

A Study on Investment Analysis of Leading FMCG Companies and Inter Firm Comparison

Praveen Kumar Sinha¹, Rachana D², Abhinav^{3*}

¹Associate Professor, Dept. of MBA, Dayananda Sagar Academy of Technology and Management, Bangalore, India

²Assistant Professor, Dept. of MBA, Dayananda Sagar Academy of Technology and Management, Bangalore, India

^{3*}Assistant Professor, Dept. of Mechanical Engineering, Dayananda Sagar Academy of Technology and Management

***Corresponding author:** Abhinav

^{3*}Assistant Professor, Dept. of Mechanical Engineering, Dayananda Sagar Academy of Technology and Management
E-mail: abhinavtechno5@gmail.com

Abstract:

The reason for the investigation is to know what combination of stocks in a portfolio will lead to a maximum return with calculative risk. In other words, the study of risk and return analysis useful so we can know when to sell or buy the given stocks. Selected stocks from FMCG sector from BSE India have been considered for the study. The risk and return analysis are needed when taking the investment decision. This analysis of stocks related to FMCG sector provides the potential investors with appropriate data in making an informed investment decision and also a favourable portfolio. Secondary data of the company is used to examine the financial performance for five years. The results and data obtained in this investigation may be useful for future research and development. Also, this article aims to help understand the relationship between risk and return in the given stocks.

Keywords: Portfolio Analysis, Risk and Return, Investment Decision.

1. Introduction

The Indian FMCG industry creates a humongous employment possibility and currently employs in excess of 3 million people. Departmental stores, supermarkets, and stores are where shoppers purchase important items for day-to-day consumption. In the 21st century, individuals prefer not to visit various stores to obtain regular household commodities. Hence, the introduction of grocery stores, where clients have an assortment of choices for different household items, in areas is proving to be incredibly convenient for customers. Some of the most common stores in India are Reliance Retail, Big Bazaar, D-Mart, Easy day, MORE, Spencer's, Spar, HyperCity, and Star Bazaar. While supermarkets provide a variety of options in a single outlet, leading to an increase in their profitability, it is affecting local grocery stores. Unlike other emerging FMCG industries throughout the world, the FMCG sector in India is still very traditional. Despite street markets still being one of the most visited places for shopping in metropolitan and rural settings, online platforms are leading the way in purchasing FMCG products. The Fast Moving Consumer Products (FMCG) industry, or Consumer Packaged Goods (CPG) industry, is chiefly responsible for producing, distributing, and marketing fast-moving consumer goods. The FMCG business is the fourth-largest sector in the Indian economy. Household and personal care items represent 50% of the business, healthcare represents 31-32%, and food and beverages represent the remaining 18-19%. Some of the most commonly sold FMCG goods are toiletries, cosmetics, household products, electronic goods, and packaged foods.

Portfolio Analysis is the process of studying an investment portfolio to determine its suitability for a given investor's needs, preferences, and resources. It also assesses the likelihood of meeting the goals and objectives of a given investment mandate, particularly on a risk-adjusted basis, and considering historical asset class performance, diversification, and other factors. Here is the step by step analysis of portfolio:

- Understanding Investors Expectation

- Defining an Asset Allocation
- Evaluating Performance

2. Literature Review

The systematic literature survey technique was adopted to review articles and papers related to the concept. After a thorough review, a research gap was identified, and based on that, the research title, objectives, hypotheses, dimensions, constructs, and variables for the current research were determined. "Portfolio Choice with Model Misspecification," Raman Uppal et al.[1] aim to explore the effect of model misspecification on mean-fluctuation portfolios and demonstrate how resource evaluating hypothesis and asymptotic investigation (for a huge number of resources) can provide excellent solutions for moderate misspecification. The starting point of their investigation is the Arbitrage Pricing Theory (APT), which they extend to show its capability in capturing not only small pricing errors independent of factors but also significant pricing errors from mismeasured or missing elements. Aylin Cevizci et al.[2], in their article "A Comparison of Optimal Portfolio Performance of Three Optimization Methods," examine the performances of three portfolios established based on Markowitz optimization, shrinkage optimization, and Black-Litterman optimization. They use BIST30 companies to test the results and find that while Markowitz optimization is unrestricted and generates the highest possible utility, it leads to high short-selling needs. Shrinkage optimization gradually limits short-selling needs but does not prohibit it entirely, whereas the Black-Litterman model completely prohibits short-selling. "Portfolio Analysis under Uncertain Means, Variances, and Covariances," Adedeji et al.[3] considers three contrasting assumptions about prior information regarding mean and covariance. The paper demonstrates that as increased uncertainty is introduced, the risk associated with a given portfolio increases, but portfolios identified as efficient in one case remain efficient in the other cases. Although the efficient set contains similar portfolios in all three cases, the mapping of the set in risk-return space shifts, leading to a change in the portfolio identified as optimal. Annika H. Holmbom et al. [4], in their article "Customer Portfolio Analysis Using SOM," outline how the self-organizing map (SOM) can be utilized for customer portfolio analysis (CPA) to seek productive clients and add value using customer relationship management (CRM) techniques. Elvita Aguiar et al.[5], in their article "Corporate Diversification on Firm's Financial Performance: An Empirical Analysis of Select FMCG Companies in India," attempt to understand the motives of diversification and the impact of diversification on the financial stability of diversified companies. The study focuses on listed conglomerates in the Fast Moving Consumer Goods (FMCG) sector included in the NSE Nifty FMCG Index to measure Financial Health and diversification categories. "Portfolio Analysis with Factors and Scenarios," Harry M. et al. [6] discuss the growing interest in the scenario model of covariance as an alternative to one-factor or many-factor models. They demonstrate how the covariance matrix resulting from the scenario model can be manipulated to easily skew and discuss implications and extensions to models involving scenarios and factors. R. Tyrrell Rockafellar et al.[7], in their article "Portfolio Analysis with General Deviation Measures," consider alternative measures of deviation for dealing with uncertainty inherent in achieving rates of return beyond the risk-free rate. Such measures, associated with concepts like conditional value at risk, lead to generalized portfolio theories similar to those used in capital asset pricing models (CAPM). Richard N. Cardozo et al.[8], in their article "Applying Financial Portfolio Theory to Product Portfolio Decisions: An Empirical Study," conduct an exploratory empirical study to assess whether financial portfolio theory could be applied to design and manage an organization's portfolio of products and services. They find that return and risk estimations of product market theories exhibit high positive covariance, making them suitable for use in a consistent constrained optimization approach similar to modern portfolio theory. Y. A. Babalola et al.[9], in their article "Financial Ratio Analysis of

