*Anand Singh
**Prof. C. P. Mall

Identifying Trend of Indian Stock Market by Analysing Trading Activities of Mutual Funds

Abstract

Presently we are witnessing a retarded growth in Indian stock market. Presently in India, we are in recession period, but overall market had given significant gain to investors and as a result of it, we are seeing that our market is attracting more and more fund from FIIs & DIIs. To identify trend of market, tools like: Fundamental Analysis and Technical Analysis are used, but this paper tries to identify major market trend by analyzing net buying and selling activities of all the mutual funds of India. As per requirement of SEBI all the AMCs offering, different schemes of mutual funds have to submit details of their buying and selling activities to SEBI on a daily basis and SEBI publish that on daily basis. So, in this paper, historical data of mutual funds activities in Indian market are collected from January 2001 to June 2008. By these data, researcher tries to analyze: whether one can get any advance indication of trend for short, middle and long term or, whether one can get any trend reversal indication. Apart from it, the paper also emphasize on trend of investment via mutual funds in India during different market conditions.

Introduction

In Present scenario (till June–08), we are witnessing significant growth in different key industries. Our economy is growing around 7 – 8 percent since last few years. These all positive clues shows very good picture of the Indian stock market. During last 8 years, our market rises by almost 5 times. Presently in India, we are in recession period, but overall market had given significant gain to investors and as a result of it, we are seeing that our market is attracting more and more fund from FIIs & DIIs. Presently in India, peoples of all groups are aware about moves of market and they are making some direct or indirect investment in it. So, over a period of time (past 8 years) Indian stock market's depth has increased and it has been more informative.

*Research Scholar, Faculty of Commerce, B.H.U, Varanasi – 221005, email–meet2anandbhu@gmail.com, **Professor, Faculty of Commerce, B.H.U, Varanasi – 221005.*

*Anand Singh**Prof. C. P. Mall

It is very important for investor's and for trader's to identify market trend (i.e. sustained movements in market prices over a period) of stock market before taking any investment/ trading decision. The trend of stock market is represented by the movement indices (i.e. combination of different stocks from different industry with different weightage) of the stock market of particular countries. The trend may by upward (Bullish trend) or downward (Bearish Trend). In case of India, BOMBAY STOCK EXCHANGE (BSE), SENSETIVE INDEX (SENSEX) NATIONAL STOCK EXCHANGE (NSE) and NATIONAL FIFTY (NIFTY) are popular indices for representing trend of entire stock market of India. In India, to identify trend of stock market tools like: Fundamental Analysis and Technical Analysis are used. As per fundamental analysis, one identifies trend in stock markets by using and analyzing different qualitative and quantitive information which are related with economy, industry and company. In case of technical analysis, one can use historical data of prices and volume and then prepare charts of same. Further, certain statistical indicators in the charts are used to determine the trend of the market. But in this paper, researcher tries to identify major market trends by analyzing net buying and selling activities of all the mutual funds of India. As per requirement of SEBI all the AMCs offering, different schemes of mutual funds had to submit detail of their buying and selling activities to SEBI on a daily basis and SEBI publish that on daily basis. Based on that data, one can be able to know, whether mutual funds are net buyers or net sellers on a particular trading day. By this data researcher tries to analyze: whether one can get any advance indication of trend for short, middle and long term or, whether one can get any trend reversal indication.

Objectives of Study:

The main objective of the study is to identify stock market trend (upward or downward) by analyzing trading activities of different Assets Management Companies (AMCs) which manage various mutual funds in India. The study also aims to identify advance trend reversal indicators for Indian stock market based on daily trading activities of different AMCs. Apart from it, the study also emphasizes on trend of investment via mutual funds in India during different market conditions.

Methodology of Study:

In this paper, historical data of daily Investment activities of Assets Management Companies (AMCs) which offers and manages different mutual fund and SENSEX which is leading index of Indian market has been collected from January 2001 to June. 2008. The historical data of SENSEX is being collected from www.bseindia.com (official website of Bombay Stock Exchange) and data of daily Investment activities of different Assets Management Companies (AMCs) are collected from www.sebi.gov.in (official website of Security and Exchange Board of India, Governing and Regulating body of Indian Stock Market). Then, Cumulative Mutual Fund Investment (CMFI) is being calculated for each day during the same time frame. Afterward's 20 Day Exponential Moving Average (20DMA) of SENSEX and Cumulative Mutual Fund Investment (CMFI) has been calculated. Then all these data's are being plotted in the form of line charts.

