HKUST Business School – Department of Economics

Financial Economics: Portfolio Management

Spring 2022

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Lecture (L1):   Fr 09:00 – 12:50 (Feb. 11 – Mar. 18)

Final Exam: Fr 09:00 on Mar. 25 (venue and details TBA)

Course web: http://canvas.ust.hk

TA: Peter TSUI
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COURSE DESCRIPTION

This course provides you with an introduction to the most fundamental aspects of modern Portfolio Theory, including both *passive* portfolio management and *active* portfolio management. We will start by showing you how to trade on financial exchanges, how to evaluate investment projects with different risk and return characteristics, and how to construct an "optimal" portfolio from a pool of riskfree and risky assets. We will then move on to examine classic topics in asset pricing, studying ways to determine the *fair* price of a financial security given its *fundamental* risk. We will also cover key methods in equity valuation for active portfolio management, and finally, determine whether a portfolio manager is doing a good job.

During the course we will come across some of the most important and influential concepts of finance theory: The Markowitz Portfolio Selection Model, the Capital Asset Pricing Model (CAPM), and the concept of arbitrage. These concepts are so important that Nobel prices have been awarded for their discovery! To read more about these concepts, see the web page of the Nobel Foundation: http://www.nobel.se/economics/index.html.

PREREQUISITES

Some of the material we will cover is **quite technical**. It is therefore advisable for you to review basic economic and statistical concepts such as: net present value, interest calculations, probability theory, and regression analysis at the beginning of the course. The pre-readings posted on the

course website contain several pages of basic <u>Stats Review</u> that I suggest you read as soon as possible – even if you *believe* you master that material.

It is also very important that you familiarize yourself with the spreadsheet program Microsoft EXCEL. We will be using this program extensively throughout the course. If you have never used EXCEL, I strongly recommend that you go through the self-guided EXCEL tutorial from the textbook: <u>Excel Applications for Investments</u> by Troy A. Adair, Jr., McGraw-Hill Irwin International. One copy of the text is on reserve at the library.

TEACHING MATERIALS

1. Recommended textbook

Z. Bodie, A. Kane, A. J. Marcus, and R. Jain (BKMJ), <u>Investments</u> (Asia Global Edition), McGraw-Hill Irwin.

The official web site for this textbook contains additional background materials, recent investment news, and on-line practice quizzes: http://www.mhhe.com/bkm

This is a very popular and well-known book. I strongly recommend that you get it. You can use an older edition of the book by the same authors (Bodie, Kane, Marcus) from the library or from a friend.

2. Suggested Reading

A measure of a financial market's development is how well news is reflected in securities prices. Market players who ignore the news inevitably fail. Consequently, I would encourage you to get in the habit of keeping up with current events and world affairs by reading a good daily financial newspaper (Financial Times, Wall Street Journal, South China Morning Post) and a business periodical (The Economist, Business Week, Fortune, Forbes, Far Eastern Economic Review).

COURSE INTENDED LEARNING OBJECTIVES (ILOS)

Upon successful completion of this course, students are expected to be able to

1. Explain how investors trade off risk and return using the concept of utility maximization.

2. Allocate money across different asset classes in a scientific manner.

3. Price financial securities on the basis of fundamental financial principles.

4. Understand basic principles of equity research and valuation models.

5. Determine whether a portfolio manager is doing a good job.

6. Perform passive and active portfolio analysis using Microsoft Office Excel.

Please visit http://www.bm.ust.hk/~econ/programs/MPhDpilos.html for details of ILOs.

TEACHING APPROACH

Students attend <u>six</u> 4-hour-per-week lectures for this course. All course materials and announcements will be posted on the CANVAS course website. It is YOUR responsibility to check constantly for the latest information.

GRADING

Your grade will be based on three case reports, three problem sets, and a final exam. The relative weightings are as follows.

