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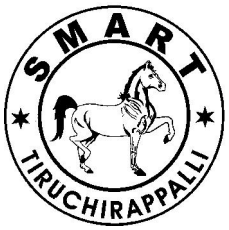

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A STUDY ON EQUITY ANALYSIS OF SELECTED OIL CORPORATIONS

G.Venugopal
Assistant Professor in Commerce, Thiru Kolanjiappar Government Arts College
Vriddhachalam , Tamil Nadu, India
E-mail id : gvgopal1968@gmail.com

A. Thilagaraj
Associate Professor,Department of Commerce,SRM University, Chennai
Tamil Nadu, India.E-MAIL ID: thilagaraj2025@yahoo.com

C. Soundar Rajan
Research Scholar,Coimbatore Institute of Management and Technology
Coimbatore, Tamil Nadu, India

Abstract

The study investigated the effect of selected oil corporation share price on Nifty Index and it was found that IOC share price on Nifty Index recorded negative correlation while BPCL and HPCL share price on Nifty Index recorded a positive correlation. Analysis of standard deviation, co-efficient of variation and beta shows that HPCL share price was more stable and low risk than BPCL and IOC. The IOC share investment was risky compared to BPCL and HPCL during the study period. It concludes that selected oil corporations' share experienced moderate risk and yielded moderate gain/ loss to the investors due to global crude oil price during the study period.

Key Words: *Crude Oil Price, Risk, Share Price, Nifty Index*

1. Introduction

The Indian Economy is growing at a fast pace due to the liberalization and the financial policy framed by the Government of India. This has aroused interest in the different types of Investors, Foreign Institutional Investors, Institutional Buyers in the Indian Capital Market. The capital market works as a mechanism to facilitate the transfer of funds from the savers (investors) to the borrowers (issuers of securities). It facilitates the free trading (buy & sell) in all the securities. This transfer of funds will be optimum if the capital market is efficient.

But today's global economy is marked by recession, rising inflation, uncertainty, apart from growing unemployment. The consequences are reflected in the volatility in stock market and currency markets, worldwide. Economic Slowdown, which began in the United States (US), has spread all over the world. It is mainly reflected in global crude oil price and foreign exchange settlement. Let us consider the study of equity analysis of oil companies.

The present study proposes to present the Equity Analysis of selected oil corporations - Bharat Petroleum Corporation Limited (BPCL), Hindustan Petroleum Corporation Limited (HPCL), and Indian Oil Corporation Limited (IOC).

2. Review of Literature

To study the Equity Analysis of selected oil corporations, the Researchers referred to the important studies undertaken on the concept of volatility of the stock markets throughout the globe. (a) Brend Hayo, Ali.Kutan, (2005), in "The Impact of News, Oil Prices and Global Market Developments in Russian Financial Markets", analyzed the impact of news on Oil Prices and Global Market Developments in Russian Financial Markets. Using daily returns on stock and bond markets over the period September 1995 to November 2001, the major result was that the sensitivity of Russian Stock Market to oil prices and US Stock Market to oil prices, varies. (b) Che-China Lin, Chung-Rou Fang & Hui-Pei Cheng(2010), in "Relationship between oil price shocks and stock market: an empirical analysis from Greater China", found that the impact of oil price shocks on stock prices in Greater China, was mixed. It found that only global oil supply shock recorded a significantly positive impact on China's stock returns, but global oil demand shock and the oil specific demand shock did not have any significant impact. The reason for the lack of significant impact is that the positive expectation effect of China's fast economic growth neutralizes the negative effect of a precautionary demand-driven effect. (c) Gangadhar,V. and Naresh Reddy,G.(2009), in the paper, "Stock Market Volatility: A Comparative Analysis of NSE and BSE", analyse the varying perceptions of stock price volatility of Indian Capital Markets, along with identifying possible reasons for volatility and measures the degree of volatility. It is evident from the values of co-efficient of variation and standard deviation that the market capitalization of NSE was highly volatile or less consistent when compared to BSE. Volatility in number of shares traded daily on NSE and BSE varies between 1.90 to 1.24 and 2.00 to 1.32 respectively. This represents that the volatility rate in BSE was greater than that of NSE. Relevance of the budget on stock price volatility is diminishing every year because of the critical policy decisions taken on a regular basis by the Government. (d)Joshua M. Pollet, (2002), in "Predicting Assts Returns with Expected Oil Price Changes", took data of gross price indices to calculate monthly returns for Indian Financial Markets, the monthly returns rate series for the overnight lending rate, and the India's oil index. He used expected oil price movements to predict returns in stock market. (e) Kaur and Harvinder (2004) describe the extent and pattern of stock return volatility of the Indian Stock Market during the last decade of the previous millennium, i.e. from 1990 to 2000. He covers the two most prominent spot price indices viz. BSE Sensex and S&P CNX Nifty. It is found that the stock market volatility was the highest during 1992, followed by 1990 and 2000. It fell sharply after 1992 until 1995, after which it started increasing again. The result is confirmed by findings, based on daily as well as monthly returns. (f) Mukherjee and Kalyan (2003), found that for buying scrip, "Monday" would be the most appropriate day and 'Wednesday' would be the most appropriate day for selling scrip. Monthly Analysis shows that the month of December would be the most appropriate month for selling. (g) Pasricha J.S. and Umesh Singh (2001) found that FIIs have remained net investors in the