Firms: A Tool for Decision Making," discuss financial analysis as a branch of accounting aimed at formulating conclusions and predictions regarding the financial situation and performance of a company or organization. The article emphasizes the relationship between financial analysis and accounting and the significant role accounting plays in analysts work, primarily through the information it generates, focusing on relevant books and articles in the field.

The adoption of a systematic literature survey technique informs various studies in the portfolio analysis domain, guiding the identification of research gaps and shaping research objectives, hypotheses, and variables. Notable research includes investigations into the impact of model misspecification on portfolios, comparisons of different portfolio optimization methods, examinations of portfolio efficiency under uncertainty, and the application of techniques such as customer portfolio analysis and financial ratio analysis in decision-making processes. Studies also explore the effects of corporate diversification on financial performance, the application of financial portfolio theory to product portfolio decisions, and advanced portfolio analysis techniques involving factors, scenarios, and deviation measures. These diverse inquiries contribute to a deeper understanding of portfolio management and its implications for business decision-making.

3. Research Methodology

3.1 Statement of Problem

Investments in any security involve varying degrees of risk, which may range from high to low. Each security carries its own risk factors. This study aims to assess the returns and risks associated with different companies in the FMCG industry listed on the NSE and BSE. There exists an inverse relationship between return and risk; when the expected return is high, the associated risk is also high, often summarized as "Higher risk, higher return." Understanding the characteristics of risk and return enables investors to make informed decisions about investing in a particular sector. This analysis focuses on evaluating the value of selected leading FMCG companies such as HUL, ITC, and Nestle, which are listed on the Nifty 50.

3.2 Scope of the Study

Risk and return analysis is a fundamental concept in the securities market. This research report places special emphasis on identifying the risk and return of stocks using various formulas to facilitate buying and selling decisions on securities. The study aims to ascertain the reliability of risk and return analysis in investment decision-making processes.

3.3 Rational of the Study

The purpose of this examination is to determine the optimal combination of stocks in a portfolio that will yield maximum return while managing risk effectively. In essence, the study of risk and return analysis is crucial to inform decisions on when to buy or sell particular stocks. Specifically focusing on selected stocks from the FMCG sector in BSE India, this analysis is essential for making informed investment decisions. By evaluating the risk and return of stocks in the FMCG sector, potential investors are provided with pertinent data to construct a favourable and well-balanced portfolio.

3.4 Objectives of the Study

The objectives of the study are:

1. Analyze the monthly stock returns of selected FMCG sector stocks over a five-year period and assess the associated risk using standard deviation as a measure.
2. Identify the relationship between return and risk for fast-moving consumer goods companies listed on the Nifty.

These objectives aim to provide insights into the performance and risk profiles of FMCG sector stocks, enabling investors to make informed decisions based on the observed trends and relationships between returns and risks.

3.5 Research Design and Sources of data

Descriptive research design is adopted for the study to analyze the risk and return. The study is based on secondary data gathered through the NSE and BSE websites. For this purpose, data collected covers a period of 5 years for FMCG sector stocks listed in Nifty50. Additional data is gathered from newspapers, journals, and websites.

3.6 Research Hypotheses

H0: There is no significant relationship between the returns among the three sets of stock returns.
H1: There is a significant relationship between the returns among the three sets of stock returns. With a significance level set at $P \leq 0.05$, the actual p-value is 0.113359, which exceeds 0.05. Therefore, the hypothesis is accepted, indicating that there is no significant relationship between the returns among the three sets of stock returns.

3.6.1 Hypothesis Outcomes

- It is evident that the mean returns of the FMCG sectors in the year 2021 are
 - HUL return is good
 - ITC's return is negative
 - Nestle's mean return is comparatively High
- The level of risk of the selected companies in automobile sector are
 - HUL: 5.2173. It has moderate risk and good return
 - ITC: 7.1256. The company was subjected to high risk and it also incurred negative return in this year.
 - Nestle: 5.3720. It is a moderate risk and it has got a high profit when compare to the other stock.
- The Liquidity, Profitability and per share return position of given companies in FMCG sector
 - All three stocks liquidity position is good and as per the given standards.
 - All three companies have achieved given ideal ratios.
 - Nestle has highest earning per share, HUL is second and ITC is third.

