**Samuel Curtis Johnson Graduate School of Management**
**Cornell University**

NBA 5420: Investment and Portfolio Management[1]
Spring 2016

Instructor: Prof. Matt Baron
Office: 401J Sage Hall
Email: baron@cornell.edu
Office hours: MW 3:30 – 4:15pm
Course website: Blackboard

Class Time and Place:
- Section 001: MW 10:10am -11:25am, Sage B09
- Section 002: MW 1:25pm - 2:40pm, Sage B05
- Midterm Exam: Monday, March 21 in class
- Final exam: Thursday, May 19, 9:00-11:30am

Teaching Assistants:
Kate Volkova, ev99@cornell.edu — Office Hours: Wed 3-4 pm, Sage 134
Sam Hempel, sjh296@cornell.edu — Office Hours: Thu 12-1 pm, Sage 134 (except Feb 4: Room 144 and Apr 14: Room 333)

Course overview

This course is about financial markets and open to anyone who wants to know about investing or work in financial services. The course should be especially useful to students interested in investment management (e.g. private wealth management, portfolio management in mutual funds and hedge funds, equity research), trading, and investment banking careers.

The first half of the course focuses on the tools of disciplined investing: portfolio construction, diversification, arbitrage pricing, and valuation. We study three "styles" of investing: passive investing, factor investing, and speculative investing. We study who (if anyone) beats the market (hedge funds, private equity, endowment funds?) and why. Other questions include: do activist investors add value? Should investors prefer, for example, dividend stocks, value stocks, a concentrated portfolio, or just the S&P 500 index? How can investors exploit the behavioral biases of other investors? How should investors trade around mergers and acquisitions ("risk arbitrage") and other corporate news?

The world of finance has changed dramatically in the aftermath of the recent financial crisis. In the second half, we ask, how can investors assess risk in the macroeconomy and guard against market turbulence? Is it possible to identify bubbles? What determines monetary policy and how does it affect financial markets? We will touch on fixed income investing and arbitrage, structured finance, and emerging market investing. We will focus on the interactions of the banking sector with financial markets, especially the role of credit and leverage, and examine the consequences of financial distress, including contagion, fire sales, and flight to safety. To help understand these types of instability, we will revisit historical real estate bubbles and banking crises, the collapse of LTCM, and the 2007-8 financial

[1] I gratefully acknowledge the help of Gideon Saar, Andrew Karolyi, Scott Yonker, and various Princeton faculty who provided me their course materials from prior years. This course borrows elements from their classes.

crisis – and then apply their lessons to the ongoing Euro crisis and emerging problems in countries such as China and Brazil.

## Enrollment

Johnson MBAs and MFEs have priority in enrollment. Non-Johnson graduate students are welcome to take the course subject to space availability, but I cannot guarantee enrollment. However, if you are interested in taking the course, please come to the first few lectures and make sure you are on the waitlist during the enrollment period. If there is excess demand, the registrar or I will figure out a procedure to allocate spots after Johnson and MFE students complete their enrollment period.

Johnson CMAM immersion MBAs and MFEs should take this course for a letter grade. Other students may take the course Pass / Fail ("S/U"). No auditing is allowed.

## Prerequisites

NCC 5060 (core finance) or an equivalent course

## Course textbook and materials

There is no required textbook for the class. However, to provide a practitioner's perspective, we will use "The Essays of Warren Buffett: Lessons for Corporate America," Fourth Edition, which you can buy on Amazon (approx. $30). (Chapter numbers refer to the Fourth Edition; chapter numbers are very different in earlier versions.) These essays are by nature opinionated and should **not** be construed as the final say on matters; they are meant to stimulate class discussion and may present contrasting perspectives to those offered in lecture. As such, they will **not** be tested on exams, but I would still like you to read the assigned chapters in advance of each lecture.

You will also need to purchase the two case studies (actually three, since the LTCM case is in two parts) by going to http://www.study.net/r_mat.asp?crs_id=30081791 ($13.50). The link is also available on Blackboard. All other readings will be posted on Blackboard.

You may also choose to purchases the following *optional* textbook for background reading: "Investments" (Zvi Bodie, Alex Kane, and Alan J. Marcus), Tenth Edition, referred to in the course outline as "BKM". Chapter numbers below refer to the Tenth Edition, though you should feel free to purchase earlier editions to save on costs. Several copies of the Tenth Edition are on reserve in the Management Library.

