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Mutual Fund Flows and Market Capitalisation – A Correlational Study

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Abstract:

Mutual Fund is one of the rapidly growing investment avenues, which has been making a significant contribution in mobilising the savings of the investors, thus allowing them to participate in the equities and other securities of various organizations by assuming less risk, which, they otherwise would not have been able to do on their own either because of lack of expertise or due to inadequate financial resources to invest in equities of various companies. This paper attempts to study the impact of Market Capitalization on Equity Mutual Fund Outflows, Inflows and Mutual Fund Net flows over a period of 2000-2012. The test result between the bi-variate variables i.e. Mutual fund inflows, Outflows, Net flows and Market capitalization shows that there is no considerable relationship among the variables.

Key words: Mutual Fund, Market Capitalisation, Mutual Fund Flows.

1.1. Introduction:

Investment is the sacrifice of certain present value for the uncertain future reward, and so the investors have to make certain decisions like where to invest, when to invest, how to invest etc. Normally, when people invest their money, they are always interested in getting maximum returns from their investments at the cost of minimum risk. One may invest in a high-return yielding security but it may involve a high degree of risk, which may be beyond the capacity of the investor to bear. Similarly, investing directly in the secondary market may provide high returns to the investor but the risk involved is also very high. Besides, it is always wise to invest in a diversified portfolio of securities rather than investing their all in one security. But to do this, the investor has to have quite a large sum of money and at the same time should have adequate knowledge of the performance of the different securities in the market, for any unwise decision may result in disastrous consequences. So for those people who have neither the time, nor the money, nor perhaps are the expertises to undertake direct investments in the stock market, mutual funds an effective avenue for investment (Desai, 2002).

Mutual Fund, as the name suggests, consist of two words – Mutual and Fund. Mutual means something, which is commonly possessed, shared, felt, and received by each of two or more persons. Fund means a sum of money or stock of convertible wealth which is employed in, set aside for or available for a business or other purpose. In general, it means money or reserve stock. So, true to its name, Mutual Fund is a fund consisting of savings, which are pooled from a large number of savers and invested, in a well- diversified portfolio of securities, so as to ensure them a steady return by assuming minimum risk.

Mutual Fund is one of the rapidly growing investment avenues, which has been making a significant contribution in mobilising the savings of the investors, thus allowing them to participate in the equities and other securities of various organizations by assuming less risk, which, they otherwise would not have been able to do on their own either because of lack of expertise or due to inadequate financial resources to invest in equities of various companies. The institutions employ their resources in such a manner so as to afford their investors, the combined benefits of low risk, steady return, high liquidity and capital appreciation through diversification of portfolios and expert management.

As per Securities and Exchange Board of India (Mutual Fund) Regulations, 1996, "Mutual Fund means 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."

MF flows indicate the difference between total net purchase (inflow) and total net sales /redemption (outflow).

1.2 Objective of the Study:

To study the impact of Market Capitalization on Equity Mutual Fund Outflows (Sales/Redemption), Equity Mutual Fund Inflows (Purchases) and Equity Mutual Fund Net flows (Purchase - Sales). For the purpose of the study an attempt has been made to study the degree of association between the variables and the extent of such association.

1.3 Hypothesis:

The study is based on the following hypotheses:

Ho1: There is no significant correlation between Equity mutual fund inflows and mutual outflows.

Ho2: There is no significant correlation between Equity mutual fund inflows and market capitalization value.

Ho3: There is no significant correlation between Equity mutual fund outflows and market capitalization value.

Ho4: There is no significant correlation between Equity mutual fund Net flows and market capitalization value.

1.5 Methodology:

There are 43 Asset Management Companies (AMC) in India (www. amfiindia.com) and they manage different categories of Mutual funds which may be equity funds, debt funds, hybrid funds, balanced funds and so on.

