

A Study on CAPM Model on FMCG Sector of India

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Abstract

FMCG is considered as 4th largest sector in the Indian economy. This research has been done on the 15 stocks selected from the FMCG index on NSE. The monthly data used in this study spans the period of January 1, 2019, to August 31, 2022. From the research, we have found that some of the companies are providing decent returns by taking extra risk conversely. One of the companies is providing lower return as compared to other stocks although the risk is high.

Keywords: Beta, CAPM, expected return, FMCG, NSE, risk

INTRODUCTION

About CAPM Model

Treynor ('61), Sharpe ('64), and Lintner ('65) introduced CAPM which is also the extension of the Markowitz theory. According to the capital asset pricing model (CAPM) model, an investor's expected return will be equal to the rate on a risk-free investment plus a risk premium. Investors will not invest if the projected return is not at least as high as the needed return, hence the investment should not be made.

Definition

A technique for calculating the risk of buying a certain stock is called capital asset pricing model (CAPM).

Assumptions of the CAPM

1. The price of stocks cannot get affected by an individual seller or buyer.
2. Investors only consider the anticipated returns, standard deviations, and covariance of all pairings of assets when making decisions.
3. During the time when decisions are being made, investors have similar expectations. This implies that everyone is simultaneously aware of the same knowledge.
4. This asset is available for unrestricted borrowing and lending by investors at a risk-free rate.
5. Assets can be divided indefinitely. As a result, any money can be used to purchase shares. For example, a shareholder can purchase reliance industry shares for about ₹ 10.
6. Transaction costs are absent. i.e., there are no expenses associated with purchasing and selling stocks.
7. There is no personal income tax.
8. Investors can sell sort any number of shares without limits.

Formula for the model:

$$\sum R_i = R_f + \beta_i (\sum R_m - R_f)$$

where:

- $\sum R_i$ —expected return of investment
- R_f —Risk-free rate
- β_i —Beta of the investment

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$(\Sigma R_m - R_f)$ —Market risk premium

TYPES OF LINES

Capital Market Line (CML): Expected Return–Standard Deviation

The CML specifies the equilibrium relationship between expected return and total risk for efficient portfolios.

CML signifies the desired set of investment opportunities between risk-free and risky investments. It also signifies a linear relationship between the required rates of return for efficient portfolio and their standard deviations.

Security Market Line (SML): Expected Return–Beta Systematic Risk

It demonstrates the trade-off between systematic risk and return for a certain asset or portfolio. It serves as the paradigm for valuing capital assets. It shows how an individual security's anticipated rate of return varies with systematic, non-diversifiable risk (its beta).

Systematic Risk

Return volatility is tied to overall market. It is also called non-diversifiable risk. These risks are applicable to all the sectors but can be controlled. A consistent response will come in if an announcement or event has an effect on the whole stock market, which is a systemic risk.

Unsystematic Risk

Return volatility connected exclusively to a single firm is another name for diversifiable risk, which refers to the risks that already exist but are unpredictable and capable of occurring at any time and creating significant disruption.

Beta

It is a measure of sensitivity of a security's return to the systematic market risk factor.

Thus, in this study, we have used the CAPM model to identify whether the selected stocks are fairly valued or not, so if the stocks are "undervalued" it gives the "BUY" opportunity to the investors and in case of the stock is "overvalued" it gives the "SELL" opportunity to the investors. Also this model facilitates the investors to do the "risk and return" analysis of the selected stocks.

INDUSTRY DETAILS

Fast-moving consumer goods (FMCG) is the fourth-largest economic sector in India. It serves as a gauge of consumer demand in every nation. Three groups mostly comprise this sector, which are: healthcare (31%), household & personal care (50%), food & beverages (19%), around 55% of FMCG firms' revenues come from the urban segment, while 45% come from the rural segment. As a result, the vital major drivers for the sector's growth have been increasing awareness, simpler access, and dynamic lifestyles.

