Security Analysis

Stock Market mobilizes funds through the issue of equity shares in the primary Market. In the secondary market there are a wide variety of stocks which are bought and sold. Investors put in their money to make a return from them. Investors are risk-averse in general. Therefore they like to make maximum return with minimum risk. But they have to know which securities are investment worthy and which are not. Security analysis is employed for the purpose of understanding the factors that determine the
value of a share. Investors usually look in whether the shares are under-priced or over-priced. If the shares are under-priced such shares are bought and held. If the shares are over-priced, they are not bought. In order to see whether they are over or under priced the values of shares are compared with the current price. Investors ought to know which share is rewarding and which is not. For that they should be able to estimate the future stock prices. So predicting stock prices for facilitating investment becomes the subject matter of security analysis. Before investing the investor should know the potential risk-return of the stocks.

Investment in stock is motivated by returns. Investors buy stocks not only for owning a venture but also to avail a return. Investment in stocks may be for long or short. To be long is to own and to be short is to be speculative. Usually a stock holder is interested in making a return. He will not buy a stock which is not promising a handsome return. Likewise he will also be very anxious about the future prospects of the stocks that he holds currently and that he proposes to buy. Return is accordingly a fundamental motive for a stockholder that prompts him to behave in a specific way in the market. The problem of investment in stocks is that the investor has to toil a lot to ascertain which stock yields a better return, which one he is to buy and which not to buy.

There are many motives for investing. Some people invest in order to gain a sense of power or prestige. Often the motive will be to control the corporate management. For most investors, their interest in investment is largely pecuniary-to earn a return on their investment in the form of money. In order to do that, they should have the most appropriate types of investment opportunities. The purpose to fulfill is how to maximize returns. For that, right type of shares is to be selected for investment. Selecting stocks exclusively on the basis of maximization of return is not enough.

Most investors do not place available funds in to one or two or three stocks promising the greatest returns. There must be other considerations besides return in the selection process. Investors not only like returns but they dislike risks.

The ultimate decisions to be made in investments are (1) what securities should be held, and (2) how much money should be allocated to each. These decisions are normally made in two steps. First, estimates are prepared of the return and risk associated with available securities over a
forward holding period. This step is known as security analysis. Second, risk-return estimates must be compared in order to decide how to allocate funds among these securities on a continuous basis. This step is composed of portfolio analysis, selection, and management. In effect security analysis provides the necessary inputs for analyzing and selecting portfolios.

Security analysis is built around the idea that investors are concerned with two principal properties inherent in securities: the return that can be expected from holding a security, and the risk that the return that is achieved will be less than the return that was expected.

The return and stock prices are related. Price varies according to return. If the expected return of a stock is high it will command high price and vice versa. The return from a stock is also determined by the risk exposure of the stock. Return and risk move together.

**RETURN**

What is expected from the investment in stock by a shareholder can be called as return. The rate of return is “the percentage change in a hypothetical investor’s wealth from the beginning to the end of the year.”

Hence \( r = \frac{\text{End-of period wealth} - \text{Beginning-of period wealth}}{\text{Beginning-of-period of wealth}} \)

The aggregate amount received or expected to receive from the investment is what return. The return expected from stock can be split up into two. They are (1) **Dividend** and (2) **Capital gain**. The total of dividend and capital gain received or expected to receive from stock is the return. Companies declare dividend on shares from time to time. The amount of dividend expected may not be always certain. Dividend distribution depends upon the dividend policy of the company. Dividend is a share of profit as such it will be declared only if there is profit for the company. In case
dividend is not declared in spite of profits, the shareholders will not lose. The dividend will accrue to them and can have it when they dispose their holdings in the market as capital gain. A shareholder expects two forms of return from his holdings. Firstly, he expects a certain dividend that the company declares at the end of the year. Secondly, a capital gain that he obtains when he disposes his holdings in the market.

\[
\text{Return} = \text{Dividend} + \text{Capital gain}
\]

Rate of return = \( \frac{\text{Dividend}}{\text{stock price}} + \frac{\text{Capital Gain}}{\text{stock price}} \)

\[
= \frac{D_1 + P_1 - P_0}{P_0}
\]

\[
R = \frac{D_1 + (P_1 - P_0)}{P_0}
\]

Where \( R \) = rate of return of equity

\( D_1 \) = Dividend in the first year

\( P_1 \) = Price at the end of the year

\( P_0 \) = Price in the beginning

In the case of a growing company which will have immense internal opportunities and high retention policy usually will not declare dividend. In such cases the return will be just equal to the capital gain. Capital gain is the excess of the selling price of the stock over the purchasing price.

