ANALYSIS OF TOP PERFORMING STOCK PRICE MOVEMENT AND VOLATILITY

Dr.S.KRISHNAPRABHA

Associate Professor

Department of Management Studies

Sri Ramakrishna Engineering College, Coimbatore, India

Abstract : Volatile nature of capital market the decision making process for an investor is very difficult. The major factors to be considered while making investment decision are risk and return. An informed investor has to seek an effective trade-off between these two factors. Portfolio is a combination of securities such as stocks bonds and money market instruments. Diversification of investments over different assets helps to reduce risk without sacrificing return. When determining a proper asset allocation, one aims at maximizing the expected return and minimizing the risk. An effort to construct an optimal portfolio from 15 top performing shares which are constituents of NSE index. This study is very helpful to get an awareness of various decisions in Capital Market.

IndexTerms **- Volatile, risk, return, RSI, MACD, ADX, Chaikin**

I. INTRODUCTION

Portfolio is a combination of securities such as stocks bonds and money market instruments. Diversification of investments over different assets helps to reduce risk without sacrificing return. When determining a proper asset allocation one aims at maximizing the expected return and minimizing the risk. The process of blending together the broad asset classes so as to obtain optimum return with minimum risk is called portfolio construction.

1.1Approaches to Portfolio Construction

There are two approaches to portfolio construction

- Traditional approach

- Modern approach

In traditional approach, investor's needs in terms of income and capital appreciation are evaluated and appropriate securities are selected to meet the needs of the investor. The common practice in the traditional approach is to evaluate the entire financial plan of the individual.

In modern approach, portfolios are constructed to maximize the expected return for a given level of risk. It views the portfolio construction in terms of the expected return and the risk associated with obtaining the expected return.

II. Review of Literature:

Bilbao A, Arenas M, Rodriguez M V and Antomil J (2007)[1], studied "On Constructing Expert Betas for Single-Index Model", proposed a methodological approach of an extension of Sharpe's Single Index model, called "Sharpe's Model with Expert Betas". This extension was carried out through the construction of betas obtained from both statistical and imprecise expert estimations.

Kwok Wai Yu, Xiao Qi Yang, Heung Wong (2007)[2], this paper explained the applications of the Sharpe rule in portfolio measurement and management. It proposes that a portion of the portfolio value should be invested in some other assets for portfolio improvement. With the help of Sharpe rule they determined that the new stocks are worthy of adding to the old portfolio if they satisfy a condition, in which the average return rate of these stocks is greater than the return rate of the old portfolio multiplied by the sum of the elasticity of the Value at Risk and

Ebner and Neumann (2008)[3] explained the correlation instabilities in US stock returns and used three different estimation approaches to overcome the problem : (1) moving window least squares, (2) flexible least squares and (3) the random walk

model. The results suggest that a time-varying estimation of return correlations fits the data considerably better than time invariant estimation and thus, increases the efficiency of risk estimation and portfolio selection.

Kamal and Javed Bin(2012)[4] The paper aims at constructing an optimal portfolio by applying Sharpe's single index model of capital asset pricing in different scenarios, one is ex ante stock price bubble scenario and stock price bubble and bubble burst is second scenario. Percentage of an investment in each of the selected stocks is decided on the basis of respective weights assigned to each stock depending on respective 'β' value, stock movement variance representing unsystematic risk, return on stock and risk free return vis-à-vis the cut off rate of return and most of the stocks selected turned out to be bank stocks.

Fikriyah Abdullah, Taufiq Hassan, and Shamsher Mohamad (2007)[5] said like one of the implications of Islamic investment principles is the availability of Islamic financial instruments in the financial market. The main aim of this research is to observe the differences in terms of performance between Islamic and conventional mutual fund in the context of Malaysian capital market. To achieve the major objectives of these paper standard methods were used for evaluating the mutual funds performance, for example, Sharpe index and adjusted Sharpe index, Jensen Alpha, Timing and selectivity ability. The basic finding of the paper is that Islamic funds performed well than the conventional funds during bearish economic trends while, conventional funds showed better performance than Islamic funds during bullish economic conditions.

III. Research Methodology

3.1 Type of research

The research is quantitative and analysis research. The study is descriptive type of study. The descriptive study is quite possible in the situation of having quantitative data.

