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A Study on Optimum Portfolio Construction Using Sharpe Single Index Model form Nifty50

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ABSTRACT

Portfolio management is fundamental because it reduces risk by diversifying investments and shifting funds across assets based on their performance. When it comes to investment decisions, risk and return are critical factors to consider. Investments should be made or not, and which securities should be included in the portfolio are among the decisions that must be made using Sharpe's Single Index Model. The main aim of this paper is to get comprehensive understanding of Sharpe's Single Index Model and to construct an optimal portfolio using this method. In this study, totally 30 securities have been selected from NSE. For this, the monthly closing price of all selected securities for the period from 1st April 2011 to 31st March 2016 have been considered. Sharpe Single Index Model formulate a cut-off rate and select those securities whose excess return to beta ratio is greater than cut-off rate. The study reveals that out of 30 companies only 6 companies are selected to constitute optimum portfolio. Proportion of Investment in each selected securities are computed on the basis of Beta, Unsystematic Risk, Excess return to beta ratio and Cut-off rate of each related securities.

Keywords: Sharpe's Single Index Model, Beta, Unsystematic Risk, Excess Return to Beta Ratio

INTRODUCTION

Modern Portfolio Theory (MPT) is a realistic strategy for picking assets with the goal of maximising total returns while maintaining a manageable degree of risk.Diversification is an important part of the MPT hypothesis. The majority of investments are either high risk or low risk and low return. Investors, according to Markowitz, may obtain the best outcomes by selecting an ideal balance of the two according on their particular risk tolerance.

According to current portfolio theory, every investment's risk and return characteristics should not be judged on their own, but rather on how they impact the entire risk and return of the portfolio. That is, an investor may build a portfolio of several assets to generate larger returns without taking on more risk.

The single-index model (SIM) is a simple asset pricing model for calculating a stock's risk and return. William Sharpe created the concept in 1963, and it is widely utilised in the banking business.

Due to the rigours required in assembling an expected returns, standard deviation, variance, and covariance of each asset to every other investment in the portfolio, the Markowitz Model faced major practical

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constraints. The Sharpe Model has made this procedure easier by tying a security's return to a single Market index.

Only assets with a greater excess return to beta ratio than the cut off rate are included in the optimum portfolio generated by this methodology. The single Index methodology creates a cut-off rate based on data inputs and only chooses stocks that have a greater excess return to beta ratio than the cut-off rate. The proportion or weightage of the investment of the selected security is then calculated using the security's residual variance (unsystematic risk), excess return to beta ratio, beta, and cut-off rate. The model is implemented using a variety of financial and statistical approaches.

With the aid of the Single index model, portfolio managers and security analysts may quickly determine if a security should be included in an ideal portfolio based on its excess return to beta ratio. The single index concept produces a ‘single value,' which explains why any investment should be included in a portfolio. This ‘single number' represents the security's excess return to beta ratio. For every unit of systematic risk, this excess return to beta ratio reveals how much more return is created for the securities (non-diversifiable risk).

LITERATURE REVIEW

R Nalini (2014) using the Single Sharpe Index methodology constructed a portfolio of fifteen businesses from the Bombay stock market and calculated the proportion of investment in each stock from 2009 to 2014. The study's goal is to figure out how much of each stock in the ideal portfolio should be invested. The data for this study was collected from a website, which is a secondary source. For the study, 15 businesses were chosen from the S&P BSE Sensex index.Four companies were chosen from a list of fifteen to build a portfolio based on a cut-off rate, and the weightage of investment in each stock was determined using a single Sharpe index model.

Niranjan Mandal (2013) using the Sharpe single index model and the BSE Sensex as a market performance index, empirically created an optimum portfolio from April 2001 to March 2011. The BSE Sensex was used as the market performance indicator for calculating the daily market return. The securities with Ci values larger than the cut-off point were chosen after the cut-off rate was calculated. The portfolio was built by examining 10 equities based on a cut-off rate. Furthermore, except for two stocks, the portfolio return is larger than the individual stock return, and the portfolio standard deviation is lower than the individual stock

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standard deviation.

