

Portfolio management on selected stocks under different industries listed on CNX Nifty for Retail investors

Abin Baby

Research Scholar Department of commerce Christ Deemed to be University Hosur Road Bangalore

Abstract: The security analysis and portfolio management are the most concerned aspect for rational investment decision. A portfolio is a set of securities such as stocks, bonds and money market instruments. The process of obtaining the maximum return with a minimum risk is called as portfolio management. The portfolio management will always base upon the investors needs and preference. There are many studies done on the area of portfolio management however this study focusing only upon stock selection form CNX Nifty so this will also act as a complete guide for an individual investor for choosing the right securities. The retail investors always having a problem in identifying the suitable securities that can optimise their savings most of the retail investors are not ready to invest in securities market because of the risk pertaining to unexpected adverse fluctuations in the stock price and the possibility of loss. If the retail investors are able find it best suitable securities, then the productivity of their savings can be optimum. the study used the portfolio management techniques for selection, construction and evaluation of a portfolio. For stock selection 5-year data between 2014 to 2018 is considered

Key Words: CNX Nifty, portfolio management, Retail investors, stock selection, fundamental analysis, portfolio construction, portfolio evaluation.

JEL – G11, E2, G17, G15, G10

Date of Submission: 06-09-2019

Date of acceptance: 21-09-2019

I Introduction to Portfolio Management

In general portfolio management means making the right combination of the securities by continues shifting of the portfolio so as to obtain a maximized return which suits preferences and objectives of the investor. The portfolio management process requires extensive financial expertise in looking at the changes in the market conditions and proper analysis of the securities. Kevin S (2008) defined “portfolio management process as an integrated set of steps undertaken in a consistent manner to create and maintain an appropriate combination of assets to meet clients’ stated goals”.

The portfolio management will give better direction towards the investors in the effective management of their investments to achieve their desired goals. The rapid growth of the capital markets opens variety of investment avenues to the individual investors but the individuals fail in managing those investments in order to get the maximum return with minimum risk.

II Review of literature

2.1 PORTFOLIO MANAGEMENT

Review of portfolio management gives a theoretical understanding of the portfolio management, its scope, objectives, types, and phases.

(2010) defined as “Portfolio Management is the art and science of making decisions about investment mix and policy, matching investments to objectives, asset allocation for individuals and institutions, and balancing risk vs. performance”. Cooper, Edgett, and Kleinschmidt (2002) define as “Portfolio management is all about strengths, weaknesses, opportunities, and threats in the choice of debt vs. equity, domestic vs. international, growth vs. safety, and many other trade-offs encountered in the attempt to maximize return at a given appetite for risk”. Portfolio management is the crucial decision of the investor It is very much important for an investor to decide where to invest and how much to invest.

2.2 RETAIL INVESTORS

Reviews on retail investors will give an understanding of the retail investor's awareness and preference towards investing in the capital market.

Karthikeyan (2016) found that the general public has not invested more in the mutual fund by understanding the peculiarities of the Indian market and the psyche of retail investors. Hence it is an untapped market and having higher potentiality in attracting more investments. Financial services sector especially mutual

funds providers have to make product innovations and also take initiative to make people aware of the benefits of investing in mutual funds. Ravichandran (2008) Study on finding out the individual investors' investment preference and awareness of capital market with special reference to the various derivative instruments. And found that the majority of individual investors are unaware of the hedging and speculation strategies which can minimize the risk.

Discussion: The research in this section focusing towards the attitude and preference of the retail investors and found that the retail investors focus only less risky investments such as debt instruments, money market instruments, recurring deposits etc. It is very important to provide investment management technique like portfolio management so the retail investors' savings can be channelized into a better-diversified portfolio which will enhance the return with minimum risk level. Hence this study focused on providing a base to create an optimal portfolio for a better return with minimum risk.

2.3 PORTFOLIO WITH EQUITY SHARES

Reviews on a portfolio with equity shares gives an empirical evidence of constructing the portfolio using equity shares only.

