An Examination of the Volatality of the Equity Shares of chosen Cement Companies traded on the National Stock Exchange

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ABSTRACT

Volatility Equity shares helps the investors or players in the capital market to find out the buy and sell signals about shares on the basis of quantity of risk thereon. In this paper researchers examine the volatility in equity share prices of selected units under study. To measure the volatility, the prices (for the financial year 2014-2016) of Ambuja cement Ltd. ACC cement Ltd & Ultra Tech Cement ltd. were analyzed with the help of statistical tool like, Mean, Variance, Standard Deviation, Beta, T- Statistics. It was concluded that volatility analysis is a faithful analysis to measure the risk on financial assets and it also helpful to take short and long position in the market.

KEYWORDS: Short Position, Volatility, Security, Long Position, Market.

1. INTRODUCTION

Volatility measures the variability of changes in stock prices which helps to know the risk of a financial instrument. Prices of securities move positive and negative every day in the stock markets. Fluctuation in prices of a security comes from the unstable demand and supply of that security. If supply side is greater than its demand, the price would start to go down and if demand side of a security is greater than its supply, the price would start to go up. The relative rate of fluctuation at which price of a security moves up and down is called volatility. It means if volatility increases in the prices of a financial instrument, the risk also increases on that instrument. The volatility does not measure the direction of prices but it measures the desperation among the prices which helps to know the risk on an instrument. On the basis of risk on an instrument, investors can analyze their capacity to bear risk and also can make decisions relating to invest their excess fund in financial assets.

Volatility can be calculated by using standard deviation or variance between returns from that same security or market index. In back, instability (image σ) is the level of variety of an exchanging value arrangement after some time as measured by the standard deviation of logarithmic returns. Historic volatility is derived from time series of past market prices. An inferred instability is gotten from the market cost of a market exchanged subordinate (specifically an alternative).

2. REVIEW OF LITERATURE

In the past, various numbers of works have been conducted and completed on this topic and some of the renowned works out of them are mentioned below:-

Nair N.K. (1991) has focused the productivity aspect of Indian Cement Industry. This review accentuated that bond, being a development material, possessed a vital place in the Indian economy. This review has uncovered that, in 1990-91, the industry had an introduced limit of 60 million tons with a creation of 48 million tons. In this review, the bond business was estimated to have a limit development of around 100 million tons by the year 2000. This review has likewise dissected the profitability and monetary execution proportions of the bond business with a view to recognizing the real issue zones and the prospects for understanding them.

Subic Cokavn and Rajendra Vadiya (1993) have broken down to assess the execution of concrete industry after decontrol. They found that the performance of the cement industry after decontrol was characterized by outcomes that were generally competitive and welfare enhancing. This review has uncovered that the structure of the business changed essentially with expansive size of relative mechanically and unrivaled limit being made by numerous new contestants into the business. It was likewise seen in this review there were noteworthy genuine cost increment and a related increment in productivity. The performance of firms across the strategic group was different with firms operating relatively new and large plants appeared to have an advantage further, the study has dealt with the nature and effect of inter-firm heterogeneities in the cement industry.

Chandra senkaran N. (1993) has made an attempt to examine determinants of profitability in cement industry. He identified that profitability was determined by structural, as well as, behavioral variables. He also identified that the other variables 17 which influenced profitability were growth of the firm, capital turnover ratio, management of working capital, inventory turnover ratio etc. Some of the main changes in the cement industry environment during 1980's identified in this study were from complete control to decontrol, number of new entrants and substantial additions of limit, changing innovation from wasteful wet procedure to effective dry process and from states of shortage of bond to close brag in the market.

Rajeswari N. (2000), in her study on liquidity management of Tamil Nadu Cement Corporation Ltd., Alangulam, identified that the liquidity position of the Tamil Nadu Cements Corporation Ltd. (TANCEM) was not satisfactory in terms of Quick ratio and Current ratio. She concluded that necessary steps ought to be taken to improve the liquidity position of the company.

