UNIVERSITY OF SUSSEX
MSc Examination Resit 2022/23
Investments (880N1)

INSTRUCTIONS

1. Your report must provide answers for all five questions. Each question carries 20 points. The total points for the report are 100. This report should be submitted via Online submission point in Canvas. For submission deadline, please refer to Sussex Direct.

2. The real world is complicated and it is difficult, in practice, to determine the appropriate market view, expected rate of return, and risk. There is no definitive answer to these questions because your answer will depend on the assumptions you make and the methods you use. State your assumptions clearly and say why you make them: state your methods – which equations are you using, and why; display your working: let the marker see your thinking. Arithmetical mistakes will not be penalised (unless they result in implausible answers). Think about your answer – does it seem plausible?

3. You are expected to demonstrate evidence of a wide background of reading and research. All references should be acknowledged (see Library handout on reference styles – Harvard approach is strongly recommended). Good standards of written English and presentation are expected and marks will be deducted if such standards are not met.

4. You are required to choose your individual share out of the index constituents covered by S&P 500. You can get information about index constituents of S&P 500 via this link here: https://markets.ft.com/data/indices/tearsheet/constituents?s=INX:IOM.

5. You can extract Fama-French three factors from https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html, which provides a downloadable dataset.

6. There is an important Appendix at the end of this report, which provide the marking rubrics and criteria used for marking your report.

7. The report should be no more than 2,000 words (+/- 10%) excluding the reference page(s), bibliography and appendices (if applicable). Marks will be deducted for excessively short or lengthy reports. A word count should be clearly displayed at the end of the report.

8. "Plagiarism is the practice of presenting thoughts, writings or other output of another or others as original, without acknowledgement of their source(s)." All material used to support a piece of work, whether a printed publication or from electronic media, should be appropriately identified and referenced and should not normally be copied directly unless as an acknowledged quote. Text translated into the words of the individual student should in all cases acknowledge the source. For further information please see: http://www.sussex.ac.uk/s3/?id=35&jquery=off

Before submitting the report, you must ensure that: any material that has been identified as originally from a previously published source has been properly attributed by the inclusion of an appropriate reference in the text; direct quotations are marked as such (using "quotation marks" at the beginning and end of the selected text); and citations are included in the list of references.

ASSESSMENT QUESTION: Please answer all questions. Each question carries 20 marks

1. a) Discuss your market view on the S&P 500 for the period from Sep 2023 to Sep 2024. Make clear what your subjective probability for each of the possible market scenarios is during your discussion on your market view and their corresponding returns for the index. Calculate the expected return and its standard deviation. Please note, although it is your subjective market view, you need to defend it using most recent macro-economic news, references and/or historical data analysis. Historical data are available from either Bloomberg or other internet sources (for example, https://finance.yahoo.com).

b) Compared with your market view, another analyst, Tom, holds a less pessimistic market view. He completely reduces the possibility of your most pessimistic market scenario to 0% and adds this possibility to that of your most optimistic market scenario. Discuss to what extent this possibility adjustment would affect his expected rate of return and its standard deviation.

2. Please choose a constituent company of S&P 500 and conduct a regression analysis for your chosen company using both index model and Fama-French three factor model. Discuss the risk characteristics for this chosen company using the output of your regression analysis. Historical price data for individual shares can be collected from either Bloomberg or internet sources (for example https://finance.yahoo.com/).

3. There is a market wide concern on the rising recession and expected interest rate cut for the coming year. One of your clients has changed his degree of risk aversion A from a high level (A=3) to a low level (A=0.5), with utility score function $u(\mu, \sigma) = \mu - \frac{1}{2}A\sigma^2$. Your client optimal risky portfolio is assumed to be S&P500 index portfolio. Based on your market view from question 1, if interest rate is to be adjusted from 5% per year to 3% per year, discuss your changed optimal weight allocation into the optimal risky portfolio for this client. Your discussion should be supported by relevant portfolio theories and clear calculation outcomes.

4. Conduct a fundamental analysis of the chosen company in question 2. The analysis must employ a Discounted Cash Flow Model (DCF) valuation approach.

a) You are required to demonstrate the forecasting process, backed up by relevant data sources and references, for the price of this chosen share at Sep 2023 by using the variable or constant growth rate for the coming 5 years from Sep 2023 to Sep 2028, and a realistic constant growth rate assumption applied for the period beyond Sep 2028.

b) Discuss your investment recommendation for this chosen share and explain your reasoning.

5. If you are a believer that the stock market is efficient, explain why alpha generated out of an asset pricing model may not necessarily provide strong evidence against the efficient market hypothesis. Your discussions should be supported by previous empirical evidence in the literature.

