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A STUDY ON RELATIONSHIP BETWEEN STOCK MARKET RETURNS & MUTUAL FUND FLOWS

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Abstract *Stock market returns and the capital flow of funds in the mutual funds have been universally understood to be interlinked. The prevailing more and more contribution of the mutual funds in the stock market, on the one hand, and the profound impact of rising stock market returns on getting higher investments in mutual funds, on the other, have undoubtedly made the relationship between share market and mutual fund flows to be of prime significance for the key participants and other stakeholders of both the markets. In this published research paper, the academic researcher attempts assessing the prominent presence of any association between the stock market returns and mutual fund assets under management in India by employing the multiple regression analysis. It has been reasonably concluded that there is no significant evidence of the presence of any such relationships in Indian markets during the period of study.*

Keywords: *Mutual Fund, Regression, Relationship, Stock-Market*

INTRODUCTION

The economic activity in mutual funds has been gradually increasing all over the world in the recent past. In India, mutual fund assets under management (AUMs) are also growing rapidly during these times. The phenomenal growth in the number of funds and schemes, a marked increase in the number of fund folios, and a historic rise in the volume of trades by the fund managers unanimously confirm the upsurge of the mutual fund industry in India. But, the investments in this private investment vehicle are still believed to be dependent on the past performance of the funds and current movements in the stock market. The investments into mutual funds have usually been observed to be strongly interrelated with the returns in the share market. It is positively asserted that any 'bull phase' in the stock market will lead to an increase in AUMs of the mutual funds and any 'bear phase' in the share market will correspond to fall in AUMs in the mutual fund industry. Moreover, the relationship between stock market returns and mutual fund flows is of high importance to all the stakeholders, including the investors, asset management companies and the researchers. Therefore, it is imperative to examine the association between the share market returns and the flow of investments in the mutual funds to explore whether the stock market returns influence the flow of funds in the mutual funds in the emerging market economy of India.

There have been divergent and mixed outcomes of the several studies in this area as some of the past studies have confirmed the presence of the relationship, whereas some other researchers have concluded the absence of any such relationship. Again, some research outcomes have established both ways causal relationships, whereas some of the studies could validate the unidirectional causal relationship only. Therefore, the present paper focuses on assessing the presence of this relationship in an alternative stock market, i.e., the emerging Indian stock market.

This paper is further organized as follows. Section 2 reviews the literature regarding the relationships between share market earnings and investments in mutual funds. Section 3 presents the data and research methodology adopted in this present research work. Section 4 describes the empirical results and discussions. Finally, section 5 offers conclusions.

LITERATURE REVIEW

The economic activity in mutual funds has been gradually increasing all over the world. The well-informed mutual fund investors may signal the other less-informed investors, to

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buy or sell the stocks. So, as soon as the information on stock market prices and returns going upward is disseminated in the market, the mutual fund investors immediately respond to such information by investing more in mutual funds. This ultimately leads to an increase in the flow of funds in the mutual fund industry. Similarly, every time the flow of funds increases in mutual funds, the stock market investors respond by investing more in shares. Another plausible explanation of this relationship is rightfully through the price-pressure theory which states that the increase in the flow of funds leads to a considerable rise in the demand of the assets. This causes a northward movement in the stock prices (Harris & Gurel, 1986). In this way, the basis of the existence of the relationship between the stock market returns is established by many researchers.

There have been many pieces of empirical researches, undergone around the world to assess the relationships among the fund flows and share market returns. Warther (1995), in research on fund inflows and stock market returns from 1984-93, concluded a positive correlation between fund inflows and stock market returns. Edwards and Zhang (1998) studied the U.S. markets for any causal connection between fund flows and stock returns from 1961 to 1996 and acclaimed that equity mutual fund flows are affected by the stock market returns. But, share markets are not impacted by the investment flow in mutual funds.

Rakowski and Wang (2009) examined the time-series properties of daily mutual fund flows and the dynamic interaction between daily fund flows and stock market returns. They concluded that past returns and fund characteristics are important in explaining the level of daily flows.