S. Poornima and Aruna P Remesh (2015) used Sharpe's single index approach to create an optimum portfolio for the period January 2010 to December 2015, with a focus on the Banking and IT sectors. The researcher can get practical knowledge and generate awareness in the minds of investors by doing this investigation. The study's major goal is to determine the proportion of each security investment in the optimal portfolio. This research is entirely based on secondary data gathered with Prowess software. A total of 50 companies were chosen from each industry and subjected to Sharpe's single index model analysis, which included calculating excess return, beta, variance, and cutoff rate. A portfolio was then built by picking 11 stocks and their respective proportions of investments. This research might be useful to investors as a guide.

Mokta Rani Sarker (2013) used the Sharpe index approach to develop a portfolio of 164 businesses from the Dhaka stock exchange from July 2007 to June 2012. The goal of the study was to use a cut-off rate to build a portfolio and percentage of investments, as well as to advise investors and market makers on how to make better portfolio selections. Because the study is about the historical examination of reported financial data, secondary data was utilised.Based on the Markowitz model, the portfolio was formed by picking 20 equities from a pool of 164 stocks. This research attempts to examine the investment opportunities accessible to investors in terms of returns and risk while investing in equities of companies listed on the Dhaka stock market.

Varadharajan and Ganesh (2012) used the Single Index Model to analyse the stock portfolios of big size corporations in India from various industries. The main goal of this research is to determine the best portfolio from the selected firms in three important sectors: electricity, shipping, and textiles. Six firms were chosen from each category, for a total of eighteen companies chosen as examples. The firms are chosen depending on the size of their market capitalization. The portfolio was built using data from the first of April 2006 to the last day of March 2011, a period of five years. Only five firms were included in the portfolio formed from the eighteen companies, according to the research.

J. Francis Mary and G. Rathika conducted a research paper on The Single Index Model and construction of Optimal Portfolio with CNX Pharma Scrip. The main objective of the research is to construct an optimum portfolio in CNX Pharma index stocks. The study has used secondary data. For this study, monthly closing

price of 10 companies listed in NSE and CHX Pharma price index for the period from September 2010 to September 2014 have been used. Selection is done based on market capitalization. From the empirical analysis it can be concluded that out of 10 companies only 1 company is selected for investment purpose based on Cut-off point which is -0.11182.

Kapil Sen and CA Disha Fattawat (2014) emprically studied using Sharpe's Single Index Model and its use in optimum portfolio design. The study's goal is to estimate the best portfolio's return and risk by employing Sharpe's Single Index Model. Secondary sources of information were used to gather the necessary information. On a monthly return basis, the sample should be drawn from the BSE Sensex's 30 equities from January 2010 to December 2013. The overall risk in Markowitz's model is 2.21 percent, but the total risk of the optimum portfolio (in terms of SD) is 1.3874 percent under SIM using Markowitz's model as input.

Krishna Joshi and Dr. Chetan Parmar performed research on the Markowitz Model's application in the Indian stock market, with a focus on the Bombay Stock Exchange. The goal of this study was to see if the Markowitz Model of Portfolio Construction provides a better investment option for Indian stock market investors. The Markowitz Model was applied to 30 Listed Securities on the Bombay Stock Exchange in this study. Treynor's metric was used to analyse the performance of Portfolio Sharpe. Publication research, interviews, surveys, and other research approaches may be used as part of the process, which might contain both current and historical data. This methodology has been demonstrated to deliver greater insights to investors for investing purposes. These estimates suggest that an investor in the Indian stock market can lower their risk.

M Sathyapriya researched Optimum Portfolio Construction Using Sharpe Index Model in the Infrastructure and Pharmaceutical sectors. The study's main goal is to look at the asset value of different companies from the Infrastructure and Pharmaceutical industries that are listed on the NSE, calculate the excess return to beta ratio, rank the stocks based on it, and then determine the cut-off point. The necessary information must be gathered from a secondary source, such as websites or other databases. The information must be utilised between September 2008 to September 2012. The stock performance of 20 businesses from the Infrastructure and Pharmaceuticals sectors, 10 from each, is analysed. It has been discovered that the pharmaceutical industry outperforms the infrastructure sector by 80%. Because only one business is chosen for the portfolio, the performance of the infrastructure sector is lower than that of Pharma.

