Case Study

Q1 Write a note on portfolio and its statistics?

During the construction of this portfolio with the given four asset classes, I have found the portfolio statistics as follows:

Annualized Return: 9.13%

Annualized Standard Deviation (risk) : 6.92%

Shape Ratio : 1.32

With respect to the annualized return we can see that the risk associated is higher and more optimization can be done as it is always preferred to have Sharpe ratio greater than two for portfolios.

The current portfolio incurs a higher risk for a given return.

We can improve the construction of portfolio by taking the risk free assets into our portfolio and use the weights obtained from sharpe theory of portfolio optimization (CAPM) to obtain the optimized relation between expected return and risk. We can see for above return the optimized portfolio incurs to 3.6% of annualized systematic risk which is quite better than the previous. Also we can prevent the unsystematic risk by ensuring more diversification of portfolio. ( For more details on optimization process used please refer code)