**Introduction to Portfolio Management & Exchange Traded Derivatives  
MANG 6142 2016/2017**

**Due Date: 30th November 2016**

**Group work (group size = 5) 30% weightage**

You will use the value-weighted market returns and eight U.S. companies’ monthly returns for the coursework. Eight companies should be from at least three different industries (e.g., Fama and French industry classifications, http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/). The sample period should be at least 5 years. The data can be downloaded from Wharton Research Data Services (WRDS) using username: mang6142 and password: Soton2016.

Tasks:

(A)

1. Collect eight companies’ stock monthly returns from three different industries.

**(9 Marks)**

1. Collect the value-weighted market returns and risk-free rate.

**(4 Marks)**

(B)

1. Estimate all the possible bivariate combinations of correlation coefficient using the selected eight firms' stocks. **(8 Marks)**
2. Discuss the advantages and disadvantages in estimating correlation coefficients using single-index models.

**(10 Marks)**

1. Plot portfolio return and portfolio standard deviation based on the selected eight firms.

**(15 Marks)**

(C)

1. Using data for the entire sample period, run a time-series regression for each of the selected companies. Specifically, regress each company return onto a constant and a market excess return. Verify, in each case, whether there exists a statistically significant beta.

**(12 Marks)**

1. Report the t-statistic for alpha and the R-squared for each company.

**(12 Marks)**

1. Discuss your results and the merits and demerits of CAPM analysis.

**(10 Marks)**

1. Discuss whether your results are sensitive to sector characteristics.

**(5 Marks)**

(D)

Report writing (references, format, academic writing style etc.)

**(15 Marks)**

You need to do all the above tasks and submit your results in a report form (**3000 words**). The report needs to be signed by all members in the group and must be submitted to turnitin. A hard copy is to be handed in to the Student Reception before 4.00 p.m. on 30 November 2016. (Normal late submission penalties apply). Formula for final course/unit mark: Written Exam = 70% and Assignment = 30%.

**Brief notes:**

1. Chapter 7 of “Modern Portfolio Theory and Investment Analysis” by Elton, Gruber, Brown, & Goetzmann contains very useful information on the single-index model.

2. For the CAPM, we can use a simple regression to estimate  The dependent variable is the stock return of one firm () and the independent variable is the market return ().

In the simple regression, the coefficient of the market return is

 The coefficient represents

covariance (market return (), individual stock return ())/variance of market return () = 

Since , the coefficient of the market return in the regression analysis is actually 

**Key Marking criteria will include:**

* Initiative: originality, innovativeness of answer
* Quality of Writing: Readability and ability to convey key message(s) concisely
* Quality of Literature: Understanding of established knowledge
* Suitability of Sources: Use of suitable sources, focused to answer key research questions
* Data Analysis: Quality/level of analytical skill demonstrated
* Insightfulness of Analysis: Interest and usefulness of findings, conclusions drawn.
* Understanding: Assignment demonstrates students have understood key topics
* Overall Quality of Assignment
* Marking will also be conducted in accordance with the guidance within the table below:

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| **Mark Range** | **Typical Characteristics** |
| 80-100 | An outstanding (80–89)/exceptional (90–100) piece of work, excellent in all respects. The research outlined is highly original and sets out a clear results of data examination. It captures the essence of each question in a clear, concise and well-structured fashion. It thus demonstrates superior understanding of the topic. A well-defined cross-section of the relevant literature is referenced. |
| 70-79 | An excellent piece of work in almost all respects. The work is of high quality, but may contain minor elements that are flawed or derivative. It is generally successful in capturing the essence of the assignment in a clear, concise and coherent fashion. It thus demonstrates good understanding of the assignment. Effective reference is made to relevant literature. |
| 60-69 | A good (60–64)/very good (65–69) piece of work on a sensible topic. The work exhibits a fair degree of originality and academic rigour. It is sufficiently clear, concise and coherent to convey the main elements of the assignment effectively. It thus demonstrates adequate understanding of the assignment. Adequate reference is made to relevant literature. |
| 50-59 | An adequate (50–54)/competent (55–59) piece of work with aims that are adequately specified. The work is mundane or ill-focused. Its content identifies the main elements of the assignment, but lacks the clarity and coherence to communicate effectively the assignment aims and objectives. The handling of data lacks understanding, reflecting either limited data skills or a failure to identify the most relevant material. |
| 40-49 | A weak (40–44)/deficient (45–49) piece of work with poorly specified aims. The work lacks originality, focus and/or an adequate conceptual basis. There is little or no identification of the main elements of the assignment, or to communicate its aims and objectives. The analysis of data is weak, reflected in an almost total failure to identify and understand the relevant material. |
| 20-39 | A poor (30–39)/very poor (20–29) piece of work which may have been carried out in good faith, but which exhibits several of the following serious deficiencies: the assignment lacks point; the answers to each question are lacking or poorly defined; the data analysis is absent or inadequate; the referenced literature is of no value. |
| 0-19 | An exceptionally poor piece of work, showing no signs of having been taken seriously.  Zero is reserved for failure to submit an assignment. |

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| Portfolio Management and Exchange Traded Derivatives | MANG 6142 |
| STUDENT NAME AND NUMBER: | STUDENT EMAIL: |
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