3.2 Research design

Descriptive research design is followed in the study in order to describe risk and return of the selected stocks.

3.3 Sample Size

The sample size is 15 top performing shares taken from NSE Index.

3.4 Data collection Method

The data used for the research work is secondary data which was collected for a period of 12 months from 2017-18 from the National Stock Exchange (NSE) website.

3.5 Method of Sampling

Judgmental sampling involves the choice of subjects who are most advantages placed or in the best position to provide the information required.

3.6 Period of Study

The period of study covers a period of 12 months 2017 - 2018. Secondary data has been collected

IV. Objectives of the Study

- To analyse the risk return of the selected shares
- To identify the overbought and oversold position of the selected stocks
- It analyse the strength, direction, momentum, and duration of a trend in a stock's price.

V. Analysis & Interpretation

The data for study, mainly stock prices for one year was collected from the NSE India website. The analysis done using those data and its interpretations are discussed under following headings. Analysis of Risk of Securities, Measuring Return and Risk of of the selected stocks.

4.1 Ranking of Securities

The NSE securities are ranked based on $(R_i - R_f)/\beta$ ratio.

Where;

R_i= Return of the security

R_f = the risk free rate

The latest MIBOR (Mumbai Inter Bank Offer Rate) is taken as risk free rate R_f. The present rate is 7.21 %. Hence, 7.21% is taken as risk free rate for calculation.

4.1 Return and Risk Association with the Selected Stocks

Name	Close Price	Opening Price	One year gain /loss %	Beta	SD
Adani Ports & Special Economic Zone Ltd.	387.25	352.15	9.97%	1.30	8.69
Ambuja Cements Ltd.	235.0	244.9	-4.042%	1.22	6.19
Asian Paints Ltd.	1156.75	1059.2	9.21%	0.924	6.62
Aurobindo Pharma Ltd.	607.85	654.95	-7.191%	1.07	8.34
Axis Bank Ltd.	546.15	510.75	6.93%	1.75	7.22
Bajaj Auto Ltd.	2766.45	2837.0	-2.487%	0.777	4.71
Bajaj Finance	1926.05	1240.75	55.23%	0.970	7.67
Bharat Petroleum Corporation Ltd.	451.15	466.867	-3.366%	1.45	8.26
Bharti Airtel Ltd.	385.55	345.7	11.53%	1.11	8.09
Bharti Infratel	335.45	357.0	-6.036%	0.672	7.15
Bosch Ltd.	19747.9	22730.2	-13.120%	1.41	8.23
Cipla Ltd.	558.15	589.65	-5.342%	1.14	7.31
Coal India Ltd	280.9	286.75	-2.040%	1.27	7.47
Dr. Reddy's Laboratories Ltd.	2112.1	2635.85	-19.870%	0.946	9.47
Eicher Motors Ltd.	29972.1	25578.2	17.18%	0.972	7.65

Returns:

Bajaj Finance has a very high returns, Eicher Motors Ltd., also gives highest return and Bosch Ltd. and Dr.Reddy's Laboratories Ltd., gives a high negative returns.

Standard Deviation, Volatility (unsystematic risk):

Dr.Reddy's Laboratories Ltd., and Adani Ports & Special Economic Zone Limited shares are highly volatile. Bajaj Auto Ltd., and Ambuja Cements Ltd., shares are less volatile.

Beta (systematic risk):

Axis Bank Ltd., and Bharat Petroleum Corporation Ltd., shares are highly volatile than the market. Bharti Infratel and Bajaj Auto Ltd., share almost moves along with the shares.

4.2 MACD

MACD, short for moving average convergence/divergence, is a trading indicator used in technical analysisof stock prices. It reveals changes in the strength, direction, momentum, and duration of a trend in a stock's price.

The MACD indicator (or "oscillator") is a collection of three time series calculated from historical price data, most often the closing price. These three series are: the MACD series proper, the "signal" or "average" series, and the "divergence" series which is the difference between the two. The MACD series is the difference between a "fast" (short period) exponential moving average (EMA), and a "slow" (longer period) EMA of the price series. The average series is an EMA of the MACD series itself. The following table indicated the MACD values of the selected stocks.