Nalini (2014) has developed an optimal portfolio using the Sharpe index model and found that equity portfolio will give a higher return from the highly volatile market. Ashokkumar (2016) used fundamental analysis on pharmaceutical industry using the various financial ratios and the intrinsic value of the company and finds that the Indian pharmaceutical companies are showing a positive growth rate but the companies' returns are variable in nature so investors are advised to invest in multiple securities to reduce the risk.

Discussion: These research in this section bringing the evidence of portfolio construction using equity shares alone. The proposed study using equity shares alone to construct the optimal portfolio. So, these reviews are providing the guidance towards constructing an optimum portfolio using only equity shares.

2.4 STOCK SELECTION

Reviews on stock selection provide the empirical evidence of using fundamental analysis as a tool for stock selection for the portfolio construction.

Jayakumar and Sumathi (2014) suggested that investor should concentrate on price movements and earning per share all information on shares, not in weekly average alone. Sodhi and Waraich (2016) have used fundamental analysis using selected private and public-sector banks to track the performance and future growth perspective of the banking sector and found that the Indian banking industry is expected to have higher growth prospects in the upcoming years. Ashraf and Baig (2015) have carried out the best suitable strategies for stock selection and found that long-term investment in the stocks with low beta and low debt-equity ratio provide higher return and in short-term trading, the stocks with high beta and high debt-equity ratio provide a high return in the short time period

Discussion: The research in this section brought the empirical evidence of using fundamental analysis as a tool for stock selection for portfolio construction. From these reviews found a gap in categorizing the parameters in to different category based on their nature like profitability, capital structure and turnover ratios, earning and market price ratios. From these reviews brought the idea of ranking the securities based on the statistical tools like mean, standard deviation, and compound annual growth rate.

2.5 PORTFOLIO CONSTRUCTION

Reviews on portfolio construction examine the applicability of popular portfolio construction models that is Sharpe single index model and CAPM model in Indian capital market

Sathyapriya (2016) has constructed the optimal portfolio using pharma and infrastructure stocks and found that pharma sector is performing well then, the infrastructure sector. And given a major stock allocation in the pharma sector (80%) and rest 20% in the infrastructure sector. Poornima and Remesh (2015) has used Sharpe single index model using 10 companies from IT and Banking sector listed in BSE Sensex and finds an optimum portfolio consisting of three companies in which two from banking and one from IT sector. Pratiwi and Yunita (2015) have carried out a comparative study between Sharpe single index model or consistent correlation model on which it offers better selection alternatives to the investors in Indonesian stock exchange. Results found that the portfolio constructed using Sharpe single index model has better performance than portfolio constructed using consistent correlation model.

Discussion: The research in this section talks about various models can use to construct the optimum portfolio based upon the stocks selected using fundamental analysis. The research-based upon Sharpe single index model finds effective in giving the proper allocation of the investment based upon the weight of each stock to be included in the portfolio and it is found to be more effective in the Indian capital market. So it is decided to go with the Sharpe single index model for the construction of the portfolio.

2.6 PORTFOLIO EVALUATION

Reviews on portfolio evaluations bring the idea about various portfolio evaluation models like the Sharpe ratio, Jensen alpha and Treynor's model.

Bhagyasree and Kishori (2016) their study was an attempt to investigate the performance of various open-ended and growth scheme using shape ratio, Treynor's and Jensen model and found that most of the schemes are facing the problem of improper diversification that leads to the underperformance of schemes than the benchmark. Bansal and Taneja (2015) has done a comparative study on Performance Evaluation of Large Cap Equity and Debt Mutual Fund Schemes, using returns and volatility measures of sample Schemes and finds that large-cap equity funds are having higher risk and found more unpredictable in nature.

Discussion: The research in this section focused on the evaluation of the performance of the constructed portfolio using various models such as Sharpe ratio, Treynor's model and Jensen alpha. From these reviews of literature finds that the risk-free return and the market return are the ideal parameters to evaluate the performance of the constructed portfolio and also found that Treynor's model can use effectively in evaluating the portfolio constructed using Sharpe single index model. Based on the previous research it is decided to go the Treynor's model.

