Columbia Business School

Asset Management (B7323-001 -- Fall 2013)

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Classroom: Uris 332

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Office Hours: by appointment

Teaching Assistant: Jaehyun Cho (<u>JCho14@gsb.columbia.edu</u>) (tentative)

Practical Details:

Class times: See schedule on Canvas and outline below.

Prerequisites: Students must have taken or exempted from B6301 Corporate Finance. Students must have taken or exempted from B6302 Capital Markets and Investments or take it as a co requisite.

TAs: Jaehyun Cho will be the TA for the class. The TA will hold a review session on basic statistical and finance concepts; he will also hold a few review sessions regarding the class material/testbank questions. Finally, he will also help with potential problems with the mean-variance optimization software I use for the class.

COURSE DESCRIPTION AND COURSE OBJECTIVE:

The course provides students with a fundamental understanding of the principles and analytics of asset management as applied to both institutional and private clients. This course will be of great interest to anyone aspiring to a career in asset, portfolio, private wealth, endowment, or pension fund management. A fundamental understanding of the issues in asset management, whether institutional or private, will also be helpful in other areas of finance such as investment banking, insurance, accounting and personal finance. In addition, students will learn how to better manage their future personal wealth.

All investors face three main problems, which will be covered to varying degrees in the course:

- 1. Asset Allocation How do investors decide on the level of capital to allocate to individual asset classes?
 - Strategic asset allocation of pension funds/endowments
 - Global asset allocation (Quantitative asset management)
 - Individual's asset allocation
- 2. Implementation issues-How to implement the asset allocation?
 - Portfolio Manager Selection: Asset owners usually delegate management of their portfolios to financial intermediaries, which may invest across a broad array of assets or specialize in a certain investment style or asset class.
 - Investment Vehicles passive versus active management, mutual funds, ETFs, hedge funds and private equity.

3. Performance Measurement – How do investors determine how well money managers have performed?

The course will include finance theory, statistical analysis and basic optimization theory, mirroring the investment management industry's increased reliance on quantitative methods. The class will attempt to bring students to the frontier of best practice, but also introduce new relevant concepts from academic research. In addition, throughout the class I will point out puzzling behaviors or empirical facts, motivating why they are puzzling, and outlining the most recent academic thinking regarding these puzzles.

The organization of the class is roughly as follows:

I. Institutional Asset Allocation

This section starts by reviewing modern portfolio theory and applying it to the problem of strategic asset allocation (relevant for pension funds or endowments). We then discuss the state-of-the art techniques used by quantitative asset managers, including the Black-Litterman model developed at Goldman Sachs. Globalization is a major trend affecting the asset management industry and we devote special attention to the international diversification of portfolios and the problem of global asset allocation. We also use international data to illustrate the quantitative tools employed in the industry. The final class in this segment examines emerging markets and how the globalization process has affected asset prices.

II. Performance Measurement and Investment Vehicles

We cover standard performance measures such as Sharpe ratios, Treynor measures, Jensen's alpha and information ratios. These measures were mostly developed for standard long only portfolios, such as those offered by mutual funds. Mutual funds run both portfolios for both individuals and institutions but we will cover the mutual fund industry from the perspective of individual investors. We also analyze the state-of-the-art and popular technique of style analysis and apply it to the performance of the legendary Magellan Fund. We also discuss performance evaluation techniques for hedge funds. We use a case on active currency managers to discuss the emergence of a new asset class, performance measurement for active managers using technical analysis, and the value of an asset management business. The hedge fund industry is discussed more generally as well. We also devote a class to private equity using an outside speaker to cover most material.

