1999-2000 and 2001-02 over their respective previous years. Almost two-fold increment is being seen in 2004-05 and 2009-10 over their respective periods. The foregoing analysis suggests that there is a sharp growth in the redemption/repurchase over a period of 12-years and a quiet satisfactory trend in the form of a compound growth model is confirmed. The model can be gainfully used for the purpose of forecasting. The trend in the form of the log which is expected to be linear is shown in Graph 2.2 along with the original log values of redemption/repurchase. This is also found to be a good fit.

8.3 CUMULATIVE NET ASSETS POSITION IN UTI MUTUAL FUNDS

Cumulative net assets position shows the magnitude of assets under all schemes with the mutual fund. Cumulative net assets position in public sector mutual funds spread over 12 year from 1999 to 2010 is given in the Table 3.

A perusal of the Table 3 shows that there is no definite trend in the net asset position. Frequent peaks and troughs are observed in the data spread over a period of 12-years. Although neither straight line nor compound growth model is visible in the Graph 3.1, a compound growth model is tried with it. The original data and the trend are also depicted in this graph. Instead of growth decay was observed in the time series data and the net-assets declined at the rate of 2.64 % compounded annually. This decline has been observed as an overall. However, by splitting the period of the study into two parts, it is interesting to note that there is decline of the order of 22.4 % up to 2004 and there is a sharp increase in the cumulative net assets position thereafter @ 26.3% up to 2010. This gives the real pattern in the time series data on CNAP. The logarithmic trend is also calculated and is showed in Graph 3.2. The geometric mean is of the order of 4 ₹1687 crore. A glimpse of the original data shows that there is sharp decline up to 2004 and a slight increase thereafter, giving a parabolic type of behaviour of the data. As referred above a parabolic trend may be expected to the data and, hence a second degree parabola of the form: $Y = A+Bx+Cx^2$ is tried and it is found to be comparatively better than a compound growth model with a coefficient of determination of 63 %. The values, calculated with the help of parabolic function are shown in column 4 of Table 3.

To explain further the above phenomena the fixed-base and link-relative index number generated through the data are shown in Table 3, which suggests that with 1998-99 as base (100) the index reached to as low as 38.79 % during 2003-04 and thereafter reached up to 125.04 by the end of 2010. On the other hand, the link-relative index numbers have a rise of 7.6 % during 2010 over its previous year followed by about 42% in 2006 and 36 % at the end of 2000. It is also seen that for 2001-02, 2002-03, 2003-04 and 2009-10 the index was well below a 100. It clearly shows the divergent behaviour of the time-series. The original trend and the quadratic trend values are shown in Graph 3.2. It is concluded that quadratic trend is most suitable for the data on cumulative net assets position in Unit Trust of India.

8.4 NET INFLOW/OUTFLOW IN UTI MUTUAL FUNDS

Net inflows or outflows of the funds indicate the performance of their business and also the statute of investors in this industry. So, it becomes necessary to take this sub-segment into consideration for various analyses relating to the objectives of research. The inflow/outflow with regard to public sector mutual funds is presented in the Table 4 in the form of a time-series with a period of 1998-99 to 2009-10.

The Table 4 gives an analysis of total net-inflow/outflow of funds by UTI during a span of 12 years from 1998-99 to 2009-10. The analysis revealed that net inflow in respect of UTI is highest during 2009-10 followed by the year 2007-08 and 2006-07 respectively and it is positive in nature during these years. It is as low as ₹ 9434.1 crore during 2002-03 and for remaining period it is fluctuating with a large magnitude. It is further observed that decline is very steep for some of the years and no definite trend is seen. It is further evident in Graph 4.1 also. Since the number of observations in the time-series data is negative, the fixed-base and link-relatives index numbers cannot be compared easily. The trend is quite divergent in nature. The mathematical linear or compounded growth is not found to be satisfactory and here the most appropriate method is the moving-average method employed to study the behaviour of the time-series data on net inflow/outflow of UTI during the study period. The trend calculated with three-year-moving average and original data is also depicted in Graph 4.The negative observations are made positive with the transformation on $Y_T = Y_t + 9500$ and the resultant 3-years moving average is given in column 3 of the table. The original time series data along with moving average trend is shown in Graph 4. The trend for transformed set of data shows a good fit and can be interpreted in a most suitable manner. The original net inflow/outflow ranged from ₹ -9434.1crore to ₹ 15653 crores and a large variation is seen. The analysis suggested that from 2005-06 to 2007-08, there is considerable steady growth and for whole of the period no definite trend is seen. Negative observations refer to annually, the outflow as redemption or other wise. It indicates that during 1998-99, 2001-02.2002-03, 2004-05 and 2008-09, the outflow due to redemptions in showing quite a significant impact on the overall inflow of business to the UTI. Average inflow found to be ₹ 8374.05 crore where as average outflow is ₹ 5167.32 crore and there by an excess of ₹ 3206.68 crore inflow is giving an edge over outflow. Overall calculation position can be said to be quite under control and UTI cannot be said to be under loss.