The 20 DMA mentioned above, includes both: 20 DMA of sensex and 20 DMA of Cumulative Mutual Fund Investment (CMFI) and are plotted on a trend line. In case of SENSEX, if price sustains above 20 DMA line, it means that SENSEX is in "uptrend" and if price sustains below 20 DMA line, it means that SENSEX is in "downward trend". In case of Cumulative Mutual Fund Investment (CMFI), if value of Cumulative Mutual Fund Investment (CMFI) remains above 20 DMA, it means that different Assets Management Companies (AMCs) are strongly performing buying activities in the stock market of India. But, if value of Cumulative Mutual Fund Investment (CMFI) remains below 20 DMA, it means that overall different Assets Management Companies (AMCs) are strongly performing selling activities

in the stock market of India. The reason behind choosing 20 DMA for identifying trend is that, it is a very popular and widely followed indicator for deciding trends as per theory of Technical Analysis.

The research work is based on a premise that: if different Assets Management Companies (AMCs) are strongly performing buying activities in stock market, they are bullish on market and SENSEX is expected to go up. But if different Assets Management Companies (AMCs) strongly performs selling activities at the stock market, they are bearish on market and SENSEX is expected to go down. Thus, by taking the base of activities of different Assets Management Companies (AMCs) which offer different mutual funds in India, efforts are being made to identify trends and trend reversal indication in Indian stock market. Correlation has been also calculated where

trend reversal indications are found to confirm the strength of indication's.

Apart from this, 50 DMA and 200 DMA of Cumulative Mutual Fund Investment (CMFI) has been calculated to saw the overall holding position of different Assets Management Companies (AMCs), especially in recent days. For all calculation purpose, Micro Soft Excel programme is being used.

Analysis of Data:

As mentioned above, for entire calculation purpose, Micro Soft Excel programme is being used. In the Chart No. 1 all these calculation's i.e. from January 2001 to June 2008 is being presented which depicts overall trend of SENSEX and Cumulative Mutual Fund Investment (CMFI). Same charts on yearly basis for the purpose of clarity in understanding of analysis have been prepared.

CHART – 1
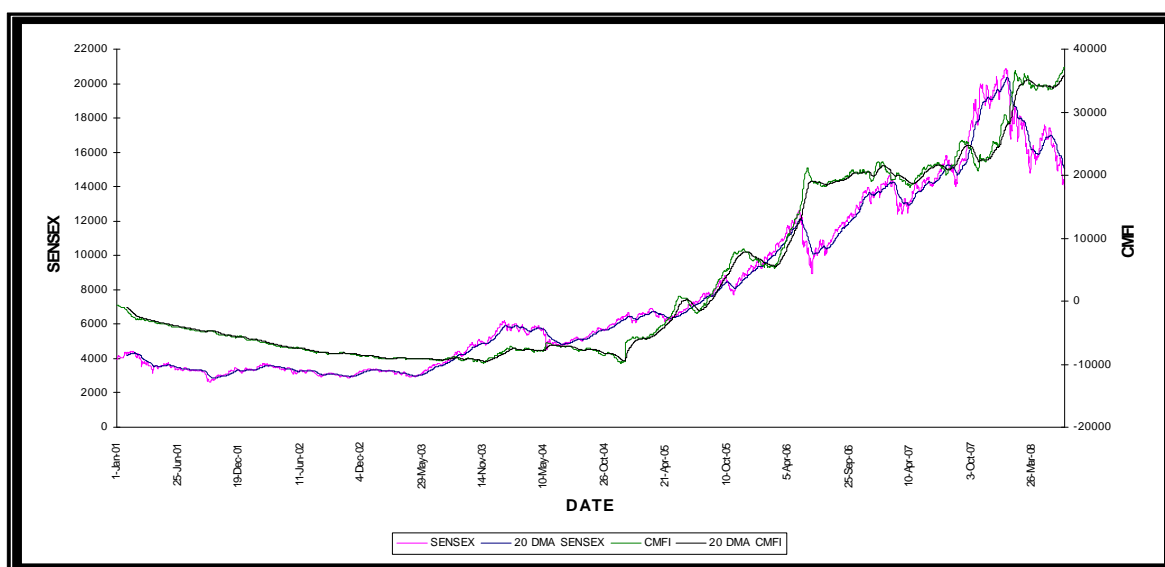
Above chart shows that, from 1st Jan 2001 to May 2004, SENSEX lies broadly between the ranges of 2600 to 4000. While in case of activities of mutual funds it was observed that, during this time period they were more on selling side. Their holding also gets reduced in the same time. However, one should note that, in the above graph, holding of mutual