III. Asset Management for Individuals

With the increasing importance of defined contribution plans, the responsibility of asset allocation has shifted to the individual. Financial planning for individuals has been revolutionized recently as more and more sophisticated advice has become available. We discuss special issues regarding individual asset allocation, including alternative preferences, life cycle investing, human capital, dynamic investing, taxes and retirement planning. We also discuss Private Wealth Management, the asset management for the very rich. Although Private Wealth Management relies on the concepts and analytics of institutional asset management, it has developed as a field of research and practice that

is distinctly separate from portfolio management and institutional asset allocation. The challenges introduced by the need for tax efficiency, including issues relative to wealth transfer, as well as psychological and behavioral issues differentiate the practice of Private Wealth Management. An experienced practitioner will present to the class as the instructor has no special expertise in this area.

CONNECTION WITH THE CORE:

The class will utilize build on, and extend concepts covered in the following core courses:

Corporate Finance:

- Efficient markets
- Risk
- The CAPM

Managerial Finance:

- Statistics data analysis (means, correlations,...)
- Normal distribution
- Linear regressions

Global Economic Environment

- Material on exchange rates
- Interest rates and inflation

The course builds heavily on and deepens much of the material covered in Capital Markets.

COURSE MATERIALS:

- Class notes, Case materials (to be made available through *Canvas*);
- Course Readings, bound volumes of readings, cases.
- Some chapters in Bodie, Kane and Marcus, (Irwin McGraw Hill), the text for Capital Markets (B6302), should prove useful for a better comprehension of investment analytics.
- Recommended books:
 - -The Intelligent Portfolio by Christopher L. Jones. This book will be a nice complement to a number of classes and provides a free try out of the Financial Engines financial advice product.
 - -International and Financial Management by Geert Bekaert and Robert Hodrick; some classes built heavily on some chapters in the book.

METHOD OF EVALUATION/COMPONENTS OF THE GRADE

Most assignments for this class will be conducted within groups of 3 to 5 people. The groups are to be the same for all cases / assignments and the group members will rate each other's contribution at the end to avoid free riding. The groups should be formed as soon as possible, preferably in the first week.

1) Case Write Ups (45%)

There will be 7 Cases. This could be a genuine Harvard case (for example the Harvard Management Company case) or it could be a mini-case or exercise written by the

instructor (for example the G7 Global Asset Allocation Case). Each case is accompanied by a set of questions that have to be answered in a formal document, written by the group. This document must be handed in at the beginning of the class in which the case is discussed. Because the class notes contain the case solution, no late assignments are accepted. The Cases and due dates are clearly listed on Canvas. The Syllabus below has a preliminary schedule, but please, check Canvas regularly for updates.

The total grade for the group will be based on the best five cases; the worst cases will not count towards your grade. That means that each group can elect to not submit two cases. Nevertheless, learning will be maximized when groups prepare the cases thoroughly on a consistent basis.

All class write-ups are Type A!

2) Class Participation and Attendance (15%)

Class participation is an important part of your grade. You will be graded on attendance, thoughtful participation in class, and overall contribution to the learning of your peers. I will punish students who do not attend: missing more than two sessions (which amounts to 25% of the classes) will lead to an incomplete grade for the class.

3) Final Exam (40%)

The Exam will take place according to the official exam schedule. It will be an open-book, written exam, which will primarily test your knowledge of the concepts taught in class. The exam should at most take three hours to complete. If you attend class and do the work, it should be rather straightforward to pass with flying colors.

Finally, I have prepared a number of questions (a "testbank") designed to help you prepare for the final exam. You can solve these questions on your own but the TA will hold a review session based on the testbank material.

PRELIMINARY OUTLINE:

(12 sessions of 3 hours)

The outline is highly preliminary and subject to change. In particular, speakers are, for now, taken from a previous class installment. The speaker list will be finalized before class. Readings will be added as we go on and the outline will be updated on Canvas. Classes denoted with an asterisk are likely to be "equation-intensive," extra caffeine dosage highly recommended. Readings marked as "Background materials" are not required reading.