Yangbo et al. (2010) examined the association among the total equity mutual fund investments and excess returns in the Hong Kong and Singapore share markets during 1998-2007. It was empirically found that in Hong Kong, a two-way connection existed between fund flows and stock market returns, but the same was absent in the case of Singapore.

Mishra (2011) studied the causality between the investments drive in mutual funds and share market proceeds in India from 2000 to 2010 and revealed the presence of one-way causality from the share market earnings to the flow of money in mutual funds. This meant that the rise in prices in the Indian share markets led to an increase in the assets under management of the mutual funds.

Humeyra and Filiz (2011) examined the relationships between investment in funds and returns in the Turkey stock market and confirmed the existence of a relationship but denied any causal connection between fund investments and share market returns.

Alexakis et al. (2013) also inspected the relation between fund units and stock prices in Japan during 1998-2007 and concluded the existence of the relation. Whereas, Kumar and Dhandha (2016) while studying the Indian markets from 2011 to 2015 concluded the absence of any relation between fund flow and market returns. In other research, the associations between the movement of funds in mutual funds and stock market earnings in Portugal were analyzed during 2000-2012 and statistically significant positive co-movement between mutual fund flows and stock market returns was confirmed (Lobao & Levi, 2016).

Cha (2018) explored the existence of any relationship among security returns and equity mutual fund flows in the Korean stock market. It was confirmed that the fund flows do get influenced by the performance of the stock market but not vice-versa.

A. Matuszewska-Janica et al. (2019) evaluated short-term relationships between selected investment funds and the capital market in Poland and confirmed that the relationship between investment funds and the stock exchange were bi-directional. While changes in index prices affected changes in the valuation of funds, the reverse relation was observed to a limited extent.

Qureshi et al. (2019) examined the relationship among mutual fund flows, stock market returns, and macroeconomic indicators for nine Asian developing economies for the period 2001-2017 using more than 9600 equity and bond funds, and concluded that fund flows respond to past stock market returns.

Similarly, some other researchers, (Mosebach & Najand, 1999), (Edelen & Warner, 2001) (Goetzman & Massa, 2003), (Roy & Ghosh, 2013), etc., have also observed the presence of a strong relationship between mutual fund flows and stock market returns.

From the review of the above relevant available literature, it can be asserted that there are mixed outcomes regarding the relationship between share market returns and the investment flows in mutual funds in different world markets. So, discovering the same relation in the context of the emerging Indian market will provide further insights into the field of the study.

Driven by these motivations, we address the following research questions:

- Does a relationship exist between share market return and mutual fund flows in India?
- What is the relationship between share market return and mutual fund flows in India?

DATA AND RESEARCH METHODOLOGY

The data on mutual fund flows is calculated by firstly ranking all the Indian Asset Management Companies (AMCs) on the basis of their current assets under management (AUMs) and thereafter selecting the top 20 AMCs for the study on the basis of the largest amount of AUMs. The Quarterly AUM data are collected for these selected AMCs for a five-year period starting from 2009. The S&P BSE SENSEX is taken as the stock market proxy. It is the benchmark index with wide acceptance among individual investors, institutional investors, foreign investors, and fund managers, and is regarded as the pulse of the Indian capital market across the world. The index quarter-end closing values are collected from the website of the BSE. From these quarter-end index closing values, quarterly returns are calculated. Statistical multiple regression analysis is used to assess the relationship between the stock market and mutual fund flow by using the Statistical Package for Social Sciences (SPSS).

RESULTS AND DISCUSSION

A graph is plotted between the AUM data of the selected 20 AMCs and Sensex in Fig. 1.

