

MUTUAL FUND INVESTMENT IN INDIA: A STUDY OF LINEAR RELATIONSHIP WITH SENSEX

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Mutual Fund Industry is fast growing sector in the Indian financial markets. It has become major vehicle for channelizing the savings of small and medium household savers for investment in the capital market. Investors are generally risk averse i.e. they dislike risk and if they bear so then they expect risk premium in addition to the risk free rate. Mutual fund (MF) is an effective tool which helps the investors to invest their fund with the expectation of more return and less risk. Mutual fund is a kind of portfolio which comprises of diversified securities and help in reducing the diversified risk. The pool of money is further invested in the capital market which in turn specifies the expected return on the portfolio. The objective of this paper is to find out the amount of dependency of Mutual Fund Investment (MF Investment) on Sensex. The sample period for the study spans from financial year 2000-01 to 2012-13. The study found that Sensex is significant predictor of MF Investment.

Key words: MF Investment, Sensex, Indian Capital Market and Linear Regression Analysis

INTRODUCTION

MF Industry is fast growing sector in the Indian financial markets. It has become major vehicle for channelizing the savings of small and medium household savers for investment in the capital market (Raju&Rao, 2009). The concept of MF was introduced in India with the establishment of Unit Trust of India in the year 1963. UTI continued to be the sole Mutual Fund till the year 1987, and then later some public sector banks and Life Insurance and General Insurance Corporation of India set up MF. After the New Industrial Policy, 1991 the private players were allowed to open shops in the country and

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today 32 MFs collectively manage Rs 6713575.19 crore under hundreds of schemes. The history of MFs in India can be broadly divided into four distinct phases:

First Phase – 1964-87

Unit Trust of India (UTI) was established on 1963 by an Act of Parliament. It was set up by the Reserve Bank of India and functioned under the Regulatory and administrative control of the Reserve Bank of India. In 1978 UTI was de-linked from the RBI and the Industrial Development Bank of India (IDBI) took over the regulatory and administrative control in place of RBI. The first scheme launched by UTI was Unit Scheme 1964. At the end of 1988 UTI had Rs.6,700 crores of assets under management.

Second Phase – 1987-1993 (Entry of Public Sector Funds)

1987 marked the entry of non - UTI, public sector mutual funds set up by public sector banks and Life Insurance Corporation of India (LIC) and General Insurance Corporation of India (GIC). SBI Mutual Fund was the first non - UTI MF established in June 1987 followed by Canbank MF (Dec 87), Punjab National Bank MF(Aug 89), Indian Bank MF(Nov 89), Bank of India (Jun 90), Bank of Baroda MF(Oct 92). LIC established its MF in June 1989 while GIC had set up its MF in December 1990. At the end of 1993, the MF industry had assets under management of Rs. 47,004 crores.

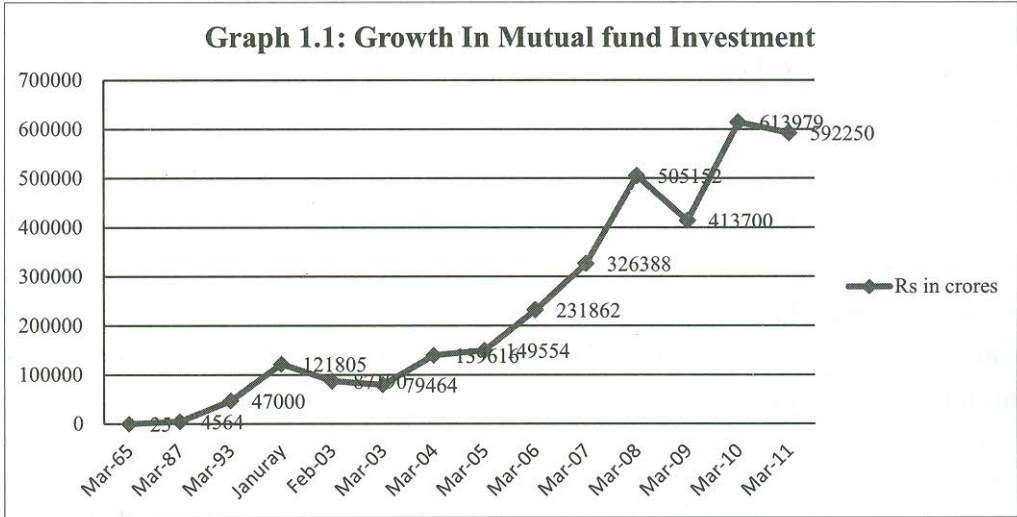
Third Phase – 1993-2003 (Entry of Private Sector Funds)

