5 Jan 2021 version

The Lee Kong Chian School of Business
Master of Science in Applied Finance
Academic Year 2020-21, Term 3

Course Code: FNCE6004
Course Title: Advanced Portfolio Management

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PRE-REQUISITE/CO-REQUISITE/MUTUALLY EXCLUSIVE COURSE(S)
FNCE6006 Equity Analysis and Portfolio Management

COURSE AREA
FINANCE

GRADING BASIS
Graded

COURSE UNIT
1 CU

FIRST OFFERING TERM
Academic Year: AY 2020-21
Academic Term: Term 3

COURSE DESCRIPTION
This course seeks to provide an advanced coverage of concepts, theories, applications, decision-making rules in portfolio management. Topics include benchmark-based investing, asset allocation decisions, equity portfolio management, smart beta investing, trading and execution, performance evaluation, and risk management. A substantial portion of the course will mirror the portfolio management syllabus in CFA Level 3 and some parts of Level 2. In addition, we will discuss specific cutting-edge academic research (e.g. in the topic on smart beta investing). You will also work on a group project that involves back testing portfolio strategies and recommending a suitable portfolio for an investor with certain risk preferences.

LEARNING OBJECTIVES
At the end of this course, students will be able to:

- Understand stock index and benchmarks and how they can be used in portfolio management
- Understand the importance of asset allocation
- Understand equity portfolio management strategies
- Explain what smart beta investing is and describe the popular strategies
- Describe the important role of trading and execution
- Use performance evaluation techniques on portfolios
- Understand risk management tools

- Know how to download and back test portfolio strategies to estimate their expected returns.

INSTRUCTIONAL METHODS AND EXPECTATIONS

Prof Loh's class will use the framework of the CFA level III readings on portfolio management topics. He will build on this material to examine practical examples of portfolio management in the industry. As a research track-professor, Prof. Loh will also talk about cutting-edge academic finance research relevant to the class. You will learn overarching principles in portfolio management that will not only be useful for practical work in the fund management industry, but for managing your own portfolios.

The group project will allow students in groups to perform an analysis of an asset allocation problem that does back testing of portfolio strategies. The topic will be given to you in the middle of the term and the project report and slides will be due for all sections prior to the start of the last week of class. The projects will be presented in class in session 8.

You will have an individual assignment in the beginning of the term to help you get familiar with thinking about return performance and correlations and with downloading financial data using https://wrds-web.wharton.upenn.edu/. The assignment release and due dates will be announced in class.

The final exam helps to consolidate what you have learnt in the course. According to new exam rules I received on 5 Jan 2021, online exams will be closed book with formula sheet allowed if provided by instructor.

Class participation includes your class attendance and your class questions and comments. The focus is not only on quantity of comments but the quality of the comments. It also includes questions that you ask during the Q&A segment of the project presentations. Asking questions after the lecture is over, emails, or office consultations do not count towards the class participation grade.

ASSESSMENT METHODS

Your overall evaluation will be based on these components with the following weights:

Class participation	10%
Individual assignment	10%
Group project	30%
Exam	50%

ACADEMIC INTEGRITY

All acts of academic dishonesty (including, but not limited to, plagiarism, cheating, fabrication, facilitation of acts of academic dishonesty by others, unauthorized possession of exam questions, or tampering with the academic work of other students) are serious offences.

All work presented in class must be the student's own work. Any student caught violating this policy may result in the student receiving zero marks for the component assessment or a fail grade for the course. This policy applies to all works (whether oral or written) submitted for purposes of assessment.

When in doubt, students are encouraged to consult the instructors of the course. Details on the SMU Code of Academic Integrity may be accessed at http://www.smuscd.org/resources.html.

ACCESSIBILITY

SMU strives to make learning experiences accessible for all. If you anticipate or experience physical or academic barriers due to disability, please let me know immediately. You are also welcome to contact the university's disability services team if you have questions or concerns about academic provisions:

included@smu.edu.sg. Please be aware that the accessible tables in our seminar room should remain available for students who require them.