In that case the return = \( \frac{P_1 - P_0}{P_0} \)

This can also be called as the \textbf{holding period yield}.

The calculation of return from equity is a bit complex. There is no certainty as to the return to equity. Equity returns vary from time to time according to the changes in the internal and external factors. Internal factors include all those factors which are absolutely internal to the business organization. But external factors relate to the general business environment.
Return usually commensurate with the risk. Investors seek return according to the risk of their investment. If they perceive a greater risk the return expected will raise accordingly. So the study of return will not be complete without considering the risk factors.

**RISK**

Risk can be defined as the likelihood of incurring loss. “It is the possibility that realized returns will be less than the returns that were expected”\(^2\). “It is the variations in returns”\(^3\). There involves considerable amount of risk in the ascertainment of return from equity. The inability of the firm to predict the occurrence of return exactly is the real exposure of risk related to equity. There is no guarantee that the expected return will be obtained. The dispersion of the actual return from the expected represents the risk related to equity investment. Statistically the risk is measured by using the statistic standard deviation. The \(\sigma\) (sigma) denotes the amount of risk of a particular stock.

Investors in general are risk-averse. They on an average dislike risk. Usually they prefer to take risk-less shares. Shareholders have this opportunity of investing in risk-free government securities like treasury bills and bonds of different maturities. They are all risk-free in the sense that they are backed up by the central, state and local governments. The investors on these securities can have the return regularly and certainly. But private stocks are not so. The return from private stocks cannot be predicted accurately. The return is highly uncertain that sometimes the actual may be overwhelmingly high or disappointingly low. The volatility in the stock return is common and stability is somewhat unusual. Therefore investors in the normal course dislike putting their money in private stock unless there is adequate incentive. That is they seek something extra over and above what they can earn alternatively from risk-free government securities. If some extra is offered in conformity with the extra risk, the investors can be induced to invest in stocks. It all depends on the risk perceived by the stock holders. The greater the perceived risk, the greater the return expected. In this way the expected return is matched with the expected risk.
There are essentially four approaches on the matter of security price and evaluation. They are:

1. Fundamental analysis
2. Technical analysis
3. Efficient market Hypothesis, and
4. Capital Asset Pricing model

1. **Fundamental Analysis**

The fundamentalist does not measure the attractiveness of a stock by the changeable standards of the market place, but rather determines the price at which he is willing to invest and then turns to the market place to see if the stock is selling at the required price. The fundamental analyst focuses on the intrinsic value of a stock.

The intrinsic value depends on the earnings potential of the security. The earnings potential of the security depends in turn on such fundamental factors as quality of management, outlook for the industry and the economy, and so on.

Through a careful study the fundamentalist will be able to determine whether the actual price of a security is above or below its intrinsic value. If actual price tends to move toward intrinsic values then attempting to determine the intrinsic value of a security is equivalent to making a prediction of its future prices, and this is the essence of the predictive procedure implicit in fundamental analysis.

Fundamentalists argue that the price of a security is equal to the discounted value of the stream of income from the security. That is the price is a function of a set of anticipated returns and anticipated discount rates corresponding to future time periods. Prices change as anticipations change, and a major source of altered anticipation is new information. Where we have something less than complete dissemination of information, the actual price of the security is generally away from its theoretical value. Fundamentalists would buy the stock if its market price were below its theoretical value, or sell the stock if the price exceeded underlying value. For fundamentalists, such matters as earnings, dividends, asset values and
management are the basic ingredients in determining underlying security values.

**Approach to Valuation**

Investments provide satisfaction to the holder in both financial and non-financial ways. The importance of non-monetary motives for holding stock is undeniable. But such motives are not amenable for accurate measurement.

Security returns are mainly from two sources. (1) Regular receipts of dividend or interest and (2) Changes in capital invested.

**Value and Time**

Money has a time value. The time value of money suggests that earlier receipts are more desirable than later receipts; earlier receipts can be reinvested to generate additional returns before later receipts come in.

**Equity Valuation Model**

The price of a share of a stock is equal to next year’s expected dividend divided by the difference between appropriate discount rate and rate growth of dividend in the future.

\[
P_0 = \frac{D_1}{k - g}
\]

\(P_0\) = current price of stock  
\(D_1\) = Expected dividend after one year  
\(k\) = Appropriate discount rate  
\(g\) = rate of growth of dividend in the future.