III Research Methodology

3.1 STATEMENT OF THE PROBLEM

Most of the retail investors are not ready to invest in the capital market because of the risk pertaining to unexpected fluctuations in the stock price, the possibility of unexpected loss and the unawareness about the market conditions. Also, they have difficulty in approaching the experts to identify an optimal portfolio that maximizes the return with minimum risk.

Hence in the present study an attempt has been made to provide portfolio management techniques to retail investors in constructing an optimal portfolio which will enhance their return with a minimum risk.

3.2 RESEARCH QUESTION FOR THE STUDY

- How do the retail investors identify stocks, construct and evaluate the return of their portfolio?

3.3 OBJECTIVES OF THE STUDY

Following are the objectives of the study:

- To identify the securities for portfolio construction
- To construct an optimal portfolio for retail investors
- To evaluate the performance of a constructed portfolio.

3.4 SCOPE OF THE STUDY

- The study used stocks listed only in CNX Nifty
- Limited to 6 years (2014 to 2018)
- The study used only equity shares.
- Other instruments such as debentures, preference shares, money market instruments are not considered.

IV Data analysis and interpretation

Based on the ratio analysis of the companies considered the following are the companies suggested/identified as the selected stocks.

Table 4.1 List of selected companies

| SL NO | NAME OF COMPANIES |
|-------|------------------------------|
| 1 | MARUTI SUZUKI |
| 2 | HINDUSTAN PETROLEUM |
| 3 | BHARAT PETROLEUM CORPORATION |
| 4 | POWER GRID |
| 5 | HERO MOTOR CORP |
| 6 | MAHINDRA AND MAHINDRA |
| 7 | HINDALCO |
| 8 | TATA STEEL |
| 9 | COAL INDIA |

4.1 PORTFOLIO CONSTRUCTION - SHARPE SINGLE INDEX MODEL

Portfolio construction is the process of blending the selected securities in to an effective combination, which gives the maximum return with a minimum risk.

The table 4.1 depicts the thirteen companies selected based on fundamental analysis for portfolio construction using Sharpe's Single Index Model. These companies are listed with CNX Nifty.

As a first step, the mean returns and beta of these company's stock are computed and tabulated as given in the Table 4.2:

Table 4.2 Ranking of the Stocks based on Excess Return to Beta Ratio

| COMPANY | MEAN RETURN | BETA | RF | RI -RF | RI-RF/BETA | RANK |
|------------------------------|-------------|-------|--------|---------|------------|------|
| MARUTI SUZUKI | 0.426 | 0.007 | 0.0619 | 0.3650 | 46.577 | 1 |
| HINDUSTAN PETROLEUM | 0.517 | 0.196 | 0.0619 | 0.4560 | 2.314 | 2 |
| BHARAT PETROLEUM CORPORATION | 0.374 | 1.048 | 0.0619 | 0.3121 | 0.297 | 3 |
| POWER GRID | 0.173 | 0.509 | 0.0619 | 0.1120 | 0.220 | 4 |
| HERO MOTOR CORP | 0.150 | 0.533 | 0.0619 | 0.0883 | 0.165 | 5 |
| MAHINDRA AND MAHINDRA | 0.116 | 0.414 | 0.0619 | 0.0541 | 0.130 | 6 |
| HINDALCO | 0.200 | 1.543 | 0.0619 | 0.1387 | 0.089 | 7 |
| TATA STEEL | 0.136 | 1.472 | 0.0619 | 0.0746 | 0.050 | 8 |
| COAL INDIA | -0.024 | 0.209 | 0.0619 | -0.0863 | -0.412 | 9 |

Table 4.2 depicts the excess return and excess return to beta ratio. Excess return is the difference between the expected return on the stock and the risk-free rate of interest. The treasury bill rate of 6.19 % (for the year 2017 RBI rates) is assumed to be the risk-free rate of interest for the study. The excess return to beta ratio measures the additional return on a security per unit of systematic risk. Results show that the Maruti Suzuki has the highest excess return to the beta ratio of 46.57 followed by Hindustan Petroleum (2.314) Bharat Petroleum Corporation (0.297).