4. Analysis and Interpretation of Data

Calculation of Mean return, Variance and Standard deviation:

Analysis and Interpretation

Measuring Historical Risk

Risk refers to the possibility that the actual outcome of an investment with the expected outcome. Put differently, risk refers to variability or dispersion set's return has no variability, it is riskless.

➤ **Variance and Standard Deviation**

The most commonly used measures of risk in finance are variance or its standard deviation. The variance and the standard deviation of a historic risk are defined as follows:

Collect last 5 years opening stock price of HUL, ITC, Nestle, and SENSEX on monthly bases.

Months	HUL Open Price	ITC Open Price	NESTLE Open Price	SENSEX Open Price
Jan-17	826.25	241.95	6030	26711.15
Feb-17	855	260	5843	27669.08
Mar-17	867	263.25	6255.05	28849.04
Apr-17	910	281.1	6680	29737.73
May-17	934.7	279.05	6702	30021.49
Jun-17	1066	313	6644	31117.09
Jul-17	1090	345.25	6734.2	31156.04
Aug-17	1153	286	6750.25	32579.8
Sep-17	1217	282	7089	31769.34
Oct-17	1185	259.25	7264	31537.81
Nov-17	1244	266.95	7240.8	33344.23
Dec-17	1278.45	256.2	7620	33247.66
Jan-18	1355	263.3	7880	34059.99
Feb-18	1376	272	7500	36048.99
Mar-18	1320.5	264.55	7777	34141.22
Apr-18	1333	258.5	8201	33030.87
May-18	1510	281.5	9400	35328.91
Jun-18	1611	271.65	9669	35373.98
Jul-18	1644.9	268	9837.8	35545.22
Aug-18	1731.6	297.5	10600	37643.87
Sep-18	1781	322.35	11700	38915.91
Oct-18	1608	300.65	9750	36274.25
Nov-18	1628.5	281.1	10329	34650.63
Dec-18	1779.9	287.25	10809.1	36396.69
Jan-19	1821	283.75	11112	36161.8
Feb-19	1767	280	11499	36311.74
Mar-19	1739.85	277	10650	36018.49
Apr-19	1710	297.25	11000	38858.88
May-19	1754	302	10900	39036.51
Jun-19	1790	281	11500	39806.86
Jul-19	1795	274.9	11949	39543.73
Aug-19	1725	270.55	11680	37387.18
Sep-19	1870	244.85	12850	37181.76
Oct-19	1985.35	259.7	13938.95	38813.48
Nov-19	2167	259.3	14965	40196.07
Dec-19	2036.1	246.25	14460	41072.94
Jan-20s	1931	238.9	14819.95	41349.36
Feb-20	2058	238.15	15355	40753.18
Mar-20	2182	199.05	15900	38910.95
Apr-20	2304	172.4	16380	29505.33
May-20	2108	182.15	17699	32748.14
Jun-20	2070	200	17595	32906.05
Jul-20	2186	195	17160	35009.59
Aug-20	2201	195	16530	37595.73
Sep-20	2145.5	191	15951.05	38754
Oct-20	2086	174.1	16000	38410.2
Nov-20	2073	165.75	17122	39880.38
Dec-20	2154	194.5	18188	44435.83
Jan-21	2404	210	18380	47785.28
Feb-21	2265	205	17162.1	46617.95
Mar-21	2140.05	205	16274.95	49747.71

Calculation of Index/Stock return and mean return of each stocks.