**2. Technical Analysis**
Technical analysis is radically different from fundamental analysis. While the fundamental analyst believes that the market is 90% logical and 10% psychological, the technical analyst assumes that it is 90% psychological and 10% logical. Technical analysts don’t evaluate a large number of fundamental factors relating to the company, the industry, and the economy. Instead, they analyse internal market data with the help of charts and graphs. Subscribing to the ‘castles-in-the air’ approach, they view the investment game as an exercise in anticipating the behavior of market participants.

“Technical analysis involves study of market generated data like prices and volumes to determine the future direction of price movement.”

Technical Analysis maintains that the forces of supply and demand are reflected in patterns and volume of trading. By examination of these patterns, it is able to predict whether prices are moving higher or lower, and even by how much. According to Thomas.A.Meyers, “Technical Analysis is simply the study of individual securities and the overall market based on supply and demand.”

According to Martin.J.Pring, “technical approach to investing is essentially a reflection of the idea that the prices moves in trends which are determined by the changing attitudes of the investors toward a variety of economic, monetary, political and psychological forces. The art of technical analysis - for it is an art - is to identify trend changes at an early stage and to maintain an investment posture until the weight of the evidence indicates that the trend has been reversed.”

**Basic Premises of Technical Analysis**

1. Market prices are determined by the interaction of the demand and supply forces
2. Supply and demand are influenced by a variety of factors, both rational and irrational. These include fundamental factors as well as psychological factors.
4. Shifts in demand and supply bring about changes in trends.
5. Irrespective of why they occur, shifts in demand and supply can be detected with the help of charts of market action.
6. Because of the persistence of trends and patterns analysis of past market data can be used to predict future price behavior.

**Difference Between Technical Analysis and Fundamental Analysis**

The key differences between Fundamental analysis and Technical analysis are as follows:

1. Technical analysis mainly seeks to predict short-term price movements, whereas fundamental analysis tries to establish long term values.
2. The focus of technical analysis is mainly on internal market data, particularly price and volume data. The focus of fundamental analysis is on fundamental factors relating to the economy, the industry and the firm.
3. Technical analysis appeals mostly to short term traders, whereas fundamental analysis appeals primarily to long-term investors.

The technician sees price changes through price and volume statistics. The relationship between price-volume and demand-supply will be studied by using different tools or indicators. He will use many indicators instead relying on any single as he knows that indicators have their own limitations. In the technical analysis the technician has to *(1) identify the trend, and (2) recognize when one trend dies and prices start in the opposite direction with the help of these indicators.*

As a matter of fact, the technical analysis was originated and developed from the venerated Dow Theory in the late nineteenth century by Charles H. Dow. According to Charles Dow the market is always considered having three movements, all going at the same time. The first is the Primary movement which is main movement covering four years in its duration. The second is the short swing running from two weeks to a month or more called secondary movement. And the third is the tertiary movement which is a narrow movement from day to day. The technical analysts use various kinds
of charts for locating trends and for predicting future prices. Therefore they are also called as the chartists. Dow chart, Bar and line charts and point and figure charts are examples of charts used by the technical analysts.

**The Dow Theory**

Originally proposed in the late nineteenth century by Charles H. Dow, the editor of the Wall Street Journal, the Dow Theory is perhaps the oldest and best known theory of technical analysis.

**In the Words of Charles Dow:**

“The market is always considered as having three movements, all going at the same time; the first is the narrow movements from day to day; the second is the short swing, running from two weeks to a month or more; the third is the main movement, covering at least four years in its duration.”

The proponents of the Dow Theory refer to the three movements as: **(a)** daily fluctuations that are random day to day wiggles; **(b)** secondary movements or corrections that may last for a week to some months; and **(c)** primary trends representing bull and bear phases of the market.

**3. Efficient Market Hypothesis**

The topic of market efficiency has been and is likely to continue to be a matter of intense debate in the investment community. Before participating in such debate, one should first know what market efficiency is. Financial economist would agree that it is desirable to see that capital is channeled to the place where it will do the most good. A reasonable goal of all government policy is to encourage the establishment of allocationally efficient markets, in which the firms with the most promising investment opportunities have access to the needed funds. In order for market to be allocationally efficient they need to be both internally and externally efficient. In an externally efficient market, information is quickly and widely disseminated, thereby allowing each security’s price to adjust rapidly in an unbiased manner to new information so that it reflects investment value. An
internally efficient market is one in which brokers and dealers compete fairly so that the cost of transacting is low and the speed of transacting is high.

