

A study factors responsible for volatility in Indian stock market.

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Abstract.

Investment in Indian capital market is associated with risk as investor is uncertain about amount and timing of income generated from the assets. Fluctuations/variability is a common feature of Indian stock market as number of factors affect and are responsible for rise and fall in market. In spite of the volatile nature of the Indian stock market there is a significant number of investors who are investing in stock market as there is also probability of high returns. The thumb rule is if you want to generate more return, you have to take high risk. It is generally assumed that in order to earn high return investor has to take more risk as risk and return have a linear relationship. Moreover, in volatile market undervalued securities are frequently available and if investor picks these at appropriate time he/she will derive above average returns. Moreover, different investors have different investment motives for investing in volatile market. Some wish to get higher returns, some invest because of liquidity, some for tax purpose etc. The researcher has attempted to study investment objectives of the investor and in order to achieve the objectives strategy used by the investors to achieve the desired results.

Keywords. Stock market, volatility, investment objective, investment strategy, and high returns

Introduction.

Volatility is a common phenomenon associated with Indian financial and capital market. This is in fact one of the unique characteristics on the basis which Indian market is differentiated. Traditionally, volatility and risk/uncertainty were considered one and the same thing, and is considered as a negative thing that acts as a barrier for investor to choose capital market as a

medium for committing their funds. However, over a period of time investor realize that volatility does not necessarily a bad thing, but sometime used for efficient price discovery mechanism by the companies and other corporates. Similarly it is used as a opportunity for generating above average or superior returns. Today active trader often-welcome fluctuation in asset prices to derive above average return by identifying and investing in undervalued securities. The volatility is often area of great significance for fundamentalists and technical analysts and is field of interest of financial economics. Security analyst looking for undervalued securities ,portfolio manager ,traders all keep a close eye on volatility trends as it will impact their asset allocation and risk investment decisions. Volatility is defined as degree to which price of asset/security tend to fluctuate. It is said to be difference between minimum value and maximum value of asset experienced over a period. If the difference or range is wide it assumed to be more volatile and if range is less it is assumed to be less volatile. Variability between assets is associated with risk or uncertainty and hence deiced level of returns. Volatility in fact is because of two component symmetric and unsystematic risk .in a well diversified market the systematic risk measured by beta is assumed to be 1.a single asset can have beta more than 1 or less than 1 depending upon the class to which the asset belongs like growth, defensive, speculative, and cyclical etc.If the beta of individual security is more than 1 the return expected from that should be more than return generated on market portfolio. Commonly volatility is said to associated with when market crush or when prices of share drop or fall dramatically. Volatility is because of various factors that are so numerous that it is difficult to identify or study the impact of one factor responsible for decline in prices of securities. There are different schools of thoughts that try to explain volatility. One school of thought is of the opinion that it is nature and timing of information that comes to market is responsible for volatility. Based on information they have classified market into three types and each market type represent unique magnitude of volatility and offer scope for earning returns.

1. Weak form of market and magnitude of volatility.

Mostly markets are classified based on information and each type of market possesses different degree of volatility. In weak form of market, current prices of securities reflect only past information like prices of stock, trends, volume and turnover. Whereas private and public information if not reflected in current prices of securities ,hence this form of market represent highest type of volatility and beta of market is highest .similarly there is

greater probability that active trader will be able to generate either superior or inferior returns and less or moderate probability to derive risk adjusted returns.

2. Semi strong form of market .in this form of market current prices of securities reflect not only past but public information also like EPS,dividend payout ratio .therefore in semi strong form of market both past as well as public information is irrelevant or meaningless since investor cannot derive above average return as current prices of stock reflect information. Moderate volatility is seen in this form of market but still some undervalued securities are available and if investors does a good job in identifying these securities above average returns can be generated. Mostly beta of securities in semi strong form of market is close to 1.
3. Strong form of market. This form of market possesses least volatility and is characteristics of market of developed countries. Here all types of information past, public and private is useless as current prices of securities reflect all type of information. Mostly securities available in strong form of market are fairly priced and hence there is little scope for active trader to generate above average return or returns more than market. Beta of securities in strong of market is same as that of market portfolio or index. This if least volatile market

Therefore, this school of thought give importance to information to predict the volatility, moreover volatility keep on changing as new information flows into the market. They believe that information is responsible for volatility as investor react differently to arrival of new information and hence particular trends will

be formed. Information is incomplete, available on random basis, and investors perceive it differently give raise to volatility.

