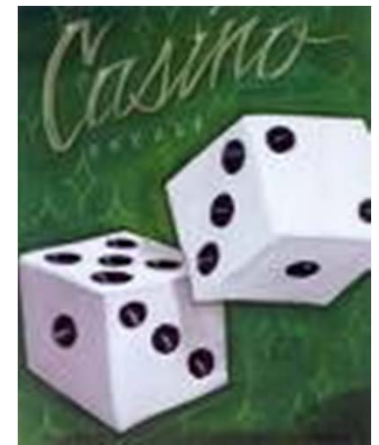


Aug 20, 2011 – Aug 28, 2011
Room K-MEC 3-55

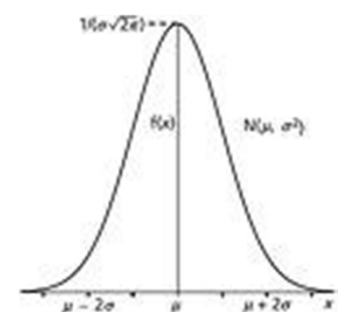
SAMPLE SYLLABUS - SUBJECT TO REVISION

Behavioral & Experimental Finance (B40.3129)

Syllabus and Class-by-Class Outline



Professor Ian D'Souza



Clockwise: Investor Mindset; Taro Cards (future is relevant, what of past – residual memory?); Milgrim Experiment (what will you do as long as some else takes responsibility?); Mandelbrot Set (Fractal Geometry + Chaos Theory = Feedback Loops); Games of Chance (Independent Coin Toss = Random Walk for Stock Prices?); Guassian “Bell” Curve Probability Distribution (reflective of 2008 events?); Black Swan (high impact supposedly low probability events)

Behavioral & Experimental Finance (B40.3129)

Introduction & Context

- ***“Behavioral finance is the study of how investors make decisions - and how these decisions affect stock prices and broad market movements. Investors are human, and humans aren’t perfectly rational”*** (HBS Case Study 9-207-804, 2007)
 - ***“We can always rely on irrationality. Whatever happens in the markets and in the world economy, people will do stupid things. The question is whether they will do so predictably enough for the rest of us to take advantage”*** (The Financial Times, January 31, 2009)
-
- *The volatility across so many different asset classes (eg. bonds, equity, real estate, commodities) across multiple geographies (eg. developed & emerging markets) and the unexpectedly high correlation between them (ie. not decoupled) during 2007-2009 has provided a unique opportunity to study the standard economic paradigms associated with efficient markets and overlay behavioral aspects that may affect their functioning over time.....leading to the following course objectives (next page)*

Behavioral & Experimental Finance (B40.3129)

Academic Course Objectives

FOR STUDENTS TO:

1

Explore investor behavior in financial markets – from the traditional (ie. rational, bell curve) market perspective (efficient market hypothesis [EMH]) to the emerging area of behavioral finance with inputs for systematic investor biases (ie. irrationality, non-normal distribution)

- *The questions here: Is the market price right? What does this mean? If not right – why not? Can standard economic models/paradigms explain variations? Why does it matter to academics (accuracy/predictive power) and practitioners (alpha profit)?*

2

Test select psychological biases/heuristics (“rules of thumb”) in controlled class experiments

- *The questions here: are most investors systematically biased so that errors are not independent and do not cancel out at an aggregate market level? Are markets rational even if individual investors appear not to be?*

3

Discuss trading strategies used by real-world fund managers to create “alpha” (α) to exploit these documented market price anomalies and the limits to such strategies (eg. arbitrage constraints)

- *The questions here: If the market price is not right, can we exploit irrationality via predictive trading strategies using lessons from behavioral finance (generate alpha (α)) or is passive indexing (β) the best money managers can hope for? In other words, are investors (and more importantly markets) predictably irrational?*

Behavioral & Experimental Finance (B40.3129)

Time Requirements

SUMMER LANGONE PROGRAM:

This class requires a concentrated time commitment

Classes begin with 6 hours each day (on consecutive Saturday and Sunday)