We have selected FMCG INDEX companies in our research project.

1. VBL
 2. ITC
 3. P&G
 4. RADICO
 5. MACDOWEL
 6. HUL
 7. BRITANNIA
 8. MARICO
 9. NESTLE
-

10. UBL
11. DABUR
12. COLPAL
13. GODREJ
14. TATACOSNSUM
15. EMAMI

RESEARCH METHODOLOGY

Problem Statement

“A study on market risk and return of NSE listed FMCG INDEX companies by using capital asset pricing model”

Objectives of the Study

- To measure the systematic risk of the security by using beta as a measure of risk
- To analyse the relationship between risk and return of the selected stocks which are listed on NSE
- To find out whether the selected securities are undervalued or overvalued by comparing actual return and expected return of securities

Need of the Study

As we know that every investment comes with certain amount of risk attached to it, so this model provides a methodology for quantifying risk and transferring that risk into estimates of expected return on equity. Thus, the ones who intend to invest in FMCG companies should be aware about the risk and return involved in such particular investment.

Scope of the Study

This analysis is focused on the NSE listed FMCG INDEX company's stocks, which consists of 15 FMCG companies' stocks. The main aim of this research article is to test whether the selected stocks are overvalued or undervalued with the help of capital asset pricing model.

Research Design

A descriptive research design has been adopted for the purpose of analysing the risk and return of the selected stocks of the companies.

Tools and Techniques

The data collected have been thoroughly examined with the help of Microsoft Excel by applying many statistical tools. This research has mainly used the following tools for the purpose of analysis of the data.

- Average monthly risk and return
- Standard deviation
- Variance
- Capital asset pricing model
- Beta

LITERATURE REVIEW

A study by Gao J (2022) based on the CAPM model examines how COVID-19 has affected the banking, pharmaceuticals, and online retail industries [1]. To test the efficiency of the traditional CAPM model before and after the COVID-19 era, regression analysis is used to choose 2–3 companies from each of the four US stock industries. More specifically, the pre-pandemic control was the time frame from March 1 to December 31, 2019. The empirical study is more comparable because the post-pandemic control period runs from March 1 to December 31, 2020.

A study by Talwar P and Gopinathan R (2020) focuses on the top ten companies which are listed on the National Stock Exchange of India (NSE), according to the fundamentals of market capitalization [2]. They have utilised the CAPM model; the Beta (systematic risk) role is to estimate the equity's risk and its objective is to compare how far the entire stock bounces; monthly data have been acquired and analysed for the time period which is beginning from 1 May 2019 to 31 May 2020. The findings of this study suggested that the individual assets returns are linearly related to their betas; the only risk that can influence.

The study's findings of Tandon S and Kaur P (2021) indicate that, with the exception of Bajaj Autos and Maruti Suzuki India Ltd., all chosen businesses in the automotive sector's average daily return are in the negative [3]. Among all the companies, Maruti has the highest (0.000132) average daily return and Tata Motors have lowest daily return (-0.00168). Additionally, the examination of standard deviation and variance yielded the same information, namely that prices become more volatile when standard deviation and variance increase, and become calm when standard deviation and variance decrease. This makes it easier for investors to get information on price movement, which will aid them in making investment-related decisions.

The main goal of the study by Ranade M and Joshi A (2020) was to estimate the stocks' predicted returns over the specified time period and compare those estimates to the actual returns using the available historical data [4]. The effectiveness of the model is judged by running correlation with the actual returns. It was discovered that this model was only seldom able to estimate stock returns effectively; in fact, there was only a 0.25 average correlation between predicted and actual returns for the businesses.

A study was conducted by Soumays Shetty and Janet Jyothi D Souza (2019). For the research period of 1 January 2009 to 31 December 2018, this analysis did not indicate if the CAPM was appropriate for 30 BSE stocks [5]. Six portfolios of firms in this research have a mix of overpriced and undervalued equities, while seven grouped portfolios are made entirely of undervalued stocks. According to this study's data, it is evident that beta by itself would not increase or decrease stock return prices; there may be a number of other regulating aspects that are just as accountable for the movement of stock prices.