However, Coal India stock has the lowest of (-0.412) This ratio shows the connection of potential risk with reward from a company's stock. The ranking of stocks is done on the basis of the excess return. As per the beta ratio, the Maruti Suzuki stock ranks first and the Coal India stock ranks the last.

Table 4.3 Ci of Sample Companies Stocks

| | COMPANY | MEAN RETURN | RF | $\frac{\sum(R_i - R_f)\beta_i}{\sum e_i}$ | $\frac{1 + \sigma_m N}{\sum \beta_i}$ | $\frac{1 + \sigma_m N}{\sum \beta_i}$ | C* |
|---|------------------------------|-------------|--------|---|---------------------------------------|---------------------------------------|-------|
| 1 | MARUTI SUZUKI | 0.426 | 0.0619 | 122.432 | 0.008 | 1.000 | 0.008 |
| 2 | HINDUSTAN PETROLEUM | 0.517 | 0.0619 | 6.537 | 0.325 | 1.049 | 0.309 |
| 3 | BHARAT PETROLEUM CORPORATION | 0.374 | 0.0619 | 9.625 | 0.602 | 1.333 | 0.452 |
| 4 | POWER GRID | 0.173 | 0.0619 | 7.816 | 0.441 | 1.345 | 0.328 |
| 9 | HERO MOTOR CORP | 0.150 | 0.0619 | 10.851 | 0.446 | 1.364 | 0.327 |
| 6 | MAHINDRA AND MAHINDRA | 0.116 | 0.0619 | 12.001 | 0.253 | 1.220 | 0.207 |
| 5 | HINDALCO | 0.200 | 0.0619 | 12.656 | 2.000 | 4.053 | 0.493 |
| 8 | TATA STEEL | 0.136 | 0.0619 | 13.229 | 1.591 | 3.777 | 0.421 |
| 7 | COAL INDIA | -0.024 | 0.0619 | 139.464 | 0.959 | 1.056 | 0.907 |

Table 4.3 depicts the Ci of sample companies. The Ci values increase from 0.008 to 0.452. Therefore, the value of 0.452 is considered as the "Cut-off point". The securities which come after the cut-off point will not be considered for the optimal portfolio construction. Those securities which have a value of Ci more or equal to cut off point will be selected in optimal portfolio.

Maruti Suzuki (0.008), Hindustan Petroleum (0.309, and Bharat Petroleum Corporation (0.452 are selected for the final portfolio.

In a sample of thirteen companies, four companies have been selected for the optimal portfolio construction applying Sharpe single index model. Once the companies on which investment is to be made is identified, it is essential to know the proportion of investment to be made in each company's security.

Table 4.4 Proportion of Investment Proposed

| RANK | SCRIP NAME | C* | ZI | XI |
|------|------------------------------|-------|--------------------|------------------|
| 1 | MARUTI SUZUKI | 0.008 | 0.192 | 45.072 |
| 2 | HINDUSTAN PETROLEUM | 0.309 | 0.252 | 48.789 |
| 3 | BHARAT PETROLEUM CORPORATION | 0.452 | 0.022 | 6.138 |
| | | | $\sum z_i = 46.80$ | $\sum X_i = 100$ |