Month	STOCK /INDEX RETURNS=(P1-P0)*100/P0				R-R _{hul}	R-R _{itc}	R-R _{nestle}	rm-rm(SENSEX)
	HUL	ITC	Nestle	Sensex	HUL	ITC	Nestle	Sensex
1	3.48	7.46	-3.101	3.5863	1.42	7.54	-5.25	2.1741
2	1.4	1.25	7.052	4.2645	-0.7	1.33	4.9036	2.8524
3	4.96	6.781	6.7937	3.0805	2.9	6.86	4.6452	1.6683
4	2.71	-0.73	0.3293	0.9542	0.66	-0.65	-1.819	-0.458
5	14	12.17	-0.865	3.6494	12	12.25	-3.014	2.2372
6	2.25	10.3	1.3576	0.1252	0.19	10.38	-0.791	-1.287
7	5.78	-17.2	0.2383	4.5698	3.72	-17.08	-1.91	3.1576
8	5.55	-1.4	5.0183	-2.488	3.49	-1.319	2.8699	-3.9
9	-2.6	-8.07	2.4686	-0.729	-4.7	-7.988	0.3201	-2.141
10	4.98	2.97	-0.319	5.7278	2.92	3.05	-2.468	4.3157
11	2.77	-4.03	5.237	-0.29	0.71	-3.947	3.0885	-1.702
12	5.99	2.771	3.4121	2.4433	3.93	2.851	1.2636	1.0311
13	1.55	3.304	-4.822	5.8397	-0.5	3.384	-6.971	4.4276
14	-4	-2.74	3.6933	-5.292	-6.1	-2.659	1.5449	-6.704
15	0.95	-2.29	5.452	-3.252	-1.1	-2.207	3.3035	-4.664
16	13.3	8.897	14.62	6.9572	11.2	8.977	12.472	5.5451
17	6.69	-3.5	2.8617	0.1276	4.63	-3.42	0.7132	-1.285
18	2.1	-1.34	1.7458	0.4841	0.05	-1.264	-0.403	-0.928
19	5.27	11.01	7.7477	5.9042	3.21	11.09	5.5992	4.492
20	2.85	8.353	10.377	3.3791	0.79	8.433	8.2289	1.967
21	-9.7	-6.73	-16.67	-6.788	-12	-6.652	-18.82	-8.2
22	1.27	-6.5	5.9385	-4.476	-0.8	-6.423	3.79	-5.888
23	9.3	2.188	4.6481	5.039	7.24	2.267	2.4996	3.6269
24	2.31	-1.22	2.8023	-0.645	0.25	-1.139	0.6538	-2.058
25	-3	-1.32	3.4827	0.4146	-5	-1.242	1.3343	-0.998
26	-1.5	-1.07	-7.383	-0.808	-3.6	-0.992	-9.532	-2.22
27	-1.7	7.31	3.2864	7.8859	-3.8	7.39	1.1379	6.4738
28	2.57	1.598	-0.909	0.4571	0.52	1.678	-3.058	-0.955
29	2.05	-6.95	5.5046	1.9734	-0	-6.874	3.3561	0.5613
30	0.28	-2.17	3.9043	-0.661	-1.8	-2.091	1.7559	-2.073
31	-3.9	-1.58	-2.251	-5.454	-6	-1.503	-4.4	-6.866
32	8.41	-9.5	10.017	-0.549	6.35	-9.42	7.8687	-1.962
33	6.17	6.065	8.4743	4.3885	4.11	6.144	6.3259	2.9764
34	9.15	-0.15	7.361	3.5621	7.09	-0.074	5.2126	2.15
35	-6	-5.03	-3.375	2.1815	-8.1	-4.953	-5.523	0.7693
36	-5.2	-2.98	2.4893	0.673	-7.2	-2.905	0.3408	-0.739
37	6.58	-0.31	3.6103	-1.442	4.52	-0.234	1.4619	-2.854
38	6.03	-16.4	3.5493	-4.52	3.97	-16.34	1.4009	-5.933
39	5.59	-13.4	3.0189	-24.17	3.53	-13.31	0.8704	-25.58
40	-8.5	5.655	8.0525	10.991	-11	5.735	5.904	9.5785
41	-1.8	9.8	-0.588	0.4822	-3.9	9.879	-2.736	-0.93
42	5.6	-2.5	-2.472	6.3926	3.55	-2.42	-4.621	4.9804
43	0.69	0	-3.671	7.3869	-1.4	0.08	-5.82	5.9748
44	-2.5	-2.05	-3.502	3.0809	-4.6	-1.972	-5.651	1.6687
45	-2.8	-8.85	0.3069	-0.887	-4.8	-8.769	-1.842	-2.299
46	-0.6	-4.8	7.0125	3.8276	-2.7	-4.717	4.864	2.4154
47	3.91	17.35	6.2259	11.423	1.85	17.42	4.0774	10.011
48	11.6	7.969	1.0556	7.5377	9.55	8.049	-1.093	6.1256
49	-5.8	-2.38	-6.626	-2.443	-7.8	-2.301	-8.775	-3.855
50	-5.5	0	-5.169	6.7136	2	0.08	-7.318	5.3015

51	-100	-100	-100	-100		-99.92	-102.1	-101.4
----	------	------	------	------	--	--------	--------	--------

Calculation of Mean return, Variance and Standard deviation:

Table no – 4.1

Particulars	HUL	ITC	Nestle	Sensex
Return ($\sum R$)	102.8978	-3.97808	107.423	70.607
Mean return (μ)	2.0579	-0.07956	2.148	1.412
Deviation $(R-R)^2$	1333.82	2487.99	1414.10	30.66
Variance = $\left[\frac{\sum (R-R)^2}{N-1} \right]$	27.2208	50.7753	28.8593	-
Standard deviation = $\sqrt{\text{variance}}$	5.2173	7.1256	5.3720	-