Implication of this school of thoughts.

Market and fundamentalist approach. Market and portfolio management.

The second school of thought urges that information have nothing to do with volatility. They are of the opinion that investor reactions based on psychological and other socio factors play a important role in shaping the markets. They believe that even if information is available to investors they react to hat information in a unique way .Moreover investor does not react immediately but wait for others to react and hence in meanwhile security prices reflect that information. In recent year, the topic of volatility has received great intention from market

participants since this is used, as measure of risk .volatility is also important to understand for deciding about asset allocation while structuring of portfolio.

Table 1 showing volatility year wise index.

Year	Nifty close	%change	Sensex close	%change
2001	1059.05	-16.2	3262.33	-17.9
2002	1093.50	3.3	3377.28	3.5
2003	1879.75	71.9	5838.96	72.9
2004	2080.50	10.7	6602.69	13.1
2005	2836.55	36.3	9397.93	42.3
2006	3966.40	39.8	13786.91	46.7
2007	6138.60	54.8	20286.99	47.1
2008	2959.15	-51.8	9092.72	-55.2
2009	3021.00	2.1	9706	6.7
2010	5249.00	73.8	17528	80.6
2011	5834.00	11.1	19445	10.9
2012	5296.00	-9.2	17404	-10.5
2013	5727.85	24.97	18704	19.4
2014	7634.70		22,339	

Source BSE

Volatility is an integral part of Indian stock market, which is visible sometime in the form of bull and bear. In bull market, security prices increase while in bear market security prices fall. This rise and fall or up and down decides total return and amount of variability/ volatility. Volatility represents the liquidity of the market based on particular share/stock. Volatility has remained topic of interest for money managers, investors, and researchers for the last few years. New financial innovations in the form of settlements, changing role of parties involved in market like FII's, investment and mutual fund companies have contributed to market growth and expansion. Volatility in stock market traditionally perceived as negative for money manager and retail investor, however, as of today, it is also considered as viable tool for making superior return.

Some of the Market anomalies responsible for volatility.

Anomalies that are because of a particular time are called calendar effects. Some of them are.

□□Weekend Effect: The weekend mean that the prices of securities will be much lower on Monday as compared to other days or in other words the prices of stock will decline on Monday and closing price will be lower on average on this particular day consistently than any other day. Infact Monday will be only weekday with a negative average rate of return.

Years Monday Tuesday Wednesday Thursday Friday

1950-2004 -0.072% 0.032% 0.089% 0.041% 0.080%

Source: Fundamentals of Investments, McGraw Hill, 2006

□□Turn-of-the-Month Effect: this calendar effect mean that stock prices of securities will raise on the last trading day of the month and first three trading days of the next month. Hence, prices of stock on average will remain high on last day of month and next three days of proceeding months as compared to that of other trading days.

1962-2004 0.138% 0.024%

Source: Fundamentals of Investments, McGraw Hill, 2006

□□Turn-of-the-Year Effect: this calendar effect mean increase in security prices and volume also in the last week of year and first two week of January.

1950-2004 0.144% 0.039%

Source: Fundamentals of Investments, McGraw Hill, 2006

□□January Effect: during the beginning of New Year, there is particular class of securities that outperforms rest of securities on consistent basis during first two to three week of month. Process is called as January effect.

Sometime the year effect and January effect may form the same trend as much of the January effect can be attributed to the returns small companies stocks.