The study findings by Katoch R (2018) on the uses of CAPM in the Indian stock market show conflicting results [6]. The study set out to examine if higher beta produces higher anticipated returns and the intercept equals zero with the aim of holding CAPM on the Indian stock market. The findings mostly support the CAPM's hypotheses that greater risk (beta) is correlated with higher levels of return.

The current study by Babitha Rohit M and Pinto P (2018) mainly emphasises to measure the return and risk of selected securities listed on the Bombay stock exchange [7]. These securities are chosen from the FMCG sector, healthcare sector, finance sector, telecom sector, and energy sector. Annual returns are determined for years 2007 to 2016. The main objective of this study is to analyse risk and return of the selected stocks for the predetermined time period.

The research by Krunal Kishorchandra Bhuval, Yesha B Mankad, and Payal B Bhatt (2016) was to test the results of the statistical correlation between CAPM return and actual return, and risk associated with market beta and CAPM beta, but it showed that there is no actual relation between the actual beta and calculated beta that is actual volatility of the stock other than the calculated volatility of selected FMCG stocks [8].

The results of the study by Khushboo Raheja (2014) showed that CAPM model shows no correlation for the data analysed with the actual returns of the same securities during the same time period [9]. The spread between expected returns and actual return is large, and this can be because of several reasons.

In this paper by RF Bruner, Wei Li, Mark Kritzman, Simon Myrgren, and Sébastien Page (2008), they analysed equilibrium returns for over 14,371 securities from around the world [10]. This research offer several insights on the pricing of global stocks and on global market integration. The findings supported the idea that choosing a market portfolio is far more crucial for securities in emerging markets than for those in established markets. The average absolute difference in local versus global CAPM expected returns is 5.6%, versus 3.6% for developed markets. The results show that surprisingly, developed Asia is becoming less and less integrated with the World.

DATA COLLECTION METHOD

- The monthly adjusted closing price of selected NSE listed FMCG INDEX stocks is being collected from the Yahoo Finance website.
- The RBI website was used to obtain the risk-free rate of return for a 364-day treasury note.

Limitations of the Study

Only data from 1 January 2019 to 31 August 2022 was used to calculate the risk and return analysis.

DATA ANALYSIS

The equation for the CAPM model is

$$\sum R_i = R_f + \beta_i(\sum R_m - R_f)$$

where:

$\sum R_i$ —expected return on investment

R_f —Risk-free rate

Covariance (ri, rm)

β_i —Beta of the investment

$$= \frac{\text{Covariance}(ri, rm)}{\text{variance}(rm)}$$

R_i —The return on an individual stock

R_m —The return on the overall market

Covariance—How the changes in a stock's returns and market's returns are related

Variance—Deviation of the market's data points from their average value

Table 1. Valuation of securities.

Name	Beta	Rm	Risk free	Rm-Rf	Actual return	Expected return	Valuation of security
VBL.NS	1.1822	0.0134	0.00536	0.00804	0.0399	0.0149	Undervalued
ITC	0.67	0.0134	0.00536	0.00804	0.0097	0.0108	Overvalued
P&G	0.3677	0.0134	0.00536	0.00804	0.0112	0.0083	Undervalued
RADICO	0.8359	0.0134	0.00536	0.00804	0.029	0.0121	Undervalued
MACDOWEL	0.7254	0.0134	0.00536	0.00804	0.013	0.0112	Undervalued
HUL	0.1525	0.0134	0.00536	0.00804	0.0132	0.0066	Undervalued
BRITANNIA	0.5809	0.0134	0.00536	0.00804	0.0078	0.0101	Overvalued
MARICO	0.3259	0.0134	0.00536	0.00804	0.0118	0.008	Undervalued
NESTLE	0.241	0.0134	0.00536	0.00804	0.0157	0.0073	Undervalued
UBL	0.6781	0.0134	0.00536	0.00804	0.0063	0.0108	Overvalued
DABUR	0.308	0.0134	0.00536	0.00804	0.0086	0.0078	Undervalued
COLPAL	0.4076	0.0134	0.00536	0.00804	0.01	0.0087	Undervalued
GODREJ	0.5771	0.0134	0.00536	0.00804	0.01	0.01	Fair valued
TATACONSUM	0.8851	0.0134	0.00536	0.00804	0.0371	0.0125	Undervalued
EMAMI	1.0953	0.0134	0.00536	0.00804	0.0127	0.0142	Overvalued