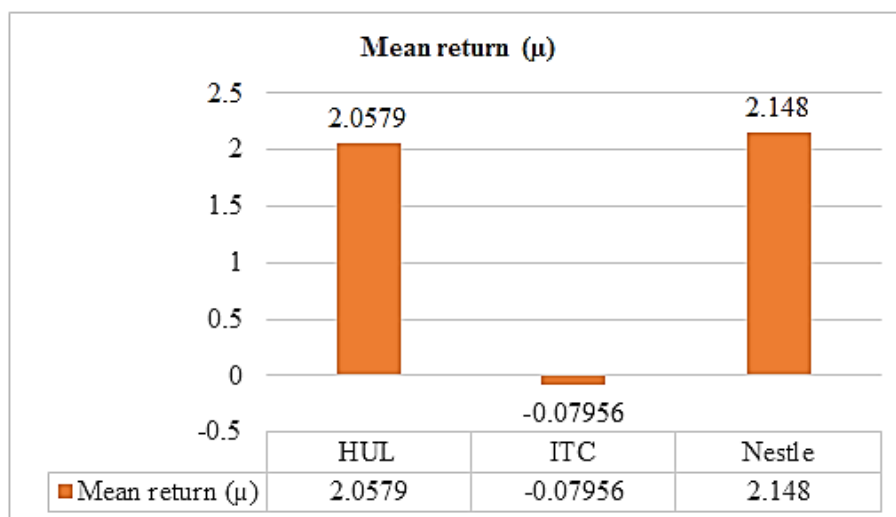


Chart no – 1

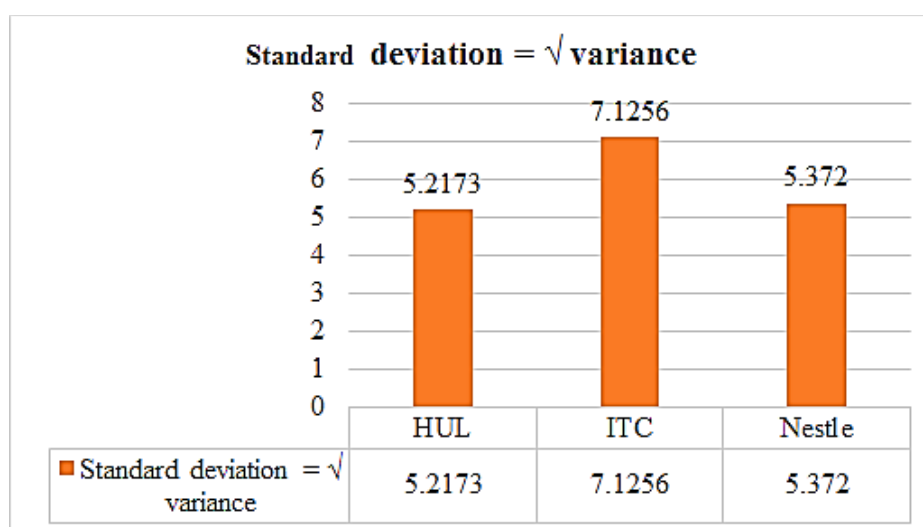


Chart no – 2

Risk and Return relationship of the given stocks:**Table no – 4.2**

Particulars	HUL	ITC	Nestle
Mean return	2.0579	-0.07956	2.148
Risk (standard deviation)	5.2173	7.1256	5.3720
Returns per unit risk (return / risk)	0.3944	-0.01117	0.3999
Ranking of return of company	2nd	3rd	1st

Interpretation: As you can see, we have found the mean return of the given stocks and also determined the risk element of each stock through standard deviation. Furthermore, we have analyzed the risk-return relationship using mean return and standard deviation, which can be described as return per unit of risk. It is evident that Nestle has a higher return per unit of risk, which is (0.3999) compared to the other two stocks. This indicates that Nestle provides a higher return relative to its risk factor. The next best alternative is HUL, which yields a return per unit of risk of 0.3944, ranking it second, while ITC stands at the third position with (-0.01117). Therefore, we can conclude that Nestle is the more preferred stock compared to the other two stocks.

Inter Firm Comparison using Ratios**1) Liquidity Ratio:-**

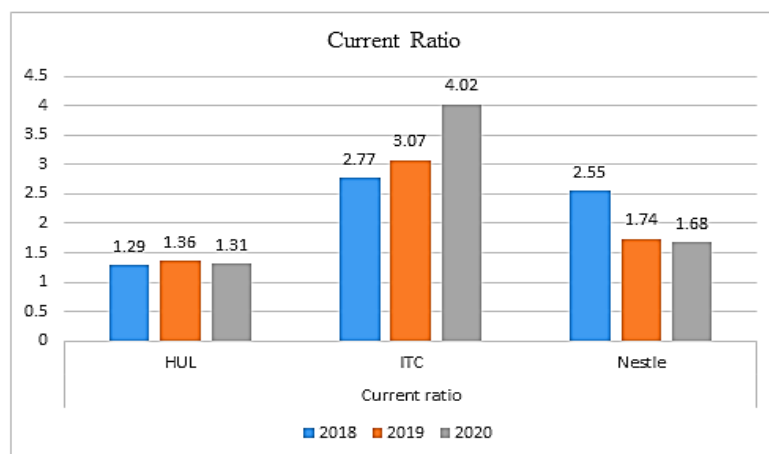
Liquidity ratios are an important class of financial metrics used to determine a debtor's ability to pay off current debt obligations without raising external capital. Liquidity ratios measure a company's ability to pay debt obligations and its margin of safety through the calculation of metrics including the Current ratio, Quick ratio etc.

a) Current Ratio:-

Current Ratio = Current Asset / Current Liabilities

Table no 4.3

Year	Current ratio		
	HUL	ITC	Nestle
2018	1.29	2.77	2.55
2019	1.36	3.07	1.74
2020	1.31	4.02	1.68

**Chart no – 3**

Interpretation: As we know, the current ratio reflects the liquidity of a company. The ideal ratio for the current ratio is 2:1. It can be observed that ITC Ltd. has been able to achieve the ideal ratio for each year. Therefore, it can be inferred that they have enough liquid assets to cover short-term liabilities. However, in the case of HUL and Nestle, they have not been able to reach the ideal ratio, which may affect their working capital requirement in the near future. As fast-moving consumer goods entities, they require a lot of free cash for their day-to-day activities, which makes the current ratio even more important.

b) Inventory Turnover Ratio:-

Inventory Turnover Ratio = Cost of Goods Sold/Average Inventory

Average Inventory = Inventory at the beginning of year + Inventory at the End of the year / 2.

