FINC 2011 Corporate Finance I, Semester 2, 2022
Due Date: 11:59 pm 21 October 2022
Major Assignment (20% of total mark)

You are a summer intern at a boutique asset management company. You are working in managed account department. Your supervisor has assigned you to write a report for a potential client that is considering forming a portfolio. The client is interested in Semiconductor and Oil and Gas industries. Given the uncertainty with current financial markets, this client is considering investing only for the medium term (approximately 5 years).

Your supervisor has instructed you to pick two stocks of your choice to form a portfolio, one from each of the two industries that the client has indicated interest in. To help you get started quickly, your supervisor shortlists some companies that you can choose from in each of the industry.

> Semiconductor: Intel Corporation, Nvidia Corporation
> Oil and Gas: ExxonMobil, Chevron Corporation

You don't need to optimise your choice between the two companies in each industry. Your analysis work will start after you make your choice. Please write this report as on January 3rd, 2020. Do not include data after the closing prices on this date.

Required:
1. Using Yahoo Finance, obtain market index and stock price data for your client's portfolio companies to estimate their equity betas.
   - Use an ordinary least squares regression under the Capital Asset Pricing Model (CAPM).
   Explain and justify your methodology, including: how key variables are measured, time horizon, measurement intervals, market index, and risk-free rate.

   Note: The web address for free Yahoo Finance information is: finance.yahoo.com. For the risk-free rate to be used in this report, you should use the information on the US Treasury page (https://home.treasury.gov/policy-issues/financing-the-government/interest-rate-statistics). Choose relevant government bond rates.

2. Estimate annualised expected return of each stock using CAPM model and the annualised standard deviation of each stock using information or data from the above step.

3. Construct a series of portfolios with the two chosen stocks by varying the weights of each at 2.5% increments – starting at 100% invested in Semiconductor industry and then increasing the weight of Oil and Gas industry until it reaches 100%. Calculate

the expected return and standard deviation of each portfolio. The results should be presented on an appropriate graph.

4. Your company's competitor also prepared a similar service to your client. In their report, it was suggested that due to the upcoming market turmoil, they would like to recommend the client constructing a portfolio with least possible portfolio risk while fully invested. Please advise the client the portfolio weights allocated to Semiconductor industry and Oil and Gas industry that results in lowest portfolio variance (or standard deviation) and explain why this is a good or bad idea.

5. Provide a final recommendation to this client on the most appropriate choice(s) that they should invest in and how it could be implemented most optimally. Assuming you can borrow and lend at the risk-free rate.

Assessment Criteria:

1. Conforming with instructions (e.g. page limit, font, other instructions)

2. Presentation, communication and style (written)

3. Clarity of expression (incl. accuracy, spelling, grammar, punctuation)

4. Referencing

5. Use of literature/knowledge of theory

6. Data/information gathering/processing

7. Conclusions

8. Analysis

9. Problem solving

10. Reflection/evaluation

Formatting and Presentation:

1. The assignment report should be no more than 8 pages. This page limit excludes a title page, a reference list, appendices, cover sheet and your group formation form (a formation form is only required for groups with 2-5 members). Use 1.15 line spacing and size 12 Times New Roman or Arial Font. Please number the pages of your report. Marks will be reduced by 10% for each page you exceed the page limit. Hence your mark will be reduced to zero if the assignment exceeds 18 pages. Brevity and conciseness are key ingredients of a highly successful report. You will be penalised for inappropriate formatting.

2. All information sources used in the preparation of the report must be acknowledged

appropriately using the APA 7th referencing style. The APA referencing style can be found here: https://libguides.library.usyd.edu.au/citation/apa7

You will be penalised if you use inappropriate referencing.

3. Pay particular attention to presentation. A component of your mark will be based on presentation. Avoid overdoing formatting, and ensure that the assignment is very clear, concise, well-structured/logical and professional. Pay particular attention to grammar as well. Every part of the assignment should somehow add to the end result.

4. Supportive data tables and regression outputs should be posted in a supplementary Appendix in your report of maximum 15 pages in length. Appendix does not count toward the 8-page limit.

5. If you have general admin questions about your assignment, please post them on the Ed discussion board. Do not email teaching staff for assignment-related enquiries.

6. Only administrative/procedural questions will be answered. This assignment requires you to carry out your own independent research and thus a substantial component of your marks will be attributable to your justifications (i.e., we are not looking for any exact numerical answers!).

7. The report must be submitted as a PDF document. You must submit the report electronically via the Turnitin link on canvas. Excel spreadsheets containing all calculations must be submitted as a .xlsx workbook. You must submit two files electronically via the link on Canvas.

Page limit for assignment – 8 pages

What is included in the 8-page limit?

•   Report body

•   Tables

•   Diagrams

What is excluded from the 8-page limit?

•   Cover sheet

•   Group formation form (only required for groups with 2-5 members)

•   Title page

•   Table of contents

•   Executive summary

•   Reference list

•   Appendices (*Appendices should be used sparingly and only used to provide information to the reader, where appropriate*)

Marking Guide:

Selection and justification of data	**/4 marks**
Calculation of betas	**/4 marks**
Calculation of the CAPM return	**/4 marks**
Portfolio construction	**/3 marks**
Final recommendation	**/3 marks**
Presentation and style of report	**/2 marks**

Penalties:

Inappropriate use of financial models – up to 6 marks
Incorrect referencing – up to 4 marks
Failure to comply with formatting requirements – up to 2 marks
Each page over the page limit – 2 marks per page

TOTAL MARKS   **/20 marks**