fund shows negative value. This is because of the fact that, data for trading activities of mutual funds are available from Feb. 2002 only. But they started investing from 1994 and during Feb. 2000 to Jan 2001 they were net sellers only. From May 2004 to Dec 2007, SENSEX goes upward trend only. It rises by almost 5 times during this time period. From

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Jan 2001–Dec 2008, SENSEX gets corrected by almost 38%. Similarly, from 2005 onwards till now, Cumulative Mutual Fund Investment (CMFI) is getting increasing only. Even though, in correction of Jan 2008, Cumulative Mutual Fund Investment (CMFI) is not considerably decreased. For more clarity, we will see the yearly analysis of both the data's:–

Analysis of the year 2001

CHART – 2
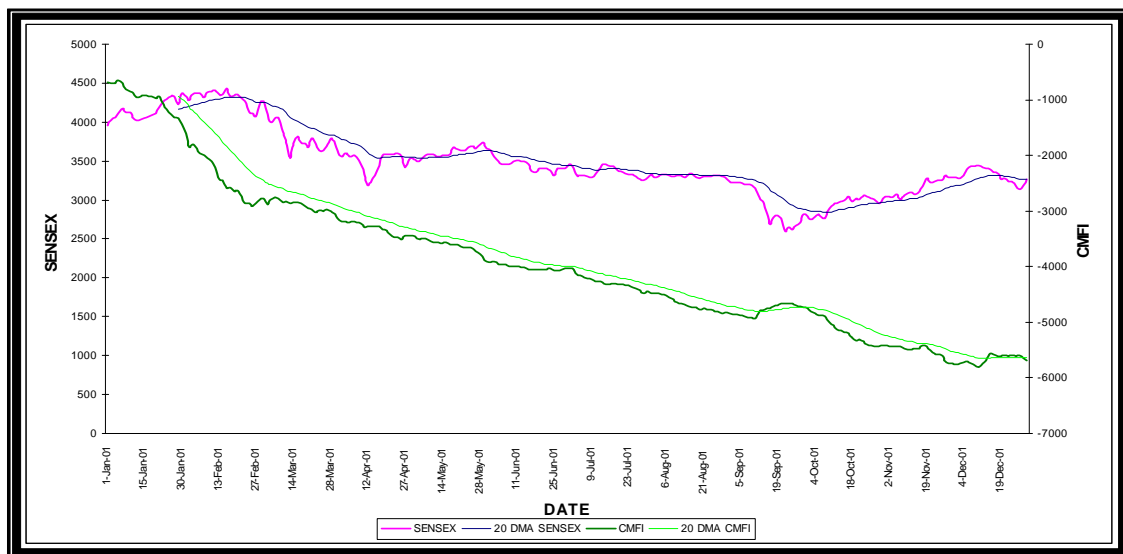
- ❖ From the beginning of the year i.e. Jan 2001 to Feb 21, SENSEX remains above 20DMA, but during the same time Cumulative Mutual Fund Investment (CMFI) was below 20DMA. So, during this period, SENSEX & CMFI had high negative correlation (–0.85). So, we observe a huge fall in SENSEX from around 4300 to 3100 (about –25%). During Feb.20 to April 20, both SENSEX and Cumulative Mutual Fund Investment (CMFI) tend to remain below 20 DMA and a positive correlation (+0.85) establishes between them.

- ❖ Similarly from April 21 to 31 May, SENSEX remain above 20DMA, but during the same time Cumulative Mutual Fund Investment (CMFI) was below 20DMA. So, during this time period a high negative correlation (–0.72) establishes between SENSEX & CMFI. So, we observe a fall in SENSEX from around 3650 to 3150 (around –11%) during 1st June to 12 September.

