Financial Markets
Assignment Guidelines: For Course Repeat

Risk, Return and Cost of Equity Estimation

This assignment focusses on estimating the risk, return and the cost of equity capital of the company represented by the student. This data would also form the basis to construct portfolio opportunity sets of combinations of two risky securities.

Instructions:

Select five companies that satisfy the following aspects:

1. They are either mid-cap or small-cap companies.
2. They are listed on either BSE or NSE before January 2017.
3. Should represent at least three different sectors.

For Each Security

1. Understand the companies businesses and the issues and challenges they have been facing over the last few years.
2. Collate the stock prices and compute the **monthly returns** from January 2017 till November 2023.
3. Also, compute the monthly returns from January 2017 till November 2023 for one broad-based benchmark market index (eg. NSE Nifty, NSE 500, BSE Sensex, BSE 500 – any one).
4. Compute the standard deviation and variance of the monthly returns of the company allotted to you. Report both, the monthly as well as annualized standard deviation and variance numbers.
5. Compile the series of returns of all the companies in one spreadsheet, and compute the correlation statistics of all the combinations. You may use the data analysis tools given in excel to form the correlation matrix.

Part A: Capital Asset Pricing Model Approach to Cost of Equity Estimation

1. For each allotted company,
   a. Rf to be taken from latest available data, relevant to the measure of the risk premium being taken, from RBI website.
   b. Beta to be derived from the monthly observations of returns of the company's stock. The subcomponents of beta: correlation of the stock returns with that of the market and the respective standard deviations of the two also need to be reported. Analyse the beta in terms of your company's business and also in terms of the issues and challenges that they have been facing over the last few years.
   c. Market Risk Premium should be quoted from existing research available in the area. Some prominent sources of the same are: the Paper "A First Cut Estimate of the Equity Risk Premium" in India by Prof Varma and Barua of IIMA; the website of Prof Aswath Damodaran (Stern, NYU); or the survey reports by Pablo Fernandez and co-authors (available at ssrn.com).

Part B: Risk and Return of two-security portfolios

1. Pick two combination of two companies each from among the five companies allotted to the group members. Ensure that you choose the combinations where there is minimum as well as maximum correlation between the two stocks.
2. Take the cost of equity obtained for these companies while doing Part A, as described above.
3. Then, on the basis of the expected returns, standard deviations and correlation, form a portfolio opportunity set for the two securities, by varying the allocation of weights for the two securities. Do bear in mind to take the annualized standard deviation for this exercise. Insert the graph for this portfolio set as well.

All these have to be subsequently summarized in a write-up to explain your findings on beta and the cost of equity (not more than 500 words for each company), as well as the result of the risk-return portfolio of the two securities.

Submission Instructions:

1. **Deadline :** 11.59 PM, **December 3rd , 2023**
2. Soft copy: The submission needs to contain both the computation details, including the data for the same in a spreadsheet, as well as a word doc which captures the information sought. Please ensure that the details of group members along with their roll nos. are clearly given in both the documents.
3. Hard copy submission of the word doc will need to be done by 9.30 am on 4th December 2022.

Student will be required to submit the turnitin report along with the submission. Please note that originality and effort will be given more weight; the reverse will be penalised.