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Saurabh Singh and Jayant Gautam investigated the single index approach and created an ideal portfolio of NSE India-listed banks. The study's major goal is to come up with the best portfolio for banks listed on the NSE. Sharpe's Single Index Model was used to design an optimum portfolio using the monthly closing prices of companies listed on the National Stock Exchange (NSE) and the monthly closing index value of the CNX BANK INDEX. The closing prices were gathered over five years, beginning in January 2009 and ending in December 2013. The study looks at 10 NSE-listed banks. Market capitalization is used to make the decision. Secondary data was employed in this investigation. Based on the empirical study, two firms are chosen for investment purposes out of a total of ten. In comparison to the Markowitz model, the Sharpe index approach is basic and straightforward, according to the study..

Dr. Archana H N and Srilakshmi D did a study on Building an Optimal Portfolio Using Sharpe's Single Index Model concerning Indian Capital Markets. The research's goal is to analyse the stocks on the BSE Sensex by computing systematic risk and return, as well as to build an ideal portfolio and determine the proportion of investment in each security. It is gathered from a variety of sources, including published papers, periodicals, textbooks, and the RBI and BSE websites. The closing prices of the BSE 30 equities were obtained from the Bombay Stock Exchange's website. The equities from the BSE Sensex were chosen using Sharpe's Single Index Model. During the research period, it was discovered that the ideal portfolio consists of 10 securities.

Dr. Sanjeev Kumar and Mr. Vivek Bhatia researched Building an Optimum Portfolio Using Sharpe's Single Index Model in the Pharmaceutical and Banking Sectors on the BSE. This study relies heavily on descriptive analysis. The information was compiled using Yahoo Finance and Money Control.com. In this study, 20 stocks from two each industries are examined, namely the pharmaceutical and banking industries. According to the results of the investigation, 13 stocks out of 20 qualified for inclusion in the ideal portfolio. For Optimal Portfolio Construction, eleven businesses from the banking industry and three companies from the pharmaceutical sector were chosen.

RESEARCH METHODOLOGY

The study is fully based on secondary data. The data has been collected from the websites like www.nseindia.com and www.monetcontrol.com . For the current study NIFTY 50 consider as market index. Monthly closing prices of all 30 securities listed in NSE are taken for the period of 1st April 2011 to 31st

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March 2016. The main aim of the study is to develop portfolio to evaluate the securities performance. The research paper is descriptive in nature. The tools that are used for analysis are Beta, Standard Deviation, unsystematic Risk, Excess Return to Beta Ratio, and Cut-Off rate. The following steps are followed to find out excess return to beta ratio and cut-off rate:

Statement of Problem

When it came to selecting stocks from a broad pool of options, the investor faced several challenges. They are unsure of how much to invest or how to distribute their funds across several stocks. Investors will be able to see which stocks are performing well and at what proportion they should invest utilizing the Sharpe Single Index Model. The current study, titled "A Study on Portfolio Construction Using Sharpe's Single Index Model," used a random sample of 30 NSE stocks to calculate the results.

Objective of the study

Steps in Construction of Optimal Portfolio Using Single Index Model

The excess return to beta ratio is used to rank the securities in this model. Following that, all securities are arranged in order of rank. The cut-off rate is then computed and compared to the excess return to beta to determine whether to invest in the securities. The model describes how much weight should be given to each security to achieve an optimum portfolio.

Step 1: calculate the return on security using following formula:

$$\text{Return} = \frac{Closing\ Price - Opening\ Price}{Opening\ Price} * 100$$

Step 2: Calculate "Excess Return to Beta" Ratio for each stock under consideration

$$\text{Excess Return to Beta Ratio} = \frac{(Ri - Rf)}{\beta i}$$

Where,

Ri = Expected return of security i

Rf = Return on a riskless asset

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βi = Expected change in the rate of return on security i associated with one unit change in the market return

Step 3: Rank the securities based on the excess return to beta ratio

Step 4: Calculate the cut of rate by using following formula. Highest cut off rate will be regarded as C*

$$\mathbf{Ci} = \frac{\sigma^2 m \sum_{i=1}^{N} \frac{(Ri-Rf)\beta i}{\sigma^2 ei}}{1+ \sigma^2 m \sum_{i=1}^{N} \frac{\beta i^2}{\sigma^2 ei}}$$

Where,

σ^2m = Variance of the market index

σ^2ei = Variance of a security's movement that is not associated with the movement of market index i.e., stock's unsystematic risk

βi = Systematic risk of the security

Step 5: The cumulated values of Ci start declining after a particular Ci and that point is taken as Cut-off point. If (Ri-Rf)/β is greater than cut-off point, then the security will be included in portfolio.