**Efficient Market Model**

A security’s price will become the investment value when

1. All investors have costless access to currently available information about the future,
2. All investors are capable analysts, and
3. All investors pay close attention to market prices and adjust their holdings appropriately.

Efficient market is the one in which the market price of a security is an unbiased estimate of its intrinsic value. But the market price and intrinsic value need not be the same even in an efficient market. There may be deviations. But these deviations are absolutely random.

Efficient Market Hypothesis is the concept developed by Eugene F. Fama in the year 1964. Accordingly in a competitive market the prices of stock and bonds reflect fair prices. Securities will manifest only the intrinsic value when the market is efficient.

There are three forms of market. They are (1) Weak form of market, (2) Semi-strong form of market and (3) Very strong form of market.

1. **Weak form**

Market is said to be weak when the price reflect all the recorded information of past prices and volumes. In such a market it will be impossible to make abnormal profits (other than by chance) by using past prices to formulate buying and selling decisions.

2. **Semi-strong form**

In this form of market the prices reflect all the recorded details of past prices and volumes and all publicly known information about the prices and volumes. In such a market it would be impossible to make abnormal profits
(other than by chance) by using publically available information to formulate buying and selling decisions.

3. **Strong form**

In this form the prices reflect not only public but also private information about the price and volume. In such a market it would become impossible to make abnormal profit (other than by chance) by using any information whatsoever to make buying and selling decisions.

**Random Walk Hypothesis**

Random walk theory is just opposite to fundamental and technical analysis. According to Random walk hypothesis the prices of security prices are random. There is no dependence between the current prices with the past. Therefore it is impossible to predict the future stock prices with the knowledge of past price behaviour. In an efficient market the stock price at any point of time will be its intrinsic value. Moreover it assimilates all the public and private information available as and when they come. The time that it will take to assimilate the new information may cause the price sometimes more or less of the intrinsic value. But it can be seen that the current price will be always about the intrinsic value. The price is around the intrinsic value showing no dependence with past price patterns. The test of it is that an investor with his technical and fundamental knowledge will not be able to make more return than a naïve investor with his buy-and-hold strategy. Usually the semi-strong form of market reflects the random walk hypothesis.

In a perfectly efficient market, price changes are random. This does not mean that prices are irrational. On the contrary, prices are quite rational. Because information arrives randomly, changes in prices that occur as a consequence of that information will appear to be random, sometimes being positive and sometimes being negative. However, these price changes are simply the consequence of investors’ reassessing a security’s prospects and adjusting their buying and selling appropriately.

**Portfolio Theory**

The investment process consists of two tasks. The first task is security analysis which focuses on assessing the risk and return characteristics of the
available investment alternatives. The second task is the portfolio selection which involves choosing the best possible portfolio from the set of feasible portfolios.

Portfolio theory, originally proposed by Harry Markowitz in the 1950s, was the first formal attempt to quantify the task of a portfolio and develop a methodology for determining the optimal portfolio. Prior to the development portfolio theory, investors dealt with the concepts or return and risk somewhat loosely. Intuitively smart investors knew the benefit of diversification which is reflected in the traditional adage ‘Do not put all your eggs in one basket’ Harry Markowitz was the first person to show quantitatively why and how diversification reduces risk.

Diversification and Portfolio Risk

Before knowing the formula for portfolio risk, how diversification influences risk is to be understood. If returns on securities do not move in perfect lockstep, diversification reduces risk. In technical terms, diversification reduces risk if returns are not perfectly positively correlated. There is relationship between diversification and risk. Number of stock in the portfolio is an important factor. When the portfolio has just one security, the risk of the portfolio is equal to the risk of single stock included in it. As a second security - say stock 2 - is added the portfolio risk decreases. As more and more securities added, the portfolio risk decreases, but at a decreasing rate, and reaches a limit. Empirical studies suggest that the bulk of benefit of diversification, in the form of risk reduction, is achieved by forming a portfolio of about 10 securities. Thereafter, the gain from diversification tends to be negligible.

It is to be known that why the gain from the diversification decreases when the number of stocks in the portfolio increases infinitely. It is due to the fact that diversification primarily aims to eliminate the unique risk or unsystematic component of the total risk of a security.

Unique Risk versus Market Risk
There is a relationship between unique risk and market risk which form part of the total risk of security investment.