Session 1 (Sept. 6, 3:45 – 6:45pm)
Introduction to Asset Management
The Case for International Diversification

The Asset Management Industry Introduction to Wealth Management

The "Case for International Diversification" and introduction to the G7 Case Puzzle: Home Bias

Materials:

- Class Notes
- Bekaert-Hodrick textbook Chapter 13 on International Capital Market Equilibrium, Sections 13.1, 13.2 and 13.3

Background Material:

- Bodie, Kane, Marcus (9th Edition), Chapters 5, 6, 7
- Jones, Chapters 1, 5

TBA - Review Session on Statistics by Jaehyun Cho

Session 2 (Sept. 7, 12:30pm – 3:30pm) Concepts and Techniques

Review of Concepts/Techniques of Modern Portfolio Management Review of Mean Variance Optimization (with Matrix Algebra), using the Harvard Management Case as an illustration* Introduction to Strategic Asset Allocation

Materials:

- READ BUT DO NOT SOLVE THE HARVARD MANAGEMENT CASE
- Class Notes

Background Material:

- Bodie, Kane, Marcus (9th Edition), Chapters 5, 6, 7
- Jones, Chapters 1, 5
- Bekaert-Hodrick textbook Chapter 13 on International Capital Market Equilibrium, Section 13.3

Session 3 (Sept. 20, 8:30am – 11:30am) Strategic Asset Allocation

Strategic Asset Allocation at HMC TIPS Capital Market Assumptions Equities/Bonds Endowments versus Pension Funds Puzzle: The Fed Model

Materials:

• WRITE UP THE HARVARD MANAGEMENT CASE DUE

- Class Notes
- Harvard Case 9-201-053: The Harvard Management Company and Inflation-Protected Bonds

Background Material:

- Bodie, Kane, Marcus (9th Edition), Chapters 6, 7
- Jones, Chapters 2, 8

Session 4 (Sept. 21, 8:30am – 11:30am) Global Asset Allocation and the Black-Litterman Model

The G7 Case
Review of CAPM*
Revisiting Home Bias
The Black-Litterman Approach to Asset Allocation (Introduction)*

Materials:

- WRITE UP G7 CASE DUE
- Class Notes
- Bekaert-Hodrick textbook Chapter 13 on International Capital Market Equilibrium, Sections 13.4 and 13.5

Background Material:

- Bodie, Kane, Marcus (9th Edition), Chapter 9
- Jones, Chapter 4
- Bekaert and Wang, Home Bias Revisited, working paper.

Session 5 (Sept. 28, 12:30pm – 3:30pm) Advanced Asset Management: Black-Litterman "Light", Factor Models and Currency Hedging

The Black-Litterman Model* Revisiting the HMC Case* The Treynor-Black Model* Factor Models* Currency Hedging*

Materials:

- WRITE UP ON ADVANCED ASSET MANAGEMENT CASE DUE
- Black, Fischer, and Robert Litterman, "Global Portfolio Optimization," Financial Analysts Journal, September – October 1992

Background Material:

- Bodie, Kane, Marcus (9th Edition), Chapters 8, 10 (Factor Models), 27 (Treynor-Black Model)
- Article on Factor Models, TBA
- Chapters 2, 3, and 6 in Bekaert-Hodrick Textbook

Session 6 (Oct. 11, 8:30am - 11:30am)

Emerging Equity Markets/ Diversification Revisited Performance Measurement

Emerging Markets and Asset Allocation Globalization and Asset Prices Contagion: No place to hide! Standard Measures Style Analysis* Hedge Fund performance measurement

Materials:

- WRITE UP ON EMERGING MARKETS CASE DUE
- Class Notes

Background Material:

- Geert Bekaert and Campbell R. Harvey, Emerging Markets Finance, Journal of Empirical Finance, 2003 http://www-1.gsb.columbia.edu/faculty/gbekaert/
- Bekaert-Hodrick textbook, Chapter 12
- Sharpe, William F. "Asset Allocation: Management Style and Performance Management," *Journal of Portfolio Management*, Winter 1992.
- Bodie, Kane, Marcus, Chapters 4 (Mutual Funds), 24 (Performance Measurement), 26 (Hedge Funds)
- Wermers, Russ. "Performance Measurement of Mutual Funds, Hedge Funds, and Institutional Accounts," Annual Review of Financial Economics. 2011. 3:537-74