RECOMMENDED READINGS

- CFA level 2 and 3 relevant readings that are highlighted in the course lesson plans. Note that not all the material in the indicated readings will be discussed in the slides. In the same vein, the slides will contain supplementary material that are not in the CFA readings.
- The additional articles listed in the lesson plans and other articles that might be posted during the term.
- Textbook: There is no recommended textbook but the lecture slides will be quite comprehensive to include the content needed for the class. Some practice questions for each topic will also be provided.

CLASS SCHEDULE AND FINAL EXAMINATION

G1 (venue SOL B2.01-SR)

1) 12-Jan-2021, Tuesday, 11:45am - 3:15pm
2) 19-Jan-2021, Tuesday, 11:45am - 3:15pm
3) 26-Jan-2021, Tuesday, 11:45am - 3:15pm
4) 30-Jan-2021, Saturday, 9am - 12:30pm
5) 2-Feb-2021, Tuesday, 11:45am - 3:15pm
6) 9-Feb-2021, Tuesday, 11:45am - 3:15pm
7) 16-Feb-2021, Tuesday, 11:45am - 3:15pm
8) 23-Feb-2021, Tuesday, 11:45am - 3:15pm

G4 (venue SOL B2.01-SR)

1) 13-Jan-2021, Wednesday, 8am - 11:30am
2) 20-Jan-2021, Wednesday, 8am - 11:30am
3) 23-Jan-2021, Saturday, 9am - 12:30pm
4) 27-Jan-2021, Wednesday, 8am - 11:30am
5) 3-Feb-2021, Wednesday, 8am - 11:30am
6) 10-Feb-2021, Wednesday, 8am - 11:30am
7) 17-Feb-2021, Wednesday, 8am - 11:30am
8) 24-Feb-2021, Wednesday, 8am - 11:30am

G5 (venue SOL B2.01-SR)

1) 13-Jan-2021, Wednesday, 3:30pm - 7pm
2) 16-Jan-2021, Saturday, 9am - 12:30pm
3) 20-Jan-2021, Wednesday, 3:30pm - 7pm
4) 27-Jan-2021, Wednesday, 3:30pm - 7pm
5) 3-Feb-2021, Wednesday, 3:30pm - 7pm
6) 10-Feb-2021, Wednesday, 3:30pm - 7pm
7) 17-Feb-2021, Wednesday, 3:30pm - 7pm
8) 24-Feb-2021, Wednesday, 3:30pm - 7pm

Exam on 11 Mar 2021 Thursday (3-5pm)

TEACHING ASSISTANTS

YUN Su Hee suhee.yun.2019@pbs.smu.edu.sg (Finance PhD student)

WEEKLY LESSON PLANS

Week	Broad Topic	Sub Topics/Learning objectives	**Readings** (2019 CFA Readings)
1.	Introduction & Market Indexes and Benchmarks	• Understand the use of market indexes as benchmarks • Discuss advantages and disadvantages of different index weighting schemes • Evaluate the selection of a benchmark for a particular investment strategy • Describe index construction principles • Understand the Dow Jones industrial index • Discuss index inclusion effects	• CFA Level 3 Reading 27. Passive Equity Investing (also for week 3) • Salesforce, and other new companies joining the Dow, WSJ, 2020 • What Tesla's addition to the S&P 500 means, WSJ, 2020 • Index funds the new Kings of Wall Street, WSJ, 2019
2.	Asset Allocation	• Strategic and tactical asset allocation • Asset and liability-based approaches • Adjusting for risk tolerance (risk adjustment) • Impact of behavioral biases • Choosing asset classes including overseas assets • Conditional return correlations in diversification benefits/limitations • Mean-variance asset allocation strategies • Asset allocation for individuals versus institutional investors • Role of an investment policy statement (IPS)	• CFA Level 3 Reading 18. Introduction to Asset Allocation • CFA Level 3 Reading 19. Principles of Asset Allocation • CFA Level 3 Reading 15. Managing Institutional Investor Portfolios • Vanguard's sample IPS • CalPERS walking its own path on asset allocation, 2020 • The asset allocation debate, Vanguard, 2007 • Apple best investment of all time, NYT, Sep 2017
3.	Equity Portfolio Management	• Discuss the role of equities in the overall portfolio • Discuss why equities earn higher expected returns than bonds • Discuss passive vs active investment approaches • Understand what closet indexing is • Compare passive replication methods • Understand the popular equity styles of size and value/growth • Identifying investment styles based on returns or holdings • Understanding equity style boxes • Compare long–short and long-only investment strategies and how to "equitize" a market-neutral portfolio • Understand different ways that active fees can be charged.	• CFA Level 3 Reading 26. Introduction to Equity Portfolio Management • CFA Level 3 Reading 28. Active Equity Investing: Strategies (also for week 4) • CFA Level 3 Reading 29. Active Equity Investing: Portfolio Construction • The Morningstar Style Box Fact Sheet • Dying business of picking stocks, WSJ 2016 • Long-short funds missed their moment, WSJ, 2020.

