ISSN: 2278-4632
Vol-10 Issue-7 No. 12 July 2020

A STUDY ON VALUATION OF SELECTED STOCKS WITH REFRENCE TO CAPM

T.Kiran [1]
Assistant Professor

Kautam Sindhuja[2]
MBA-Final Year

Malla Reddy Institute of Engineering & Technology[1&2]

ABSTRACT

The CAPM is a model for evaluating an individual security or portfolio. For singular protections, we utilize the security showcase line(SML) and its connection to anticipated return and orderly risk (beta) to show how the market must value singular protections comparable to their security risk class. The SML empowers us to figure the prize to-risk proportion for any security corresponding to that of the general market. In this way, when the normal pace of return for any security is collapsed by its beta coefficient, the prize to-risk proportion for any individual security in the market is equivalent to the market reward-to-risk proportion.

Keywords: portfolio, risk, security.

INTRODUCTION

The model considers the benefit's affectability to non-diversifiable risk (otherwise called orderly risk or market risk), regularly spoke to by the amount beta (β) in the money related industry, just as the normal return of the market and the normal return of a hypothetical without risk resource. CAPM expect a specific type of utility capacities (where just first and second minutes matter, that is risk is estimated by change, for instance a quadratic utility) or then again resource returns whose likelihood circulations are finished depicted by the initial two minutes (for instance, the ordinary dispersion) and zero exchange costs (essential for enhancement to dispose of all quirky risk). Under these conditions, CAPM shows that the expense of equity capital is resolved distinctly by beta. Despite it bombing various observational tests, and the presence of progressively current ways to deal with resource evaluating and portfolio choice, (for example, exchange valuing hypothesis and Merton's portfolio issue), the CAPM despite everything stays well known because of its effortlessness and utility in an assortment of circumstances.

ISSN: 2278-4632
Vol-10 Issue-7 No. 12 July 2020

The CAPM is a model for evaluating an individual security or portfolio. For singular protections, we utilize the security showcase line(SML) and its connection to anticipated return and orderly risk (beta) to show how the market must value singular protections comparable to their security risk class. The SML empowers us to figure the prize to-risk proportion for any security corresponding to that of the general market. In this way, when the normal pace of return for any security is collapsed by its beta coefficient, the prize to-risk proportion for any individual security in the market is equivalent to the market reward-to-risk proportion, hence:

$$\frac{E(R_i) - R_f}{\beta_i} = E(R_m) - R_f$$

The market reward-to-risk ratio is effectively the market risk premium and by rearranging the above equation and solving for $E(R_i)$, we obtain the capital asset pricing model (CAPM).

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

where:

- $E(R_i)$ is the expected return on the capital asset
- R_f is the risk-free rate of interest such as interest arising from government bonds
- β_i (the *beta*) is the sensitivity of the expected excess asset returns to the expected excess market returns, or also $\beta_i = \frac{\operatorname{Cov}(R_i, R_m)}{\operatorname{Var}(R_m)}$,
- $E(R_m)$ is the expected return of the market
- $E(R_m) - R_f$ is sometimes known as the *market premium* (the difference between the expected market rate of return and the risk-free rate of return).
- $E(R_i) - R_f$ is also known as the *risk premium*

Restated, in terms of risk premium, we find that:

$$E(R_i) - R_f = \beta_i(E(R_m) - R_f)$$

Which states that the *individual risk premium* equals the *market premium* times *β*.

ISSN: 2278-4632
Vol-10 Issue-7 No. 12 July 2020

Note 1: the expected market rate of return is usually estimated by measuring the arithmetic average of the historical returns on a market portfolio (e.g. S&P 500).

Note 2: the risk free rate of return used for determining the risk premium is usually the arithmetic average of historical risk free rates of return and not the current risk free rate of return.

The capital asset pricing model (CAPM) is a model that describes the relationship between risk and expected return and that is used in the pricing of risky securities.

$$\bar{r}_a = r_f + \beta_a(\bar{r}_m - r_f)$$

Where:

r_f = Risk free rate

β_a = Beta of the security

$\bar{r}_m$ = Expected market return

OBJECTIVES OF THE STUDY

- To study the investment pattern and its related risks & returns, rates of return for efficient portfolios.
- To find out optimal portfolio, which gave optimal return at a minimize risk to the investor
- To see whether the portfolio risk is less than individual risk on whose basis the portfolios are constituted
- To see whether the selected portfolios is yielding a satisfactory return to the investor
- To understand, analyze and select the best portfolio

NEED FOR THE STUDY

- Investing in financial securities is now considered to be one of the most risky avenues of investment.
- It is rare to find investors investing their entire savings in a single security. Instead, they tend to invest in a group of securities. Such group of securities is called as Capital market line.