- ❖ Now, from 13 September, Cumulative Mutual Fund Investment (CMFI) starts rising and remain above 20DMA, but during the same period SENSEX remained below 20DMA. So, during this time, SENSEX & CMFI had high negative correlation (–0.83) between them. So, we observe a one bounce back in SENSEX in later month but it is unable to make positive correlation with CMFI for long time.

Analysis of the year 2002

CHART – 3
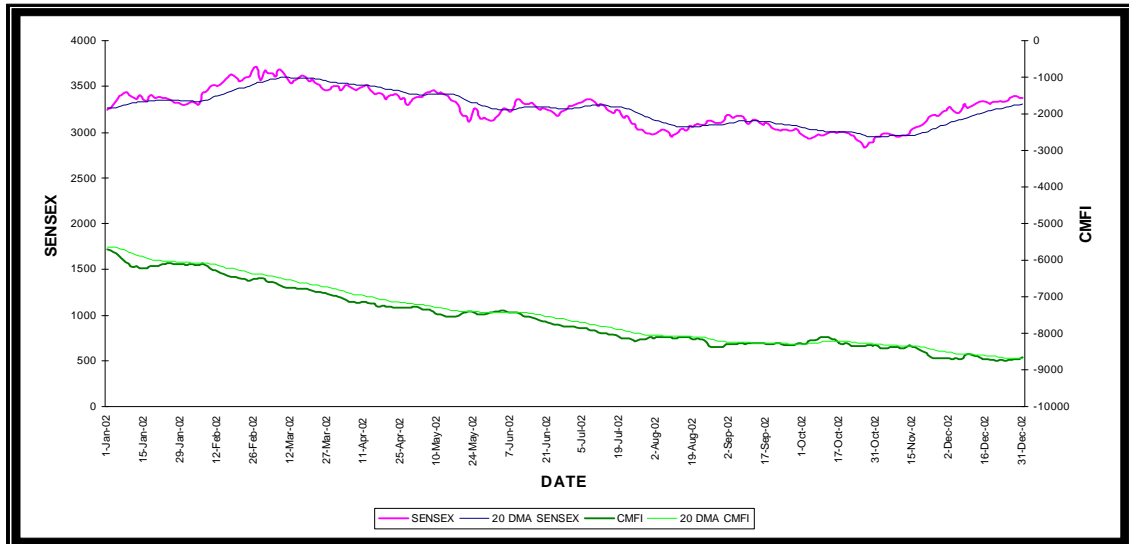
❖ During 1st January to 25th January, SENSEX give gain and remains above 20DMA, but during the same time Cumulative Mutual Fund Investment (CMFI) remains below 20DMA. So, during this time, high negative correlation (–0.87) establishes between SENSEX & CMFI. So, we observe a fall in SENSEX from around 3590 to 3240 (around –9.75%) during 26th January to 5th June. During this period, both SENSEX and Cumulative Mutual Fund Investment (CMFI) tend to remain below 20 DMA with positive correlation (+0.77).

❖ During 6th June to 20 July, SENSEX consolidate near 20DMA but during the same period Cumulative Mutual Fund Investment (CMFI) remained below 20DMA. So, during this time, SENSEX & CMFI had low positive correlation (+0.15). But During 22st July to 19th August, SENSEX falls and remains above 20DMA but during the same time Cumulative Mutual Fund Investment (CMFI) remained below 20DMA. Thus, they are negatively correlated (–0.34). So, we observe a rise in SENSEX from

around 3050 to 3190 (around 13%) during 20th August to 12th September. During this period, a low negative correlation (–0.24) establishes between SENSEX and Cumulative Mutual Fund Investment (CMFI).

❖ During 13th September to 18th November, SENSEX falls and remains mainly above 20DMA. But, during the same time Cumulative Mutual Fund Investment (CMFI) remained consolidated near 20DMA. During the period, they are positively correlated (+0.10). So, we observe a rise in SENSEX from around 3050 to 3190 (around 13%) during 20th August to 12th September. During this time, a low negative correlation (–0.24) establishes between SENSEX and Cumulative Mutual Fund Investment (CMFI).

❖ During 19th November to 31st December, SENSEX backs up and mainly remains above 20DMA, but during the same period, Cumulative Mutual Fund Investment (CMFI) remained consolidated near 20DMA and were positively correlated (+0.10).