Ghosh S.K. and Maji S.G. (2004), in their paper, to inspect the effectiveness of Working capital administration of the Indian concrete organizations from the year 1992-1993 to 2001-2002. They finish up from the review showed that the Indian bond industry, all in all, did not perform great perform amid the chose time of the review.

Bardies S C (2006), in his study on Liquidity Management of Steel Authority of India Limited, has analyzed the overall performance of liquidity maintained by steel sector and the amount tied-up in various components of working capital. This study has found that there was a positive relationship between liquidity and profitability.

Sadipta Ghosh (2008) has analyzed the liquidity performance of Tata Iron and Steel Company (TISCO). During the selected period of the study, it was found that the liquidity position of the company, on the basis of current ratio as well as quick ratio, was not satisfactory. It indicated that the share of current assets in total assets of the company, on an average, was 29.1 percent during the period of study. It was suggested that to maintain overall control of liquidity position, the company should give special attention to the management of current assets. He found that the degree of influence of liquidity on its profitability was low and insignificant.

Raja Mohan .S and Vijay Raga van T. (2008) have studied on production performance of Madras Cement Limited. it can be analyzed the comparative production performance of Madras cement and all other cement companies in India. Statistical method Mann-Whitney U-test was applied. The results of analysis indicated that the production performance of selected unit was equal to production performance of all other cement units in India.

Objective Of The Study

The objectives of the present study are:-

1. The objective of this paper is to evaluate the mean and variance of selected cement companies listed on national stock exchange.
2. To analysis the market risk (beta) of selected cement companies with reference to nifty 50.

3. RESEARCH METHODOLOGY

The present study has been conducted to find out a solution for the problem "A study on Equity shares volatility of selected cement firms in national stock exchange". Thus, an analytical research design has been used in this study.

STUDY AREA AND UNITS

The study is concerned with the some units selected from the sector of Indian cement industry. Three units were selected from category of cement manufacturers (Ambuja cement Ltd, ACC cement Ltd and Ultra tech ltd). Each unit was matched for their Size, production and organizational structure with the other unit in same category. Shares of each unit were listed on the National stock Exchange and the listing procedures of the securities of these units ensure almost similar guidelines issued by SEBI. Three the units are quite old, i.e. three decades.

UNIT PROFILE: Unit wise profile of the selected units is given below:-

Ambuja cement ltd

Ambuja cements Ltd (ACL) was incorporated in the year 1981 as Ambuja Cements pvt Ltd. The organization was built up as a joint wander between people in general part Gujarat Industrial Investment Corporation (GIIC) and Narottam Sekhsaria and Associates. In May 19, 1983, the association was re-established into an open compelled association. Hence, the organization name was changed to Gujarat Ambuja Cements Ltd. Facilitate; the name was changed to Ambuja Cements Ltd.

Ambuja Cements is a vital security conveying association in India. The key action of the organization is to produce and market concrete and clinker for both local and fare markets. The organization has five incorporated concrete assembling plants and eight bond pounding units. It is the first Indian cement manufacturer having a captive port with three terminals along the country's western coastline to facilitate timely, cost effective and environmentally cleaner shipments of bulk cement to its customer.

ACC cement ltd

ACC Ltd is India's foremost manufacturer of cement and concrete. The company is engaged in the manufacture of cement and ready-mixed concrete. They manufacture a range of Portland cement for general construction and special applications. In addition, they also offer two products namely, bulk cement and ready mix concrete. The organization's operations are spread all through the nation with 16 present day bond industrial facilities, more than 40 Ready blend solid plants, 20 deals workplaces, and a few zonal workplaces. Their helpers join ACC Concrete Ltd, Bulk Cement Corporation (India) Ltd, and ACC Mineral Resources Ltd, Lucky Min mat Ltd, National Limestone Co pvt Ltd and Encore Cements and Additives Private Ltd. ACC Ltd was combined on August 1, 1996 as The Associated Cement Companies Ltd.