Table 1 includes the data analysis of the stock of the selected companies with the help of the mentioned equations and formulas. This data analysis includes the secondary data and it is for the time period of 1st January 2019 to 31st August 2022.

INFERENCES

Interpretation

Varun Beverages Limited (VBL)

The calculations have been done considering the data of the VBL for the period of 1st January 2019 to 30th August 2022. After the data analysis, we can observe from the Table 2 that actual return for the company is 0.0399, whereas the expected return of the company is 0.0149, which is lower than the actual return of the stock, therefore, we can say that there has been undervaluation of the stock, because of this, the investors should be focused on buying the stock of the company.

Table 2. Valuation of VBL.

Name	Beta	Rm	Risk free	Rm-Rf	Actual return	Expected return	Valuation of security
VBL.NS	1.1822	0.0134	0.00536	0.00804	0.0399	0.0149	Undervalued

India Tobacco Company (ITC) Limited

The calculations have been done considering the data of the ITC for the period from 1st January 2019 to 30th August 2022. After the data analysis, we can observe from Table 3, is that actual return for the company is 0.0097, whereas the expected return of the company is 0.0108, which is higher than the actual return of the stock, therefore we can say that there has been overvaluation of the stock, because of this, the investors should be focused on selling the stock of the company.

Table 3. Valuation of ITC.

Name	Beta	Rm	Risk free	Rm-Rf	Actual return	Expected return	Valuation of security
ITC	0.67	0.0134	0.00536	0.00804	0.0097	0.0108	Overvalued

Proctor & Gamble (P&G)

The calculations have been done considering the data of the P&G for the period of 1st January 2019 to 31st August 2022. After the data analysis, we can observe from the Table 4 is that actual return for the company is 0.0112, whereas the expected return of the company is 0.0083, which is lower than the actual return of the stock. Therefore, we can say that there has been undervaluation of the stock because of this and the investors should be focused on buying the stock of the company. Also, the beta of the stock is less than one which indicates that the stock is less volatile.

Table 4. Valuation of P&G.

Name	Beta	Rm	Risk free	Rm-Rf	Actual return	Expected return	Valuation of security
P&G	0.3677	0.0134	0.00536	0.00804	0.0112	0.0083	Undervalued

Radico Khaitan (RADICO)

The calculations have been done considering the data of the RADICO for the period of 1st January 2019 to 30th August 2022. After the data analysis, we can observe from the Table 5 is that actual return for the company is 0.029 with the risk free being the 0.00536, and beta being 0.8359, whereas the expected return of the company is 0.0121, which is lower than the actual return of the stock, therefore, we can say that there has been undervaluation of the stock. Also the beta of the stock is less than 1 which indicates that the volatility of the stock is less, because of this, the investors should be focused on buying the stock of the company.

Table 5. Valuation of RADICO.

