Capital Markets – B7306-002-2022
Summer 2022
Fridays and Saturdays

PROFESSORS MARK ZURACK

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REQUIRED COURSE MATERIAL

Investments
Zvi Bodie, Alex Kane, and Alan J. Marcus, twelfth edition (BKM)

Selected Readings are on electronic reserve and accessible through the Study.net (SN) and Library Reserves (LR) tabs in Canvas. The Yale case and GM case can be accessed by control clicking in the electronic version of the syllabus or single clicking in the Canvas folder class description where the case titles are referenced under the Readings heading. The article on Options Strategies can be accessed by clicking the Canvas "Files" tab and then clicking on the "D. Miscellaneous" folder.

CONNECTION WITH THE CORE

Capital Markets and Investments builds on knowledge from the Corporate Finance, Managerial Statistics, and Decision Models courses to understand asset valuation and investment decisions. Capital Markets uses and builds upon the basic valuation tools developed in Corporate Finance such as arbitrage valuation, time value of money, understanding risk-return tradeoffs, the CAPM, and asset valuation. In analyzing various markets and assets, Capital Markets uses a large amount of material from Statistics, including the following: statistical modeling, random variables and distributions, parameter estimators, hypothesis testing, and regression. Optimization methods and stochastic modeling tools from Decision Models are also widely used, especially in portfolio construction and risk control. There are also some connections, though to a lesser degree, with Global Economic Environment especially in the Fixed Income Unit in discussing bond markets and the role of central banks and monetary policy.

COURSE DESCRIPTION AND OBJECTIVES

This course has two purposes: (1) To introduce the principles of asset valuation from an applied perspective, and (2) To introduce different techniques to manage investment portfolios.

1. It is designed to provide you sufficient background to understand current events in Global Markets,
   take more advanced Markets classes in the school, as well as give you a framework to manage your own assets.

The course breaks down into four areas:

Asset Allocation – Reviews different quantitative techniques used to measure returns and risk. Compares long term behavior of different asset classes and how investors allocate their wealth across Asset Classes.

Equity Markets – Covers theory on measuring expected returns and risks of individual stocks as well as constructing stock portfolios. We also touch on the different forms of both active and passive investing.

Fixed Income Markets – Teaches basic bond valuation focusing on the yield curve as well as notion of forward rates as well as the evaluation of credit risk.

Derivatives Markets – The valuation and use of futures and options markets are introduced.

The materials will be delivered through a combination of lectures, guest speakers, case studies and readings.

ASSIGNMENTS

All assignments must be completed in writing with hard copies handed in before class. Some assignments will be Type A, some Type B.

For Type A assignments, each student must participate in a group discussion regarding the assignment before submission and review and if needed edit the final submission. **Collaboration across groups is not allowed.**

For Type B assignments, each student should attempt to answer the questions on their own before collaborating with other students. Each student should submit their own submission Type B assignments.

METHOD OF EVALUATION

Class Participation and Assignments	40%
Take-home Exam (in 2 parts)	35%
Final Project	25%

An important component of Class Participation is attendance which will be tracked. I reserve the right to downgrade (including failing) any student who misses a significant number of classes or does not complete all the assignments. I will try to avoid cold calling, with the exception being case discussions.

Notice that there is a Final Project in the Method of Evaluation. The Final Project is an oral presentation in response to a case study we will hand out toward the end of the semester.

Each group will meet with me on Zoom for 20 minutes to present your project. Attendance is mandatory.

PRE-CLASS CHATS

Beginning this semester, I have added a series of video-chats for many of the classes. The chats will be available in advance of when the class is given. They are designed to provide background information on the topic we are discussing. For those of you new to financial markets, I hope they will be useful.

CONCEPT QUIZZES

Following most of the classes in the course, we will offer quizzes in Canvas for you to reinforce some of the concepts I covered. THE QUIZZES ARE OPTIONAL and have no impact on your grade. Hopefully, some of you will find them beneficial.

COURSE OUTLINE

1. The Tools of Investing/Asset Allocation (05/13 – 12:30–3:30)

   After a brief discussion on the structure of the course, the class begins by exploring the metrics used to evaluate public investments. We go over return measures like Arithmetic and Geometric averages, and risk measures like Variance, Standard Deviation and Correlation. We then define what an Asset Class is, and the different Asset Classes used to construct an investment portfolio.

   The class then explores the process of determining what percent of an overall portfolio should be allocated to each asset class. This requires understanding not only the returns and risk of each asset class, but also how the correlation of different asset classes affects the overall risk of the portfolio.

   Readings:
   - Chapter 5, pp. 128-138, BKM
   - Glossary, BKM
   - Issues in Strategic Asset Allocation (Litterman, Robert B.), pp. 104-109 (SN)

2. Asset Allocation – Introduction to Equities (05/14 – 3:45–6:45)

   After completing our discussion on Asset Allocation, we move to Equities, the asset class investors spend the most time on.

   Assignments:
   Assignment (1) – Asset Allocation Introduction (Type B)

3. Yale Case/Equities and Efficient Markets (05/20 – 12:30-3:30)

   By studying the issues faced by the Yale Endowment Fund in developing an asset allocation strategy, the first half of the class attempts to give you a real-world perspective on how a large Endowment Fund allocates its assets.

   The class then returns to Equities, starting by describing the terminology and metrics used to construct and evaluate Equity Portfolios. Then we begin a discussion on Stock Market Efficiency.

   That discussion focusses on whether it is possible to outperform the stock market through Active Management. We then try to demonstrate that the market portfolio is the superior Passive portfolio. This brings us to the Capital Asset Pricing Model (CAPM), a theory which is the basis of modern investing. We then discuss how investment managers would use CAPM to help them manage an Active Equity portfolio. We then use CAPM to evaluate an Environmental, Social and Governance (ESG) portfolio.