Appendix A: Marking Rubrics

Criteria	Ratings						Pts
Task 1	20 to 16	16 to 14	14 to 12	12 to 10	10 to 9	9 to 0	20 pts
This criterion is linked to learning outcomes 1 and 2	>80%	80%-70%	70%-60%	60%-50%	50%-45%	<45%	
Discussion on market view for the coming year. Clear statements on your subjective probability for each of the possible market scenarios and their corresponding returns for the index. Support from most recent macro-economic news, references and/or your historical data analysis. Calculation of the expected rate of return for the index and its standard deviation for the coming year, based on your market view.	You showed an outstanding level of market analysis. Your own market view is clear, well supported by most recent macro-economic news, and references. Your own historical data analysis further strengthens your analysis. Your calculations are clear and free of errors.	You showed an excellent level of market analysis. Your own market view is clear, well supported by most recent macro-economic news, and references. Your own historical data analysis further strengthens your analysis. Some minor errors exist in your analysis.	You showed a good level of market analysis. You provide a clear market view; the regression analysis and your calculations are mostly correct. However, some small errors exist in your analysis. The link between macro-economic news/references and your analysis could be further strengthened.	Your analysis is sufficient to pass. You provide a clear market view. However, some errors exist in the regression analysis and other calculations. The link between macro-economic news/references and your analysis could be significantly strengthened.	You did not show quite enough. Market view, regression analysis, and your calculations are not clear or missing. Major errors exist in your analysis. The link between macro-economic news/references and your analysis is weak.	Your analysis and level of depth is insufficient. Market view, regression analysis, and your calculations are largely missing or unclear. The link between macro-economic news/references and your analysis is largely missing.	
Task 2	20 to 16	16 to 14	14 to 12	12 to 10	10 to 9	9 to 0	20 pts
This criterion is linked to learning outcome 1 and 2	>80%	80%-70%	70%-60%	60%-50%	50%-45%	<45%	

Understanding of risk characteristics of your chosen share. Discussion on share Beta by performing regression analysis using different asset pricing models.	You provided an outstanding application of asset pricing theory. Your own beta discussion is clear and linked to your own regression analysis.	You provided an excellent application of asset pricing theory. Your own beta discussion is clear and linked to your own regression analysis.	You provided a good application of asset pricing theory. However, some small errors exist in your discussion on your regression output and beta.	Your analysis is sufficient to pass. However, some errors exist in your discussion on your regression outcome and beta.	You did not show quite enough. Some major errors exist in your discussion on your regression output and beta.	You showed very little. Your own beta discussion is largely missing.	
Task 3	20 to 16	16 to 14	14 to 12	12 to 10	10 to 9	9 to 0	20 pts
This criterion is linked to learning outcome 1 and 2	>80%	80%-70%	70%-60%	60%-50%	50%-45%	<45%	
Understanding of portfolio theories and the construction of optimal portfolios for different clients in practice. Two fund separation application in practice. Good use of references.	You showed outstanding understanding of portfolio theory and its applications. Optimal portfolio and asset allocation adjustment for your client is supported by outstanding analysis and discussion.	You showed excellent understanding of portfolio theory and its applications. Optimal portfolio and asset allocation adjustment for your client is supported by excellent analysis and discussion.	You showed good understanding of portfolio theory and its applications. Optimal portfolio and asset allocation adjustment for your client is supported by good analysis and discussion.	Your analysis is sufficient to pass. Some errors in discussion on optimal portfolio construction and asset allocation adjustments.	You did not show quite enough. Major errors exist in discussion on the optimal portfolio construction and asset allocation adjustments.	You showed very little. Discussion on the optimal portfolio construction and asset allocation adjustments is largely missing.	
Task 4	20 to 16	16 to 14	14 to 12	12 to 10	10 to 9	9 to 0	20 pts
This criterion is linked to learning outcomes 1 and 2	>80%	80%-70%	70%-60%	60%-50%	50%-45%	<45%	
Conducting a fundamental analysis of the chosen company. Employing DDM/DCF valuation approach. Demonstrating the forecasting process by showing your prediction, backed up by relevant data sources and references.	You showed an outstanding level of fundamental analysis. Outstanding DDM/DCF analysis, well supported by relevant references and data.	You showed an excellent level of fundamental analysis. Excellent DDM/DCF valuation analysis, well supported by relevant references and data.	You showed a good level of fundamental analysis. Good DDM/DCF valuation analysis. References and data provide good support.	Your analysis is sufficient to pass. DDM/DCF valuation has been carried out with some errors. The link between references/data and your forecasting outcome could be	You did not show quite enough. DDM/DCF valuation remains unclear or missing. Major errors exist in your analysis. The link between references/data	You showed very little. DDM/DCF valuation remains largely missing. The link between references/data and your forecasting	

				significantly strengthened.	and your forecasting outcome is weak.	outcome is largely missing.	
Task 5	20 to 16	16 to 14	14 to 12	12 to 10	10 to 9	9 to 0	20 pts
This criterion is linked to learning outcome 3	>80%	80%-70%	70%-60%	60%-50%	50%-45%	<45%	
Understanding of the links between alpha, asset pricing models and EMH. Understanding of efficient market hypothesis. Critical awareness of empirical evidence in previous literature.	You showed an outstanding understanding of the links between alpha, asset pricing models and EMH. Your discussions on empirical evidence in financial markets are outstanding. References cited demonstrate wide and deep independent reading.	You showed an excellent understanding of the links between alpha, asset pricing models and EMH.. Your discussions on the empirical evidence in financial markets are excellent. References cited demonstrate excellent independent reading.	You showed a good understanding of the links between alpha, asset pricing models and EMH. Your discussions on the empirical evidence in financial markets are good. References cited demonstrate good level of independent reading.	Your analysis is sufficient to pass. Your discussion on the links between alpha, asset pricing models, and EMH demonstrate your basic understanding of these areas. Your discussions on the empirical evidence in financial markets should have been supported by a good level of independent reading and references.	You did not show quite enough. Your discussion on the links between alpha, asset pricing models and EMH is not clear, or has major errors. Your discussions on the empirical evidence in financial markets has weak support from relevant references.	You showed very little. Your discussion on the links between alpha, asset pricing models, and EMH is largely missing. Your discussions on the empirical evidence in financial markets is largely missing too.	
							Total points: 100

END OF PAPER