**Total risk** = **Unique risk + Market risk**

The *unique risk* of a security represents that portion of its total risk which stems from firm-specific factors. They are own factors of the security which will not be shared by other securities. Hence the unique risk of a stock can be washed away by combining it with other stocks. In a diversified portfolio, unique risks of different stocks tend to cancel each other—a favorable development in one firm may offset an adverse happening in another and vice versa. So unique risk is also referred to as diversifiable risk or unsystematic risk.

The *market risk* of a stock represents that portion of its risk which is attributed to economy-wide factors like the growth rate of GNP, the level of government spending, money supply, interest rate structure, and inflation rate. Since these factors affect all firms to a greater or lesser degree, investors cannot avoid the risk arising from them, however diversified their portfolios may be. Hence, it is also referred to as systematic risk (as it affects all securities) or non-diversifiable risks.

**Portfolio Return and Risks**

Investors generally hold a portfolio of securities. So, while individual returns and risks are important, what matters finally is the return and risk of the portfolio.

**Portfolio Returns**

The expected return on a portfolio is simply the weighted average of the expected returns on the individual securities in the portfolio.

\[ E (R_P) = \sum_{i=1}^{n} w_i E (R_i) \]

Where \( E (R_P) \) is the expected return on the portfolio, \( w_i \) is the weight of the security \( i \) in the portfolio, \( E (R_i) \) is the expected return on security \( i \), and \( n \) is the number of securities in the portfolio.
The weight of securities represents the proportion of portfolio value invested in that security and combined portfolio weights equal \(1 \left( \sum_{t=1}^{n} w_t = 1 \right)\).

**Portfolio Risk**

Just as the individual security is measured by the variance (or standard deviation) of its return, the risk of a portfolio too is measured by the variance (or standard deviation) of its return.

**Measurement of Comovements in Security Analysis**

To develop the equation for calculating portfolio risk the information as to weighted individual security risks and weighted comovements between the returns of securities included in the portfolio is needed.

Comovements between returns of securities are measured by covariance and coefficient of correlation

**Covariance**

Covariance reflects the degree to which the returns of the two securities vary or change together. A positive covariance means that the returns of the two securities move in the same direction whereas a negative covariance implies that the returns of the two securities move in opposite direction. The covariance between any two securities \(i\) and \(j\) is calculated as follows:

\[
\text{Cov}(R_i, R_j) = p_1[R_{i1} - E(R_i)] [R_{j1} - E(R_j)] + p_2[R_{i2} - E(R_i)] [R_{j2} - E(R_j)] + \ldots
\]

\[
+ p_n[R_{in} - E(R_i)] [R_{jn} - E(R_j)]
\]

where \(p_1, p_2, \ldots, p_n\) are the probabilities associated with states 1......n, \(R_i\ldots R_{in}\) are returns on security \(i\) in states 1......n. \(R_{j1}\ldots R_{jn}\) are returns on security \(j\) in states i......n and \(E(R_i), E(R_j)\) are expected returns on securities \(i\) and \(j\).

**Coefficient of Correlation**
Covariance and correlation are conceptually analogous in the sense that both of them reflect the degree of comovement between two variables. Mathematically they are related as follows:

\[
\text{Cor (R}_i\text{,R}_j) = \frac{\text{Cov (R}_i\text{,R}_j)}{\sigma_i \sigma_j} \quad \text{or} \quad \sigma_{ij} = \frac{\rho_{ij} \sigma_i \sigma_j}{\sigma_i \sigma_j}
\]

Where, \( \text{Cor (R}_i\text{,R}_j) = rij \) is the correlation coefficient between the returns on securities \( i \) and \( j \).

Thus, correlation coefficient is simply covariance divided by the product of standard deviations.

The coefficient of correlation can vary between -1 and +1.0. A value of -1.0 means perfect negative correlation or perfect comovement in the opposite direction; a value of 0 means no correlation or comovement whatsoever; a value of +1.0 means perfect correlation or perfect comovement in the same direction.

**Portfolio Risk**

The risk of a portfolio consisting two securities is given by the following formula:

\[
\sigma_p^2 = w_1^2 \sigma_1^2 + w_2^2 \sigma_2^2 + 2w_1w_2 \rho_{12} \sigma_1 \sigma_2
\]

Here, \( \sigma_p^2 \) is the variance of the portfolio return, \( w1,w2 \) are the weights of securities 1 and 2 and \( \rho_{12} \sigma_1 \sigma_2 \) is the covariance of the returns on securities 1 and 2.

In words, the variance of the return on a 2 security portfolio is the sum of the weighted variance of the two securities plus twice the weighted covariance between the two securities.