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Analysis of the year 2003
CHART – 4
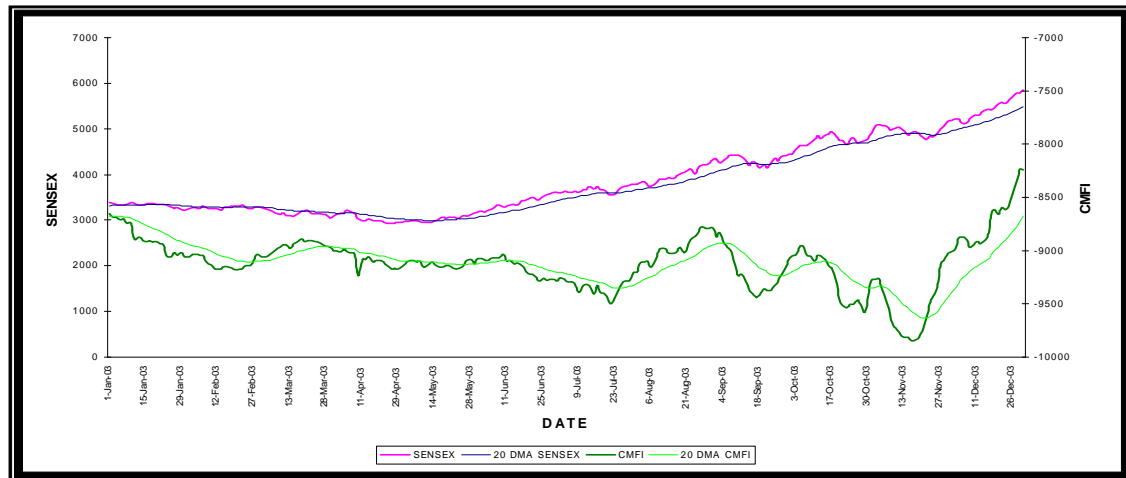
- During 1st January to 27th February, SENSEX mainly consolidating near 20DMA, but Cumulative Mutual Fund Investment (CMFI) remains little below 20DMA and were positively correlated (+0.73). So, again after it, sensex remain consolidated only during period from 1st March to 15th May with positive correlation of (+0.70).
- During 16th May to 12th June, both SENSEX and CMFI tend to remain above 20 DMA with very high positive correlation of 0.84. Then for the entire year onwards SENSEX tend to remain above 20 DMA, even though it make negative correlation with CMFI during June 13 to July 25 (–0.64). During September 5th to September 26th CMFI was below 20 DMA but SENSEX tend to remains above 20 DMA with positive correlation of 0.82. During this period SENSEX corrected around 5% from its high but tend to remain above 20 DMA only.
- During 29th September to 16th October, both SENSEX and CMFI remains above 20 DMA but they are not significantly correlated (Correlation is just –0.01). During 17th October to 20th November, SENSEX tend to remains above 20DMA only, but CMFI mainly tend to remains below 20 DMA with no significant correlation (correlation is 0.01). So, it doesn't direct us for any strong trending movement.
- From November 21st to January 21st, 2004 (Chart–5), both SENSEX and CMFI tend to remains above 20 DMA with a very high positive correlation of +0.95.