Table 4.4

Year	Inventory Turnover ratio		
	HUL	ITC	Nestle
2018	14.64	5.61	11.7
2019	15.78	5.92	9.64
2020	14.71	5.68	9.42

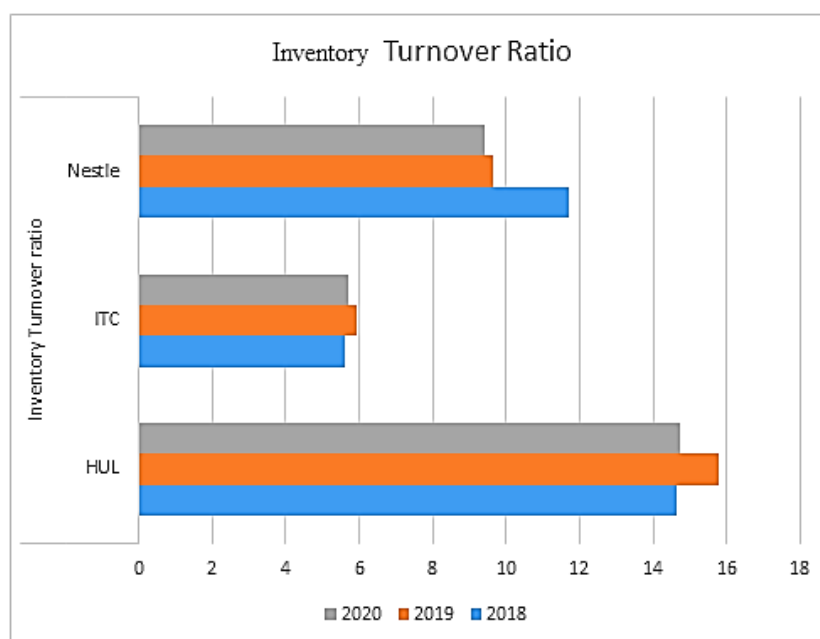


Chart no – 4

Interpretation: The inventory turnover ratio is also a measure of liquidity. The ideal ratio for the inventory turnover ratio falls between 5 to 10. HUL Ltd. has been able to sustain within this parameter quite well compared to other companies. Therefore, it can be inferred that the company is selling goods quickly, and there is considerable demand for their products. Additionally, considering that 8 out of 10 households in India use HUL products, it is evident that they have a far better ratio than the given industry standard. ITC needs to look into its product engagement technique.

2) Profitability Ratio:

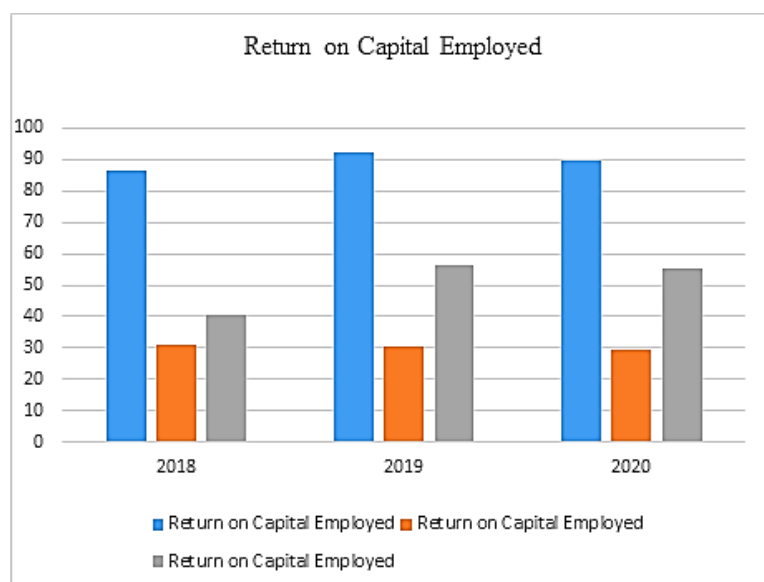
Profitability ratios are a class of financial metrics that are used to assess a business's ability to generate earnings relative to its revenue, operating costs, balance sheet assets, or Shareholders equity over time, using data from a specific point in time.

Return on Capital employed:-

Return on Capital employed = EBIT/ Total Asset – Total Current Liabilities

Table 4.5

Year	Return on Capital Employed		
	HUL	ITC	Nestle
2018	86.53	30.87	40.76
2019	92.27	30.7	56.25
2020	89.49	29.26	55.05

**Chart no 5**

Interpretation: A higher Return on Capital Employed (ROCE) indicates that a higher percentage of the company's value can ultimately be returned as profit to stakeholders. As a general rule, to indicate that a company makes reasonably efficient use of capital, the ROCE should be equal to at least twice the current interest rates. According to the given industry standard, each of the companies has been able to achieve this standard. HUL has the highest ROCE among the three companies, reaching up to 92, which is around 9 times the regular interest rate.

a) Asset Turnover Ratio:-

Asset Turnover Ratio = Net Sales / Average Total Assets

Table no – 4.6

Year	Asset Turnover Ratio		
	HUL	ITC	Nestle
2018	201.32	65.12	139.61
2019	213.96	64.46	172.43
2020	197.86	60.63	168.99