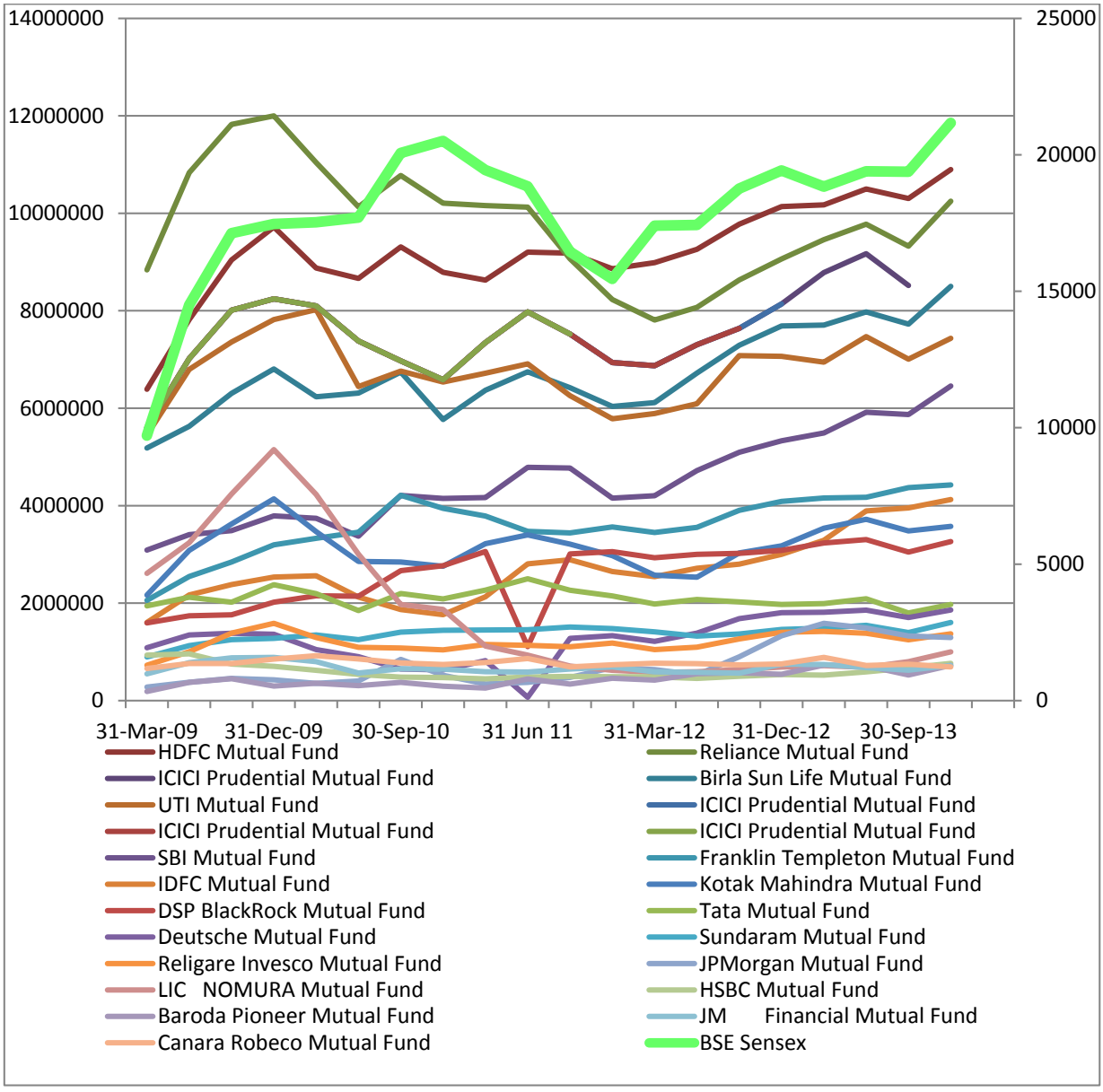

Fig. 1: AUM and Sensex

From the graph, it can be inferred that there is no strong evidence of the relation between the stock market and mutual fund AUMs. Therefore, the multiple regression analysis is used to assess the relationship. The obtained results are as given in the Table 1.