ISSN: 2278-4632
Vol-10 Issue-7 No. 12 July 2020

- Creation of portfolio helps to reduce risk without sacrificing returns. Portfolio management deals with the analysis of individual securities as well as with the theory & practice of optimally combining securities into portfolios.

- The modern theory is of the view that by diversification, risk can be reduced. The investor can make diversification either by having a large number of shares of companies in different regions, in different industries or those producing different types of product lines.

SCOPE OF THE STUDY

- This study covers the Capital asset pricing model. The study covers the calculation of correlations between the different securities in order to find out at what percentage funds should be invested among the companies in the portfolio.
- Also the study includes the calculation of individual Standard Deviation of securities and ends at the calculation of weights of individual securities involved in the portfolio.
- These percentages help in allocating the funds available for investment based on risky portfolios.

RESEARCH METHODOLOGY

DATA COLLECTION METHODS

Secondary collection methods:

The secondary collection methods includes the data collected from the news, magazines and different books issues of this study .

TOOLS AND TECHNIQUES:

$E(R_p)=R_f+\beta(R_m-R_f)$

ISSN: 2278-4632
Vol-10 Issue-7 No. 12 July 2020

$E(R_p)$=expected rate of return of portfolio

R_f =risk free rate of return

=7% annum

=7%/12 per month

R_m=rate of return of market portfolio that is nifty

β=systematic risk between individual security and market portfolio.

LIMITATIONS OF THE STUDY

- Construction of Portfolio is restricted to two companies based on Capital asset pricing model.
- Very few and randomly selected scripts / companies are analyzed from NSE listings.
- Data collection was strictly confined to secondary source. No primary data is associated with the project.
- Detailed study of the topic was not possible due to limited size of the project.
- There was a constraint with regard to time allocation for the research study i.e. for a period of six months.

REVIEW OF LITERATURE

Beltratti and Tria (2014) assessment contrasts multifaceted models and Italian budgetary trade data for the period 2013-2014. It was found that: the direct CAPM, is the significant benchmark because of its straightforwardness; the comprehensive model (checking the vitality portfolio), is the best opportunities for subbing the one-factor model; a multifaceted model including zones and a multifaceted model recollecting the change for flashing financing costs are extra factors. The delayed consequences of the look at are to some degree positive.

Hwang likewise, Satchell (2014) investigate the effects of the market portfolio being dark on the estimation of beta in the CAPM. It gives an assessment of the impact of using a middle person for the market portfolio when the market portfolio is known. This licenses one to ask

ISSN: 2278-4632
Vol-10 Issue-7 No. 12 July 2020

and reply 'if what' questions, for instance, if portfolio 'An' is the veritable market portfolio, what occurs for beta in case one uses portfolio 'B' as a go-between for 'A'. It is created the impression that for a given universe of investible assets, a great part of the time used also weighted and regard weighted portfolios are far from the Markowitz promote portfolio and right now betas decided with the likewise weighted and regard weighted portfolios are one of a kind corresponding to those obtained with the Markowitz portfolio. These figurings are considering progressive suppositions that one portfolio is a delegate while another is the genuine market.

DATA ANALYSIS AND INTERPRETATION

1. Statement Showing Risk Return Analysis Of Nifty From 20 Sep 2019 To 20 Feb 2020

Average Return = -0.0738

Risk $=\sum\frac{D^2}{n-1}$

= 0.665207

INTREPRETATIONS: The above graph represents the risk-return of Nifty for period of 6 months i.e. from 20.09.2019 to 02.20.2020.The Risk is0.665207 and Average return is -0.0738

2.Statement Showing Risk Return Analysis Of Infosys Ltd From 20 Sep 2019 To 20 Feb 2020

Average Return = 641.2445

Risk $=\sum\frac{D^2}{n-1}$

= 1913.9781

INTREPRETATIONS: The above graph represents the risk-return of Infosys Ltd for period of 6 months i.e. from 20.09.2019 to 02.20.2020.The Average risk 1913.9781 and return is 641.2445