Out of various types of funds managed by the AMCs, only equity mutual funds have been considered for the purpose of the study. The equity mutual funds allocate their assets in different proportions among equity and equity related mutual instruments, debt and debt related instruments, real estates and so on. The present study considers all equity mutual funds irrespective of the proportion of their asset allocation. MF flows indicate the difference between total net purchase (inflow) and total net sales /redemption (outflow). So, the study uses three variables namely purchase flow (inflow), sales flow (outflow) and Net flow (Inflow – Outflow). **(**Ivkovic´ and Weisbenner, 2009)

The selected equity mutual funds will be compared with the BSE market capitalization with the help of correlation. The purpose of the study is to find out whether there is any degree of association between the flows of equity mutual funds (Inflows, Outflows and Net flows) and the market capitalization of BSE for the similar time period. The period considered for the purpose of the study is thirteen years i.e. from 2000-2012.

To de-seasonalise the time series data, 12 months Centered Moving Average (CMA) has been used and thereby the Individual seasonal effects (ISE) have been measured on monthly basis for the given period. Taking the average of monthly values for the thirteen year period, the Average Monthly Effects (AME) has been determined. Considering the AME and the original data set, an attempt has been made to estimate the Monthly Adjusted Values (MAV) and a comparison has been made with CMA values. As a result the parameters helped to categories the monthly study period into two categories i.e. periods (Months) above the average expectation level and the periods (Months) below the average expectation level.

The data set comprises the annual totals of Market capitalization of BSE for the years 2000 to 2012 and the annual totals of Inflows, Outflows and Net flows of equity mutual funds for the above mentioned period. For the purpose of the study, mutual fund inflows, Mutual fund outflows and Mutual fund Net Flows are considered as dependent variable and BSE Market capitalization are considered as independent variables.

1.6 Analysis and Interpretation:

In the present study an attempt is also made by the researcher to understand the growth trend of the variables taken under consideration during the period of the study.

The overall economic scenario of the Indian economy is more or less stable since 2000. Soon after 1991 economic reforms the economy of the country struggled few years with its transformation. Even, political instability in the country prior to 2000 created havoc in the overall economic stability of the economy. Though, after the millennium year 2000, the Indian economy started the getting the results of its decision to go open through the process of Liberalization, Privatization and Globalization (L.P.G.) in 1991.

The 1991- 2000 period was more or less stagnant. But, post 2000 period noticed critical changes in the performance index. During this period, the overall economic scenario started improving, be it a stock market, generation of employment opportunities, increase in FIIs, FDIs, Foreign reserves (Forex), etc.

Since 25th July 1990 to the end of 1999, the BSE SENSEX jumped to the mark of 4000 points from 1000 points. But, post 2000 year period records as much as to the level of

21000 points (BSE SENSEX) in a gap of 13 years. The economy has noticed a tremendous growth rate during this period zone (Post 2000 period).

Fig No. 1 S&P BSE SENSEX performance (1991 – 2013)

Source: http://upload.wikimedia.org/wikipedia/commons/d/da/S%26P_BSE_SENSEX_chart.svg accessed as on 11/01/2013.

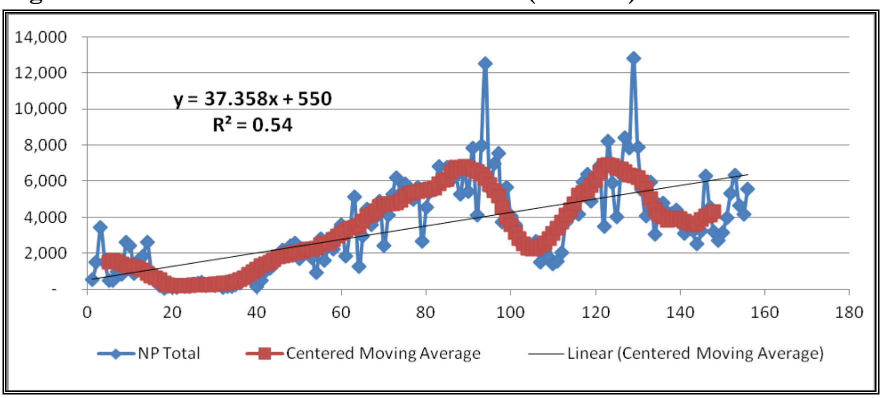
Though, it is not wise to state that there are no significant down fall during this period. The Indian economy first noticed a considerable decline in the trading volume after the World Trade Centre Attack in 2001 in the United States. The market responded very frequently to the news and went for a downfall. Though the phenomenon was not lasted for long, but it has taken time for the economy to grow and take a pace for upward trend.