□□Stock Split Effect: when prices of share of a particular company become so high that it become impossible for small investor to acquire that security as part of his portfolio. In this case, regulatory bodies asked those concerned companies to split their stock into smaller part with the result the number of share will increase without changing market capitalization. The result of stock split will be that prices of shares will increase after split. The purpose of the process will be that small investor will be in a position to acquire the security after split.

Why anomalies exist.

As already discussed that in case of efficient market where all investor get information at the same time without any loss of time therefore arrival of information is reflected in current prices

of stock .in weak form of market technical analysis is useless as current prices of securities reflect all past information. In semi-strong form of market, both technical and fundamental analysis is useless as current prices of securities reflect both past and public information. In strong form of market technical, fundamental and insider trading is not even profitable as security prices already reflect that information .but in case where market is not efficient anomalies persist and hence provide scope for anomalies and volatility .other factors responsible for anomalies are calendar effect, fundamental, technical, tax adjustment, dividend yield as trader use these anomalies to derive above average returns.

Profiting From Anomalies

Mostly trader uses these anomalies to derive profit. However, it is difficult to take help of anomalies to derive above average returns. Because first it is difficult to predict that anomalies or past trend will repeat itself. Even if these anomalies persist if we take into consideration trading cost and taxes into account, all the profit or superior returns generated will disappear. Moreover history is no predictor of future performance, so it difficult for traders to expect every Monday to be associated with low return and every January as with high returns.inspite of that still it is possible to take help from anomalies to derive above average returns

Review of literature.

Berument and Kiyamaz (2001) conducted research to find out the impact of day of the week effect in effecting the volatility in Indian stock market by using the S&P 500 market index. The finding of the research shows that day of the week effect is responsible for both volatility and returns.

Sarma (2004) conducted the research to find out the impact of day of the week effect in Indian capital market after reforms were initiated in Indian market. The study supports the evidences for positive deviation for all the indices. Therefore, it was concluded based on study that these patterns were useful in timing the market. Hence providing the scoop and opportunity for identifying the regularities in the Indian stock markets.

Chan et al. (2004) find out that on Monday institutional holding is comparatively low as against other days .it also explained that on Monday mostly active trader are those less sophisticated

individual investor trading in various stock available for generating superior returns whereas institutional investors hold back on Monday to see the trend so that they can invest accordingly.

Chander and Mehta (2007) pointed out that in efficient market all professional and active traders and investors often fail to predict market accurately to beat the market. It was also seen that weather anomalous patterns yield abnormal return consistently to beat the market after introduction of rolling settlement in Indian houses. post rolling settlement period were in harmony with those obtained elsewhere in the sense that Friday returns were highest and those on Monday were the lowest.

Barua and Srinivasan (1986, 1987, and 1991) Carried experiments to explore investment decision-making process and concluded that the risk attitude of investor is significantly influenced by total return generated. This means investor while investing was paying maximum weight- age to its maximum and minimum range of its dispersion rather than gain expected from its possession.

Lakonishok et.al. (1982) Found impact of settlement procedures on Weekend Effect i.e. settlement effect accounted for about 20% of the Weekend Effect, when market interest rates were used.

Levi (1978) Found evidence of settlement effect influencing the weekend returns.

Objective of the study

1. To study the stock market volatility.
2. To study the various factor responsible for stock market volatility.
3. To find out and classify investor and market related factors

Research Methodology

Methodology has been followed based on the objectives and the concerned hypotheses..

Study area

The study carried out in Jammu region of Jammu and Kashmir State. The information shall be collected from individual investors who have invested in share/Stock market through brokerage houses/companies /counters located in the study area.

Sample unit.

There are many brokerage houses operating in the study area. Out of the total top five namely India Bulls Securities, Share Khan Ltd, Angel Broking Ltd, Kotak Securities, and HDFC Securities, selected for the present study. Sample size is 380.