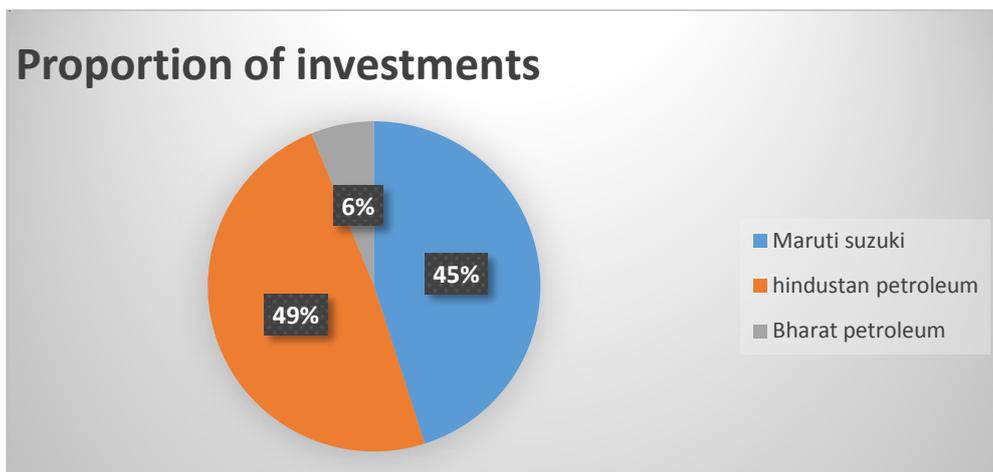


Figure 4.1 Proportion of Investment in a constructed portfolio

Table 4.17 and Figure 4.1 depict the proportion of investment to be made by the investor in each company which are included in the portfolio to earn maximum returns. Since the suggestion given is in percentage, this can be applied/used by all the investors irrespective of their budget for the portfolio construction. The figure shows that 45.07 percent of the investment will be made in the Maruti Suzuki, followed by 48.78 percent in Hindustan petroleum, and 6.18 percent in Bharat Petroleum Corporation. Thus, the Sharpe's Single Index Model is useful not only to retail/individual investors but also to the fund managers in deciding about the securities which are to be included in the portfolio to achieve the best benefits of diversification.

4.2 PORTFOLIO EVALUATION TREYNOR'S MODEL

Portfolio evaluation refers to the evaluation of the performance of the constructed portfolio. It the process of comparing the return of the portfolio with a benchmark. **Portfolio performance evaluation** essentially comprises of two functions, performance measurement and performance evaluation.

Table 4.5 Portfolio Evaluation Using Treynor's Model

| | | |
|--------------------------|--------|-------------|
| RISK OF PORTFOLIO (BETA) | 0.043 | TP=RP-RF/BI |
| RETURN ON PORTFOLIO (RP) | 0.468 | 0.3305 |
| RISK FREE RATE(RF) | 0.0619 | 33.05 |

Table 4.5 depicts the portfolio evaluation using Treynor's model, the portfolio is having a beta rate of 0.043 which is looking very low and it is having a return of 46.8 percent, treasury bill rate considered as risk free rate (6.19 percent). The portfolio is showing a decent evaluated return of 33.05 percent after considering the portfolio return, beta and risk-free rate which is above the risk-free rate so the portfolio is looking like an optimum portfolio for retail investors looking for long term investment in equity shares.

V Findings, Summary, and Conclusion

The company analysis is being carried out after grouping the companies based on the industry they belong to, leading to proper diversification of stocks among various industries.

In the present study, ratio analysis is used for the company analysis. The procedure for company analysis has been brought from Gomathy (2016) Guha (2013) and Sharma S (2011). Accordingly, 7 stocks are being selected out of 50 companies being analysed namely, Maruthi Suzuki, Hindustan Petroleum, Bharat petroleum corporation, Power Grid, Hero Motor Crop, Mahondra and Mahindra, Hindalco and Tata Steel

In the present study, the idea of constructing a diversifird portfolio has been brought from Debasish and Khan, (2012), Poornima and Remesh (2015). Accordingly, the constructed portfolio gives a combination of three companies with a weightage of Maruti Suzuki 45.07 percent, Hindustan Petroleum 48.78 percent and Bharat Petroleum corporation 6.138 percent

The constructed portfolio gives a higher positive return of 46.80 percent which is above the risk-free rate and market return.

The evaluated portfolio gave a return of 33.04 percent which is above the risk-free rate and market return.