Name	Beta	Rm	Risk free	Rm-Rf	Actual return	Expected return	Valuation of security
RADICO	0.8359	0.0134	0.00536	0.00804	0.029	0.0121	Undervalued

MacDowell

The calculations have been done considering the data of the MacDowell for the period of 1st January 2019 to 30th August 2022. After the data analysis, we can observe from the Table 6 is that actual return for the company is 0.013 with the risk free being the 0.00536, and beta being 0.7254, whereas the expected return of the company is 0.0112, which is lower than the actual return of the stock, therefore we can say that there has been undervaluation of the stock. Also the beta of the stock is less than 1 which indicates that the stock is less risky, because of this, the investors should be focused on buying the stock of the company.

Table 6. Valuation of MacDowell.

Name	Beta	Rm	Risk free	Rm-Rf	Actual return	Expected return	Valuation of security
MacDowell	0.7254	0.0134	0.00536	0.00804	0.013	0.0112	Undervalued

HUL

The calculations have been done considering the data of the HUL for the period of 1st January 2019 to 30th August 2022. After the data analysis, we can observe from Table 7 is that actual return for the company is 0.0132 with the risk free being the 0.00536 and beta being 0.1525, whereas the expected return of the company is 0.0066. Here, the expected return is less than the actual return, therefore we can say that there has been undervaluation of the stock, Also, the beta of the stock is less than 1 which indicates that the stock is less volatile, because of this the investors should be focused on buying the stock of the company.

Table 7. Valuation of HUL.

Name	Beta	Rm	Risk free	Rm-Rf	Actual return	Expected return	Valuation of security
HUL	0.1525	0.0134	0.00536	0.00804	0.0132	0.0066	Undervalued

BRITANNIA

The calculations have been done considering the data of the BRITANNIA for the period of 1st January 2019 to 30th August 2022. After the data analysis, we can observe from Table 8 that actual return for the company is 0.0078 with the risk free being the 0.00536, and beta being 0.5809, whereas the expected return of the company is 0.0101. Here, the expected return is higher than the actual return of the stock, therefore, we can say that there has been overvaluation of the stock. Also the beta of the stock is less than 1 which indicates that the volatility of the stock is less and because of this, the investors should be focused on selling the stock of the company.

Table 8. Valuation of Britannia.

Name	Beta	Rm	Risk free	Rm-Rf	Actual return	Expected return	Valuation of security
Britannia	0.5809	0.0134	0.00536	0.00804	0.0078	0.0101	Overvalued

MARICO

The calculations have been done considering the data of the Marico for the period of 1st January 2019 to 30th August 2022. After the data analysis, we can observe from Table 9 that actual return for the company is 0.0118 with the risk free being the 0.00536, and beta being 0.3259, whereas the expected return of the company is 0.008. Here, the expected return is lower than the actual return, therefore, we can say that there has been undervaluation of the stock. Also, the beta of the stock is less than 1 which

indicates that the stock is less risky and because of this, the investors should be focused on buying the stock of the company.

Table 9. Valuation of Marico.

Name	Beta	Rm	Risk free	Rm-Rf	Actual return	Expected return	Valuation of security
Marico	0.3259	0.0134	0.00536	0.00804	0.0118	0.008	Undervalued

NESTLE

The calculations have been done considering the data of the Nestle for the period of 1st January 2019 to 30th August 2022. After the data analysis, we can observe from Table 10 that actual return for the company is 0.0157 with the risk free being the 0.00536, and beta being 0.2410, whereas the expected return of the company is 0.0073, which is lower than the actual return of the stock, therefore we can say that there has been undervaluation of the stock. Also, the beta of the stock is less than 1 which indicates that the stock is less risky and because of this, the investors should be focused on buying the stock of the company.

Table 10. Valuation of Nestle.

Name	Beta	Rm	Risk free	Rm-Rf	Actual return	Expected return	Valuation of security
Nestle	0.241	0.0134	0.00536	0.00804	0.0157	0.0073	Undervalued

United Breweries Limited (UBL)

The calculations have been done considering the data of the UBL for the period of 1st January 2019 to 30th August 2022. After the data analysis, we can observe from the Table 11 that actual return for the company is 0.0063 with the risk free being the 0.00536, and beta being 0.6781, whereas the expected return of the company is 0.0108, which is higher than the actual return of the stock, therefore we can say that there has been overvaluation of the stock and because of this, the investors should be focused on buying the stock of the company.