8.5 CORRELATION ANALYSIS

In order to study the relationship between various variables of the primary segment correlation analysis is carried out and the correlation matrix so obtained is being discussed here. The simple Karl Pearson's linear co-efficient of correlation (r) are calculated as per the formula given in the methodology. The significance of correlation coefficient is being tested by small sample t-test. The upper-half correlation matrix for the different variables in respect of unit trust of India is given in Table 6. It is noted that there is a highly significant correlation between mobilization of funds and redemption/repurchase (p<.01). On the other hand, mobilization of funds has no correlation with cumulative net assets position (CNAP) clearly indicating independence of the two variables. However, mobilization of funds in Unit Trust of India has shown a good relationship with net inflow/outflow with a coefficient of correlation of .66(p<.01). The analysis further suggested that redemption/repurchase in UTI is independent of cumulative net assets position (CNAP) statistically. It is also noted that the net inflow/outflow is having a good correlation with redemption/repurchase but no correlation with cumulative net assets position (CNAP).

9. CONCLUSIONS AND SUGGESSIONS

On the basis of the analysis of the data on various mutual fund parameters, the following conclusions and suggestions can be made:

1. The growth pattern in mobilization of funds has a trough after 1999-2000 and regained its growth after 2003-04 onwards and having an overall compound growth of the order of 53 % p.a. the compound growth model is having a good fit with 83 % coefficient of determination (R^2). Further, the fixed base index has also shown a very high rate of change. On the other hand, the link relatives suggested a decline during 200101 and 2001-02 with a 3-fold increase in 2003-04 with respect to their previous years as base.

2. The analyses of data on redemption/repurchase in the form of time series, has suggested a fast growth during 2007-08 onwards, whereas small decline is also seen 1999-2000 and 2001-2002. The compound growth model is found to be most appropriate with a significantly high coefficient of determination (R^2) of the order of 90.25 % and can be taken as quite appropriate to estimate the trend values and future forecasting. The compound growth is estimated to be 51.6 % p.a. with a geometric mean of ₹ 52582.72cr.

3. The cumulative net assets declined at the rate of 2.64 % compounded annually, having no definite trend over the period. The study period if splitted in to two parts, have shown a decline of 22.4 % p.a. up to 2004 and a sharp increase thereafter at the rate 26.3 % p.a. compounded annually. Further, the study

shows that the trend is almost of parabolic nature, hence a second degree parabolic trend is found to be most appropriate with coefficient UTI of correlation 63 %.

4. The net inflow/outflow in respect of Unit Trust of India is highest in the year 2009-10 followed by 2007-08 and 2009-10 respectively and is positive in nature during these years. The decline is very sharp for some of years and no definite trend is seen. The trend is found to be quite divergent in nature. The analysis through three-years-moving average suggests that from 2005-06 to 2007-08 there is considerable and steady growth and for whole of the period no definite trend is seen during a span of 12 years. Average inflow found to be ₹ 8374cr whereas average inflow found to be ₹ 5167.32cr, thereby an excess of ₹ 3206cr inflow is giving an edge over outflows, the overall position can be said to be not under loss for Unit Trust of India in this regard.

5. The study also concludes that there is a highly significant correlation between mobilization of funds and redemption/repurchase (p<.01). On the other hand, mobilization of funds has no correlation with cumulative net assets position clearly indicating independence of the two variables. However, mobilization of funds in Unit Trust of India has shown a good relationship with net inflow/outflow with a coefficient of correlation of .66(p<.01). It is also noted that the net inflow/outflow is having a good correlation with redemption/repurchase but no correlation with cumulative net assets position.