Analysis of the year 2004
CHART-5
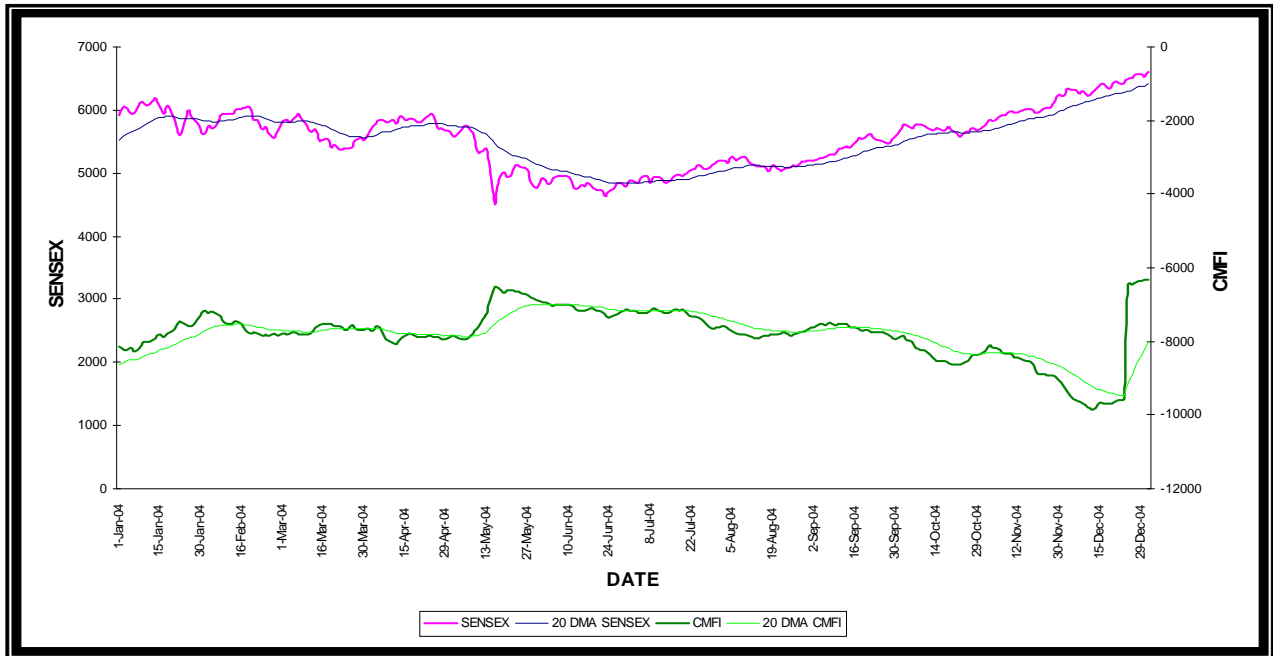
❖ During 22nd January to 11th May, Both SENSEX & CMFI consolidate near 20 DMA with very low significant negative correlation of –0.10. So, it didn't give any direction.

❖ During 23rd July to 23rd December, SENSEX tends to remain above 20 DMA with very high degree of negative correlation (–0.90). But SENSEX goes below 20 DMA after 23rd December.

❖ On 24th December, very huge buying worth Rs. 3109 crore were made, which is around 30% higher than its cumulative buying and around 30% higher than 20 DMA.

❖ During 24th December to 6th January, 2005 (Chart–6), both SENSEX and CMFI tend to remains above 20 DMA, but with insignificant negative correlation of –0.22 which don't suggest any direction.
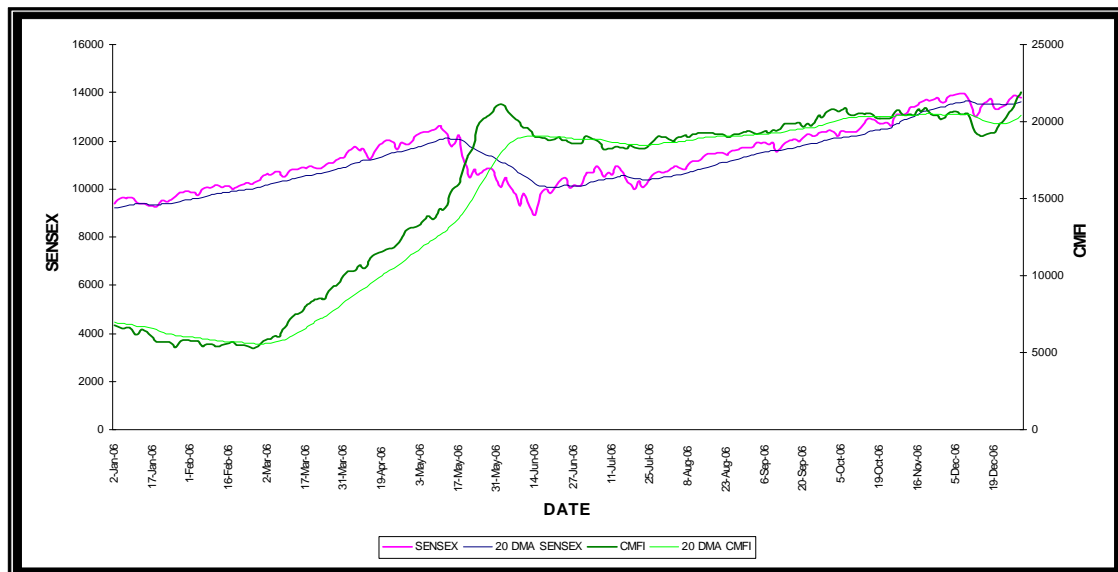
Analysis of the year 2005