Session 7 (Oct. 25, 8:30am – 11:30am) Currencies and Hedge Funds

Active Currency Management/Hedge Funds Technical Analysis Currencies as an Asset Class Puzzle: The Carry Premium Commodities vs. Currencies

Material:

- WRITE UP ON CURRENCY CASE DUE
- Bekaert, G., "Valuing Currency Management TOM vs. U.S. Commerce Bank," Columbia Caseworks ID#100310, Nov. 2010
- Nielsen, Bo. "Taylor Rules Currencies, Not to be Confused With the Other Guy," www.bloomberg.com 2008
- Poljarliev, M., and R. Levich, "Do Professional Currency Managers Beat the Benchmark?," *Financial Analysts Journal*, 2008
- Pukthuanthong-Le, K., R. Levich, L. Thomas III, "Do Foreign Exchange Markets Still Trend?," *Journal of Portfolio Management*, Fall 2007

Background Material

- Bodie, Kane, Marcus, Chapters 24
- Jones, Chapters 3, 5, 7, 9-11

Bekaert-Hodrick textbook, Chapters 7,10

Session 8 (Oct. 26, 12:30pm – 3:30pm) Private Equity

Tentative: Peter Cornelius, Research – Economist, AlpInvest Partners (AlpInvest Partners is a leading independent global private equity investment manager)

Materials TBA

Session 9 (Nov. 9, 8:30am - 11:30am)

Idiosyncratic Risk Personal Wealth Management

Measuring Idiosyncratic Risk Quantifying the Cost of the Idiosyncratic Risk Company Stock and Asset Allocation Puzzle: Under-diversification

Speaker on PWM Industry; Ann Kaplan, Circle Financial Management (former partner Goldman Sachs, Board of Trustees Columbia)

Materials:

- WRITE UP ON IDIOSYNCRATIC RISK CASE DUE
- Class Notes
- The BP-Amoco Case (Idiosyncratic Risk)
- Harvard Case 9-201-052:The Harmonized Savings Plan at BP Amoco

Background Material:

Jones, Chapter 6

Session 10 (Nov. 22, 3:45pm - 6:45pm)

SPEAKER PRESENTATIONS -ROOM 301

The Hedge Fund Industry, Ben Appen, CFA - founding partner, Magnitude Capital (Magnitude Capital is a 2 Billion Dollar fund of funds)

Quantitative Investing, Michael Urias, long-short equity portfolio manager Hutchin Hill (multi-strategy fund)

Session 11 (Nov. 23, 12:30pm – 3:30pm)

Mutual Funds and Performance Measurement
Introduction to Asset Management for Individuals

The Mutual Fund industry

Revisiting market efficiency
The Magellan Case
Puzzle: Why are there so many active funds?
ETFs

The Stock Market non-participation puzzle Alternative utility functions Market Anomalies Dynamic Asset Allocation

Materials:

- WRITE UP ON THE MAGELLAN CASE DUE
- Class Notes
- Sharpe, William F. "Asset Allocation: Management Style and Performance Management," *Journal of Portfolio Management*, Winter 1992.

Background reading:

- Jones, Chapters 3, 5, 7, 9-11
- Bodie, Kane, Marcus, Chapters 4, 5, 11, 24

Session 12 (Dec. 7, 8:30am - 11:30am)
Individual Asset Allocation/ Retirement planning

Individual Portfolio Management Challenges for an aging population The Annuity puzzle

Speaker: Jason Scott, Managing Director, Financial Engines
(Financial Engines is the market leader in financial advice for 401K plans)

Materials:

- Class Notes
- Scott, Jason. "The Longevity Annuity: An Annuity for Everyone?," Financial Analysts Journal, 2008

Background material:

• Dybvig, Philip, "Using Asset Allocation to Protect Spending," *Financial Analysts Journal*, January-February 1999, 49-62.