country except during 1988-99 and their investment has been steadily growing since their entry into the Indian Markets. They are here to stay and have become the integral part of Indian Capital Markets. Although their investment in relation to market capitalization is quite low, they have emerged as market movers. The market has been moving, in consonance with their investment behavior (h) Raju M.T. and Kiran Karande (2003), studied price discovery and volatility in the context of introduction of Nifty Futures at the NSE in June 2000. Co Integration and Generalized Auto Regressive Conditional Heteroskedasticity (GARCH) techniques were used to study price discovery and volatility respectively. The major findings are that the Futures Market (and not the spot market) responds to deviations from equilibrium and price discovery occurs in both the futures and the spot market especially in the later half of the study period. The results also show that volatility in the spot market has come down after the introduction of stock index futures. (i) Raju M.T and Anirban Ghosh (2004) conclude that mature markets, continue to provide over long period of time high returns and low volatility. Amongst emerging markets, except India and China, all other countries exhibited low returns. India with long history and China with short history, both provide as high a return as the US and UK market could provide but the volatility in both countries was higher. The third and the fourth order moments exhibit large asymmetry in some of the developed markets. Comparatively, Indian Markets show less skewness and kurtosis. Indian Markets have started becoming informationally more efficient. Contrary to the popular perception in the recent past, volatility has not gone up.

3. Statement of the Problem

Petrochemicals Industry is a crucial member of the Indian Economy since it caters to the needs of major industries like power, telecom, cables, plastics, textiles etc. Low per capita consumption offers good potential to players planning to foray into the Indian Petrochemical Industry. The growth rate of the Indian Industry during last four years has been around 15 percent whereas it was 4 percent in the global industry during the above period. This substantiates the huge potential that the Indian Petrochemicals Market offers for future entrants. The current scenario in the Indian Petrochemical Industry has been comprehensively covered with specific emphasis on Government Regulations pertaining to the Industry, supply - demand scenario and the pricing aspects in the industry. The Government Regulations have played an important role in the growth of the Indian Industry. The Government of India gave permission to Oil Marketing Companies (OMC) to fix the price of oil and petrol market determined both at refinery gate and retail levels, effective from June 2010. OMCs have been revising petrol prices in tune with the international oil price once in fifteen days. This new regulation makes the share prices to fluctuate and automatically has major impact on Nifty Index. The present study focuses on how far it influenced the Nifty Index.

4. Objectives of the Study

The present study has the following specific objectives.

a. To identify the share price fluctuations of Oil Corporations in Nifty Market

b. To analyze the risk involved in the Oil Corporations Share

c. To suggest better ways and means for the investors to enhance the knowledge about stock investment in the secondary market

5. Hypothesis of the Study

Considering the above objectives, the following null hypothesis was formulated for testing:

There is no significant difference between oil corporations (BPCL, HPCL and IOC) share price and Nifty Index during the period under study.

6. Scope of the Study

This study was mainly confined to the Equity Analysis of BPCL, HPCL, and IOC through the risk involved in the corporations' share price and scrip movement in relation to the market trend. Further, this study compares oil corporations' share price and Nifty Index. In general, the study helps the understanding of the volatility of the oil corporations' share price during the 12 months of the study period.

7. Research Methodology

The present research is an analytical one.

6.1 Sample Size

The seven oil major companies available in India are Bharat Petroleum Corporation Ltd., Essar Oil Ltd., Hindustan Petroleum Corporation Ltd., Indian Oil Corporation Ltd., Oil India Ltd., Reliance Petroleum Ltd and Tata Petrodyne Ltd.