With the entry of private sector funds in 1993, a new era started in the Indian MF industry, giving the Indian investors a wider choice of fund families. Also, 1993 was the year in which the first MF Regulations came into being, under which all mutual funds, except UTI were to be registered and governed. The 1993 SEBI (Mutual Fund) Regulations were substituted by a more comprehensive and revised Mutual Fund Regulations in 1996. The industry now functions under the SEBI (Mutual Fund) Regulations 1996.

Fourth Phase – since February 2003

In February 2003, following the repeal of the Unit Trust of India Act 1963 UTI was bifurcated into two separate entities. One is the Specified Undertaking of the Unit Trust of India with assets under management of Rs.29,835crores as at the end of January 2003 and second is the UTI Mutual Fund, sponsored by SBI, PNB, BOB and LIC.¹(History of Mutual fund in India, 2013)

The graph 1.1 indicates the growth of assets over the years.



Source: www.amfiindia.com

Securities and Exchange Board of India (Mutual Fund Regulation) 1996, Chapter-I, Section-2 (q) defines MFAs “a fund established in the form of a trust to raise monies 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 or gold or gold related instruments or real estate assets.”

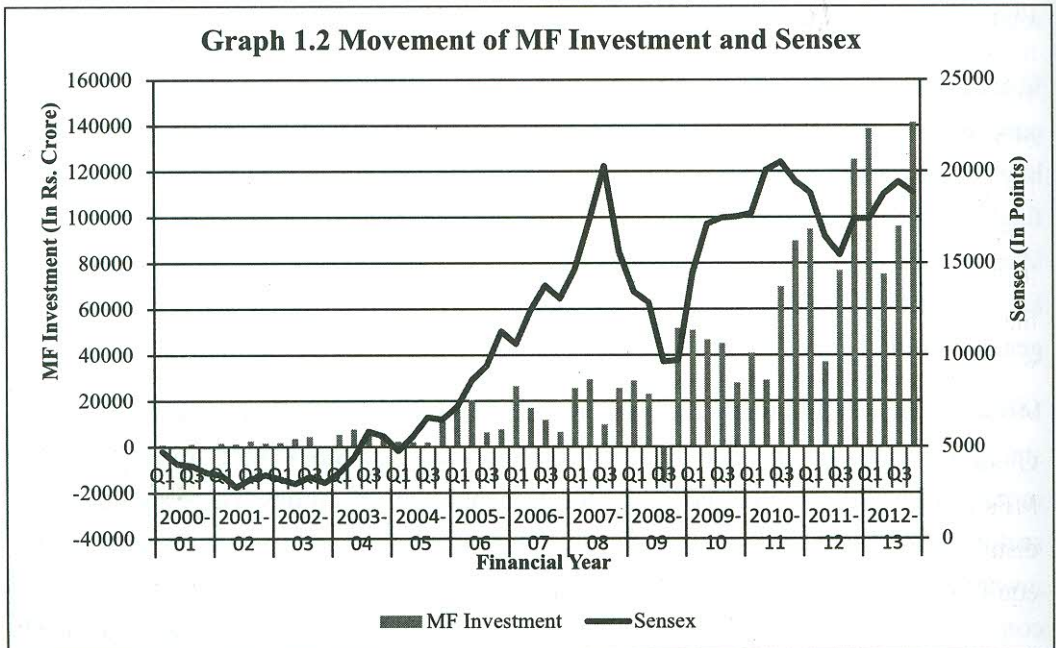
In other words, MFis an investment vehicle that pools together funds from investor to purchase stocks, bonds or other securities. An investor can participate in the MFby buying the units of the fund. Each unit is backed by a diversified pool of assets, where the funds have been invested. The gain or loss made by the MFis passed on to the investors after deducting the administrative expenses and investment management fees. The gains are distributed to the unit holder in the form of dividend or reinvested by the fund to generate further gains.(Pandian, 2013)