Data Collection

The proposed based on both the primary and secondary data. Primary collected through detailed questionnaire, which will be presented to investors who have made investment in shares/stocks. Secondary collected from different sources like websites, newspapers, magazines, research journals, reports, monograms, proceedings of seminars, conferences and published and unpublished works of Government and Non- Governmental Organizations. All the information /data collected through different sources shall be analyzed by using appropriate statistical tools and techniques to achieve the desired output.

Analysis and interpretation

The factors that the investors think are responsible for stock market volatility
N=380

Items	SD	D	N	A	SA	Chi-Square value	Asymp . Sig.
Earning and profitability of companies is contributing towards volatility	31 (8.2)	66 (17.4)	94 (24.7)	159 (41.8)	30 (7.9)	150.711	.000*
Loss Of Confidence Among Investor Is Responsible For Decline In Market	10 (2.6)	37 (9.9)	61 (16.1)	172 (45.3)	100 (26.3)	209.132	.000*
Corporate Mismanagement And Fraud Are Responsible For Volatility	7 (1.8)	41 (10.8)	61 (16.1)	202 (53.2)	69 (18.2)	291.263	.000*
Unfair Practices Of Brokers Is Contributing To Volatility	13 (3.4)	45 (11.8)	62 (16.3)	210 (55.3)	50 (13.2)	312.605	.000*
External Forces Are Responsible	4	33	81	214	48	353.363	.000*

For Volatility	(1.1)	(8.7)	(21.3)	(56.3)	(12.6)		
Internal or domestic factors are responsible for volatility	39 (10.3)	106 (27.9)	72 (18.9)	139 (36.6)	24 (6.3)	117.868	.000*
Investor believe that reason behind volatility are inflation and rise in crude oil prices	6 (1.6)	31 (8.2)	171 (45)	152 (40)	20 (5.3)	327.132	.000*
Investor consider calendar anomalies responsible for volatility	12 (3.2)	41 (10.8)	108 (28.4)	191 (50.3)	28 (7.4)	287.81	.000*
Investor believe that asymmetric information lead to volatility	6 (1.6)	37 (9.7)	113 (29.7)	190 (50)	34 (8.9)	296.711	.000*
Fiis are contributing to volatility	2 (5)	29 (7.6)	79 (20.8)	236 (62.1)	34 (8.9)	461.289	.000*
Herd behavior of investor is responsible for volatility	9 (2.4)	51 (13.4)	101 (26.6)	191 (50.3)	28 (7.4)	279.84	.000*

Note: The figures are in percent to total

*indicate significance level

SD=strongly disagree D=Disagree N=Neutral A=Agree SA=strongly agree

It is apparent from the above that 41.8% of the investors are of the opinion that earning and profitability of the companies are contributing towards volatility.24.7% cannot say anything as they are neutral whereas 17.4% do not believe that earning and profitability is responsible for volatility in India.

From the above data, it is clearly visible that majority of the investor consider that loss of confidence among investors is responsible for volatility in Indian stock market 45.3% agree and 26.3% strongly agree. Moreover, 16.1% of the investors are neutral and numbers of investors who do not agree with this are very few.

The descriptive analysis also shows that more than 70% of the investors believe that corporate mismanagement and fraud are responsible for volatility in Indian stock market.16.1% of the investors are neutral and some of the investors are also who do not consider this variable as responsible for volatility in stock market.

It is also observed from the above data that majority of the investors consider 53.3% of them unfair practices of brokers as reason for volatility in Indian stock market.18.2% strongly believe that this variable is responsible for volatility 16.3% neither agree nor disagree whereas few investors are also those who do not agree with this statement.

Similarly, 56.3% of investors consider external forces responsible for volatility in India 12.6% strongly agree whereas 21% neither agree nor disagree and less than 12% investors do not consider this variable as reason for volatility in Indian stock market.

The descriptive analysis also shows that approximately equal number of the investors believes and equal numbers do not believe that internal or domestic factors are responsible for volatility in Indian stock market.