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Table 1: Mobilization of funds by UTI mutual funds

YEARS	MFPV(₹CR)	TREND	FBI	LRI	LOGO	LOGT
1998-99	13192.89	4217.65	100	100	4.12	3.63
1999-00	13698.44	6533.14	104	104	4.14	3.82
2000-01	12413	10119.83	94	91	4.09	4.01
2001-02	4643	15675.62	35	37	3.67	4.20
2002-03	7095.82	24281.53	54	153	3.85	4.39
2003-04	23992.4	37612.09	182	338	4.38	4.58
2004-05	46656.08	58261.12	354	194	4.67	4.77
2005-06	73127.42	90246.48	554	157	4.86	4.96
2006-07	142279.68	139791.80	1078	195	5.15	5.15
2007-08	346125.75	216537.50	2624	243	5.54	5.34
2008-09	423131.13	335416.58	3207	122	5.63	5.53
2009-10	881851.12	519560.28	6684	208	5.95	5.72
GROWTH RATE	53%					
COEFF.OF DET.	83 %					
G.MEAN	46827.38					

Source: Compiled from the Annual Reports

GRAPH-1.1
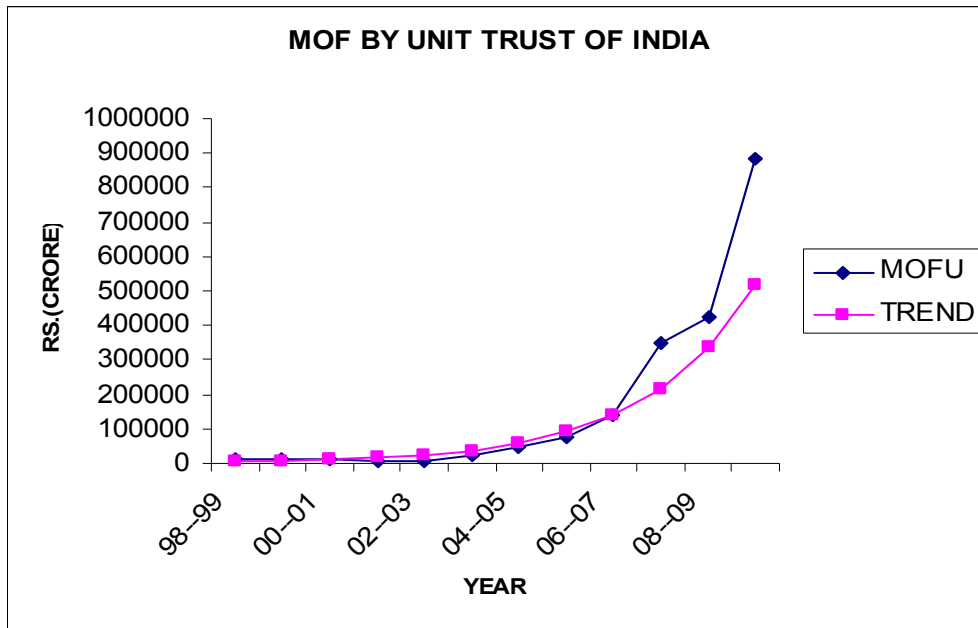
GRAPH-1.2
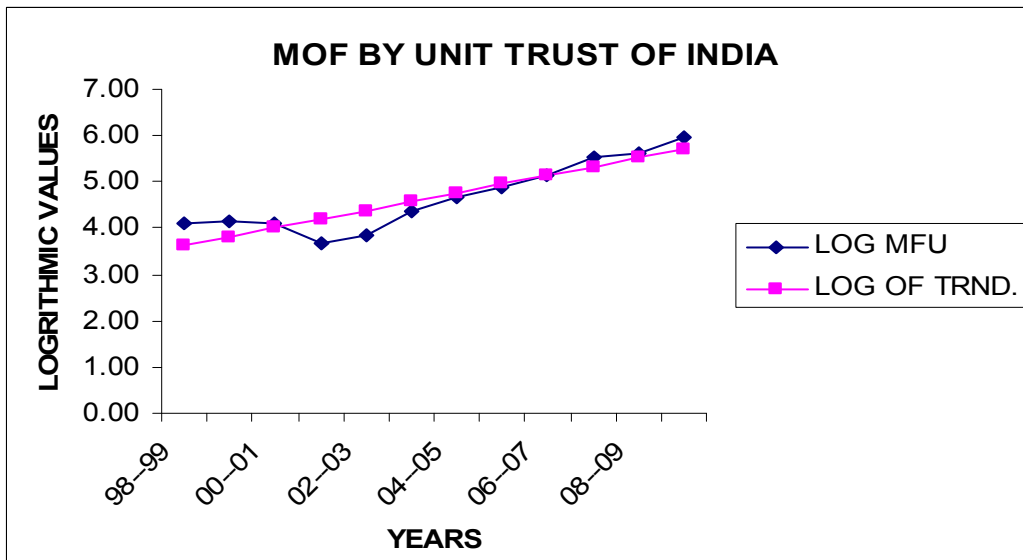
Table 2: Redemption/repurchase by UTI mutual funds