On 22 May 2006, the SENSEX plunged by 1,100 points during intra-day trading, causing investors to lose Rs 6 lakh crores (US$131 billion) within seven trading sessions (Tiwari, 2010).

The 2008 year was very much volatile for all markets across the world. The Indian BSE SENSEX fall to the 8500 point mark by November 2008, from 20,000+ point mark in January 2008. The saga of down fall started after investors panicked following weak global cues amid fears of a recession in the US market resulting, the SENSEX experienced huge falls along with other markets around the world. Moreover, the Indian stock market was waiting for another setback in 2009 doubting the credibility of the Indian business ventures. The SENSEX noticed another considerable drop of 749.05 points on 7 January 2009, when the Satyam fraud came to light.

In the light of such ups and downs in the Indian economy and in the SENSEX, the mutual fund sector is also not free from effects. The Equity mutual fund flows (Net Purchase, Net Sales and Net flows) also noticed the change in its values during these volatile periods, resulting in steep fall in Mutual Fund investments. (Fig. no.2, 3, and 4)

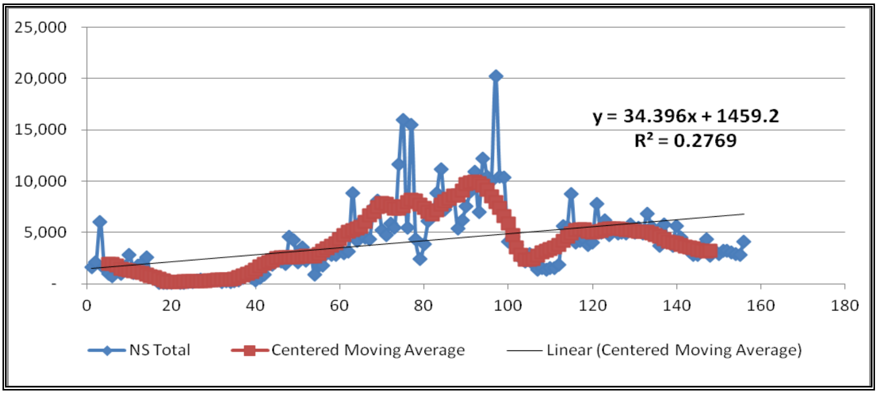
Fig. No. 2 Relation between Net Purchase (Inflows) and Trend line.



Source: Compiled by the authors.

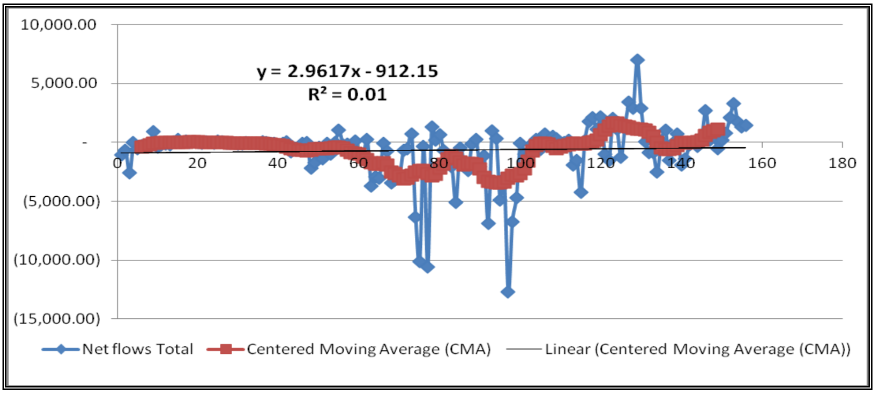
Graphically, the Equity mutual fund inflows (purchase) and outflows (sales) are showing a trend of increasing tendency over the period of the study (Fig. No. 2 and 3). The growth noticed in the Equity mutual fund inflows is faster than the growth of the Equity mutual fund outflows. Though, the Equity mutual fund Net flows is more or less constant over the years. (Fig. No.4)

Fig. No. 3 Relation between Net Sales (Outflow) and Trend line.



Source: Compiled by the authors.