CHART–6
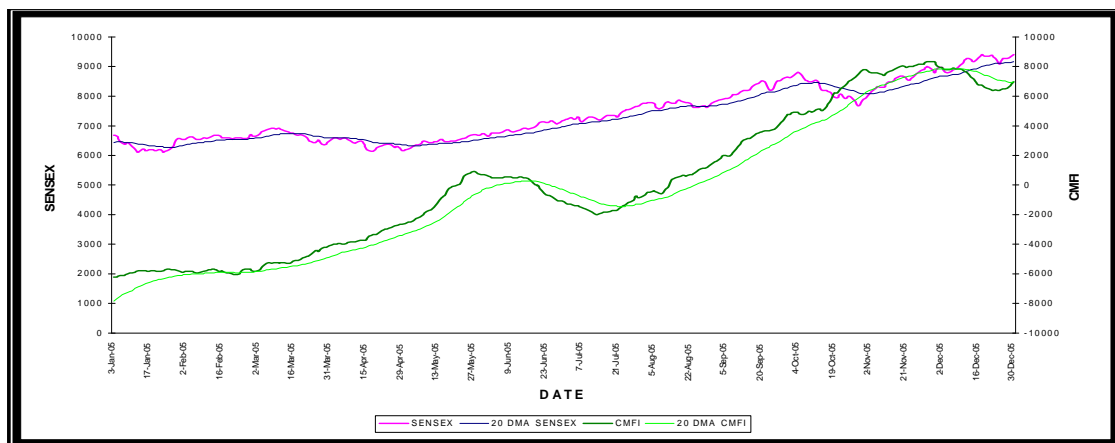
❖ During 7th January to 28th January, SENSEX tends to remains below 20 DMA but CMFI tend to remains above 20 DMA with a negative correlation of –0.44. So, it leads to upward movement during 29th January to 17th March with a very high positive correlation of 0.82.

❖ During 18th March to 6th May, SENSEX remains below 20 DMA but CMFI tend to remains above 20 DMA with a high negative correlation of –0.71. From 7th May to 13th October SENSEX rallied and remains above 20 DMA. However, during 7th May to 20th June, both SENSEX & CMFI remains above 20DMA with a positive correlation of

0.67 but from 21st June to 25th July, both were negatively correlated –0.61. But, during this period SENSEX not goes below 20 DMA.

❖ During 26th July to 13th October, once again both SENSEX & CMFI tend to remains above 20DMA with a very high positive correlation of 0.94.

❖ During 14th October to 1st November, SENSEX goes below 20 DMA but CMFI tend to remains above 20 DMA with a very high negative correlation of –0.82.

❖ During 2nd November to 15th May 2006, SENSEX remains above 20

DMA. But during the period i.e. from 2nd November to 12th December, both the variables were having high positive correlation of +0.71. But from December 12th to 1st March, both the variables were negatively correlated. Their correlation was –0.76. However, during this period SENSEX does not go below 20 DMA but it was under pressure. (chart–7)

CHART – 7

Analysis of the Year 2006

❖ During 2nd March to 15th May, both SENSEX & CMFI remains above 20 DMA with a very high positive correlation of +0.94.

❖ During May 15 to June 15, SENSEX tend to remain below 20 DMA but CMFI tends to remains above 20 DMA and during this time both the variables were having a negative correlation of –0.56.

❖ During 16th June to 8th December, both the variable tends to consolidate near 20 DMA with a positive correlation of 0.90.

❖ During 9th December to 21 December, both the variables remain below 20 DMA but with a very low insignificant negative correlation of –0.11.

❖ During 22nd December to 23rd January, 2007 (Chart–8), both SENSEX & CMFI tends to remain above 20 DMA with a significant positive correlation of 0.54.

❖ During 10th April to 4th July, both the variables tend to remains above 20 DMA with a very high positive correlation of +0.85.

❖ During 29th August to 26th September, both the variables are above 30 DMA but having a low negative correlation of –0.30.

Analysis of the Year 2007

During 23rd January to 21st February, SESEX tend to remains above 20 DMA but CMFI tends to remain below 20 DMA with a negative correlation of –0.34. So, it makes little pressure on sensex in the later month. From 22nd February to 9th April, SENSEX falls and remains below 20 DMA along with CMFI with a very low significant positive correlation of +0.06.

