AN ANALYTICAL STUDY ON FACTORS AFFECTING STOCK MARKET VOLATILITY WITH SPECIAL REFERENCE TO BOMBAY STOCK EXCHANGE (BSE)

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Abstract: Understanding the stock markets as how it works & what to expect from it, is a huge piece of armour that an individual entering in to the battlefield of stock market can take with him. Extreme moments in stock prices because of fear and anticipation made life tough for a rational investor. Understanding the irrational behaviour deserves more important that it has ever had. Today' s investment decisions demand a better understanding of individual investors' behavioural biases. It is found during the research that the investment decision of the investors is most affected by the Exchange rate movements and Demand and Supply. Investors also consider Industry Performance as one of the important factor that influences the stock market movement.

Keywords: Volatility, Factor analysis, Stock market, etc.

1.1 Introduction:

A common problem plaguing the low and slow growth of small developing economies is the shallow financial sector. Financial markets play an important role in the process of economic growth and development by facilitating savings and channelizing funds from savers to investors. While there have been numerous attempts to develop the financial sector, small island economies are also facing the problem of high volatility in numerous fronts including volatility of its financial sector.

Volatility may impair the smooth functioning of the financial system and adversely affect economic performance. Similarly, stock market volatility also has a number of negative implications. One of the ways in which it affects the economy is through its effect on consumer spending. The impact of stock market volatility on consumer spending is related via the wealth effect. Increased wealth will drive up consumer spending. However, a fall in stock market will weaken consumer confidence and thus drive down consumer spending. Stock market volatility may also affect business investment and economic growth directly. A rise in stock market volatility can be interpreted as a rise in risk of equity investment and thus a shift of funds to less risky assets. This move could lead to a rise in cost of funds to firms and thus new firms might bear this effect as investors will turn to purchase of stock in larger, well known firms.

1.1 **Need and Importance of the Study:** Much of economic and financial theory is based on the notion that individuals act rationally and consider all available information in the decision-making process. However, researchers have uncovered a surprisingly large amount of evidence that this is frequently not the case. The primary objective of this research is to study the factors that affect the volatility in the Bombay Stock Exchange (BSE). Due to severe global crisis, there exist a huge volatility take place in the world financial markets and Indian markets have been no exception. Understanding the stock markets as how it works & what to expect from it, is a huge piece of armour that an individual entering in to the battlefield of stock market can take with him. Extreme moments in stock prices because of fear and anticipation made life tough for a rational investor. Understanding the irrational behaviour deserves more important that it has ever had. Today' s investment decisions demand a better understanding of individual investors' behavioural biases.

2. Literature Review:

Kwon and Shin (1999) applied Engle-Granger co integration and the Granger-causality tests from the Vector Error Correction Model (VECM) and found that the Korean stock market is co integrated with a set of macroeconomic variables. However, using the Granger-causality test on macroeconomic variables and the Korean stock index, the authors found that the Korean stock index is not a leading indicator for economic variables. Mayasmai and Koh (2000) used the Johansen co integration test in the Vector Error Correction Model (VECM) and found that the Singapore stock market is co integrated with five macroeconomic variables.

Muradoglu, Metin and Argac (2001) examined the long-run relationship between stock returns and three monetary variables (overnight interest rate, money supply and foreign exchange rate) in Turkey. They pointed out that the whole sample period (1988-1995) showed no co-integrating relationship between stock prices and any of the monetary variables. This is also true only for the first sub-sample (1988-1989) but all the variables were co integrated with stock prices for the second (1990-1992) and third sub-samples (1993-1995). Nevertheless, in general, Ibrahim and Aziz (2003), Booth and Booth (1997), Wongbanpo and Sharma (2002), Chen (2003), Chen et al. (2005) and Mukherjee and Naka

(1995) reveal that the rate of inflation, money growth, interest rates, industrial production, reserves, and exchange rates are the most popular significant factors in explaining the stock market movement. However, empirical studies by Barrows and Naka (1994) conclude that inflation has negative effects on the stock market. The ‘ exchange rate channel’ by Pan et al. (2007) is consistent with the ‘ flow oriented’ exchange rate model, introduced by Dornbusch and Fisher (1980). They affirm that exchange rate movements initially affect the international competitiveness and trade position, followed by the real output of the country, and finally affects the current and future cash flows of companies, which can be inferred from the stock price movements. Donatas, P., & Vytautas B.,(2009) analyses the relationships between a group of macroeconomic variables and the Lithuanian stock market index and reveals that some macroeconomic variables lead Lithuanian stock market returns.