Step 6: Calculate the proportion to be invested in each security

$$Xi = \frac{Zi}{\sum_{i=1}^{N} Zi}$$

Where,

$$Zi = \frac{\beta i}{\sigma^2 ei}\left(\frac{Ri-Rf}{\beta i} - C^*\right)$$

C* is the cut off rate

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Table 1: List of Companies listed in NSE

Sr. No.	Company Name	Sr. No.	Company Name
1	Reliance Industry	**16**	Power Grid Corporation
2	TCS	**17**	JSW Steel
3	HDFC Bank	**18**	Asian Paints
4	Infosys	**19**	Wipro
5	HUL	**20**	Avenue Supermarts
6	ICICI Bank	**21**	Maruti Suzuki
7	Tata Steel	**22**	Adani Transmission
8	SBI	**23**	L & T
9	HDFC	**24**	Axis Bank
10	Bharti Airtel	**25**	ONGC
11	Kotak Mahindra Bank	**26**	Sun Pharma
12	ITC	**27**	Titan Company
13	Bajaj Finance	**28**	Ultratech Cement
14	Nestle India	**29**	Adani Ports
15	HCL Technologies	**30**	NTPC

Table 2: Ranking of stocks based on "excess return to beta ratio"

Hence, Rf = 7.177 p.a. that is 0.59808 per month

Variance of market index = 29.6303556

Securities	Ri	Ri - Rf	β	ei^2	(Ri-Rf)/β	Rank
Reliance Industry	2.687947992	2.089867992	1.162145565	9.209718109	1.798284187	13
TCS	2.323305844	1.725225844	0.61826269	7.266953412	2.790441461	8

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HDFC Bank	1.356066611	0.757986611	1.093696659	7.170454347	0.693050129	19
Infosys	2.712009973	2.113929973	0.611106122	7.269281526	3.459186378	6
HUL	1.530182233	0.932102233	0.227173533	6.203213934	4.103040617	3
ICICI Bank	2.282608124	1.684528124	1.328617783	9.528524841	1.267880158	16
Tata Steel	2.698630801	2.100550801	1.327323296	11.86270345	1.582546473	15
SBI	1.61620107	1.01812107	1.486281726	12.04753097	0.68501217	20
HDFC	1.041634012	0.443554012	1.130144867	7.635436668	0.392475359	25
Bharti Airtel	1.817952019	1.219872019	0.750280292	8.530526056	1.625888394	14
Kotak Mahindra Bank	1.440835275	0.842755275	0.942407696	7.989499614	0.894257632	18
ITC	0.057717448	-0.540362552	0.73471526	6.914362203	-0.735472068	30
Bajaj Finance	3.940874674	3.342794674	1.801751871	13.50107317	1.855302457	11
Nestle India	1.801862023	1.203782023	0.229759595	5.448897374	5.239311216	2
HCL Technologies	2.15790478	1.55982478	0.852759039	8.467186458	1.829150685	12
Power Grid Corporation	0.717670346	0.119590346	0.498714738	5.735520009	0.239797096	26
JSW Steel	2.952877195	2.354797195	1.205269827	12.3018089	1.953751054	10
Asian Paints	1.944166465	1.346086465	0.520553139	6.73671038	2.585877145	9
Wipro	2.303983832	1.705903832	0.420615408	8.158625318	4.055733099	4
Avenue Supermarts	3.230855709	2.632775709	0.418419397	8.121458627	6.292193258	1
Maruti Suzuki	0.678583439	0.080503439	1.140564136	9.129434423	0.070582124	27
Adani Transmission	7.928332355	7.330252355	2.076632264	21.47917369	3.52987502	5
L & T	1.082073328	0.483993328	1.149861572	8.136663746	0.42091443	24
Axis Bank	1.267822664	0.669742664	1.486149363	10.18047064	0.450656361	23
ONGC	0.316587172	-0.281492828	1.26569012	10.44926541	-0.222402643	28
Sun Pharma	1.022264357	0.424184357	0.66811181	9.337519397	0.634900253	21