❖ From 26th September to 14th November, SENSEX remains above 20 DMA but CMFI remains below 20 DMA with an insignificant positive correlation of 0.02.

❖ During 15th November to 15th January, 2008 (chart–9), both the variable remains above 20 DMA with a very high positive correlation of 0.84.

Analysis of the Year 2008 (Till June 2008)

C H A R T - 9
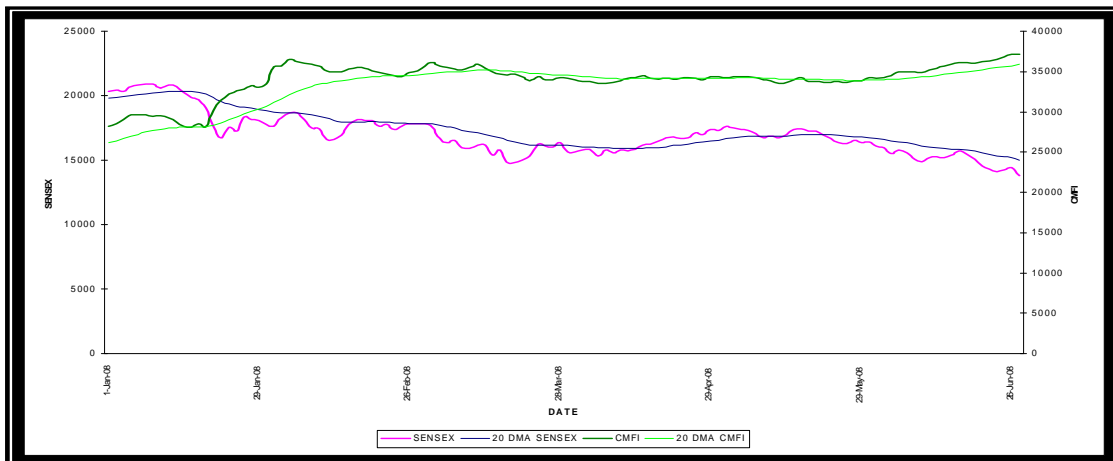
❖ During 16th January to 13 March, Sensex remains below 20 DMA but CMFI tend to remains above 20 DMA with a significant negative correlation of –0.48. So, we observed a pull back in Sensex in between 14th March to 22nd May. But during this period, CMFI mainly tends to remain below or consolidated near 20 DMA without any correlation.

❖ During the 23rd May to 31st June, SENSEX tend to remain below 20 DMA but CMFI tend to remain above 20 DMA with very high negative correlation of –0.89. So, bounce back is expected in sensex.

Findings:

The major findings based on above data analysis related with identification of trend of sensex by analysis of daily trading activities of mutual funds are as under:

TREND SITUATION	CONDITION
Beginning of uptrend or trend reversal indication in case of downward trend	SENSEX goes above 20 DMA and a high negative correlation (–0.60 to –1) establishes between SENSEX and CMFI in the last downward trend.
Continuation of Uptrend	SENSEX trade above 20 DMA for more than 5 sessions and SENSEX & CMFI positively correlated in existing upward trend. (Correlation between 0.35 to 1)
Beginning of downward trend or trend reversal indication in case of upward trend	SENSEX go below 20 DMA and a highly negative correlation (–0.60 to –1) establishes between SENSEX and CMFI in last upward trend.
Continuation of downward trend	SENSEX trade below 20 DMA for more than 5 sessions and SENSEX & CMFI positively correlates in existing downward trend. (Correlation between 0.35 to 1)
Non Trending Movement	Any condition other than above stated.

Apart from it, it was also observed that mutual funds had the lowest holding during December, 2004. From there they increase investments by almost 5 times till January 2008. And at end of June 2008, total holding of various AMCs of India hardly reduced by 3% from its highest holdings. Which indicates: different AMCs have lots of faith in Indian Stock Market and they hold very optimistic view toward Indian Stock Market.

Thus, by analyzing this study one can easily able to identify existing trend of market with its comparative strength and one can also get the trend reversal indication well in advance with its strength of reversal. However, in this study, activities of Foreign Institutional Investors, who holds the largest share in our market is ignored. But overall, this study gives us a very good indication for confirming the middle to long term trend of the market before making any investment.

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