The exam is the following weekend (with two assignments due)

In between there is significant reading of lecture notes which are very detailed (and not in the standard short form presentation format) as there is no textbook or coursepack for this class. The lecture notes act as the textbook for this course

Assignments can be done in groups

Behavioral & Experimental Finance (B40.3129)

Course Design, Exclusions and Grading Overview

1 Weekend lectures (4 lectures, 2 lectures x 6 hours each, 2 lectures x 3 hours each)

- Each class begins with a series of real-life observations & experimental cases (handed out and discussed in class)
- Six to eight key articles to be read as part of each class. Readings comprise a mixture of academic journals (eg. Journal of Finance) and newspaper/popular press (eg. The Economist, Financial Times). In select cases, we are able to see how academic research is interpreted by mass media (which in turn are more commonly read by traders and investors). Journal readings posted on blackboard & press articles will be handed out in class
- Two take home cases or problems to be read and analyzed to reinforce classes each with graded assignment(s)

2 Course focuses on behavior as it relates to stock market/exchange (not corporate managers). Focus on practitioner considerations as a fund or portfolio manager (within academic framework)

- Excludes detailed review of corporate behavioral finance
- Excludes allocation of resources to non-publicly traded asset classes (eg. venture capital)
- Excludes considerations in “over the counter” (OTC) markets (eg. credit default swaps)

3 Grading structure

- 60% - closed book, in-class exam (final class, 90 minutes)
- 20% - class attendance & participation for each of first three classes
- 20% - 2 mini-assignments based around set problems or set cases
 - To be submitted individually, each assignment worth 10% (refer also “collaboration”, page 7)

4 All required readings and cases will be on blackboard or handed out in class (no textbook/coursepack)

- Announcements, weekly lecture notes, assignments & solutions will be posted on blackboard throughout the course

Behavioral & Experimental Finance (B40.3129)

Class Timetable & Format

Month	July 2011	August				September
Week		20	21	27	28	
Class Schedule	Classes 1 - 4 (in KMEC 3-55)					
Assignment # Due Dates	<p>No 1. Due 8/27 Prediction Markets & "Law of One price"</p> <p>No 2. Due 8/27 Prospect Theory & Portfolio Turnover</p>					
Exam	Final Exam (90 mins, starts 10am, Aug 28)					

Dates & Exclusions

- Classes for behavioral finance will be videotaped and be held in KMEC 3-55. Four classes are scheduled from August 20 to August 28, 2011:

- Saturday Aug 20 – 6 hours, 10am to 5pm (Part I, II)
- Sunday Aug 21 – 6 hours, 10am to 5pm (Part I, II)
- Saturday Aug 27 – 3 hours, 10am to 1pm
- Sunday Aug 28 - 3 hours, 10am to 1pm

Class Format

- You are strongly encouraged to attend each class given the discussion & instruction format chosen for this subject. Classes are divided into two parts
- In the first half of each class we will be walking through a variety of experimental case studies (flash cards handed out in class – see appendix). Class participation represents 20% of the final grade. Please bring your name tags
- Flash cards are used as part of class experiments from movie clips to timed Q&A formats to get your “instinctive reaction” to questions/pictures/graphs/tables/jars to understand biases and heuristics (ie. “straight from the gut”)
- In the remaining time we will take the experimental aspects discussed in the first part and overlay them into a framework (to mesh the academic and practical aspects of this course)

Behavioral & Experimental Finance (B40.3129)

Other Logistics

Materials

There is no coursepack or assigned textbook for this class (B40.3129) due to the emerging areas of research and findings in this field. This course outline has been posted (under course information tab in Blackboard) has been posted that cross-references the class-by-class syllabus (following pages) with the readings that will be provided on blackboard (or in class). **There is SIGNIFICANT reading of lecture notes which are very detailed (and not in simple bullet point form) as they act as the "textbook" for this class.** The mini-assignments (two in total worth 20% of final grade, to be submitted individually) will be posted to blackboard after each class and are to be handed in-person at the next class