Table 1: Multiple Regression Analysis Results

Mutual Fund	Multiple R	R Square	Intercept	Slope	P-value
HDFC Mutual Fund	0.60	0.36	0.94	0.45	0.01*
Reliance Mutual Fund	0.61	0.38	-1.37	0.53	0.01*
ICICI Prudential Mutual Fund	0.28	0.08	1.43	0.28	0.26
Birla Sun Life Mutual Fund	0.43	0.18	1.58	0.42	0.08
UTI Mutual Fund	0.52	0.27	-0.50	0.55	0.03*
SBI Mutual Fund	0.39	0.15	2.89	0.45	0.11
Franklin Templeton Mutual Fund	0.50	0.25	2.20	0.48	0.03*
IDFC Mutual Fund	0.20	0.04	5.01	-0.31	0.42
Kotak Mahindra Mutual Fund	0.18	0.03	0.81	0.27	0.48
DSP BlackRock Mutual Fund	0.36	0.13	14.88	-2.10	0.14
Tata Mutual Fund	0.17	0.03	-0.47	0.23	0.50
Deutsche Mutual Fund	0.49	0.24	162.81	-27.79	0.04*
Sundaram Mutual Fund	0.43	0.18	1.28	0.37	0.08
Religare Invesco Mutual Fund	0.35	0.12	1.08	0.61	0.16
JPMorgan Mutual Fund	0.27	0.07	9.18	1.32	0.28
LIC NOMURA Mutual Fund	0.42	0.18	-6.86	1.14	0.08
HSBC Mutual Fund	0.22	0.05	-0.03	-0.30	0.38
Baroda Pioneer Mutual Fund	0.08	0.01	6.42	0.30	0.75
JM Financial Mutual Fund	0.15	0.02	-0.20	0.28	0.54
Canara Robeco Mutual Fund	0.09	0.01	0.23	-0.11	0.73

*Significant at 5 % level of significance

The null-hypothesis for the regression analysis is that there is no significant relationship between the stock market returns and mutual fund AUMs. From Table 1, it can be clearly observed that the Multiple R coefficients values are not large enough (closer to 1) for the majority of the selected AMCs. Only for some of the AMCs like Reliance Mutual Fund (0.61), HDFC Mutual Fund (0.6) & UTI Mutual Fund (0.52), etc., higher coefficient values are observed, whereas for the majority of the asset management companies these values fall in the lower range of less than 0.4. This signifies that the absolute correlations between the mutual fund flows & stock market returns are not very strong. Moreover, only a few of the corresponding 'P' values are less than 0.05, which means the regression analysis is not able to explain any significant relationship between the two variables under the study as the null-hypothesis gets accepted for all other AMCs. Furthermore, the R^2 (R-Squared) values are also not very significant ones, which implies that the stock market returns are unable to explain much of the variance in the changes in AUMs. Therefore, it can be concluded from the analysis that in the Indian context, there is no evidence of the existence of a significant relationship between the stock market returns & mutual fund flows. This means that the changes in AUMs of the mutual fund asset management companies in India may not be explained by the changes or developments in the Indian stock markets. This underlines the importance of studying many other underlying factors which may affect the movement of the flow of funds in the Indian mutual fund industry. Moreover, the results open a window of opportunity for the mutual fund investors as they can determine their decision to invest or not invest in the mutual funds independent of the prevailing conditions in the stock markets. Furthermore, this also provides them with an opportunity to diversify their risks by investing in stock markets and mutual funds.

CONCLUSION

In this research paper, the existence of the presence of the relationship between the stock market earnings & mutual fund investments in India is assessed by using the multiple regression analysis. From the study, we can conclude there is no significant relation between AUMs and stock market returns. Also, stock market returns are not the sole factor

to adequately explain the changes in AUMs of different mutual funds over the period of the study. Thus, further future studies may be conducted by appropriately applying the various co-integration tests, short-run dynamic causal relationships through the vector error correction model and applying different other causality models.

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