Ultra tech cement ltd

Ultra Tech Cement Ltd is an India-based organization occupied with the creation of concrete. The company manufactures and markets Ordinary Portland Cement Portland Blast Furnace Slag Cement and Portland Pozzalana Cement. They additionally produce prepared blend concrete. They are having 11 coordinated plants one white bond plant 12 pounding units and five terminals four in India and one in Sri Lanka. The organization is the backup of Grasim Industries Ltd.

The organization is the nation's biggest exporter of concrete clinker. The fare markets traverse nations around the Indian Ocean Africa Europe and the Middle East. The company's subsidiaries are Dakshin Cements Ltd Ultra Tech Cement Lanka pvt Ltd.

SAMPLE DESIGN

TABLE-1: SELECTED UNITS IN THE SAMPLE

Name of the Unit	Type of Security
Ambuja cement ltd	Equity shares volatility
ACC cement ltd	Equity shares volatility
Ultra Tech cement ltd	Equity shares volatility

Sample for the study includes the 100% of risky securities (because all selected securities are risky in nature such as equity shares) as indicated in Table-1.

Procedure of data collections

Analysis of every research work is based on relevant data and it can be collected by two ways: by way of primary data collection and by way of secondary data collection.

Primary data

Generally data can be classified in primary data and secondary data.

Secondary data

My study totally depends on secondary data only. Secondary data is data which is collected through various sources like:-

Newspapers, journals magazine, BSE, NSE, Government Annual progress report, etc.

Web sites: yahoo finance .in. www.nseindia.com

Time period

Every research work is always limited by shortage of time and resources. Therefore, under the study, share prices of selected companies from Jan, 2014 to Dec 2016 were analyzed by the researcher with the help of mean, variance, standard deviation, beta, and T-test.

Hypothesis

Hypothesis refers to the assumption which is made about the sample before reading the final result. It gives the direction for the whole project of the research. In our study, the hypotheses

Which have been adopted given blow:-

H^0: There is no significance difference between stock return of selected companies.

H^1: There is significance difference between stock return of selected companies.

Statistical methods

To test the hypothesis and to meet the objectives of the study, raw data were treated with different kinds of analysis. For zcarrying out the analysis the different types of tests were used like t-test and to know the volatility in the equity of unit of sample mean and standard deviation were used. It may be clarified that the confidence level of probability to accept the hypothesis fixed for T-test was 0.05.

Analysis and Explanation

Ambuja cement ltd

Descriptive statistics

Inference

From the above table shows the highest mean value as 0.0399 in the year of 2014, lowest mean value as -0.018 in the year 2015. The highest standard deviation as 0.102 in the year 2016, lowest standard deviation as 0.052 in 2015. Highest variance as 0.0104 in 2016 and lowest value as 0.0027 in 2015. It indicates high volatility of the study period.

ACC cement ltd

Descriptive statistics

Year	mean	standard deviation	sample variance
2014	0.02413	0.102875	0.0105832
2015	-0.00078	0.059547	0.0035457
2016	0.000846	0.076909	0.0059150

Inference

From the above table shows the highest mean value as 0.024 in the year of 2014, lowest mean value as -0.00078 in the year 2015. The highest standard deviation as 0.102 in the year 2014, lowest standard deviation as 0.0595 in 2015. Highest variance as 0.010 in 2014 and lowest value as 0.0035 in 2015. It indicates high volatility of the study period.

Ultra Tech cement ltd

Descriptive statistics

Year	mean	standard deviation	sample variance
2014	0.038650	0.0873736	0.0076341
2015	0.006284	0.0835389	0.0069787
2016	0.015764	0.0772390	0.0059658

Inference

From the above table shows the highest mean value as 0.0038 in the year of 2014, lowest mean value as 0.0062 in the year 2015. The highest standard deviation as 0.087 in the year 2014, lowest standard deviation as 0.07723 in 2015. Highest variance as 0.0076 in 2014 and lowest value as 0.0059 in 2016. It indicates high volatility of the study period.