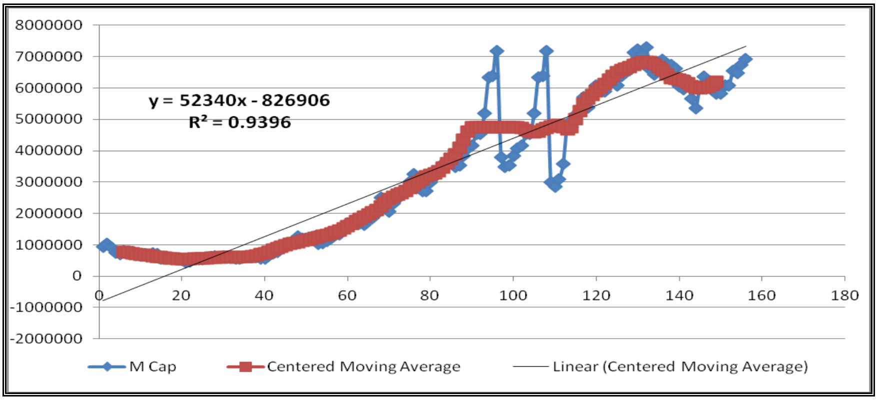
Fig No. 4 Relation between Net Flows (Net purchase – Net Sales) and Trend line.



Source: Compiled by the authors.

The market capitalization during 2008-09 period also noticed significant fluctuations in its value due to the similar reasons attributable to the downfall of the global economy and the Indian equity mutual fund industry. Moreover, the value of market capitalization is directly associated with the performance of the SENSEX, thus holding the possibility to take the effects of such volatility within itself resulting in such fluctuations (Fig. No.5). From fig. no. 5 is has been observed that Market capitalization has a graphically increasing tendency over the years expect having few constant years in between.

Fig No. 5 Relation between Market Capitalization and Trend line.



Source: Compiled by the authors.

Over the span of thirteen years it has been noticed that the average monthly effects (AME) of the variables under study are having varying level of results (Table No 1). In terms of Equity mutual fund inflows it has been noticed that on an average the months from April to August shows a negative flow, whereas in case of Mutual fund outflows the June to November period shows a negative average figure. Moreover, on a Net flow basis of equity mutual funds, the December to March period shows a negative result. The results of these variables shows that the effects of any potential information prevails in the economy for few months to affect the performance of the Equity Mutual fund Inflows, Outflows and Net flows.

However in case of Market capitalization on the basis of average of last thirteen years figures, the results shows that the initial nine months tends to have volatile market situations, in comparison to the later part of the year, which shows on an average a consistent growth values.

Table No. 1 Average Monthly Effects (AME) for 2000-2012.

Months	Equity MF Inflows	Equity MF Outflows	Equity MF Net Flows	Market Capitalization Value
January	326.89	1,033.45	(690.64)	(238,137.70)
February	(284.01)	442.77	(711.06)	38,931.50
March	329.62	1,344.12	(1,001.77)	(270,912.01)
April	(633.54)	(1,170.10)	547.42	(191,118.48)
May	(529.60)	440.72	(1,093.11)	39,020.75
June	(367.31)	(898.59)	548.01	(146,501.94)
July	(76.81)	(618.70)	563.11	(80,685.92)
August	(459.95)	(393.39)	(55.19)	(57,026.47)
September	792.08	(234.50)	1,028.36	38,778.50
October	608.60	(138.32)	748.58	38,808.50
November	(261.36)	(418.68)	162.92	38,839.50
December	6.28	213.84	(195.85)	38,869.50

Note: Figures in bracket represents negative value.
Source: Compiled by the authors.

On the basis of the observation drawn from the study it has been found that in case of Equity mutual fund inflows and Equity mutual fund Net flows, the monthly adjusted values (MVA) of the study period is higher than the centered moving average (CMA) (Table No 2). Accordingly, for Equity MF inflows 73 months are having the results above the average expectation level and 71 months below expectation level. In case of Equity MF net flows 74 months results are above expectation and 70 months are having performance below the expectation level.

Table No. 2: Above or below expectation level months for 2000-2012.