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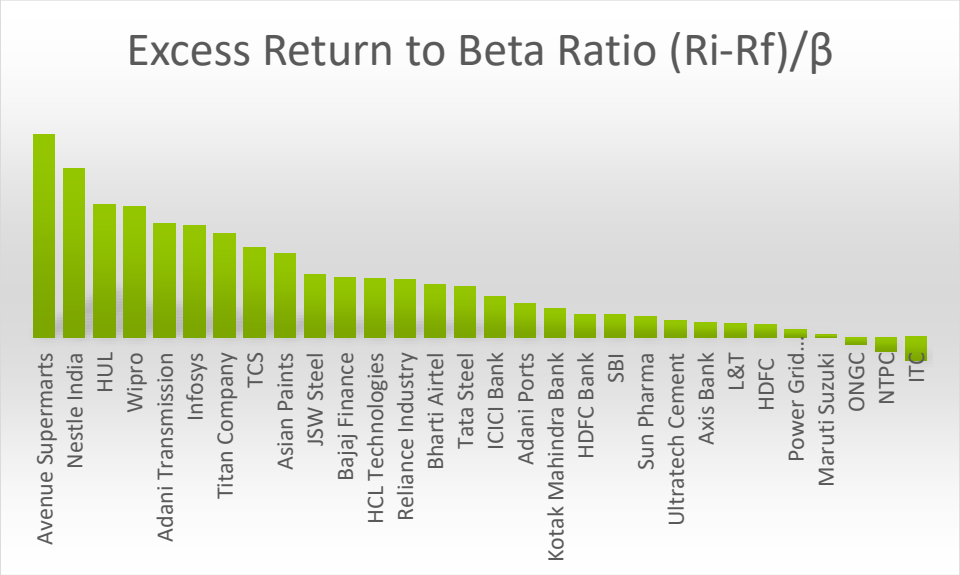
Titan Company	3.313524056	2.715444056	0.841621055	9.131577809	3.226445013	7
Ultratech Cement	1.058701183	0.460621183	0.907387108	7.879316278	0.507634701	22
Adani Ports	1.928765853	1.330685853	1.290675619	9.755358885	1.03099945	17
NTPC	0.269453093	-0.328626907	0.751902971	7.815558695	-0.437060259	29

Source: Monthly data for 5 years has been complied to year-on-year average.



INTERPRETATION:

The selection of any security is directly related to its "Excess Return to Beta Ratio." Excess Return to Beta Ratio of the Avenue Supermarts has the highest. Nestle India has the second highest excess return to beta ratio. Avenue Supermarts has 6.2922 excess return to beta ratio. Nestle India has 5.2393 excess return to beta ratio. ITC has the lowest -0.7355 excess return to beta ratio.

Calculation of cut-off value (ci or c^*)

Ci value for each company is calculated using the following formula:

$$\mathbf{Ci} = \frac{\sigma_m^2 \sum \frac{(Ri-Rf)\beta i}{\sigma_{ei}^2}}{1+\sigma_m^2 \sum \frac{\beta i^2}{\sigma_{ei}^2}}$$

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Securities	Excess Return to Beta Ratio (Ri-Rf/β)	ei2	β	Ri - Rf	∑((Ri-Rf) *β)/ei2	∑(βi2)/ei2	σ2m[(Ri-Rf) *β]/ei2	1+ σ2m(βi2)/ei2	cut-off
Avenue Supermarts	6.292193258	8.121458627	0.418419397	2.632775709	0.135641204	0.021557063	4.019097102	1.63874343	2.45254811
Nestle India	5.239311216	5.448897374	0.229759595	1.203782023	0.186400183	0.031245164	5.523103714	1.925805326	2.867944979
HUL	4.103040617	6.203213934	0.227173533	0.932102233	0.220535546	0.039564693	6.534546649	2.172315909	3.008101456
Wipro	4.055733099	8.158625318	0.420615408	1.705903832	0.308482891	0.06124939	9.140457758	2.814841205	3.247237444
Adani Transmission	3.52987502	21.47917369	2.076632264	7.330252355	1.017180477	0.262020687	30.13941924	8.763766129	3.439094426
Infosys	3.459186378	7.269281526	0.611106122	2.113929973	1.194892063	0.313394498	35.40507673	10.28599041	3.442067835
Titan Company	3.226445013	9.131577809	0.841621055	2.715444056	1.445163696	0.390963349	42.82071421	12.58438305	3.40268681
TCS	2.790441461	7.266953412	0.61826269	1.725225844	1.591943606	0.443564313	47.16985516	14.14296831	3.335216067
Asian Paints	2.585877145	6.73671038	0.520553139	1.346086465	1.695957212	0.483788035	50.25181527	15.33481152	3.276976388
JSW Steel	1.953751054	12.3018089	1.205269827	2.354797195	1.926668486	0.601874356	57.08787237	18.83375121	3.031147207
Bajaj Finance	1.855302457	13.50107317	1.801751871	3.342794674	2.372772769	0.842322635	70.30610089	25.95831921	2.708422696
HCL Technologies	1.829150685	8.467186458	0.852759039	1.55982478	2.529868008	0.928206888	74.96088869	28.50310015	2.629920545
Reliance Industry	1.798284187	9.209718109	1.162145565	2.089867992	2.793581923	1.074854407	82.77482576	32.84831829	2.519910609