Researchers have selected three major public sector oil corporations like BPCL, HPCL and IOC. These three corporations enjoy major market share in the Indian Oil Sector. The survey of the financial year 2009-10 reveals IOC, with 3,29,806.88, BPC, with 1,45,392.07 and HPCL, with 1,31,802.84 crores of sales turnover and this was considered the basis for selection.

6.2 Data Sources

Secondary Data

The study was mainly based on secondary data. The data required for the purpose of the study were collected from books, journals, magazines, newspapers, corporations, annual reports and web sites.

Data Collection

The entire secondary data were collected from the official websites of National Stock Exchange (NSE). The data consisted of month closing share price of selected Oil Corporations and month closing of Nifty Index.

6.3 Period of Study

The research study covers three oil corporations' share price movement for a period of 12 months from April 2009 to March 2010.

6.4 Tools used for Analysis

a. Correlation

A correlation is a single number that describes the degree of relationship between two variables. The formula for the correlation is:

$$r = \frac{N\sum xy - (\sum X * \sum Y)}{\sqrt{(Nx^2 - (x)^2) * (Ny^2 - (y)^2)}}$$

The correlation should be between -1 to +1. We use the symbol **r** to stand for the correlation. If r = 1, it is perfect correlation. If r > 1, it is positive correlation .

If r < 1, it is negative correlation.

b. Standard Deviation

The Standard Deviation is used to measure the risk. Higher the Standard Deviation, higher the range of probable returns and hence higher the risk. It is calculated by using the formula mentioned below:

$$\sigma = \sqrt{(\sum (x-\bar{x})^2) / N)}$$

Where, σ = Standard Deviation, $\bar{x}$ sample mean, x's are the observations (returns), and

N is the total number of observations or the sample size

c. Co-efficient of Variation:

It is used in such problems where we want to compare the variability of two or more than two series. That series for which Co-efficient of Variation is greater, is said to be more variable or conversely, less consistent, less uniform, less stable or less homogeneous. On the other hand, the series for which Co-efficient of Variation is less, is said to be less variable or more consistent, more uniform, more stable or more homogeneous. Co-efficient of Variation is denoted by C.V. and it is obtained as follows:

$$C.V. = \frac{\sigma * 100}{\bar{x}}$$

d. Beta:

The Beta is used to measure the movement of one scrip in relation to the market trend. Beta can be positive or negative depending on whether the individual scrip moves in the same direction as the market or in the opposite direction.

The Beta is negative, if the share price moves contrary to the general trend and positive if it moves in the same direction. It is calculated by using the formula mentioned below:

$$\beta = \frac{N\Sigma xy - \Sigma X * \Sigma Y}{N\Sigma x^2 - (\Sigma x)^2}$$

$$X = \frac{P_1 - Po * 100}{Po} \quad ; \quad Y = \frac{P_1 - Po * 100}{Po}$$

7. Limitations of the Study

1. The project was confined to Nifty of only three selected oil corporations.
2. The tools used for the study such as correlations, standard deviation, co-efficient of variation, beta analysis, have their own limitations which in turn affect the result of the study.

8. Analysis and Discussion

8.1 Share Price Fluctuations of selected Oil Corporations in Nifty Market

To identify the price fluctuation of Oil Corporations' share in the stock market, Researchers used the correlation tools.

Table- 1 illustrates the attempt to examine the impact of selected oil corporations' share price on Nifty Index by computing Karl Pearson's correlation coefficients. The oil corporations month end share price and month end Nifty Index were used as the two variables. The

correlation co-efficient between BPCL share price and Nifty Index was (+) 0.876. It implies that there was a high degree of positive association between the BPCL share and Nifty Index. It was found to be significant between BPCL share price and Nifty Index during the 12 months of study period from April 2009 to March 2010.

Secondly, the correlation co-efficient between HPCL share price and Nifty Index was (+) 0.576, which indicates a moderate degree of positive relation between these two variables. The null hypothesis framed for this study is, therefore, rejected. The value of correlation co-efficient was found to be significant between HPCL share price and Nifty Index.

Finally, the correlation coefficient between IOC share price and Nifty Index was (-) 0.319. It indicates that there was a low degree of negative association between the IOC share price and the Nifty Index. Hence, it is implied that when the IOC share price slides down, the Nifty Index will move up, and vice versa. The value of the correlation coefficient was found to be not significant between IOC share price and Nifty Index during the study period.