Table 11. Valuation of UBL.

Name	Beta	Rm	Risk free	Rm-Rf	Actual return	Expected return	Valuation of security
UBL	0.6781	0.0134	0.00536	0.00804	0.0063	0.0108	Overvalued

DABUR

The calculations have been done considering the data of the Dabur for the period of 1st January 2019 to 30th August 2022. After the data analysis, we can observe from Table 12 that actual return for the company is 0.0086 with the risk free being the 0.00536, and beta being 0.3080, whereas the expected return of the company is 0.0078, which is lower than the actual return of the stock, therefore we can say that there has been undervaluation of the stock. Also the beta of the stock is less than 1 which indicates that the stock is less volatile and because of this, the investors should be focused on buying the stock of the company.

Table 12. Valuation of DABUR.

Name	Beta	Rm	Risk free	Rm-Rf	Actual return	Expected return	Valuation of security
Dabur	0.308	0.0134	0.00536	0.00804	0.0086	0.0078	Undervalued

Colgate Palmolive (COLPAL)

The calculations have been done considering the data of the COLPAL for the period of 1st January 2019 to 30th August 2022. After the data analysis, we can observe from the Table 13 that actual return

for the company is 0.01 whereas the expected return of the company is 0.0087, which is lower than the actual return of the stock. Therefore, we can say that there has been undervaluation of the stock. Also, the beta of the stock is less than 1 which indicates that the volatility of the stock is less and because of this, the investors should be focused on buying the stock of the company.

Table 13. Valuation of COLPAL.

Name	Beta	Rm	Risk free	Rm-Rf	Actual return	Expected return	Valuation of security
COLPAL	0.4076	0.0134	0.00536	0.00804	0.01	0.0087	Undervalued

GODREJ

The calculations have been done considering the data of the Godrej for the period of 1st January 2019 to 30th August 2022. After the data analysis, we can observe from the Table 14 that actual return for the company is 0.01, whereas the expected return of the company is 0.01, so here we can see that both the actual return and the expected return of the stocks are equal. Therefore we can say that there has been fair valuation of the stock. Also the beta of the stock is less than 1 which indicates that the stock is less risky and because of this, the investors should be focused on buying the stock of the company.

Table 14. Godrej.

Name	Beta	Rm	Risk free	Rm-Rf	Actual return	Expected return	Valuation of security
Godrej	0.5771	0.0134	0.00536	0.00804	0.01	0.01	Fair valued

TATA Consumer (TATACONSUM)

The calculations have been done considering the data of the TATACONSUM for the period of 1st January 2019 to 30th August 2022. After the data analysis, we can observe from Table 15 that actual return for the company is 0.0371, whereas the expected return of the company is 0.0125, which is lower than the actual return of the stock. Therefore, we can say that there has been undervaluation of the stock. Also, the beta of the stock is less than 1 which indicates that the stock is less risky and because of this, the investors should be focused on buying the stock of the company.

Table 15. Valuation of TATACONSUM.

Name	Beta	Rm	Risk free	Rm-Rf	Actual return	Expected return	Valuation of security
TATACONSUM	0.8851	0.0134	0.00536	0.00804	0.0371	0.0125	Undervalued

EMAMI

The calculations have been done considering the data of the Emami for the period of 1st January 2019 to 30th August 2022. After the data analysis, we can observe from the Table 16 that actual return for the company is 0.0127 with the risk free being 0.00536 and beta being 1.0953, whereas the expected return of the company is 0.0142, which is higher than the actual return of the stock. Therefore, we can say that there has been overvaluation of the stock and because of this, the investors should be focused on selling the stock of the company.

Table 16. Valuation of Emami.