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Bharti Airtel	1.625888394	8.530526056	0.750280292	1.219872019	2.900872602	1.140843364	85.95388674	34.80359455	2.469684176
Tata Steel	1.582546473	11.86270345	1.327323296	2.100550801	3.135904188	1.289358172	92.91795623	39.20414114	2.370105645
ICICI Bank	1.267880158	9.528524841	1.328617783	1.684528124	3.370787768	1.474615098	99.87764021	44.69336971	2.234730584
Adani Ports	1.03099945	9.755358885	1.290675619	1.330685853	3.546843186	1.645376991	105.0942249	49.75310534	2.112314883
Kotak Mahindra Bank	0.894257632	7.989499614	0.942407696	0.842755275	3.646251046	1.75653943	108.0397151	53.04688794	2.036683381
HDFC Bank	0.693050129	7.170454347	1.093696659	0.757986611	3.761865396	1.923359038	111.4654094	57.98981224	1.922155032
SBI	0.68501217	12.04753097	1.486281726	1.01812107	3.887469119	2.106718879	115.1870924	63.42282955	1.816177128
Sun Pharma	0.634900253	9.337519397	0.66811181	0.424184357	3.917820069	2.154523159	116.0864018	64.83928736	1.79037134
Ultratech Cement	0.507634701	7.879316278	0.907387108	0.460621183	3.970865499	2.25901844	117.6581568	67.93551967	1.731909277
Axis Bank	0.450656361	10.18047064	1.486149363	0.669742664	4.068634813	2.475967145	120.5550963	74.36378697	1.621153269
L&T	0.42091443	8.136663746	1.149861572	0.483993328	4.137032052	2.638463922	122.5817308	79.17862426	1.54816697
HDFC	0.392475359	7.635436668	1.130144867	0.443554012	4.202683868	2.8057402	124.5270175	84.13507984	1.48008438
Power Grid Corporation	0.239797096	5.735520009	0.498714738	0.119590346	4.213082484	2.849104426	124.8351322	85.41997729	1.461427831
Maruti Suzuki	0.070582124	9.129434423	1.140564136	0.080503439	4.223139989	2.991598089	125.1331396	89.64211519	1.395919087

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ONGC	-0.222402643	10.44926541	1.26569012	-0.281492828	4.189043555	3.144907572	124.1228502	94.18472969	1.31786597
NTPC	-0.437060259	7.815558695	0.751902971	-0.328626907	4.157427703	3.217245085	123.1860612	96.32811592	1.278817301
ITC	-0.735472068	6.914362203	0.73471526	-0.540362552	4.100009159	3.295315411	121.4847293	98.64136745	1.231579939

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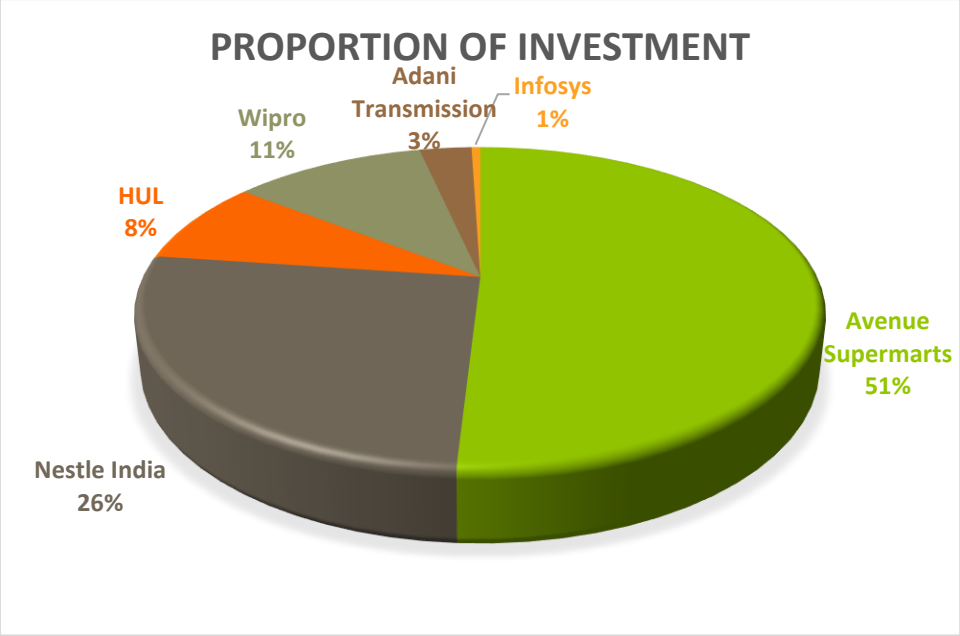
Table 6: Showing determination of Absolute Proportion on Investment