YEARS	R/RPV(₹CR)	TREND	FBI	CBI	LOGO	LOGT
1998--99	15930.42	5328.09	100.00	100.00	4.20	3.73
1999--00	9150.12	8077.38	57.44	57.44	3.96	3.91
2000--01	12090.00	12245.30	75.89	132.13	4.08	4.09
2001--02	11927.00	18563.88	74.87	98.65	4.08	4.27
2002--03	16529.92	28142.84	103.76	138.59	4.22	4.45
2003--04	22325.48	42664.55	140.14	135.06	4.35	4.63
2004--05	49378.37	64679.46	309.96	221.17	4.69	4.81
2005--06	69703.61	98054.06	437.55	141.16	4.84	4.99
2006--07	134953.53	148649.95	847.14	193.61	5.13	5.17
2007--08	335448.42	225353.32	2105.71	248.57	5.53	5.35
2008--09	426789.83	341635.64	2679.09	127.23	5.63	5.53
2009--10	866198.30	517919.62	5437.39	202.96	5.94	5.71
GROWTH RATE(b)	51.6 %					
COEFF.OF DET.	90.25 %					
G.MEAN	52582.72					

Source: Compiled from the Annual Reports

GRAPH 2.1
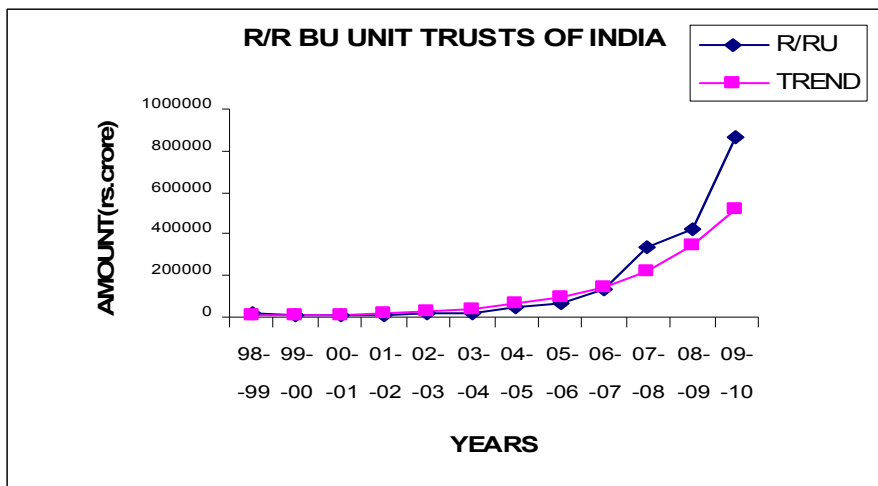
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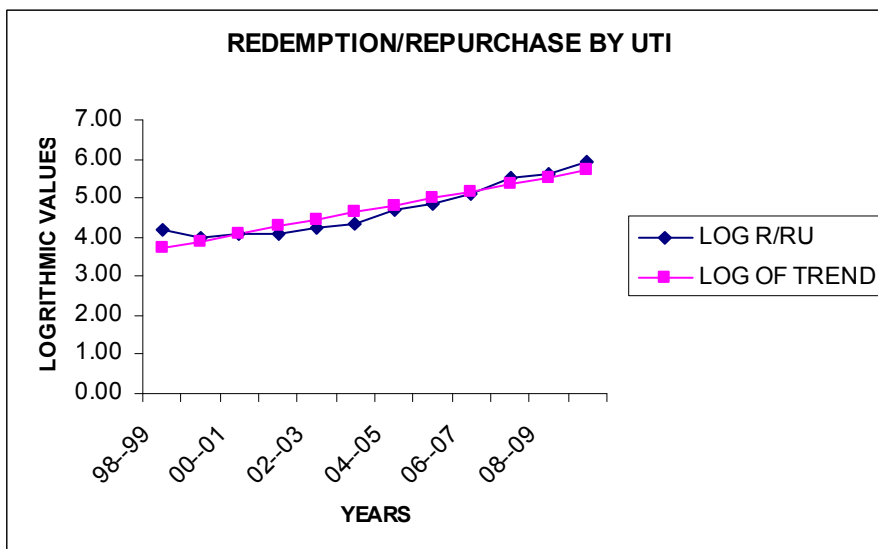
Table 3: Cumulative net assets position in UTI mutual funds