**The Efficient Set Theorum**

An infinite number of portfolios can be formed from a set of \( n \) securities. It is very difficult to form and evaluate all these portfolios. The
investor need prepare an efficient set of portfolios. The efficient set theorem is that

An investor will choose his or her optimal portfolio from the set of portfolio that

1. Offer maximum expected return for varying levels of risk
2. Offer minimum risk for varying levels of returns.

The set of portfolios meeting these two conditions is known as the efficient set.

4. Capital Asset Pricing Model (CAPM)

Harry Markowitz developed an approach that helps an investor to achieve his optimal portfolio position. William Sharpe and others finally gave shape to the Capital Asset Pricing Model (CAPM) was essentially concerned with two issues that (1) the relationship between return and risk for an efficient portfolio and (2) the relationship between return and risk for an individual security.

CAPM, in essence, predicts the relationship between the risk of an asset and its expected return. This relationship is very useful in two ways. First, it produces a benchmark for evaluating various investments. Second, it helps us to make an informed guess about the return that can be expected from an asset that has not yet been traded in the market.

Assumptions

The CAPM is based on the following assumptions:

1. Individuals are risk-averse
2. Individuals seek to maximize the expected utility of their portfolio over a single period planning horizon.
3. Individuals have homogeneous expectations—they have identical subjective estimates of the means, variances, and covariances among returns.
4. Individuals can borrow and lend freely at a riskless rate of interest.
5. The market is perfect: There are no taxes; there are no transaction costs; securities are completely divisible; the market is competitive.

6. The quantity of risky securities in the market is given.

Expected return from a stock can be projected through the Capital Asset Pricing Model. CAPM finds relationship between risk, return and Market. The price of a stock depends on two variables viz., time value of money and the risk of the stock in question. As far as the government securities are concerned they are risk-free. Even though the investors put their money safely in risk-free securities they cannot be said to be entirely risk-free. The investors are at a disadvantage that they have to wait till the maturity to get back their original investment. They are parting with their money for some time. That is they have to face the risk of difference between the original and terminal values of money. So Government securities pay a risk premium for the time value of money. Hence the risk-free rate of government securities represents the time value of money.

Over and above that individual stocks have additional risks. The variability in returns expected represents the additional risk that can be measured by standard deviation. So in the case of an individual stock the return expected can be

$$R = R_f + \text{a premium for addl.risk}$$

In the modern market stocks bought do not belong to a single class. Rather, investment is diversified. Stock holders diversify their holdings by purchasing stocks of different companies instead of buying of one single company. Stocks of different companies imply the stocks belonging to different risk and return class. Investors thus build portfolios of diversified stocks of different companies and industries belonging to different risk and return class. The purpose is to minimize risk. In the case of portfolio investment the risk related is different from undiversified single stock investment. The risk of a portfolio can be divided in to two. They are systematic and unsystematic risks.

**Systematic risks**

They are those risks which are market-borne to be shared by all firms. These risks are unavoidable and undiversified. Systematic risks are
measured by the beta co-efficient. The beta represents the relative volatility of a stock in relation to the market. If the beta co-efficient is 1 it means that the stock’s volatility is equal and proportionate to the market. If it is 0.5, then it means that the stock’s volatility is just half of the market. If it is 2, then it implies that the stock’s volatility is twice that of the market and so on. Hence Beta co-efficient is a benchmark which shows the relative sensitiveness of the stock in relation to the changes in the market.

Unsystematic risks

On the contrary, unsystematic risks are peculiar and own risks of the companies. These risks arise on account of peculiar conditions of the company. Unsystematic risks will not be shared by other firms. They can be eliminated by way of diversification. Portfolios are built with the view to eliminate this unsystematic component of risks of a stock.

Thus the unsystematic component of risk can be measured by σ. The systematic risk is measured by Beta.

In a portfolio there is no chance for unsystematic risk. The only relevant risk in a diversified investment is systematic risk. In a risk-return trade-off the investor matches return with the systematic risk. According to the CAPM expected return from a diversified stock will be what he could have if he invested in risk-free securities added with the excess of market return as per the systematic risk of that company.

Symbolically

\[
R = R_f + b(R_m - R_f)
\]

Where,

- \( R = \) Expected return
- \( R_f = \) risk-free return
- \( b = \) beta coefficient
- \( R_m = \) market return

So a holder of a portfolio expects first a minimum risk-free return added with beta times excess of market return over risk-free.

REFERENCES
3. Ibid.
8. The wall street Jounal, December 19, 1900.