Lecture slides will be posted on Blackboard following each class. All required readings (except the Buffett essays), lecture slides, problem sets, guest speakers, and case studies are fair game for the exams. None of the optional readings will be tested on the exams (except to the extent they are covered in the lecture notes), but they are simply there for background reading or further exploration.

Grading

Problem sets 20%, Midterm exam (in class) 35%, Final exam 45%.

Classroom Expectations

1. Please bring your name card to each class.

2. Be punctual and ready for class. Please use the back door if you are late. Readings should be done prior to coming to class.

3. Put your phone away. It's distracting to me and other students.

4. The use of laptops and tablets is not permitted during the class sessions except when specifically noted. If you need to check email, please leave the classroom and do it outside.

5. No food is allowed in the tiered classrooms.

Office hours

My office hours will be on Mondays and Wednesday (starting Jan. 27) 3:30 – 4:15pm in Sage 401J. The TAs' office hours will be on Wednesdays and Thursdays (starting Feb. 3 & 4)

All questions about problem sets (and problem set grading) **must** be addressed to the TAs. I will not answer questions specifically about the problem sets during my office hours, though I am more than happy to talk about any other topic (for example, class material, career questions, or research).

Problem Sets

Most weeks will have short problem sets, which will be posted on Blackboard and due the following **Friday by 4pm** (see course outline below for the exact schedule). Please submit them in the **appropriate box** labeled "NBA 5420: Investment & Portfolio Mgmt" in **Sage Hall Room 304** (faculty support) by 4pm on Friday. (Note, this room is locked outside of normal business hours.)

In the weeks in which we have case studies, the case study assignment will take the place of the problem sets and will be due in class on the day of the case study. You may discuss problems freely with classmates, but the copy you turn in must be written up yourself (your own exposition: explanations, calculations, spreadsheets, etc.).

Late problem sets will receive a zero, no exceptions. You will have one "free pass" in your problem set grade, meaning that, of the 11 problem sets, your problem set grade will be based on your highest 10 problem set scores only.

## Midterm and Final exam

The midterm will take place on Monday, March 21 in class, and the final exam will take place Thursday, May 19, 9:00-11:30am. Only in rare circumstances (like a medical emergency that prevents a student from taking an exam, verified with a note from a doctor and/or dean) will I consider giving a makeup midterm or final exam.

The final exam will be comprehensive (based on material covered during the entire semester), though emphasis will be on the second half. The style and content of exam questions will closely mirror the problem sets; in addition, a few problems related to guest speakers, required readings (except the Buffett essays) and case studies will also appear on the exams.

The exams will be closed book but you can bring a calculator (but not on your smart phone or tablet) and one 8.5" x 11" sheet with your choice of material on both sides. Sample exams with answers will be posted in advance on Blackboard for practice.

## Cases

1. Silver Lake and Private Equity in Brazil: Carnaval or Calamity?
2. Long-Term Capital Management (Cases A and C)

## Guest speakers

1. Victor Haghani, CEO of Elm Partners, formerly co-founder LTCM and bond trader at Salomon
2. Bob Deere, Investment Director and Senior Portfolio Manager at Dimensional Fund Advisors

## Academic Integrity

Students are expected to adhere to the Student Honor Code. The attempt of any student to present the work of another as his or her own, or to present any work dishonestly performed, or to pass any examination by improper means will be treated as a serious offense. Examples of academic dishonesty include, but are not limited to: cheating on an exam or claiming others work as your own. In addition, no mobile devices are allowed on exams. If I see a mobile device once the exam is passed out, it will be assumed that the mobile device is being used improperly and you will receive a zero on the exam.

## Students with Disabilities

Students with disabilities who request help will be given accommodation with the assistance of the University Office of Disability Services. Please make sure to give me the appropriate documentation with the appropriate advance notice so that I can accommodate you.

Week 1

January 27 – Introduction. Why do we need financial markets? The three styles of investing: passive, factor and speculative investing.

**Optional readings:** BKM chapters 1-4

Week 2

February 1 – Passive investing I – Discounting present value. Risk and return.

February 3 – Passive investing II – Investing for the long-run. Diversification. Portfolio optimization.

**Problem Set 1** on NPV & Risk and Return, due Friday, February 5 by 4 PM in Sage 304

**Required readings:**

Buffett II.A,B,F, III.A, IV.A

Before Monday's class: The New Yorker: "The Method in the Stock Market's Current Madness"

Before Wednesday's class: Wall Street Journal: "Is there a Case for Actively Managed Funds?"