The results also indicate that most of the investors 45% neither agree nor disagree that inflation or rise in crude oil prices are responsible for volatility in India, whereas 40% agree that this variable is responsible for volatility in India.

It is also apparent from descriptive analysis that most of the investors consider calendar anomalies responsible for volatility in stock market. Whereas some of the investors do not consider this variable responsible for volatility and few of them neither agree nor disagree.

The above results also clearly shows that majority of the investors consider 50% asymmetric information as responsible for volatility. 8.9% strongly believe in this. Whereas, 29.7% neither agree nor disagree and less than 15% do not believe that this variable as responsible for volatility in India.

The results also indicate that majority of the investors consider FIIs as responsible for volatility in Indian stock market 70% approximately. Whereas 29.7% neither agree nor disagree few investors are also who do not believe that this variable is responsible for volatility in India.

The results also indicate that more than 50% of the investors are of the view that herd behavior of the investors is responsible for volatility in India. Whereas 26.6% neither agree nor disagree and 15.8% of the investors do not think that herd behavior is responsible for volatility in Indian stock market.

Showing ranking of factors responsible for volatility

S.N O	Factors responsible for volatility	Minimum	Maximum	Mean	Std. Deviation	Rank
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1	Earning and profitability of companies is contributing towards volatility	1	5	3.24	.861	10
2	Loss Of Confidence Among Investor Is Responsible For Decline In Market	1	5	3.83	.712	1
3	Corporate Mismanagement And Fraud are Responsible For Volatility	1	5	3.75	.938	2
4	Unfair Practices Of Brokers Is Contributing To Volatility	1	5	3.63	.970	5
5	External Forces Are Responsible For Volatility	1	5	3.70	.836	4
6	Internal or domestic factors are responsible for volatility	1	5	3.01	.145	11
7	Investor believe that reason behind volatility are inflation and rise in crude oil prices	1	5	3.39	.777	9
8	Investor consider calendar anomalies responsible for volatility	1	5	3.48	.897	7
9	Investor believe that asymmetric information lead to volatility	1	5	3.55	.847	6
10	FII's are contributing to volatility	1	5	3.71	.754	3
11	Herd behavior of investor is responsible for volatility	1	5	3.47	.899	8

The data available in above table shows the factors responsible for stock market volatility .The factors are ranked based on their mean values ,variable having higher mean value mean investors consider that factor more important as compared to that of one having less means.

The results shows that investor consider loss of confidence as the most significant factor responsible for stock market volatility as it has highest mean value among all factors 3.83.

The second most important factors, which the investor thinks that is responsible for stock market volatility is corporate mismanagement and fraud as it has a mean value of 3.75.

The third most significant factors, which the investors believe is responsible for stock market volatility is foreign institutional investors as it has a mean value of 3.71.

The next most important factor, which the investors think, that is responsible for stock market volatility is that external forces are responsible for stock market volatility as it has mean value of 3.70.

The results also indicate that investor consider unfair practices of broker as important factor that is contributing towards volatility as it has mean value of 3.63.

The next most significant factor responsible for stock market volatility as per investor perception is asymmetric information contributing towards volatility as it has mean value of 3.55.

The results also shows that investor also consider calendar anomalies responsible for stock market volatility as it has mean value more than 3 as being 3.48.

From the above data it is apparent that investors consider herd behavior of investors responsible for stock market volatility as it has a mean value of 3.47.

Similarly, the results also indicate that stock market volatility is contributed by inflation and rise in crude oil price as it has a mean value of 3.39 as per investor's perception.

Similarly, it has been seen that investors consider earning and profitability of companies that is contributing towards volatility as it has mean value of 3.24.

The investors believe that internal or domestic factors are responsible for stock market volatility as it has mean value of 3.01 but it not that significant as per investor perception as it has mean value nearly 3.

Moreover, all these factors are classified into two types first being investor related factors and second being market related factors. Investor related factors are herd behavior of the investors, loss of confidence among investors, unfair practices, corporate mismanagement, where as market related factors being FIIS, Asymmetric information, calendar anomalies, and inflation and rise in crude oil prices.