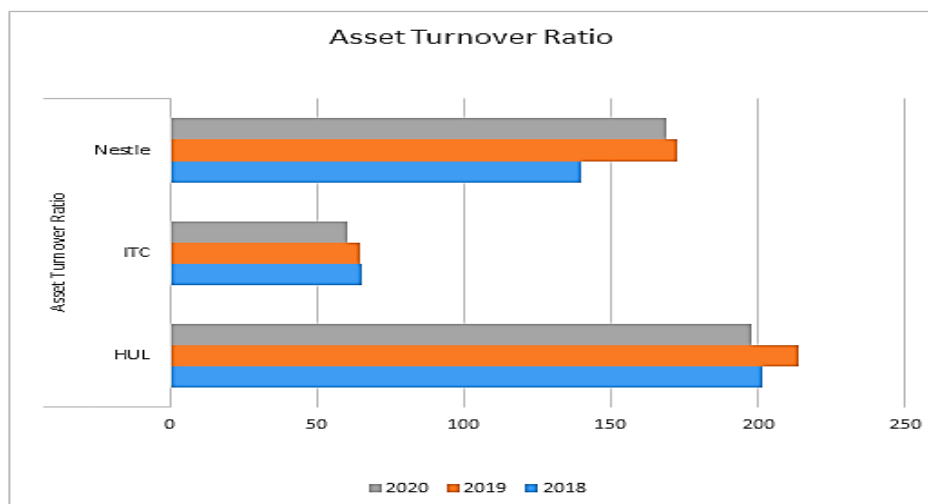


Chart no – 6

Interpretation: For FMCG sector having ratio around 0.5 is consider as good. As we can see HUL, ITC, Nestle has reached the ideal level over the years. Asset turnover ratio shows that how much of net sales is recovered on the average total assets.

3) Per Share Ratio :-

It is the portion of a company's profit that is allocated to every individual share of the stock. It is a term that is of much importance to investors and people who trade in the stock market. The higher the earnings per share of a company, the better is its profitability.

a) Earnings Per Share:

Earning Per Share = $\frac{\text{Net Income} - \text{Preferred Dividend}}{\text{End of the period common share outstanding}}$

Table 4.7

Year	Earnings Per Share		
	HUL	ITC	Nestle
2018	24.2	9.22	166.67
2019	27.89	10.19	204.28
2020	31.13	12.33	215.98

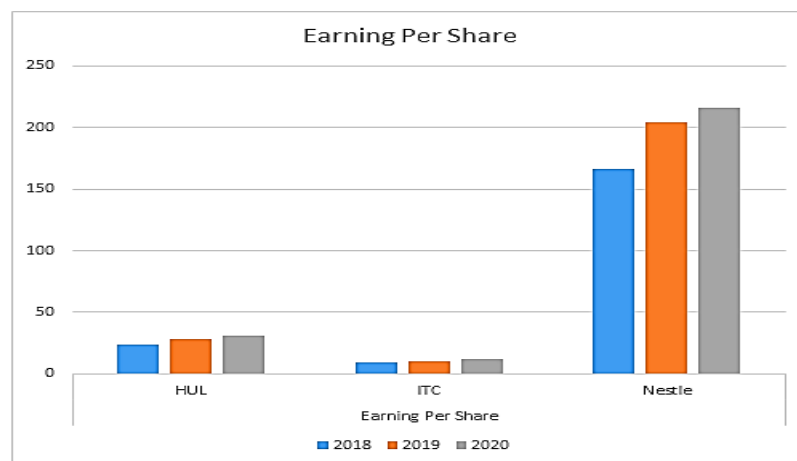


Chart no – 4.7

Interpretation: The earnings per share (EPS) tell us about the profit being allocated by the company to each outstanding share for a relevant period. It is calculated after deducting interest, tax, preference dividend (if any) from the EBIT and is allocated to equity shareholders at the year-end. There is no general range to interpret healthy EPS ranges, as it does not exist. However, the higher the EPS, the better the stock price will be, as it directly affects the owners of the company.

b) **Revenue from operation per share:**

Revenue from operation per share = Revenue from operation/no of share

Table 4.8

Year	Revenue from operation per share		
	HUL	ITC	Nestle
2018	159.84	33.29	1771.15
2019	176.96	36.71	1282.81
2020	179.56	37.11	1384.57

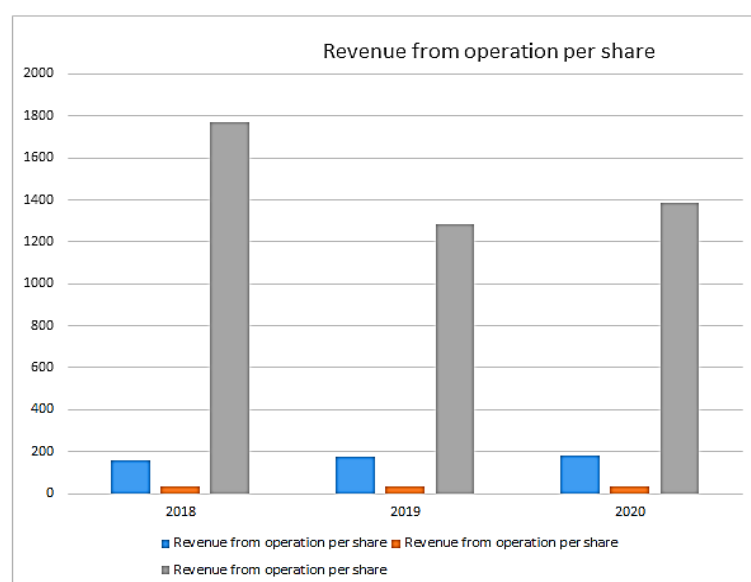


Chart no – 8

Interpretation: Increasing Revenue per Share (RPS) over time is a good sign because it means each share now has a claim to more revenues. We observe from the chart that there is stable growth in the revenue from operations per share. Both ITC and HUL show an upward trend over the past 3 years. However, in the case of Nestle, it is showing a downward trend, which may not be a good sign as it reflects that revenue from operations is decreasing or that share prices are increasing rapidly and revenue is unable to match up to the stock price. Since revenue from operations represents the main income of the company, it becomes even more important to consider.