**Optional readings:** BKM chapters 5-8

Week 3

February 8 – Passive investing II – continued

February 10 – Passive investing III – Arbitrage pricing: commodities futures and stock options. Put-call parity. Black-Scholes.

**Problem Set 2** on Portfolio Optimization, due Friday, February 12 by 4 PM in Sage 304

**Required readings:**

Buffett III.E, VI.F

Before Wednesday's class: The New Yorker: "How Low Can Oil Go?"

**Optional readings:** BKM chapters 20 & 22

Week 4

February 15 – No class. February break

February 17 – Passive investing IV – Market efficiency vs. behavioral finance. The essentials of behavioral finance: market anomalies, investor biases, disagreement, limits of arbitrage (short-sale constraints, limited capital and borrowing constraints).

**Problem Set 3** on Arbitrage Pricing, due Friday, February 19 by 4 PM in Sage 304

**Required readings:**

Lamont & Thaler, "Anomalies: The Law of One Price in Financial Markets"

Barber & Odean: "The Courage of Misguided Convictions"

Before Wednesday's class: The New Yorker: "In Praise of Short Sellers"

**Optional readings:**

BKM chapters 11-12

Busse & Green: "Market Efficiency in Real Time"

Brunnermeier & Nagel: "Hedge Funds and the Technology Bubble"

D'Avolio: "The Market for Borrowing Stock"

Shiller: "Do Stock Prices Move Too Much to be Justified by Subsequent Changes in Dividends"

Edmans, Garcia & Norli: "Sports Sentiment and Stock Returns"

Week 5

February 22 – Passive investing IV – continued

February 24 – Factor investing I – CAPM and Factor models. APT. Value and momentum. Time-series and cross-sectional predictability.

**Required readings:**

Chan, Karceski & Lakonishok: "The Risk and Return from Factors"

Griffin, Ji & Martin: "Global Momentum Strategies"

Before Wednesday's class: The New Yorker: "Boom or Bubble"

**Optional readings:**

BKM chapters 9-10

Carhart: “On Persistence in Mutual Fund Performance”

Fama & French “Common Risk Factors in the Returns on Stocks and Bonds”

Cochrane: “Discount Rates”

Cochrane: “Lecture Notes on Predictability”

Campbell & Shiller: “Stock Prices, Earnings, and Expected Dividends”

Welch & Goyal: “A Comprehensive Look at the Empirical Performance…”

Campbell & Thompson: “Predicting Excess Stock Returns Out of Sample”

Hou, Xue & Zhang: “A Comparison of New Factor Models”

Griffin, Ji & Martin: “Momentum Investing and Business Cycle Risk”

Week 6

February 29 – Guest speaker: Victor Haghani

March 2 – Speculative investing I – Valuation. The Gordon growth model. Market timing and stock selection. Evaluating portfolio performance while correctly accounting for risk.

**Problem Set 4** on CAPM and Factor Models, due Friday, March 4 by 4 PM in Sage 304

**Required readings:**

Buffett II.D,E, VI.B,D,E

Andonov, Bauer and Cremers: “Can Large Pension Funds Beat the Market?”

Jurek & Stafford: “The Cost of Capital for Alternative Investments”

Before Wednesday’s class: The New Yorker: “Epic Fails of the Startup World”, “Eyeing Apple”

**Optional readings:**

Bollen & Busse: “Short-term Persistence in Mutual Fund Performance”

Berk: “Five Myths of Active Portfolio Management”

Cohen, Diether & Malloy: “Misvaluing Innovation”

Week 7

March 7 – Speculative investing II – Who beats the market? Actively managed mutual funds, hedge funds, private equity, endowment and pension funds? A review of the evidence.

March 9 – Speculative investing III – The supply side of asset markets: corporate finance (payouts and issuance, CEOs and governance, leverage, capital expenditure, M&A activity) and implications for stock market investors. Activist Investors.