Sr. No.	Company Name	Cut off	Zi	Wi
1	**Avenue Supermarts**	2.45254811	0.146839111	0.509161553
2	**Nestle India**	2.867944979	0.075783022	0.262776049
3	**HUL**	3.008101456	0.024206085	0.083934094
4	**Wipro**	3.247237444	0.031637323	0.109701758
5	**Adani Transmission**	3.439094426	0.008489304	0.029436484
6	**Infosys**	3.442067835	0.001439103	0.00499006



INTERPRETATION:

After applying Sharpe's Single Index Model to construct optimal portfolio above 6 companies are selected. The above chart shows that the investor made the proportion of investment to earn maximum return. It shows that investor made 51% investment in Avenue Supermarts, 26% in Nestle India, 11% in Wipro, 8% in Hindustan Unilever Ltd (HUL), 3% in Adani Transmission and last 1% in Infosys.

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FINDINGS

Every investment has some level of risk. The return indicates the level of risk associated with an investment. From the above research, Adani Transmission has highest return, beta value, and unsystematic risk, which is 7.9283, 2.0766 and 21.4791 respectively. ITC has 0.0577 lowest return among all securities. HUL has the lowest beta value 0.2272 which indicates the low risk in security. Nestle India has the lowest unsystematic risk which is 5.4489. Avenue Supermarts has highest excess return to beta ratio 6.2922 and second highest Nestle India 5.239. ITC has the lowest excess return to beta ration -0.7355. Out of 30 companies only 6 companies are selected for optimum portfolio. 51% investment is made in Avenue Supermarts, 26% in Nestle India, 11% in Wipro, 8% in HUL, 3% in Adani Transmission and 1% in Infosys.

CONCLUSION

Individual and institutional investors alike face difficulties when putting up an effective portfolio. Using Sharpe's single index approach, the research attempted to design an optimum portfolio. Sharpe's single index model is a useful and straightforward way of determining the best portfolio. In comparison to the Markowitz model, the technique employs fewer variables.

The best portfolio was constructed using 10 top stocks representing two significant sectors of the Indian economy in this study. The portfolio's performance was compared to that of the NIFTY Index from 1st April 2011 to 31st March 2016.

Sharpe single index model-based portfolios have beaten NIFTY returns. As a result, the stock developing portfolio is well worth investing in. However, only after evaluating all of the factors that impact stocks should a final investment choice be made. These might be broad economic factors or any other macro-economic factors that influence the movement of stock prices in the stock market.

SUGGESTION

Single Index Model (SIM) has a severe drawback in that it is only true at one moment in time. The market's dynamism and unpredictability as time passes are not considered. The co-movement of security prices, according to this hypothesis, is only attributable to market movement. Some variables drive securities prices to move together that are not related to broad market and business situations, such as industry-specific

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considerations.

The equities from the Nifty 50 index are used in this analysis. Other diversified portfolios may be built using stocks from other similar indexes. Studies may be done to compare the returns and overall risk of two or more indexes, and judgments can be made based on the results. For investors who want to invest in global stock markets, stock market indices from two or more nations can be integrated to form efficient and diversified portfolios. Combining numerous portfolio models, such as the Markowitz Model, Sharpe's Single Index Model, and the Capital Asset Pricing Model, to create better and more efficient optimum portfolios, may be done more research.

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