Name	Beta	Rm	Risk free	Rm-Rf	Actual return	Expected return	Valuation of security
Emami	1.0953	0.0134	0.00536	0.00804	0.0127	0.0142	Overvalued

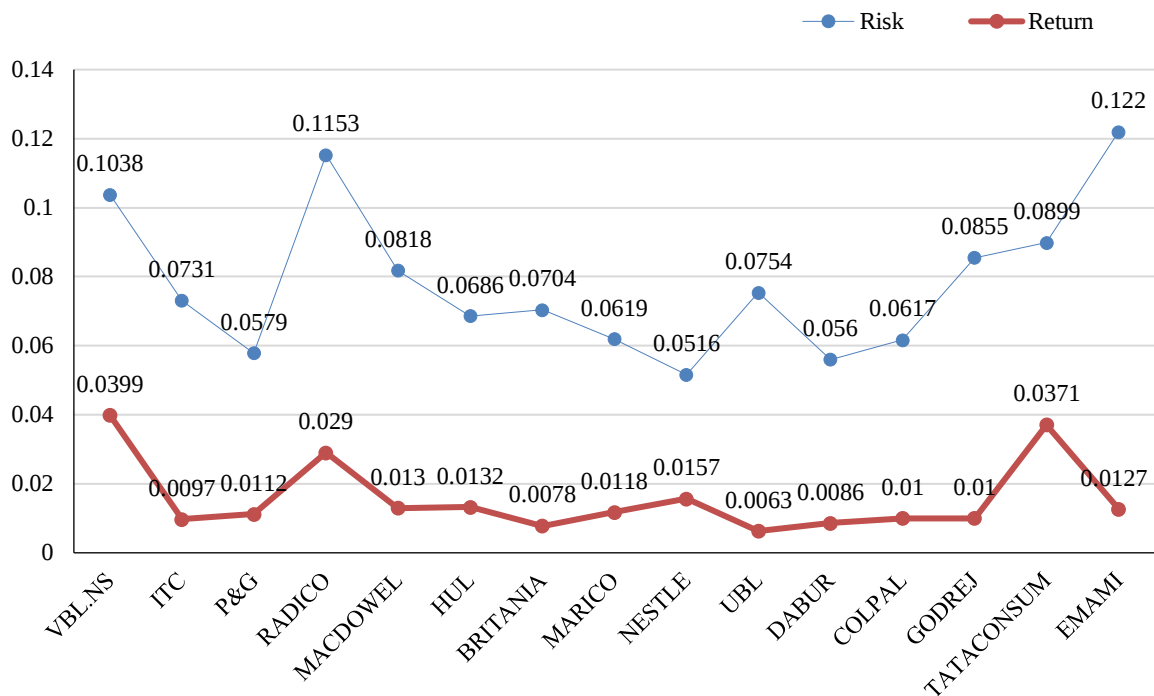
Risk (standard deviation) and return analysis:

- The given Figure 1 indicates the relationship between the systematic risk (standard deviation) and the actual return of the company.

- The figure shows that every company has a positive beta value.
- We can also conclude from the chart that VBL.NS have the highest return which is 0.0399 but subsequently the stock of this company also have the high risk of 0.1038 (shown in Table 17). Whereas the UBL have the lowest return of 0.0063 with the moderate risk of 0.075.
- Here, the Emami has the highest risk of 0.122 with the moderate return being 0.0127, conversely Nestle have the lowest risk, which is 0.0516 with the return being 0.0157. Lowest risk means that the investors investing their principle amount is safe and vice-versa.

Table 17. Risk & Return of the securities.