MFcan be invested in many different kinds of securities. The most common are cash, stock, and bonds, but there are hundreds of sub-categories. Stock funds invest primarily in the shares of a particular industry, such as technology or utilities. These are known as sector funds. Bond funds can vary according to risk (e.g., high-yield or junk bonds, investment-grade corporate bonds), type of issuers (e.g., government agencies, corporations, or municipalities), or maturity of the bonds (short- or long-term). Both stock and bond funds can invest in primarily U.S. securities (domestic funds), both U.S.

and foreign securities (global funds), or primarily foreign securities (international funds). Most MFs' investment portfolios are continually adjusted under the supervision of a professional manager, who forecasts the future performance of investments appropriate for the fund and chooses those which he or she believes will most closely match the fund's stated investment objective. (Singh, 2012)

From the data collected from the MFs, the following has been observed that the deployment of funds by all MFs Rs 187,257.84 crores in May 2013. As on March 31, 2010 there are a total number of 4.77 crores investors accounts (it is likely that there may be more than one folio of an investor which might have been counted more than once and actual number of investors would be less) holding units of Rs. 616,966.72 crores. Out of this total number of investors accounts, 4.63 crores are individual investors accounts, accounting for 97.07% of the total number of investors accounts and contribute Rs. 2,45,390.28 crores which is 39.77% of the total net assets. However, the private sector mutual funds manage 77.97% of the net assets whereas the public sector sponsored MF own only 22.03% of the assets. (SEBI, 2013)

The movement of Indian capital market depends upon various macro and micro economic factors. MFs one of the important micro economic factor which affect the movement of Indian Capital Market.



Source: Constructed through the data compiled from www.sebi.gov.in www.bseindia.com

Thus, the objective of this study is to find out the amount of relationship between MF and Sensex. In other word, this is emphasized upon the dependency of MF Investment on Sensex.

The reminder of this paper progresses as follow. Section 2 reviews the past literature and describes the research issues. Section 3 deals with the Database and Methodology to be used in this study along with the testing of hypothesis and interpretation of result in Section 4. The study concluded with the Section 5 which describes the discussion and finding of the study.

REVIEW OF LITERATURE

Singh and Jha (2009) conducted a study on awareness & acceptability of mutual funds and found that consumers basically prefer mutual fund due to return potential, liquidity and safety and they were not totally aware about the systematic investment plan. The invertors' will also consider various factors before investing in mutual fund.

Ramamurthy and Reddy (2005) conducted a study to analyze recent trends in the mutual fund industry and draw a conclusion that the main benefits for small investors' due to efficient management, diversification of investment, easy administration, nice return potential, liquidity, transparency, flexibility, affordability, wide range of choices and a proper regulation governed by SEBI. The study also analyzed about recent trends in mutual fund industry like various exit and entry policies of mutual fund companies, various schemes related to real estate, commodity, bullion and precious metals, entering of banking sector in mutual fund, buying and selling of mutual funds through online.

Devasenathipathi (2011) investigated the performance of public-sector and private-sector MFs for the period of 2005 to 2007 for selected funds of LIC (Public sector) and Reliance (Private sector) were chosen for the purpose of analysis. The study revealed that performance of all the funds seemed to be volatile during the study period; as such it was quite difficult to earmark one particular fund that out performed consistently. (Singh, 2012)

Glode (2011) propose a model that focuses performance of actively managed equity MFs and found that a fund manager can generate state-dependent active returns at a disutility. Negative expected performance and MF investing simultaneously arise in equilibrium.

Arora, H. (2012) investigated top 5 equity diversified open ended MFs and compared

with BSE Sensex (reference). Findings revealed that there is insignificant difference between MFs return and Sensex. Though these equity diversified MFs are said to be active managed portfolios, but they are failed to outperform the market instead of their active management by experienced fund managers.

Noulas et.al (2005) evaluated the performance of Greek equity funds for the period of 1997-2000. The evaluation was based on the risk and return associated with fund. The risk is measured with help of coefficient of variation and the systematic risk. Positive relation between risk and return for the whole period were seen, while the betas for all funds were smaller than one.

Jayadev (1996) evaluated the performance of two growth oriented MFs (Mastergain and Magnum Express) on the basis of monthly returns compared to benchmark returns. For this purpose, risk adjusted performance measures suggested by Jensen, Treynor and Sharpe are employed. It was concluded that, the two growth oriented funds have not performed better in terms of total risk and the funds are not offering advantages of diversification and professionalism to the investors.