3. Statement Showing Risk Return Analysis Of Bharat Petroleum Corporation Ltd From 20 Sep 2019 To 20 Feb 2020

Average Return = -0.1198

ISSN: 2278-4632
Vol-10 Issue-7 No. 12 July 2020

Risk $=\sum\frac{D^2}{n-1}$

= 4.982779745

INTREPRETATIONS: The above graph represents the risk-return Bharat petroleum Ltd period of 6 months i.e, from 20.09.2019 to 02.20.2020.The Risk= 4.982779745is and Average Return is -0.1198

4. Statement Showing Risk Return Analysis Nestle India Ltd From 20 Sep 2019 To 20 Feb 2020

Average Return = 0.0517

Variance$=\sum\frac{D^2}{n-1}$

= 2.103129

INTREPRETATIONS: The above graph represents the risk-return Nestle India Ltd period of 6 months i.e. from 20.09.2019 to 02.20.2020.TheRisk is 2.103129and Average Return is 0.0517

5. Statement Showing Risk Return Analysis Yes Bank Ltd From 20 Sep 2019 To 20 Feb 2020

Average Return = -1.1351

Risk $=\sum\frac{D^2}{n-1}$

= 38.50937

INTREPRETATIONS: The above graph represents the risk-return Nestle India Ltd period of 6 months i.e from 20.09.2019 to 02.20.2020.The Risk is 38.50937and Average Return is -1.1351

6. Statement Showing Risk Return Analysis Hero Moto Corporation Ltd From 20 Sep 2019 To 20 Feb 2020

Average Return = -0.4097

Risk $=\sum\frac{D^2}{n-1}$

= 3.27575058

ISSN: 2278-4632
Vol-10 Issue-7 No. 12 July 2020

INTREPRETATIONS: The above graph represents the risk-return Hero Moto Corporation Ltd period of 6 months i.e from 20.09.2019 to 02.20.2020.The Risk is 3.27575058and Average Return is = -0.4097

1.Statement Showing Equity Of Infosys Ltd And Nifty From 20-Sep-2019 To 20-Feb-2020

Systematic risk Beta Value(β) = $D1*D2/D^2$

$= 11.2632/69.8467$

$= 0.161256698$

Interpretations: The Systematic risk0.161256698 of The Infosys Company with Refreence to Nifty is Returns is -0.0738. and Risk is 0.665207.

Calculations of expected returns of Portfolio's

Infosys And Nifty
E(Rp) = Rf+β(Rm-Rf)
=0.007+0.16125(0.665207-0.007)
=0.113135879

2. Statement Showing Equity Of Nestle India Ltd And Nifty From 20-Sep-2019 To 20-Feb-2020

Systematic risk Beta Value(β) = $D1*D2/D^2$

$= 61.4758/69.8467$
$=0.880153$

Interpretations: The Systematic risk 0.586322866 of The Nestle Indian Ltd with Reference to Nifty is returns is -0.0738. and risk is 0.665207.

Calculations of expected returns of Portfolio's

Nestle India Ltd And Nifty
E(Rp) = Rf+β(Rm-Rf)
=0.007+0.880153(0.665207-0.007)
=0.586322866

ISSN: 2278-4632
Vol-10 Issue-7 No. 12 July 2020

3. Statement Showing Equity Of Bharat Petroleum Corpoation Ltd And Nifty From 20-Sep-2019 To 20-Feb-2020

Systematic risk Beta Value(β) = D1*D2/D^2

=94.3682/69.8467
=1.351076

Interpretations: The Systematic Risk is 1.351076 of The Bharat Petroleum Corporation Ltd with Reference to Nifty is returns is -0.0738. and risk is 0.665207.

Calculations of expected returns of Portfolio's

Bharat Petroleum Corporation LtdAnd Nifty
E(Rp) = Rf+β(Rm-Rf)
= 0.007+1.351076(0.665207-0.007)
=0.896287681

4. Statement Showing Equity Of Yes Bank Ltd And Nifty From 20-Sep-2019 To 20-Feb-2020

Systematic risk Beta Value(β) = D1*D2/D^2

=151.6999/69.8467

=2.171898

Interpretations: The Systematic Risk is 2.177898 of the Yes bank Ltd with Reference to Nifty is returns is -0.0738 and Risk is 0.665207.

