Meharchand Mahajan college for women

RISK AND RETURN ANALYSIS ON EQUITY STOCKS OF IT COMPANIES SPECIFIED.

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Introduction

The term stock market refers to several exchanges in which shares of publicly held companies are bought and sold. An investment in a stock market is impacted by both risk and return. The greater the risk gives the greater rewards and vice versa. Every investment has some risk, but the best investments are those that offer the highest returns with the lowest amount of risk.

Market knowledge is required for risk analysis which helps in making appropriate judgements and to take preventive measures. Risk is calculated using the degree of volatility and the difference between actual and expected returns.

The Risk and return analysis determine the amount of risk that an investment includes in connection to its potential rate of returns. Diversification reduces overall risk for investors' portfolios but also curbs potential returns. The benefits of diversification are reduced the more strongly two assets' returns correlate.

The study

The stock market is unstable, and India has stock exchanges for a long time. The investor has to identify areas with high reward and low risk. As a result, determining the degree of risk associated with securities is challenging. The purpose of this study is to determine the risk and return of the chosen equities stocks as well as the IT firms' maximum returns at the lowest possible risk.

In this study we have taken 5 IT companies and their monthly returns taken through the nifty . we will be calculating the various following terms:

1. **Returns:** A company's share price may increase or decrease based on multiple factors. A market return is the profit earned over the period of time. The returns can resemble as positive or negative outcomes. Profit can be considered as positive and loss can be considered as negative.
   Return = (Closing price – Opening price) / Opening price * 100

2. **Beta:** A measure of how an individual asset moves (on average) when the stock market as a whole rises or falls is called the beta. Beta becomes a useful indicator of an asset's contribution to the risk of a market portfolio when a little quantity of the asset is included.
   Beta = Covariance/ Variance

3. **Standard deviation:** The standard deviation of a dataset is a measure of its dispersion in respect to its mean. The square root of the variance is used to determine the standard deviation. A volatile stock has a high standard deviation, whereas a stable blue-chip stock has a low standard deviation.
   Standard deviation = variance$^{1/2}$
   Variance $(\sigma 2) = \Sigma(R_i - R_J)^2 / n-1$

date	TCS	Infosys	HCL	Wipro	L&T Technology
March 22	5.28	11.51	3.48	6.65	15.11
Feb 22	-5.72	-2.86	0.92	-4.15	-4.77
Jan 22	-0.37	-8.03	-16.48	-20.25	-16.21
Dec 21	5.75	10.07	15.10	11.32	5.05
Nov 21	2.65	2.09	-0.42	-2.13	11.62
Oct 21	-10.15	0.16	-10.22	1.88	0.88
Sept 21	-0.54	-2.07	7.52	-1.51	19.17
Ug 21	19.07	4.85	14.34	8.97	4.69
July 21	-5.67	2.13	3.85	7.73	27.40
Jun 21	5.59	12.91	3.74	0.69	7.05
May 21	4.44	3.95	5.17	10.47	-0.70
Apr-21	-4.87	-1.86	-9.38	17.64	1.83
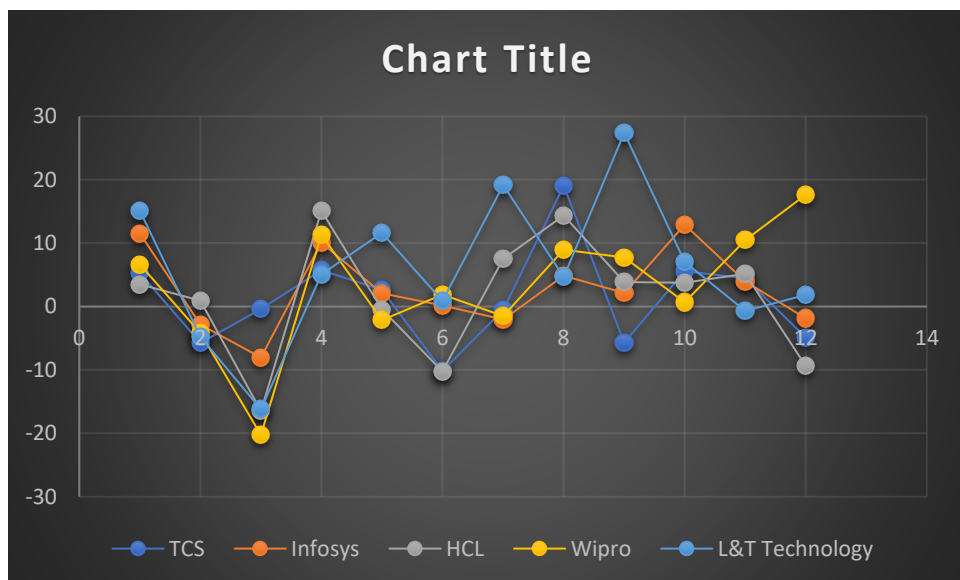
Now we get the average returns of the taken IT companies as follows:

Company	Average return
TCS	1.29
Infosys	2.74
HCL	1.47
Wipro	3.11
L&T technology	5.92

Average return
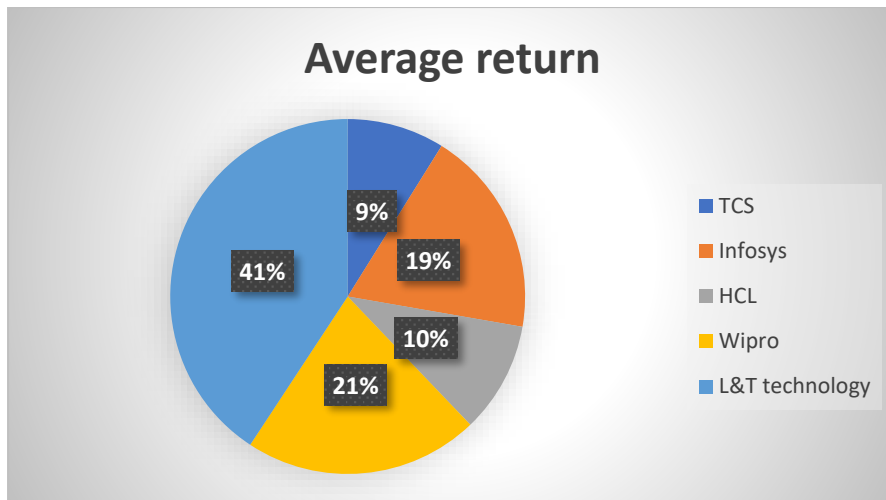
Now we calculate the value of Beta and standard deviation as from the formula above and give them below:

Company	Beta	Standard Deviation
TCS	0.60	7.72
Infosys	0.87	6.31
HCL	0.59	9.52
Wipro	0.45	9.80
L&T Technology	0.28	11.47

Beta
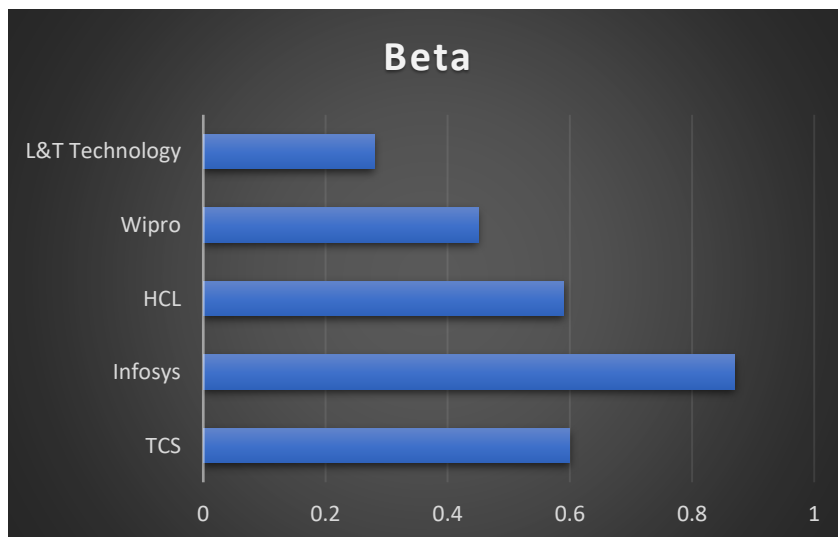
Interpretation

From the above table, the Average returns or Mean of IT companies is evaluated. The highest average returns earned during the year 2021-2022 is by L&T technology and the lowest returns is by TCS.

The above graph depicts the total risks borne by the different IT companies from NIFTY IT. The Beta value for all the companies is less than 1 which indicates that the risk is less. The company that has high

risk compared to other companies is Infosys with 0.87 and the company which has lowest risk among all the companies is L&T Technologies with 0.28.

The standard deviation is a measure of risk and market volatility. The investment is less risky where there is low standard deviation. Infosys has the lowest Standard deviation while the highest standard deviation is of L&T technology.