8.2 The Risk Involved in the Oil Corporations' Share

Risk denotes the deviation of actual return from the estimated return. To analyze the risk involved in the Oil Corporation Share, Researchers used the following tools like Standard Deviation, Co-efficient of Variation and Beta. In order to study the degree of association of risk with BPCL, HPCL and IOC share price, the oil corporations month market closing share price for the 12 months period from April 2009 to March 2010, was taken as X value. For the purpose of selection of X value in this analysis, Standard Deviation and Co-efficient of Variation were constructed.

Table 2 clearly explains the variance of IOC to be higher than other companies with the Standard Deviation at 40.598 and Coefficient Variation at 9.35, followed by BPCL and HPCL. The HPCL recorded a low Standard Deviation (12.285) and Co-efficient of Variation (3.656). Hence it is concluded that IOC share experienced higher range of probable return because of higher Standard Deviation and hence higher risk. The Co-efficient of Variation was greater and share was more variable. On the other hand, HPCL share was less variable or more consistent than other oil companies during the 12 months study period.

The Table further displays that the risk of IOC share price was higher than other companies' price with the Beta of 1.71657 and it was aggressive. It further shows that share moved in the positive direction in connection with Nifty Index. The BPCL and HPCL also experienced scrip moves in the positive direction at 0.9360 and 0.71187 respectively. The two corporations' beta value was less than 1, and share price was defensive.

In short, all the three oil corporations' share prices moved in the positive direction in connection with Nifty Index. The IOC share price was high risk and the HPCL share price was low risk during the study period.

9. Summary of Findings

The null hypothesis that there is no significant difference between oil corporations' (BPCL, HPCL and IOC) share price and Nifty Index during the study period, was tested by computing Karl Pearson's correlation coefficients. The null hypothesis framed for this study was accepted between IOC share price and Nifty index. But the null hypothesis was rejected in the case of BPCL share price and Nifty Index and HPCL share price and Nifty Index. There was a significant correlation between the BPCL and HPCL share price and Nifty Index.

The share price variance of IOC was higher than for other corporations, with the Standard Deviation at 40.598 and Coefficient Variation at 9.35. The share price variance of HPCL was stable compared with other corporations' price variance, with the Standard Deviation at 12.285 and Coefficient of Variation at 3.656%.

The risk of IOC share price was higher than other corporations' share price, with the Beta Value of 1.172, followed by BPCL and HPCL recording low risk, with the Beta of 0.9360 and 0.71187 respectively. Because of its higher risk, investors expected a higher return for IOC than they did for other companies in the industry.

10. Suggestions

The investors may invest in HPCL's shares in order to reduce the risk compared to other corporations. Also the investor should consider the Nifty movement. The IOC share investment was risky compared with BPCL and HPCL during the study period. The investors may consider this moderate risk of oil corporations' share during the study period and they can go for investment in this Sector after the slow down period.

Investors should analyze qualitatively the existing financial mix and assess the benefits and costs of debt and also know the quality of the firms' current projects and managers' abilities before investing in equity. The Government policy, foreign exchange fluctuations, particularly dollar rate and interest between the countries should also be taken into consideration before investing in equity shares in oil corporations.

Any massive increase or decrease in crude oil has its impact on the stock markets and economic condition throughout the world and particularly in developing countries. Hence investors should look at the trend of crude oil price before investing in equity shares in oil corporations.

11. Conclusion

Equity Analysis is the most important measurement technique used to measure the movement of share market, which helps the investor to take decision either to buy or sell. From this analysis, it is found that IOC share investment was risky compared with BPCL and HPCL during the study period. In short, the selected oil corporations' share recorded moderate risk and a moderate gain /loss to the investors during the study period. The reason could be attributed to fluctuation due to global oil price during the year 2009-10.

12. Scope For Further Research

Similar studies can be undertaken with reference to other companies or other industries or other sectors.

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Table-1 : Share Price Fluctuation of Oil Corporations in Nifty

S.NO.	Oil Corporation	Correlation
1	BPCL	0.876
2	HPCL	0.576
3	IOC	-0.319

Source: www.nseindia.com

Table-2: Risk Analysis of Oil Companies

S.NO.	Oil Corporation	Standard Deviation (σ)	Co-efficient Variation (%)	Beta
1	BPCL	23.558	4.557	0.9360
2	HPCL	12.285	3.656	0.71187
3	IOC	40.598	9.35	1.71657

Source: www.nseindia.com