The constructed portfolio gives an optimal return of 46.80 percent to the retail investors. Hence the retail investors who wish to go for long-term (5 years) investment in CNX Nifty stocks can follow this constructed portfolio

VI. Summary and Conclusions

The study used all the process of the portfolio management, which includes a selection of stocks, construction, and evaluation of portfolio. Fundamental analysis technique has been used to select stocks which are listed under CNX Nifty. Selection of single stocks from each industry was done using ratio analysis. The stocks were selected based on the highest mean, least standard deviation and highest CAGR. Based on the above criteria fundamental analysis selected 7 stocks to be included in constructing a portfolio.

The Sharpe Single Index model has been used for constructing an optimal portfolio, results revealed a combination of three stocks along with its proportion in which the stocks to be added to an optimum portfolio. The portfolio consists of stocks namely Maruti Suzuki, Hindustan Petroleum and Bharat Petroleum Corporation. The constructed portfolio is having an average return of 46.80 percentage (after considering the beta, market return, and risk-free rate).

The evaluated portfolio is able to provide a higher return of (33.04) which is above the market rate and risk-free rate. So, the constructed portfolio can be used by the retail investors who are interested in long-term investment in CNX Nifty stocks.

The study could guide the prospective investors to invest in CNX Nifty stocks.

References

- [1]. Ashokkumar, D., A.V, R., & C.K, M. (2016). Fundamental analysis of Pharma sector: An Empirical Analysis. *IOSR Journal of Business and Management*, 5(12), 28-37.
- [2]. Ashraf, S., & Baig, M. A. (2015, March). Investment and Trading Strategies in Indian Stock Market. *International Journal of Arts and Commerce*, 4(3), 1-15.
- [3]. Bansal, S., & Taneja, Y. P. (2015). Comparative Study on Performance Evaluation of Large Cap Equity and Debt Mutual Fund Schemes. *OPEN JOURNAL OF FINANCE*, 1-13.
- [4]. Bhagyasree, N., & Kishori, B. (2016, April). A Study on Performance Evaluation of Mutual Funds Schemes in India. *International Journal for Innovative Research in Science & Technology*, 2(11), 812-816.
- [5]. Bilaus, B. (2010). *Portfolio Management for institutional investors*. Romania: CFA Romania.
- [6]. Cooper, R. G., Edgett, S. J., & Kleinschmidt, E. J. (2002). *Portfolio Management: Fundamental for New Product Success*. Stage-Gate International and Product Development Institute Inc. .
- [7]. Debasish, S. S., & Khan, S. J. (2012). Optimal Portfolio Construction in Stock Market- An Empirical Study on Selected Stocks in Manufacturing Sectors of India. *International Journal of Business Management*, 2(2), 37-44.
- [8]. Jayakumar, A., & Sumathi, K. (2014, January). Technical Analysis of Union Bank with Special Reference to NSE. *International Journal of Advance Research in Computer Science and Management Studies*, 2(1), 356-360.
- [9]. Karthikeyan, D. (2016, Sep - Oct). Investment Behaviour Of Retail Investors: A Study With Special Reference To Mutual Funds Villupuram District In Tamil Nadu. *International Journal of Commerce, Business and Management (IJCBM)*, 5(5), 34-39.
- [10]. Pratiwi, D. A., & Yunita, I. (2015, June). Optimal Portfolio Construction (A Case Study of LQ45 Index in Indonesia Stock Exchange). *International Journal of Science and Research (IJSR)*, 4(6), 2526-2530.
- [11]. Ravichandran, K. (2008). A study on Investors Preferences towards various investment avenues in Capital Market with special reference to Derivatives. *Journal of Contemporary Research in Management*, 5(6), 101-112.
- [12]. S, K. (2008). *Security Analysis & Portfolio Management*. New Delhi: PHI Learning Pvt Ltd Publications.
- [13]. Sathyapriya, M. (2016, August). Optimum Portfolio Construction Using Sharpe Index Model With Reference to Infrastructure sector and Pharmaceutical Sector. *International Journal of Scientific and Research Publications*, 6(8), 490-496.
- [14]. Sodhi, A. K., & Waraich, S. (2016, february). Fundamental Analysis of Selected Public and Private Sector Banks in India. *NMIMS Management Review*, 18(5), 32-48.