BETA CALCULATION

Year	Ambuja	ACC	Ultra tech
2014	1.41687	-1.10327	-0.14609
2015	1.26613	-0.20436	-0.32383
2016	1.96555	0.51998	-0.35273

Inference

Beta value is positive in Ambuja cement it shows that there is a positive trend between Individual stock returns and market return where as ultra tech has all time negative trend between individual stock return and market return.

T-Test for ACC & Ambuja

t-Test: Paired Two Sample for Means		
	ultra	*Ambuja*
Mean	0.020233072	0.013087
Variance	0.006657469	0.006285
Observations	36	36
Pearson Correlation	-0.083066197	
Hypothesized Mean Difference	0	
D f	35	
t Stat	0.362156561	
P(T<=t) one-tail	0.359706312	
t Critical one-tail	1.68957244	
P(T<=t) two-tail	0.719412623	
t Critical two-tail	2.030107915	

Tabulated value is 2.03. Since calculated value of t-stat -0.27. Is much less than the tabulated value. It is highly not significant. Hence, we accept the null hypothesis. Tabulated value is 2.03. Since calculated value of t-stat 0.36. Is much less than the tabulated value. It is highly not significant. Hence, we accept the null hypothesis.

T-Test for ACC & Ultra Tech

t-Test: Paired Two Sample for Means		
	Acc	*Ultra*
Mean	0.008065	0.020233
Variance	0.006433	0.006657
Observations	36	36
Pearson Correlation	0.699211	
Hypothesized Mean Difference	0	
D f	35	
t Stat	-1.16329	
P(T<=t) one-tail	0.12629	
t Critical one-tail	1.689572	
P(T<=t) two-tail	0.252581	
t Critical two-tail	2.030108	

Tabulated value is 2.03. Since calculated value of t-stat -1.16. Is much less than the tabulated value. It is highly not significant. Hence, we accept the null hypothesis.

Findings

From the study it was observed that the mean of Ambuja ACC and Ultra Tech Cement is high in the year 2014 and decreasing in subsequent years. Where as

t-Test: Paired Two Sample for Means		
	Acc	*Ambuja*
Mean	0.008065	0.013087
Variance	0.006433	0.006285
Observations	36	36
Pearson Correlation	0.023502	
Hypothesized Mean Difference	0	
D f	35	
t Stat	-0.27038	
P(T<=t) one-tail	0.394228	
t Critical one-tail	1.689572	
P(T<=t) two-tail	0.788456	
t Critical two-tail	2.030108	

standard deviation of Ambuja and Ultra Tech is high in 2016 and low in 2014. But standard deviation and variance of ACC cement is high in 2014 and low in 2016 it means shares are less volatile when compared to Ambuja and ultra tech, beta value is highest in Ambuja where as lowest in Ultra tech. The beta values for 3 years are positive for Ambuja and negative for Ultra tech. ACC beta values are negative for 2 years i.e.2014 & 2015.The beta value of Ambuja for year 2016 is 1.965 which is greater than 1. Hence it has greater volatility than overall market. The beta values for years 2014 & 2015 of Ambuja are close to 1 which proves that the funds performance is close to index. The beta value which is less than 1 has less volatility than index. The negative beta values does not have any significance.

Hypothesis testing shows that there is no significant difference between Ambuja, ACC, & Ultra tech returns.

4. CONCLUSIONS

With the above study it can now be concluded that volatility analysis is an effective analysis to measure the risk on financial instruments. This study also infers that,

more wise investment decision can be taken by investors with the help of a study on equity shares volatility of selected cement firms in national stock exchange in the share prices, because it analyzes the security on the basis of range of price fluctuation of a security. But it should not forget that actual share price are influenced by many factors as such- internal information, inflation other factors, and etc. So, decisions relating to buy and sell of securities should not take only on the basis of volatility analysis.

Conflict of interest statement

Authors declare that they do not have any conflict of interest.

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