YEARS	CNAPU	LINEAR-TREND	PARABOLIC-TREND	FBI	CBI	LOGC	LOGT	LOGHT
1998-99	53145.27	48248.87	122120.00	100.00	100.00	4.73	4.68	5.09
1999-00	72333.43	46994.40	87100.00	136.1	136.10	4.86	4.67	4.94
2000-01	58016.72	45772.55	58360.00	109.17	80.21	4.76	4.66	4.77
2001-02	51433.61	44582.46	35393.00	96.78	74.72	4.71	4.65	5.55
2002-03	43350.84	43423.32	19780.00	81.57	84.28	4.64	4.64	4.30
2003-04	20616.96	42294.31	9930.00	38.79	47.56	4.31	4.63	4.00
2004-05	20739.57	41194.66	6340.00	39.02	100.59	4.32	4.61	3.80
2005-06	29519.09	40123.60	9040.00	55.54	142.33	4.47	4.60	3.96
2006-07	35488.26	39080.38	18020.00	66.78	120.22	4.55	4.59	4.26
2007-08	48407.86	38064.29	33240.00	91.09	136.40	4.68	4.58	4.52
2008-09	37801.01	37074.62	54770.00	71.13	78.09	4.58	4.57	4.74
2009-10	66451.28	36110.68	82600..00	125.04	175.79	4.82	4.56	4.92
GROWTH RATE(b)	2.64 %	- 22.4%(2004)	26.3%(BEYOND 2004)					
COEFF. OF DET.	63 %							
G.MEAN	41628.87							

Source: Compiled from the Annual Reports

GRAPH-3.1
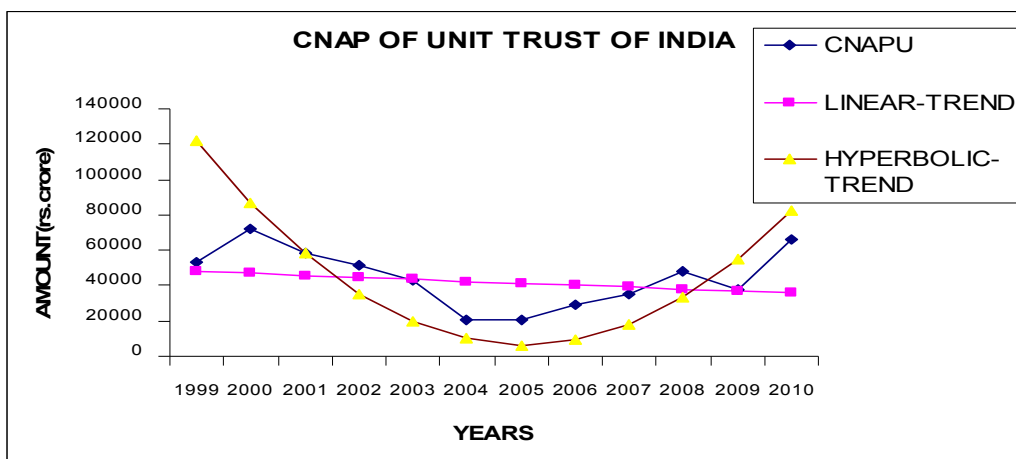
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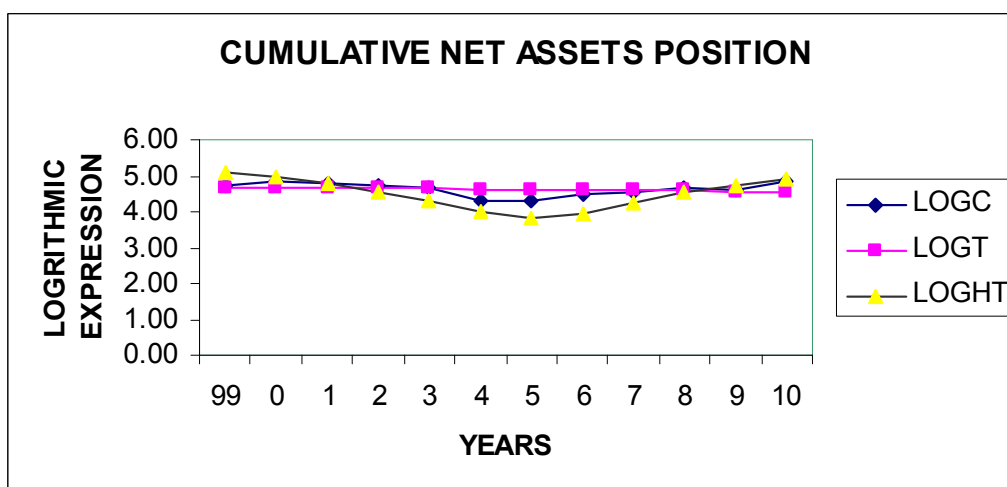
Table 4: Net inflow/outflow in UTI mutual funds