   Readings:

   - Yale University Investments Office: February 2015 (https://hbsp.harvard.edu/tu/b0868720)
   - The Yale Endowment 2020 (Yale University) (LR)
   - Norway: The New Yale? (Zweig, Jason) (LR)
   - The Arithmetic of "All-In" Investment Expenses (Bogle, John C.) (LR)
   - If You Can't Beat 'Em (Silver, Nate) Chapter 11, pp. 329-369 (SN)

   Assignments:
   Assignment (2) – Questions on Yale Case (Type A)

4. Efficient Markets and the Capital Asset Pricing Model (06/04 – 8:30-11:30)

   The class continues our discussion on Efficient Markets and CAPM.

   Then we move into Active Equities and Distressed Debt Management. Michael Gatto, an Adjunct Professor at CBS, and Partner at Silver Point Finance, will discuss how Fundamental research is used to construct a Distressed Debt/Equities portfolio whose goal is to outperform the market.

   Guest Speaker: Michael Gatto, Silver Lake Capital

   Readings:

   - Chapter 9, pp. 275-286 - BKM

   Assignments:
   Assignment (3) – Hostess Case (Type A)

5. Behavioral Finance/Quantitative and Passive Equities (06/17 – 3:45-6:45)

   After reviewing Assignment 4, which includes a case study on Martingale and GM, we focus on Quantitative Equity Investing, which includes Factor and Smart Beta portfolios. Many of these strategies are based on possible market inefficiencies resulting from biases in investor behavior.

   Bob Humm from BlackRock will lead this discussion. If there is time, I will review the steps in creating a Passive portfolio, starting with choosing an index.

   Readings:

   - GM Asset Management and Martingale's Low Volatility Strategy (https://www8.gsb.columbia.edu/caseworks/ProfessorMarkZurack/29790)
   - Why Did Wall Street Crash and Warren Buffet Prosper? (Cain, Susan) (SN)
   - Investor, Know Yourself (Statman, Meir) (LR)

   Guest Speaker: Bob Humm, BlackRock

   Assignments:
   Assignment (4) – Portfolio Analysis, Martingale Case (Type A)

6. Indices and ETFs/Trading and Short Selling (06/18 – 3:45-6:45)

   In this class we review implementing investment decisions in Equities markets. After completing our discussion on Indices, we move to Exchange Traded Funds, one of the great financial innovations in the 21st century. We then discuss how Equities are traded and how short sales are executed.

   Readings:

   - Chapter 3, pp. 64-75 – BKM
   - Chapter 4, pp. 105-108 – BKM

   Exam: Part 1 handed out

7. Introduction to Fixed Income/Yield Curve and Forward Rates (07/08 – 3:45-6:45)

   The course moves on to Fixed Income Markets. We review the different types of securities that exist in Fixed Income markets. Then we show why a bond's price must be the present value of its coupons and return of principal. We review the relationship of prices and yields and discuss reinvestment and early unwind risk.

   We then continue class by introducing the notion of a yield curve. That brings us to forward rates, their computation and interpretation. We use this knowledge to understand the expected future return of owning bonds.

Readings:

- Chapter 14, pp. 426-428, 432-448
- Chapter 15 – pp. 467-480 – BKM

Exam: Part 1 due

8. Duration and Convexity and Credit Risk (07/09 – 8:30-11:30)

   The class explores the use of duration as a measure of bond price sensitivity to interest rate changes. We examine how this measure can be used to assist in the risk management of a portfolio of bonds. We move onto convexity, which provides further insight into the risk management of bond portfolios.

   We end class by discussing Credit Risk and how it is considered in pricing a bond.

   Readings:
   - Chapter 16, pp. 495-508 – BKM

9. Corporate Bonds and Portfolio Management/ Introduction to Derivatives (07/22 - 8:30-11:30)

   Dominique Toublan will lead a discussion on Corporate Bonds. Corporate Bonds expose investors to credit risk but provide the benefit of a higher yield than what is paid on a comparable Treasury.

   We then move on to the last portion of the course, Derivatives, focusing on how Stock Index Futures are traded and valued.

   Readings:
   - Chapter 22, pp. 749-759

   Guest Speakers: Dominique Toublan, Barclays

   Assignments:
   Assignment (5) – Bond Pricing (Type B)

   Exam: Part 2 handed out

10. Introduction to Options/Options Valuation (07/23 - 12:30-3:30)

    The class focusses on Options, starting with basic strategies and valuation. Although options pricing can be complex, I try to provide you intuition on what drives pricing leaving out the higher mathematics.

    Readings:
    - Chapter 20, pp. 659-669; 677-680; Chapter 21, pp. 701-704 – BKM

11. Options Strategies/Swaps/ Events That Shaped Capital Markets (08/05 – 8:30-11:30)

    The class starts with a broad overview of the Options Strategies most frequently followed by investors. Then we discuss the use of Swaps in Equities and Fixed Income Markets.

    The class ends a discussion of Market Events that show some of the vulnerabilities in the Capital Markets

    Exam; Part 2 due

    Assignments:

    Assignment (6) – Futures and Options Valuation (Type A)

    Readings:

    - Chapter 20, pp. 669-677 – BKM
    - Tutorial on Using Options in Active Strategies (Tsu, Maria E.) (LR
    - Findings Regarding the Market Events of May 6, 2010 (CFTC & SEC), Executive Summary only, pp. 1-8 (LR)

12. The Future of Capital Markets (08/20 – 12:30-3:30)

    We end the course with a broad discussion on the future of Capital Markets.