**Problem Set 5** on Valuation, due Friday, March 11 by 4 PM in Sage 304

**Required readings:**

Buffett II.C, IV.C,G, V.A

Fung, Hsieh, Naik & Ramadorai: "Hedge Funds: Performance, Risk, and Capital Formation"

Kaplan & Stromberg: "Leveraged Buyouts and Private Equity"

Before Monday's class: The New Yorker: "Inside Tracks" and "When Shareholder Activism Goes Too Far"

Before Wednesday's class: The New Yorker: "Should Time Warner Spin Off HBO?" and "The Case for Corporate Divorce"

**Optional readings:**

BKM chapters 13, 24, 26, 27

Ibbotson & Chen: "The A,B,Cs of Hedge Funds: Alphas, Betas, and Costs"

Brav, Jiang & Kim: "Hedge Fund Activism: A Review"

Brav, Jiang, Partnoy & Thomas: "The Returns to Hedge Fund Activism"

Kaplan & Schoar: "Private Equity Performance: Returns, Persistence, and Capital Flows"

Harris, Jenkinson & Kaplan: "Private Equity Performance: What do we know?"

Gompers & Lerner: "Money Chasing Deals? The impact of fund inflows on PE valuations"

Gompers, Kovner, Lerner & Scharfstein: "Performance persistence in entrepreneurship"

Hotchkiss & Mooradian: "Vulture investors and the market for control of distressed firms"

Mitchel & Pulvino: "Characteristics of Risk and Return in Risk Arbitrage"

Jetley & Ji: "The Shrinking Merger Arbitrage Spread"

Cremers, Nair & John: "Takeovers and the Cross-Section of Returns"

Hartzmark & Solomon: "The Dividend Month Premium"

Gompers, Ishii & Metrick: "Corporate Governance and Equity Prices"

Week 8

March 14 – Fixed income I – The term structure of interest rates, duration & convexity, no arbitrage models, the expectations hypothesis and fixed-income predictability.

March 16 – High-frequency trading and the structure of financial markets – Public exchanges, dark pools, and broker-dealer networks. Price impact and optimal trade execution. Market making and liquidity. Insider trading and price efficiency.

**Problem Set 6** on Fixed Income, due Friday, March 18 by 4 PM in Sage 304

**Required readings:**

Buffett III.B,C

Jones: "What do we know about high-frequency trading?"

McGonagle, Duffy & Kirilenko: U.S. Senate Testimony on HFT

Before Wednesday's class: The New Yorker: "Rise of the Trader-Bots"

**Optional readings:**

BKM chapters 14-16

Cochrane & Piazzesi: "Bond Risk Premia"

Duarte, Longstaff & Yu: "Risk and Return in Fixed-Income Arbitrage: Nickels in Front of a Steamroller?"

Budish, Cramton & Shim: "The High Frequency Trading Arms Race"

Baron, Brogaard, Hagstromer & Kirilenko: "Risk and Return in High-Frequency Trading"

Brogaard, Hendershott, Hunt & Ysusi: "HFT and the Execution Costs of Individual Investors"

Malinova, Park & Riordan: "Do Retail Traders Suffer from High-Frequency Traders?"

Week 9

March 21 – Midterm, in class (usual classroom and time)

March 23 – Fixed income II - Bonds and the Fed. Macro models of the interest rate and of monetary policy. The "natural" interest rate. Commercial and central bank balance sheets and the structure of the financial system. Should interest rates be used as a tool for financial stability?

**Required readings:** Before Wednesday's class: The New Yorker: "Shut Up, Savers!"

**Optional readings:** (none)

March 28 & 30 – No class. Spring break.

Week 10

April 4 – Fixed income II – continued.

April 6 – Currency investing I – carry trades, currency crashes, uncovered interest rate parity, random walks, real exchange rates and terms of trade. (HW 9)

**Problem Set 7** on Macro Investing, due Friday, April 8 by 4 PM in Sage 304

**Required readings:**

Buffett III.F

Backus & Roubini: "Lectures in Macroeconomics: Chapters 7 & 8"

Shin: "The Second Phase of Global Liquidity"

Before Wednesday's class: The New Yorker: "China Gambles with the Yuan"

**Optional readings:**

Romer: "Short-run Fluctuations"

Brunnermeier, Nagel & Pedersen: "Carry Trades and Currency Crashes"

Jurek: "Crash-Neutral Currency Carry Trades"

Lettau, Maggiori & Weber: "Conditional Risk Premia in Currency Markets…"

Week 11

April 11 – Currency investing II – Emerging market investing. Sovereign debt and "triple crises" (balance of payment, inflation and currency crises). Problems with fixed exchange rate regimes: the Gold Standard, Bretton Woods, Europe 1992, Mexico 1994, East Asia 1998, the ongoing Euro crisis.