Calculations of expected returns of Portfolio's

Yes Bank And Nifty

E(Rp) = Rf+β(Rm-Rf)

= 0.007+2.171898(0.665207-0.007)

=1.436558467

5. Statement Showing Equity Of Hero Moto Corporation Ltd And Nifty From 20-Sep-2019 To 20-Feb-2020

Systematic risk Beta Value(β) = D1*D2/D^2

=83.9511/69.8467

=1.201934

ISSN: 2278-4632
Vol-10 Issue-7 No. 12 July 2020

Interpretations: The Systematic Risk is 1.201934 of the Hero Moto Corporation with Reference to Nifty is Returns is -0.0738 and Risk is 0.665207.

Calculations of expected returns of Portfolio's

Hero Moto Corporation Ltd And Nifty

$E(Rp) = Rf+\beta(Rm-Rf)$

$= 0.007+1.201934(0.665207-0.007)$

$=0.798121372$

FINDINGS

- The Infosys risk and returns for a period of 90 days.(i.e.,From20.09.2019 to 20.02.2020). The Firm Infosys risk is1913.9781 and Returns 641.2445 is and Systematic Risk β is 0.161256698.
- The Nestle Indian Ltd risk and returns is for a period of 90 days.(i.e.,From20.09.2019 to 20.02.2020). The Firm risk is2.103129 and Returns is0.0517 and Systematic Risk β is0.880153.
- The Bharat Petroleum Corporation risk and returns for a period of 90 days.(i.e.,From20.09.2019 to 20.02.2020). The Firm risk is4.982779745 and Returns is -0.1198 and Systematic Risk β is1.351076
- The Yes bank risk and returns for a period of 90 days.(i.e.,From20.09.2019 to 20.02.2020). The Firm risk is38.50937and Returns is -1.1351 and Systematic Risk β is 2.171898. not k
- The Hero Moto Corporation risk and returns for a period of 90 days.(i.e.,From20.09.2019 to 20.02.2020). The Firm risk is-0.4097and Returns is 3.27575058and Systematic Risk β is 1.201934 ok

SUGGESTIONS

- After such an analysis and findings the investors can be given the following suggestions:
- According to capital market line, the following portfolios are good to invest in INFOSYS COMPANY risk is 1913.9781 and Returns is 641.244.so it is profitable nature to invest for future need.
- HERO MOTO CORPORATION LTD risk is -0.4097 but it has positive returns in this company investment is Good .

ISSN: 2278-4632
Vol-10 Issue-7 No. 12 July 2020

- Though the risk is maximum, yet the returns are not satisfactory in the case NESTTTLE INDIA LTD . Hence it is better if the investor does not invest in this portfolio.
- The BHARAT PRTROLEUM CORPORATION as also same portion of risk. It as came negative returns it is also not invest to mitigate the risk.
- YES BANK LTD risk is 38.50937 and it came negative returns. Better to not investing anything in this bank.
- If looked at portfolio risk, the risk has reduced when compared to individual securities. This means that in the portfolio, the risk has been diversified. At the same time, the portfolio is giving satisfactory returns. Hence investing in a portfolio would be a ideal one rather than investing in securities.

CONCLUSION

Investment administrators have generally applied the basic CAPM and its increasingly complex augmentations. CAPM's application to corporate money is an ongoing advancement. Despite the fact that it has been utilized in numerous utility rate-setting procedures, it presently can't seem to increase across the board use in corporate circles for evaluating organizations' expenses of equity.

Due to its inadequacies, money related administrators ought not depend on CAPM as an exact calculation for assessing the expense of equity capital. All things considered, trial of the model affirm that it has a lot to state about the manner in which returns are resolved in money related markets. Considering the intrinsic trouble in estimating the expense of equity, CAPM's insufficiencies show up no more regrettable than those of different methodologies. Its key bit of leeway is that it evaluates risk and gives a generally appropriate, moderately target routine for making an interpretation of risk measures into assessments of anticipated return.

CAPM speaks to another and distinctive way to deal with a significant undertaking. Monetary leaders can utilize the model related to customary procedures and sound judgment to create reasonable, valuable evaluations of the expenses of equity capital.

ISSN: 2278-4632
Vol-10 Issue-7 No. 12 July 2020

REFERENCES

[1]. M.Y.Khan And John: Financial Management, Kalyan, 2008.

[2]. I.M Pandey: Financial Management, Vikas, 2009.

[3]. S.N.Maheswari: Financial management, Vikas, 2009.

[4]. Berk: Financial Management, Pearson, 2009.

[5]. Chandra Bose D: Fundamentals of Financial Management, PHI, 2009.

[6]. Vishwanath: Corporate Finance, 2/e, Vikas, 2010.