Months	Equity MF Inflows	Equity MF Outflows	Equity MF Net Flows	Market Capitalization Value
Above expectation	73 months	69 months	74 months	67 months
Below expectation	71 months	75 months	70 months	77 months
Total	144 months	144 months	144 months	144 months

Note: Above Expectation: MAV > CMA.
Below Expectation: MAV < CMA.
Source: Compiled by the authors.

However, in case of Equity MF outflows and Market capitalization values the results are vice-versa. The reason for such results could be attributable to the extensive global economic turmoil and downfall. The performance of Equity MF outflows, records 75 months performance results below the average expectation level and similarly, 77 months below performance results in case of market capitalization values too. (Table No 2).

To test the degree of association between Equity Mutual fund Inflows and Equity mutual fund outflows is significant or not, the Pearson product moment correlation is followed.

Table No. 3 Correlation between Equity mutual fund inflows and mutual outflows.

Correlations			
		Inflow	**Outflow**
Inflow	Pearson Correlation	1	.401
	Sig. (2-tailed)		**.197**
	N	12	12
Outflow	Pearson Correlation	.401	1
	Sig. (2-tailed)	**.197**	
	N	12	12

Note: Mkt Cap: Market Capitalisation.
Source: Compiled by the authors.

The correlation between Inflows and outflows is positive but not statistically significant ($r = 0.401$, $p > .005$). Thus, the Null Hypothesis that that there is no significant correlation between Equity mutual fund inflows and outflows cannot be rejected.

Table No. 4 Correlation between Equity mutual fund inflows and Market capitalization value.

Correlations			
		Inflow	**Mkt Cap**
Inflow	Pearson Correlation	1	.030
	Sig. (2-tailed)		**.926**
	N	12	12
Mkt Cap	Pearson Correlation	.030	1
	Sig. (2-tailed)	**.926**	
	N	12	12

Note: Mkt Cap: Market Capitalisation.
Source: Compiled by the authors.

With respect to testing the degree of association between Equity mutual fund inflows and market capitalization, it is found that there is no relation between the two variables and thus does not co-vary ($r = 0.030$, $p > 0.005$). The Null hypothesis cannot be rejected at 5 percent level of significance.

Table No. 5 Correlation between Equity mutual fund Outflows and Market capitalization value.

Correlations			
		Mkt Cap	**Outflow**
Mkt Cap	Pearson Correlation	1	-.195
	Sig. (2-tailed)		**.543**
	N	12	12
Outflow	Pearson Correlation	-.195	1
	Sig. (2-tailed)	**.543**	
	N	12	12

Note: Mkt Cap: Market Capitalisation.
Source: Compiled by the authors.

To test the correlation between Mutual fund outflows and Market Capitalization, the Pearson product moment correlation shows that the variables are negatively correlated and statistically not significant ($r = -0.195$, $p > 0.543$). This test also notices that the two variables are not statistically co-vary together. Thus, the Null hypothesis for this test also cannot be rejected.

Table No. 6 Correlation between Equity mutual fund Net flows and Market capitalization value.

Correlations			
		Mkt Cap	**Net flows**
Mkt Cap	Pearson Correlation	1	.204
	Sig. (2-tailed)		**.524**
	N	12	12
Net flows	Pearson Correlation	.204	1
	Sig. (2-tailed)	**.524**	
	N	12	12

Note: Mkt Cap: Market Capitalisation.
Source: Compiled by the authors.

To check the degree of association between Equity mutual fund net flows and Market capitalization it has been noticed that there is a positive relationship between the variables to the extent of 20 percent only. But, the variables are not statistically significant to reject the null hypothesis that there is no significant difference between the variables under study (r = 0.204, p > 0,005).

1.6 Conclusion:

As Mutual Fund is a fund consisting of savings, which are pooled from a large number of savers and invested in a well-diversified portfolio of securities, so as to ensure them a steady return by assuming minimum risk, the Mutual funds provide services in addition to diversification. They offer liquidity by standing ready to redeem their shares at net asset value or ratable value. In the process of generating return, mutual fund flows assumes to get influenced by various economic variables. Of these numerous variables Market Capitalization is one of them. From the test of correlation between the bi-variate variables i.e. Mutual fund inflows, Outflows, Net flows and

Market capitalization there is no considerable relation has been found. Though, this paper holds immense scope of performing more concrete test observations considering time series analysis technique.

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