A detailed survey of the studies and reports related to the topic was conducted. Most of the studies were on developed countries and only a few studies were available in the Indian context. It was seen that the range of methods used varied from simple regression and correlation in a few cases to causality and co-integration tests in many cases. There was no consistent pattern of relationship and the studies were non-conclusive and in case of certain periods and of countries, it was seen that long term relationship prevailed whereas the relationship was too short term in case of certain others. Studies were more conclusive with respect to developed countries but were period specific and country specific. The validity of the period varied from very short term and event based to medium term and long term in some cases

3. Objectives of the research:

a. To understand the perception of investors towards stock market volatility
b. To examine the factors affecting stock market volatility.

4.1 Research Methodology:

For the purpose of this research, descriptive research design has been used to describe the factors affecting stock market volatility with special reference to Bombay Stock Exchange.

4.2 Data Collection:

In order to collect the primary data on factors affecting stock market volatility, semi-structured questionnaire has been distributed to stock brokers and investors in stock markets.

Secondary data has been collected from official website of BSE, journals, magazines, literatures, etc.

4.3 Sample size and Sampling Technique:

In the present study, both types of sampling techniques, Simple Random Sampling as well as Judgmental/Purposive Sampling will be used to investigate the research problem under consideration. In this study the sampling unit is present investor and prospective investor. A sample size of 160 investors (present and proposed).

5. Data Analysis:

As mentioned in Research Methodology a sample of 160 current and prospective investors was drawn randomly. Primary data is collected from the investors by asking them how much do they agree about the various factors that fluctuate the stock market. Factors analysis test has been applied on the data collected through questionnaire.

5.1 Factor Analysis:

Factor analysis is performed on various factors and they are classified under four dimensions viz. Economic Volatility, Market Volatility, Behavioural Volatility and Fundamental Volatility which is as follows:

Table 1.1 Component Transformation Matrix

Component	1	2	3	4
1	.929	.216	-.007	.299
2	.100	-.792	.535	.276
3	-.299	.535	.562	.555
4	.192	.197	.631	-.726

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Factors like GDP, Exchange Rate, hype Created in market, Interest Rates, Inflation and Industry Performance come under one dimension so they were named as Economic Volatility. Factors like World Events, Demand and Supply, Natural Disaster and War & Terrorism are classified under next dimension which was named as Market Volatility. Factors like Scandals and Speculations are classified under dimension Behavioural Volatility and lastly the remaining factors like Company News and Politics are classified under the dimension Fundamental Volatility.

The dimensions created were as follows:

Table 1.2 Dimensions of Fundamental Analysis

Economic Volatility	Market Volatility	Behavioural Volatility	Fundamental volatility
GDP	World Events	Scandals	Company News
Exchange Rate	Demand & Supply	Speculations	Politics
Hype Created in Market	Natural Disaster		
Interest Rates	War & Terrorism		
Inflation			
Industry Performance			

6. Conclusion:

According to the study, the investment decision of the investors is most affected by the Exchange rate movements and Demand and Supply. Investors also consider Industry Performance as one of the important factor that influences the stock market movement. The decision of investors in affected by the Interest Rates charged by Banks and RBI policies in deciding the interest rates. Investors change their investment decisions with the changes in interest rates. Apart from the interest rates, the investment decision of the investors in affected by the hype created in market. Since the Indian market works on the principle of Efficient Market hypothesis, which states that it is impossible to "beat the market" because stock market efficiency causes existing share prices to always incorporate and reflect all relevant information.

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