A portfolio is a collection of financial investments such as stocks, fixed income securities i.e bonds and also cash, mutual funds and Exchange traded funds.

Asset allocation is an investment strategy that is used to allocate client’s assets based on their risks tolerance, target returns and investnment time spans.

The goal of a portfolio manager is to reduce risks and increase income/returns.

There are many asset classes:

->Equities(Stocks)

->Fixed Income securities(Bonds)

->Cash and equivalents

->Exchange Traded funds

->Real Estate

->Commodities.

The conventional wisdom is to subtract the age of the client to calculate the % of portfolio that should be allocated to the stocks.

For-ex: If the age of a client is 30yrs, then he/she would be having a 70% allocation in your stocks.

The rate of risk is higher associated with high returns.

Daily and Cumulative returns:

Stock daily returns is a calculation of how much investors have gaines/lost per day

Stock daily return = [(Closng stock price at t(today) – Closing stock price at t-1(yesterday))/closing stock at t-1]

Cumulative return is a measure of the aggregate amount that the stock gained or lost over a period of time.

Stock cumulative return = (Current price of stock – Original price of stock)/Original price of stock.

Standard deviation: It is the measurement of the dispersion away from the mean.

The more spread the data is, the higher the standard deviation.

Volatile stocks have high standard deviation and therefore standard deviation representsthe risks that is associated with security.

Standard Deviation =

Where,

x = Value at index i

= mean value

n = total number of datapoints in dataset.

Sharp ratio: It is used by investers to calculate the return of an investment compared to its risk

Sharp ratio is calculated as follows:

Sharp ratio = (Rp – Rf)/p

Where,

Rp = return of the security

Rf = risk free return

p = Standard deviation

Sharp ratio is a simple calculation of the average return earned in excess of the risk free rate(Govt Bonds) per unit of risk.

Here Rf is risk free rate of return which is the return on an investment with zero risk, i.e it’s return investors could except for taking no risks.

As Sharp ratio increases, risk adjusted return increases and security becomes more desired by investors.