		• Contrast top-down and bottom-up equity research, and buy and sell-side research.	• Blackrock outpacing other fund mgt companies, FT, 2020
4.	Smart Beta Investing	• Difference between alpha and beta • Regular beta versus smart beta • Why alpha is not scalable in large portfolios • Why smart beta strategies work • "Smart beta" or "risk premiums"? • Categories of smart beta strategies • Democratizing smart beta strategies with ETFs • The potential and the limitations of passive investing	• Alpha, Beta and Smart Beta, and factor investing articles by Fidelity • iShares smart beta guide • Passive investing defenders make case for ETFs, FT, 2017 • Smart beta funds on course to pass $1t milestone, FT, 2017 • Should the smart money be on smart beta? FT, 2020
5.	Evaluating Portfolio Performance	• Performance evaluation from the perspective of fund sponsors and investment managers • Explain components of portfolio evaluation: measurement, attribution, and appraisal • Time-weighted and money-weighted rates of return • Calculate and interpret alpha, Sharpe ratio, Treynor measure, tracking error, information ratio, and M-Square. • Fundamental law of active management • Understand data quality issues on computing rates of return • Understand decomposition of returns into components attributable to the market, to style, and to active management • Macro and micro performance attribution • Advantages and disadvantages of alternative types of benchmarks • Discuss the issues involved in manager continuation policies	• CFA Level 2 Reading 50. Analysis of active portfolio management • CFA Level 3 Reading 36. Evaluating Portfolio Performance • How to measure private equity fund performance, Gurufocus, 2017 • Long short equity fees ate your alpha, Morningstar, 2017
6.	Trading and execution	• Types of orders • Types of markets • Market quality • Trading costs, explicit and implicit costs • Algorithmic trading • Swing pricing mechanism	• CFA Level 2 Reading 51. Algorithmic trading and high-frequency trading • CFA Level 3 Reading 35. Execution of Portfolio Decisions • A different Dimension, Beverly Goodman, Barrons, 2014 • How HFT hit a speed bump, FT, Jan 2018 • Rise in ETF trading, WSJ, 2019
7.	Risk Management	• The risk management process • Financial and nonfinancial risk factors	• CFA Level 3, Reading 31. Risk Management

		• Value at risk (VaR) and explain its role in measuring overall and individual position market risk • Compare the analytical (variance–covariance), historical, and Monte Carlo methods for estimating VaR • Discuss advantages and limitations of VaR • Risk budgeting, position limits, and other methods for managing market risk • Discuss return over maximum drawdown and the Sortino ratio as added measures of risk adjusted performance. • Understand the risk parity approach	• JPMorgan loss stokes risk model fears, FT, 2012 • How does cryptocurrency fit into a portfolio?, Forbes, 2017
8.	Project presentations	• Ability to use actual historical asset returns to back test a portfolio allocation strategy (e.g. a smart beta strategy) • Measure the performance of the strategy and predict its expected return in the future. • Based on your results, formulate a portfolio allocation strategy to suit the risk preferences of a hypothetical investor.	