April 13 – Guest speaker: Bob Deere, Investment Director and Senior Portfolio Manager at Dimensional Fund Advisors

**Problem Set 8** on Currencies and Sovereign Debt, due Friday, April 15 by 4 PM in Sage 304

**Required readings:** (Read these all by Monday. Don't worry, these are all short!)

The New Yorker: "China Can't Sink Us"

The New Yorker: "Greece's Next Move"

The New Yorker: "How Greece Can Help Itself"

Krugman: “Currency Crises”

Krugman: “Bahtulism: Who Poisoned Asia’s Currency Markets?”

New York Times: “How Greece Could Escape the Euro”

Moreno: “Models of Currency Speculation: Implications and East Asian Evidence”

Before Wednesday’s class: New York Times: “Finding Success, Passionate Followers in Tow”

**Optional readings:**

Eichengreen & O’Rourke: “The Mother of all Sudden Stops”

O’Rourke & Taylor: “Cross of Euros”

Krugman: “Crises, Nobel Lecture”

Nataraj & Sahoo: “Argentina’s Crisis: Causes and Consequences”

Week 12

April 18 – Bubbles – Historical bubbles in the housing and stock markets. Why do bubble exist? Is it possible to detect them? What’s currently happening in China?

April 20 – Case study on emerging market investing: “Silver Lake and Private Equity in Brazil: Carnaval or Calamity?”

**Problem Set 9** on Case Study I, related to emerging market investing, due **at the beginning of class** on Wednesday, April 20

**Required readings:**

Ritter: “The Long-Run Performance of Initial Public Offerings”

Before Monday’s class: The New Yorker: “Market Madness at the Shenzhen Exchange”

**Optional readings:** (none)

Week 13

April 25 – Structured finance and the housing boom of the 2000s. Mortgage origination and securitization. MBSs, CDOs, and CDSs.

April 27 – Banking crises and the breakdown of financial markets. Bank runs, runs on broker dealers and shadow banking, the role of the Fed as lender of last resort. The history and evolution of banking crises. The effects of bank credit contraction on the real economy. What should the Fed do?

**Required readings:**

Buffett III.G

Coval, Jurek & Stafford: “The Economics of Structured Finance”

Bernanke: “The Crisis as a Classic Panic”

DeLong: “The Great Depression from the Perspective of Today”

Brunnermeier: “Deciphering the Liquidity and Credit Crunch of 2007-2008”

Duffie: “The Failure Mechanics of Dealer Banks”

**Optional readings:**

The Financial Crisis Inquiry Report

Gary Gorton: “Slapped in the Face by the Invisible Hand: Banking and the Panic of 2007”

Week 14

May 2 – Banking crises, continued. Contagion.

May 4 – Case study on financial contagion: Long-Term Capital Management

**Problem Set 10** on Case Study II, related to LTCM, due **at the beginning of class** on Wednesday, May 4

**Required readings:**

Edwards: “Hedge Funds and the Collapse of LTCM”

Wall Street Journal excerpt: “How LTCM Came to the Edge of the Abyss”

New York Times excerpt: “When Genius Failed”

New York Times: “How the Eggheads Cracked”

Khandani & Lo: “What Happened to the Quants in August 2007”

**Optional readings:**

Shleifer & Vishny: “Fire Sales in Finance and Macroeconomics”

Boyson, Stahel & Stulz: “Hedge Fund Contagion and Liquidity Shocks”

Week 15

May 9 – The cost and benefits of financial regulations: implications for investors – Banking regulation (capital and liquidity requirements, TBTF). Dodd-Frank (swaps regulation and counterparty risk, the Volcker rule). Money market mutual funds. Conclusion of the course. Course evaluation (in class)

May 11 – Financial intermediaries and asset prices – Bank leverage and asset prices (Adrian, Etula, Muir). Tail risk and asset pricing. Liquidity and safety premia. Credit spreads.

**Problem Set 11** on Structured Finance & Financial Crises, due Friday, May 13 by 4 PM in Sage 304

**Required readings:**

"The Squam Lake Report"

Adrian, Etula & Muir: "Financial Intermediaries and the Cross-Section of Asset Returns"

Muir: "Financial Crises and Risk Premia"

Before Monday's class: The New Yorker: "The Real Problem with the Big Banks"

**Optional readings:**

Financial Stability Oversight Council: "Volcker Rule Study"

Duffie, Li & Lubke: "Policy Perspectives on OTC Derivative Market Infrastructure"

Optional final exam review session – time and place TBD (during reading week)

Final Exam – Thursday, May 19, 9:00-11:30am, classrooms TBD