DATA AND METHODOLOGY

Selection of Sample and Sources of Data

The sample period for the study spans from financial year 2000-01 to 2012-13. The data of MF Investment has collected from the report of SEBI whereas the Sensex data have collected from the archives of the BSE. MF Investment consists of MF Net Investment which is the difference between MF Gross Purchase and MF Gross Sale. Sensex consist of 30 component stocks representing large, well-established and financially sound blue chip companies across the key sectors.

Hypothesis

H_0 : Sensex is not significant predictor of MF Investment.

H_1 : Sensex is significant predictor of MF Investment.

The Sensex is regressed on MF Investment as below:

$$MFNI_t = C + bSNX + e$$

Where,

MFNI_t = MF Investment in given time period t.

C = Coefficient

$SNX = \text{Sensex}$

$e = \text{Error term}$

Linear Regression Analysis

Regression analysis indicates the mathematical measure of average relationship between dependent and independent variables. In case of linear regression analysis, variables are plotted on the graph paper and scatter diagram or dot diagram is obtained to show the lines of best fit. These lines are the important indicators of the changes in dependent variable in response to a given change in Independent variable(s). Thus, in order to analyze whether the independent variable (Sensex) have significant influence over dependent variable (MF Investment) or not, this analysis have used by us in this study.

INTERPRETATION OF THE RESULT

The one independent variable MF Investment and one dependent variable (Sensex) have entered into SPSS spread sheet.

The correlation coefficients in table 1.2 offer bivariate relationship among the variables. As per the result, the predictor variable (Sensex) is positively correlated with criterion (MFs Net Investment) variable. There is high degree of positively relationship between these two variables (.713).

Further table 1.1 shows the value of standard deviation (σ) or risk to be involved in the criterion and predictor variables, which is 37634.50462 and 6196.08767 for MF Investment and Sensex respectively. This indicates that risk is high in case of MF Investment as compared to Sensex.

Model Summary table 1.3 has given the value R-Square which indicates the correlation coefficient and degree of association between dependent (MF Investment) and independent variable (Sensex). Higher the value of R-square higher will be the explanatory power of the model (Hair, 2010). R square is .509 which indicates that 50.9% of the variance in MF Investment can be predicted through Sensex. The adjusted R square should ideally be equal or close to the value of R square. In the particular table the value of adjusted R square is .499 which is close to the value of R square, indicates the fitness of the model.

The ANOVA table 1.4 indicates that whether the predictor variable significantly predicts the dependent variable or not. The value of $F=51.792$ at $P<0.001$ indicates about the acceptability of model at the higher significance level.

Table 1.1 Descriptive Statistics

	Mean	Standard Deviation	N
MF Investment	2.9508E4	37634.50462	52
Sensex	1.0999E4	6196.08767	52

Table 1.2 Correlation Matrix

	MF Investment	Sensex
MF Investment	1.000	
Sensex	.713*	1.000
Note: *p<.001		

Table 1.3 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	.713	.509	.499	26638.76567
Note: Predictor: (Constant) Sensex				

Table 1.4 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	3.675E10	1	3.675E10	51.792	.000
Residual	3.548E10	50	7.096E8		
Total	7.223E10	51			
Note: Predictor (Constant) Sensex Dependent Variable, MF Investment					

Table 1.5 Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-18147.682	7582.643		-2.393	.020
Sensex	4.333	.602	.713	7.197	.000

Note: Dependent Variable, MF Investment

Beta coefficient reflects the change in the dependent measure for each unit change in the independent variable (Hair, 2010). Thus it can be used to compare the relative strength of various predictors within the model. Larger will be the beta coefficient and t, smaller will be the significance level. As per the table 1.5, Sensex (Beta=.713, $p < .001$) ($t=7.197$) has largest beta coefficient and t value.

On the basis of above results we can conclude that our null hypothesis has been rejected, and alternate hypothesis has been accepted as Sensex is found to be significant predictor of MF Investment.

FINDINGS AND CONCLUSIONS

MFs are the investment vehicle of choice for many investors. This provides growing investment opportunity to the investors in Indian capital market. In this regard this paper has analyzed the relationship between Sensex and MF Investment in Indian Capital Market. In order to analyze this relationship regression analysis has been used. The study concluded that Sensex is a significant predictor of MF Investment. It influenced the decision of the investors to make an investment in MF. Thus our hypothesis has been accepted.

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