YEARS	NI/NOPV	MOVING AVERAGE
1998--99	-2737.53	
1999--00	4548.32	711.26
2000--01	323.00	-804.23
2001--02	-7284.00	-5465.03
2002--03	-9434.10	-5017.06
2003--04	1666.92	-3496.49
2004--05	-2722.29	789.48
2005--06	3423.82	2675.89
2006--07	7326.15	7142.43
2007--08	10677.33	4781.60
2008--09	-3658.69	7557.15
2009--10	15652.81	

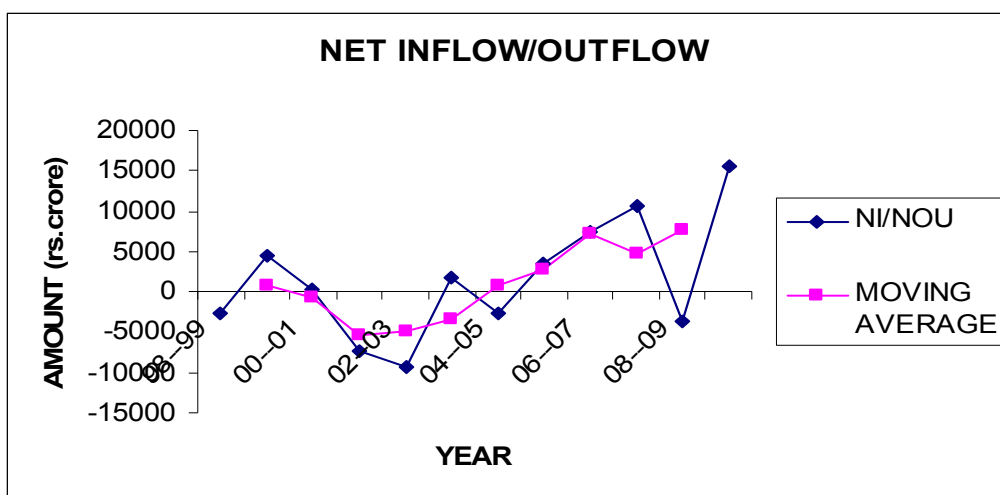**Source: Compiled from the Annual Reports**

GRAPH: 4.1

TABLE 5: FITTING OF TRENDS FOR VARIOUS VARIABLES OF UTI MUTUALFUNDS

SUB-SEGMENTS	Semi-log/parabolic/moving average trends	Growth curve	R^2
MFU	LOGY= 3.44+.19x	Y=2723(1.53)x	83 %
R/RU	LOG Y= 3.55+.18x	Y=3515(1.52)x	90 %
CNAPU	$Y=A+BX+CX^2$ $Y=45+1.2X+2.3X^2$	-	63 %
NI/NOU	MOVING AVERAGE	-	N.A

TABLE 6: CORRELATION MATRIXES FOR THE VARIOUSVARIABLES OF UTI MUTUAL FUNDS

PRIMARY SEGMENTS	MUF	R/RU	CNAPU	NI/NOU
MOF	1.0	.99** t = 22.19	.29[NS] t = 0.96	.66* t = 2.78
R/RU		1.00	.28[NS] t = 0.95	.64* t = 2.64
CNAPU			1.00	.28[NS] t = 0.95
NI/NOU				1.00

**=Significant at 1%   * = Significant at 5%

NS=non-significant

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