Hypothesis Testing:

H0: There is no significant relationship between the returns among the three sets of stock returns

H1: There is significant relationship between the returns among the three sets of stock returns

$P < 0.05$

Actual value of p is 0.113359 which is more than 0.05 and hence the hypothesis is accepted. This

means there is no significant relationship between the returns among the three sets of stock returns

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	50	102.898	2.05796	28.3101
Column 2	50	-3.9781	-0.0796	50.7754
Column 3	50	107.423	2.14847	28.8593

Table no 4.9

<i>Source of Variation</i>	<i>SS</i>	<i>Df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>Fcrit</i>
Between Groups	159.0216	2	79.5108	2.20976	0.11336	3.05762
Within Groups	5289.293	147	35.9816			
Total	5448.314	149				

Interpretation: We have determined the mean return of the given stocks and also assessed the risk element of each stock through standard deviation. Additionally, we have Analyzed the risk-return relationship using mean return and standard deviation, which can be described as return per unit of risk. It is evident that Nestle has a higher return per unit of risk, which is (0.3999), compared to the other two stocks. This indicates that it provides a higher return compared to its risk factor. The next best alternative is HUL, which provides a return per unit of risk of 0.3944, ranking it second, while ITC stands at the third position with (-0.01117). Therefore, we can conclude that Nestle is the more preferred stock compared to the other two stocks.

5. Recommendation and Managerial Perspective and Limitations

- Every investor naturally seeks higher returns and reduced risk on their investments. With various options offering attractive returns, careful consideration is essential before making investment decisions. Investors with a good understanding of market conditions and economic situations in the country are better equipped to make informed decisions on portfolio selection, leading to higher returns.
- Diversifying risk by investing in different portfolios is always advisable. However, the decision to build a portfolio should be made with utmost care.
- Investors willing to accept high risk for potentially high returns often favour investing in the FMCG sector compared to other industries.
- For a well-constructed FMCG portfolio, investors may include stocks of companies like HUL and Nestle, known for their high earnings and moderate risk. It is advisable to avoid ITC for the time being due to its negative returns and high risk.
- Analyzing the individual performance of stocks is crucial for investors considering investment based on a company's performance. In the FMCG sector, HUL is a favorable option.
- Investors looking for long-term investments in the FMCG sector may consider holding stocks of companies like HUL and Nestle. These market leaders have demonstrated strong performance over many decades.

This study is based solely on secondary data. It specifically focuses on a dataset spanning five years. While the study provides investors with insights into how the stocks have performed during this period, it's essential to note that investors should not solely rely on this study for their investment decisions.

Conclusion

Here are few important conclusions that can be drawn from the above studies and are as follows:

- Stock prices are influenced by various factors, and any change in these factors can lead to movement in the price of a particular share. Therefore, anyone looking to invest in the market must understand the significance of these factors. Diversifying investments across multiple stocks can help mitigate losses.
- Utilizing standard deviation is beneficial for measuring the relative market risk of different stocks, and investors should incorporate it into their practices to assess stock risk effectively.
- Currently, the FMCG sector is performing well, indicating potential growth in the stock market in the future. This presents investors with more opportunities for investment, which is a positive sign for the country's growth.
- Investing in the stock market requires careful consideration, as it can be quite complex. Investors should focus on building a diversified portfolio to mitigate risks.
- The financial market experiences periodic fluctuations, and investors must decide when to enter or exit positions in the market. Timing is crucial, along with a thorough understanding of the current market conditions, with the main focus being on maximizing returns.
- Nowadays, pharmaceutical and FMCG companies play a crucial role in the Indian economy. Volatility in the market can significantly impact the financial performance of these companies. Over the past decade, there has been a shift in focus towards future and forward contracts. This article aims to help understand the relationship between risk and return in the given stocks.

References

- [1] Uppal, R., Wang, T., & Zhao, Y. (2016). Portfolio choice with model misspecification. *Review of Financial Studies*, 29(10), 2733-2772.
- [2] Cevizci, A., Çevik, E., & Tepen, S. (2016). A comparison of optimal portfolio performance of three optimization methods. *Procedia Economics and Finance*, 38, 96-104.
- [3] Adedeji, A. (2014). Portfolio analysis under uncertain means, variances, and covariances. *Journal of Risk and Financial Management*, 7(3), 93-106.
- [4] Holmbom, A. H., Parvinen, P., & Möller, K. (2011). Customer portfolio analysis using SOM. *Expert Systems with Applications*, 38(1), 1071-1080.
- [5] Aguiar, E., Fernandes, A., & Fernandes, N. (2017). Corporate Diversification on Firm's Financial Performance: An Empirical Analysis of Select FMCG Companies in India. *International Journal of Engineering and Management Research*, 7(6), 204-212.
- [6] Markowitz, H. M., & Perold, A. F. (2011). Portfolio Analysis with Factors and Scenarios. *Financial Analysts Journal*, 67(2), 23-32.
- [7] Rockafellar, R. T., Uryasev, S., & Zabarankin, M. (2003). Optimization of Conditional Value-at-Risk. *Journal of Risk*, 4(3), 21-42.
- [8] Cardozo, R. N., & Smith, D. K., Jr. (2010). Applying Financial Portfolio Theory to Product Portfolio Decisions: An Empirical Study. *Journal of Product Innovation Management*, 27(1), 1-15.
- [9] Babalola, Y. A., & Abiola, F. R. (2013). Financial Ratio Analysis of Firms: A Tool for Decision Making. *International Journal of Economics, Commerce and Management*, 1(11), 1-10.