Company name	Risk	Return
VBL.NS	0.1038	0.0399
ITC	0.0731	0.0097
P&G	0.0579	0.0112
RADICO	0.1153	0.029
MACDOWELL	0.0818	0.013
HUL	0.0686	0.0132
BRITANNIA	0.0704	0.0078
MARICO	0.0619	0.0118
NESTLE	0.0516	0.0157
UBL	0.0754	0.0063
DABUR	0.056	0.0086
COLPAL	0.0617	0.01
GODREJ	0.0855	0.01
TATACONSUM	0.0899	0.0371
EMAMI	0.122	0.0127

**Figure 1.** Risk & Return Analysis.

- Moderate and conservative risk taking investors should opt the stocks which have the low standard deviation (risk). Here, in chart P&G, Nestle, Dabur have the lowest risk as compared to other stocks which are included. These stocks are also giving moderate to high return.

- Conversely aggressive risk taking investors should buy such stocks which have higher standard deviation value which indicates the riskiness of the stock. From the chart, we can see that VBL.NS, Radico, and Emami have the high rate of risk as compared to other stocks which are considered in the project.
- VBL.NS and Radico are providing decent returns considering the risk being higher in these two stocks but Emami is the exception in this case as it is providing lower return although the risk is considerably higher than other stocks, which contradicts the statement of “higher the risk, higher the return.”

SUMMARY, SUGGESTIONS, AND CONCLUSION

Summary

The topic of the research is “A study on applying CAPM on selected stock of FMCG Company”. Here, we have selected 15 NSE listed FMCG companies from the “NIFTYFMCG” on the basis of their market capitalization, and their historical data have been collected from the website like yahoofinance.com. The time period considered for this study is 1st January 2019 to 31st August 2022. The three main objectives of the study are, to measure the systematic risk of the securities by using Beta as a measurement of risk, to study the relationship between risk and return of the selected stocks, and to find out whether the selected stocks are undervalued, overvalued, or fairly valued. This study has used the various statistical tools, like covariance, variance, standard deviation, average return, Beta (systematic risk), CAPM, etc. Data analysis of this study has been done with the help of the MS Excel. This study found out that almost all the selected companies have positive Beta value, as well as it indicated that whether the selected stocks are undervalued, overvalued, or fairly valued. So this kind of study provides insights regarding the risk and return factors of all the stocks which facilitates the investor to analyse both the factors related to a particular stocks in order to achieve the objective of maximizing the return by taking the minimum risk, and it also gives investors the knowledge whether they should buy any particular stock or they should sell the stock which they are currently holding on the basis of the valuation of the stocks.

Suggestions/Recommendation

- It is advisable for the investors to invest/buy in the undervalued or fairly valued stocks. In this case, specifically the investors should opt the stocks of P&G, Nestle, and Dabur, because these stocks have lowest risk (standard deviation) and have generated moderate return as compared to other stocks which also have moderate return but the risk of that stocks bearing are higher than these three selected stocks.
- So these three stocks ultimately provides moderate return with minimum risk and are also undervalued, so the moderate risk taking investors are recommended to buy these stocks.
- Those investors who wants to take higher risk and want to enjoy higher return should buy stocks like VBL.NS and Radico, which possess higher risk as compared to other stocks but subsequently also provides decent returns. Additionally, these two stocks are undervalued also. Investors should thus be large risk takers in order to earn better returns.
- Here all the investors are suggested to avoid the stocks like EMAMI, which requires higher risk taking but provides lower returns.
- It is suggested to the investor to not only rely on CAPM model to analyse the stock, they should take in to consideration other financial analysis in order to invest.

Conclusion

The CAPM model, which was introduced in 1960s by William Sharpe and Lintner in the US market and tested for over 35 years, was widely accepted by many investors. This model facilitates the investor to be in the position from where he can analyse both the risk factor and the return factor of the particular security. At the conclusion of the study, the model determined that 11 of the 15 selected stocks are undervalued, and the rest of the stocks are overvalued. It is recommended to the investors to buy the stocks which are undervalued or fairly valued, and sell those stocks which are overvalued for the

particular time period along with keeping in mind the respective return and risk of that security. Thus, to sum it up, investors particularly who are short sellers, should consider this CAPM model for their investment purposes as well as taking into account the other aspects.

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