4.2 Moving Average Convergence/Divergence

Name	On Year Mov Avg	MACD
Adani Ports & Special Economic Zone Ltd.	397.341	-0.0195426
Ambuja Cements Ltd.	264.135	-0.105868
Asian Paints Ltd.	1153.87	-0.0126398
Aurobindo Pharma Ltd.	683.092	-0.0389933

Axis Bank Ltd.	527.443	0.0637956
Bajaj Auto Ltd.	3042.91	-0.21436
Bajaj Finance	1721.72	0.158324
Bharat Petroleum Corporation Ltd.	482.803	0.0875328
Bharti Airtel Ltd.	443.255	-0.00331458
Bharti Infratel	378.79	-0.0621149
Bosch Ltd.	20871.1	0.053994
Cipla Ltd.	583.768	-0.0686369
Coal India Ltd	272.633	-0.00327723
Dr. Reddy's Laboratories Ltd.	2322.74	-0.0929763
Eicher Motors Ltd.	29559.9	0.135765

4.3 Relative Strength Index

The Relative Strength Index - RSI is a momentum indicator that measures the magnitude of recent price changes to analyse overbought or oversold conditions. It is primarily used to attempt to identify overbought or oversold conditions in the trading of an asset.

Name	RSI
Adani Ports & Special Economic Zone Ltd.	34.4917
Ambuja Cements Ltd.	21.0128
Asian Paints Ltd.	18.3344
Aurobindo Pharma Ltd.	28.106
Axis Bank Ltd.	26.3153
Bajaj Auto Ltd.	36.8264
Bajaj Finance	24.7916
Bharat Petroleum Corporation Ltd.	19.0453
Bharti Airtel Ltd.	30.8996
Bharti Infratel	21.7041
Bosch Ltd.	37.4492
Cipla Ltd.	27.7797
Coal India Ltd	22.452
Dr. Reddy's Laboratories Ltd.	34.9424
Eicher Motors Ltd.	18.2213

4.4 ADX and Chaikin

The average directional index (ADX) is an indicator used in technical analysis as an objective value for the strength of a trend. ADX is non-directional, so it quantifies a trend's strength regardless of whether it is up or down.

The Chaikin Oscillator was created in reference to the accumulation/distribution line. The The acc/dis line builds on the money flow multiplier, which attempts to quantify the amount of money coming into the market and its impact on stock prices.

The multiplier formula is as follows: [(Close - Low) - (High - Close)] /(High - Low).

A change in its direction is a signal for purchase or a sale, but only if it coincides with the price trend direction.

4.4 ADX and Chaikin

Name	ADX	Chaikin
Adani Ports & Special Economic Zone Ltd.	64.3887	-4.31815
Ambuja Cements Ltd.	57.0903	-2.91512
Asian Paints Ltd.	73.5448	6.59131
Aurobindo Pharma Ltd.	65.4168	2.72819
Axis Bank Ltd.	60.1908	-5.04999
Bajaj Auto Ltd.	40.9841	-63.3191
Bajaj Finance	88.8229	67.8937
Bharat Petroleum Corporation Ltd.	60.4938	-3.35266
Bharti Airtel Ltd.	42.4599	-10.6709
Bharti Infratel	60.3696	-0.873957
Bosch Ltd.	76.9152	293.219
Cipla Ltd.	49.0013	-6.06565
Coal India Ltd	60.0467	-5.13658
Dr. Reddy's Laboratories Ltd.	48.7724	-20.9302
Eicher Motors Ltd.	78.4714	478.629

A strong trend is occurring when the ADX is over 25; likewise, there is no trend when the ADX falls below 20. It is inferred from the above table that the trend is strong in the selected 15 stocks. The chaikin signal is very positive for Bajaj Finance and Bosch Ltd.

Conclusion:

Investors can earn excess returns on the basis of past market returns. These returns give an indication about the future movement in the company's stock returns. Investors can earn higher returns by investing in small companies. The negative relationship indicates that there is high volatility in the market. Its mean momentum returns will be decrease in future. So, investors should be considering that volatility is a leading indicator that the momentum strategy will be beneficial in the future. So, momentum strategies plan according to market conditions.