Case reports	24% (3 * 8% each)
Problem sets	24% (3 * 8% each)
Final exam	52%

The letter grade you earn depends on your performance relative to other students taking the course. The final distribution of letter grades will be set in accordance with departmental and school policy.

ASSIGNMENT GROUPING AND WRITE-UP

There will be three problem sets and three case reports, all of which are to be done on a team basis. Each team should consist of **no more than 5** people. Your team should *stay together until the end of the term*. Each team needs to submit only one write-up of each homework assignment and case report, and all team members will receive the same grade. It is therefore important that all team members **contribute equally** to all the assignments. At the end of the course, you will be asked to evaluate your teammates' performance and final grades will be adjusted accordingly.

You can self-sign-up on CANVAS and inform TA of your grouping choice by <u>Monday, Feb. 14 6pm</u>. Otherwise, you will be randomly assigned to a group.

Each homework assignment and case report **must** contain a **cover page** that clearly labels the <u>group number</u> as well as the <u>names</u> and <u>student ID numbers</u> of each member to receive credit.

All problem sets and case reports should be written in an easily readable fashion. For problems handled through Excel, it is **NOT acceptable** to email your TA a big spreadsheet. You need to summarize your results clearly and indicate how you obtain these answers in a separate write-up, along with the solutions to other questions.

Please note that you should NOT TALK TO OTHER TEAMS in preparing homework solutions and case reports.

Problem sets will be made available on the course website once I have prepared them. You will have roughly <u>one to two weeks</u> to complete the assignment. <u>Every problem will be graded for correctness.</u> Solutions will be available on the CANVAS website after the due date.

For case reports, you MUST submit <u>online via the CANVAS website</u>. No hard copies, faxes, or emails will be accepted. Case reports will be evaluated <u>by the effort shown as well as legibility, not by the correctness of your answers and/or opinions</u>. We will discuss them during lectures after the due dates.

Please note that both problem sets and case reports MUST be turned in <u>on time</u> to receive credit. Late submission will result in a ZERO score for whatever reasons. Please plan accordingly.

EXAMS

There will be a comprehensive final exam, which will normally consist of short-answer / multiple-choice as well as longer quantitative questions. <u>It will be a closed-book exam, but you are allowed to bring a piece of A4 paper with formulas and tips.</u> I will offer guidance on the content and format of the exam one week before the scheduled exam.

There will be <u>no make-up exams</u> offered. It is your responsibility to schedule the rest of your activities such that you are able to attend the scheduled final exam.

*Cheating will **not** be tolerated.* Any student caught cheating will receive zero credit and an automatic "F" for the course. I will report any cases to the University WITHOUT EXCEPTIONS.

Please refer to http://www.ust.hk/vpaao/integrity/ for HKUST rules regarding academic integrity.

GRADING DISPUTES

Please check your problem set and case report scores as soon as they are released. Any disagreement should be reported to the TA <u>within one week from the grade release date</u>. Late complaints will not be accommodated.

We have a strict NO PENCIL policy. You will lose your right to appeal if any answers received by the TA are written in pencil.

In case of a successful appeal, not just the discrepancy part but the entire assignment or exam will be re-assessed for the whole class. The re-assessment may result in a grade higher or lower than the one previously given.

The TA and I will do our best to help you succeed in the course. Please remember that, ultimately, it is YOU who EARN the grade. Please make the corresponding effort in achieving your goal.

CLASS PARTICIPATION

Active class participation is important for your learning experience and highly encouraged. It helps you to think *actively* rather than *passively*. Active participation also keeps you involved and motivated rather than removed and disinterested. Your class participation also helps me gauge whether you understand the material.

CLASS CONDUCT

To foster the best learning environment, I ask that everyone please **<u>mute</u>** your mobile phones and beepers during lectures. If you have to take an important call, please step out as quietly as possible.