After identifying these two types of factors, the researcher has attempted to draw the comparative analysis by calculating the average mean of both types of factors. The types of factors having higher average mean will be having more impact or significance as perceived by the investors that affect volatility in Indian stock market.

Investor related factors

S.No	Factors	Mean
1	Loss Of Confidence Among Investor Is Responsible For Decline In Market	3.83
2	Corporate Mismanagement And Fraud Are Responsible For Volatility	3.75
3	Unfair Practices Of Brokers Is Contributing To Volatility	3.63
4	Herd behavior of investor is responsible for volatility	3.47
5	Average Mean	3.67

Average Mean= $F_1 + F_2 + \dots + F_N / N$

F₁=First factor

F₂=Second factor

F_N=Last or Nth factor

N=Number of the factors

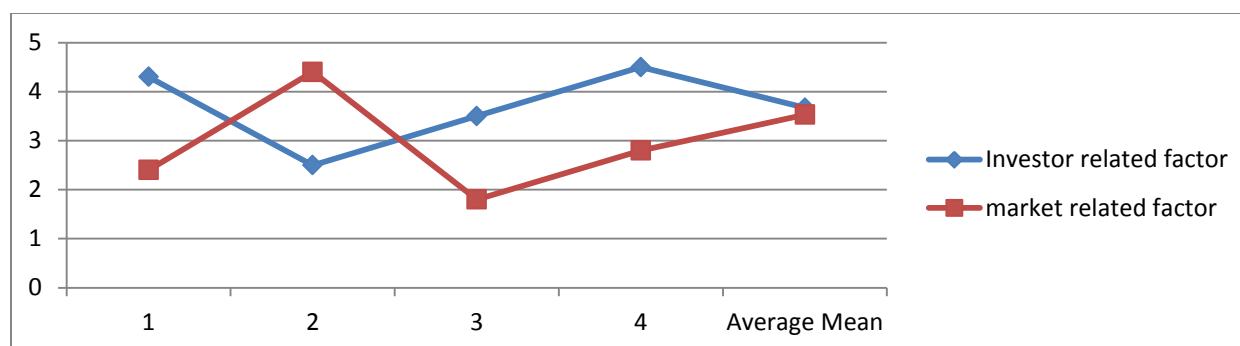
Market related factors

S.No	Factors	Mean
1	Investor believe that reason behind volatility are inflation and rise in crude oil prices	3.39
2	Investor consider calendar anomalies responsible for volatility	3.48
3	Investor believe that asymmetric information lead to volatility	3.55
4	FIIS are contributing to volatility	3.71
5	Average Mean	3.53

Average mean=total mean of all the market related factors/total numbers of factors

The results derived from the above tables shows that investor related factors have more significant affect on volatility in Indian stock market as compared to that of market related factors since the average mean values of investor related factors is 3.67 whereas average mean of market related factors is 3.53. Therefore it can be concluded from the data that investors perceive or believe that investors or organization related factors are more responsible for volatility as compared to that of market related or external factors.

Graphical representation of investor and market related factors.



Conclusion and suggestion.

- The results shows that investor consider loss of confidence as the most significant factor responsible for stock market volatility. The second most important factors, which the investor thinks that is responsible for stock market volatility is corporate mismanagement and fraud, The third most significant factors, which the investors believe is responsible for stock market volatility is foreign institutional investors. Investor related factors are more significant affect on volatility in Indian stock market as compared to that of Market related factors.
- Investors most important objective for investing in stock market having feature of volatility is that they believe that in volatile market investors have more chance for deriving above average returns or superior returns. The second most important factors for investors for investing in volatile market is that they believe that in volatile market undervalued securities are frequently available as due to volatile nature of market investors are not willing to invest in this form of market due to fear and hence most of the times securities are available at a price lower than its actual price.

The results also shows that investors prefer tactical strategy rather diversification in volatile market in order to earn superior returns

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