INVESTMENTS (MFE), SPRING 2017

Professor:
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Assistant:
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Exercise session: Wednesdays, 13h15-15h in room Extranef 126.
When meeting with Damien outside of the exercise session, please write him an email before to fix an appointment and indicate the nature of your question. Always include MFE in the subject line of emails.

Content:
The course covers a wide range of topics in investments, including portfolio selection, equilibrium asset pricing, arbitrage pricing, market efficiency, behavioral finance, tests of asset pricing models, trading strategies in equity, fixed income, foreign exchange, and commodity markets.

Prerequisites:
Students must have taken Quantitative Methods in Finance, Introduction to Finance, and Econometrics.

Course material:
The main textbook for the course is Investments by Zvi Bodie, Alex Kane, and Alan Marcus, 9th edition, 2010 or 10th edition, 2013. This book is very thorough on the classical topics and a valuable reference on the workings of financial markets and the characteristics of difference asset classes. However, the book is less quantitative and analytical than the level of this course. Therefore, my slides will be more technical than the book.

A much more quantitative textbook, more at the level of a Ph.D. course, is Theory of Asset Pricing by George Pennacchi. Especially chapters 1-4 are relevant for this course.

An excellent recent book more oriented towards practitioners is Expected Returns: An Investor's Guide to Harvesting Market Rewards by Antti Ilmanen. Particularly chapters 8, 9, 12, 13, 14, 18, and 19 are relevant for this course.

Also highly recommended is Efficiently Inefficient: How Smart Money Invests and Market Prices Are Determined by Lasse Pedersen. Particularly chapters 1, 2, 3, 4, 5, 9, 10, 13, and 14 are relevant for this course.

I will also use a number of cases and journal articles, which will be posted on the course website.

Assignments:
There will be weekly mandatory assignments, which can be done in groups of up to four people. The assignments will be a mix of exam-relevant questions, practical questions using actual data, and questions related to case-studies. Assignments turned in late will not be graded (i.e., result in a grade of zero). Many of the assignments make use of data from Wharton Research Data Services (WRDS) and the Center for Research in Security Prices (CRSP).
Exams:
There will be a mid-term exam and a final exam, which are closed-book, closed-notes. However, you are permitted to bring a calculator. The mid-term exam will cover all material taught until the date of the exam. The final exam is cumulative – it covers the material of the whole course, although it emphasizes the second half of the course.

Grading:
In calculating the grade for the course, the assignments will receive a combined weight of 30%, the mid-term exam a weight of 30%, and the final exam a weight of 40%.

Course website:
http://moodle.epfl.ch/course/view.php?id=9371. Enrollment key will be provided at the first lecture.

Preliminary course outline:

Lecture 1: Portfolio theory
Risk and return of major asset classes, forecasting portfolio value, diversification benefits, utility functions, risk aversion, mean-variance analysis


Lecture 2: Portfolio theory (cont.)
Mean-variance analysis, optimal portfolios, the risk parity strategy


Lecture 3: Equilibrium asset pricing
The Capital Asset Pricing Model (CAPM), zero-beta CAPM, leverage CAPM, liquidity CAPM, intertemporal CAPM, consumption CAPM

Readings: BKM chapter 9, Frazzini and Pedersen (2014) "Betting Against Beta", and Acharya and Pedersen (2005) "Asset pricing with liquidity risk" (we will cover the empirical analyses in these papers in Lecture 5). See also Pennacchi (2007) "Theory of Asset Pricing", chapter 3, for a detailed discussion of the CAPM and the zero-beta CAPM.

Lecture 4: Arbitrage Pricing Theory
Macro factors, factor portfolios, asset characteristic

Lecture 5: Tests of asset pricing models and market efficiency
Test of CAPM, size and value anomalies, volatility and beta anomalies, liquidity risk, the efficient
market hypothesis, return predictability, event studies

Pricing Anomalies”, Ang, Hodrick, Xing, and Zhang (2006) "The Cross-Section of Volatility and
Expected Returns", Frazzini and Pedersen (2013) "Betting Against Beta", and Keown and Pinkerton
(1981) “Merger Announcements and Insider Trading Activity”

Harvard Business School case: "Martingale Asset Management".

Lecture 6: Behavioral finance and limits to arbitrage
Beliefs, prospect theory, evidence for limits to arbitrage

Readings: BKM chapter 12, Lamont and Thaler (2003) "Can the Market Add and Subtract?
Mispricing in Tech Stock Carve-outs"

Harvard Business School case: "Strategic Capital Management, LLC"

Lecture 7: Quantitatively driven tactical asset allocation
Tatjana Puhan, Head of Equity & Asset Allocation at Swiss Life Asset Management

Mid-term exam in class

Lecture 8: Fixed income
Bonds and interest rates, the yield curve, bootstrapping, cubic splines, Nelson-Siegel

Readings: BKM chapters 14 and 15

Lecture 9: Fixed income (cont.)
Dynamic term structure models, managing interest rate risk

Readings: BKM chapter 16


Lecture 10: Fixed Income (cont.)
Monetary policy, the expectation hypothesis, bond return predictability

View" and Cochrane and Piazzesi (2005) "Bond Risk Premia"
Harvard Business School case: The Harvard Management Company and Inflation-Protected Bonds

Lecture 11: Funding and investment strategies for banks
Christopher Cherdel, Head of Treasury at BCV

Lecture 12: Commodity and FX
Forward and futures markets, commodity investments, foreign exchange investments


Final exam in class