STUDENT TEACHER INTERACTION

Students are always welcome to talk to me before or after class whenever desired, or drop by my office for a chat. I also urge you to check the course website from time to time, and use emails for questions and concerns. For best results, *have specific questions ready* and *include both the TA and myself in your emails* so that whoever gets the message first can reply you. The TA and I may also answer common questions on the course website.

Student feedback is essential for course improvement. I strongly encourage continuous teaching evaluation. You may verbally or anonymously (slip a note under my door or on the lecture table) give me your feedback about my teaching at any time. This evaluation may include 1) things that you like; 2) things that you dislike; and 3) suggestions for improvement. I will take all comments seriously and confidentially.

IMPORTANT DATES

Feb. 14	Self sign-up for grouping via CANVAS by 6pm.
Feb. 18 (Lec 2)	Case report 1 due at 9am (before class)
Feb. 25 (Lec 3)	Problem set 1 due at 9am (before class)
Mar. 11 (Lec 5)	Problem set 2 due at 9am (before class)
Mar. 18 (Lec 6)	Case report 2 due at 9am (before class)
Mar. 22	Problem set 3 due at 9am Case report 3 due at 11:59pm
Mar. 25	*Final exam starting at 9am, details TBA*

COURSE OUTLINE

Date	Topics	Suggested reading	Discussion & exercises
Lectures 1&2	• Course overview • Trading financial assets • Risk-return tradeoff • Markowitz portfolio analysis	• BKMJ chapters 1-3 and 5 • BKMJ chapters 6 and 7	• Problem set 1 • Case 1
Lectures 3&4	• CAPM • Index models • APT and multifactor asset pricing models	• BKMJ chapters 9 and 13 • BKMJ chapters 8, 10 and 13	• Problem set 2 • Case 2
Lectures 5&6	• Efficient market hypothesis • Performance evaluation • Equity Valuation and active management • Review for the final exam	• BKMJ chapters 11 and 24.1 • BKMJ chapters 18	• Problem set 3 • Case 3

SELECTED PAPER REFERENCE (OPTIONAL)

- Campbell, John Y. (2000), "Asset Pricing at the Millennium," *Journal of Finance*, 55(4), 1515. A non-technical survey for the profession.
- Jensen, Michael C., Black, Fischer and Scholes, Myron S. (1972), "The Capital Asset Pricing Model: Some Empirical Tests," Michael C. Jensen, STUDIES IN THE THEORY OF CAPITAL MARKETS, Praeger Publishers Inc., 1972. Available at SSRN: http://ssrn.com/abstract=908569
- Fama, Eugene F. and MacBeth, James D. (1973), "Risk Return, and Equilibrium: Empirical Tests," *Journal of Political Economy*, 81(3), 607.
- Fama, Eugene F. and French, Kenneth R. (1992), "The Cross-Section of Expected Stock Returns," *Journal of Finance*, 47(2), 427.
- Roll, R. (1977), "A Critique of the Asset Pricing Theory's Tests," *Journal of Financial Economics*, 4 (2), 129.
- Fama, Eugene F. and French, Kenneth R. (1993), "Common Risk Factors in the Returns on Stocks and Bonds," *Journal of Financial Economics*, 33(1), 3.
- Chen, Nai-Fu, Roll, Richard and Ross, Stephen A. (1986), "Economic Forces and the Stock Market," *Journal of Business*, 59(3), 383.
- Fama, Eugene F. and French, Kenneth R. (1996), "Multifactor Explanations of Asset Pricing Anomalies," *Journal of Finance*, 51(1), 55.
- Chevalier, Judith and Ellison, Glenn (1999), "Are Some Mutual Fund Managers Better Than Others? Cross-Sectional Patterns in Behavior and Performance," *Journal of Finance*, 54(3), 875.
- Carhart, Mark M. (1997), "On Persistence in Mutual Fund Performance," *Journal of Finance*, 52(1), 57.
- Grossman, Sanford J. and Stiglitz, Joseph E. (1980), "On the Impossibility of Informationally Efficient Markets," *American Economic Review*, 70(3), 393.