Assignments, Collaboration & Feedback

Each assignment is due August 27 after posting on blackboard (per timetable on prior page). You are permitted to work with other students in analyzing problem sets but each student must clearly disclose who they worked with and each student must submit assignments individually

General solutions will be posted to each assignment at the end of class 3 (end of August 27, prior to exam). The solutions will identify the overall student body's strengths and areas for improvement in tackling the problem set. (Note: No extensions are permitted for assignments given the concentrated nature of the class and no points will be awarded if assignments are not handed in at scheduled time)

Students requesting individual assessment of their assignment can obtain direct feedback by making an appointment. No individual assignments will be handed back to students. Prior courses have revealed that students develop a stronger understanding of materials through direct contact rather than correspondence via email as each student has different areas of focus

Course Orientation: Class 1, Part I

Interaction of behavioral finance and efficient market hypothesis (EMH) *(Is the market price right?) – Aug 20, 10am – 1pm*

1

List course objectives, grading and structure

2

Discussion of controlled class experiments (handed out weekly in class)

3

Step-by-step build-up of conceptual framework for behavioral finance

- Explanation of market price (outcome between buyer/seller decision)
- Identify components of single buyer/seller decision individually
- Identify components of multiple buyer/seller decision collectively
- Key areas of focus of multiple buyer/seller decisions for Efficient Market Hypothesis (EMH)
- Key areas of focus of multiple buyer/seller decisions for Behavioral Finance Theory
- Relevance of both EMH and Behavioral Finance (why it matters?)

4

A brief review of the concept of markets

- Stock market (focus in this course) versus other markets/games such as
 - Commodity market, Bond market
 - Horseracing, Casino Games (poker, roulette, coin toss, darts, dice)
 - Election (Iowa) Markets, Sports Game Markets

5

Revisit select economic paradigms

- Risk v. uncertainty
- Expected return

Learning Objectives

- Is the market price right?
- What does “right” mean? Rational? Efficient? Fundamental? Intrinsic?
- How do buyers and sellers come together to set the price?
- Is behavioral finance a “fad”?
- Is the Efficient Market Hypothesis (EMH) dead?

Classroom exercise

- Experimental (flash cards in class)
- What market exists? Is behavioral finance a “fad”?

Reading on Blackboard

- “A Survey of Behavioral Finance,” Barberis & Thaler (2002)
- “Efficient Capital Markets: A Review of Theory & Empirical Works,” Fama (1970)

Assignment 1 (to be handed in next week class)

- Problem to be posted on Blackboard

Market Participants & Decision Mindset: Class 1, Part II

Types of market participants, their decision mindsets, biases & memory – Aug 20, 2pm – 5pm

1

Identify market participant

- What are the key categories for buyers/sellers and what are their defining traits?
 - Animal spirits (“Whales”, “Vultures”)
 - Strategy (Momentum, Growth, Contrarian)
 - Time Horizon (Short, Long)
 - Rational v. Irrational Trader (Noise v. Information)
 - Computer v. Human (Quant v. Analyst)
- Explore concept of diversity & heterogeneity (covered again in class 5)

2

Key cognitive psychological traits (“decision mindset”) of participants

- Description of heuristics (“rules of thumb”) – continued in next class
- Discussion of utility maximization v. prospect theory?
 - Both focus on outcome not process (which can be unconscious)
 - Mind is not static, so how can risk be?
 - Loss aversion and disposition effect

3

Revisit select economic paradigms

- Probability Distributions
 - Normal v. non-normal distributions
 - Discrete v. continuous time
- Compound probability (“luck vs. skill” in winning streaks)

Learning Objectives

- Who are the market participants? How important is each category? What is their “animal spirit”?
- Do investors have biases even before processing new data (ie. memory)?
- Is risk-return a constant over time, by investor type for gains v. losses?

Classroom exercise

- Experimental (flash cards in class)
- Who are you? Spock v. McCoy? Animal spirits?

Reading on Blackboard

- “Aspects of Investor Psychology,” Kahneman & Riepe (1998)
- “Stock Prices & Social Dynamics,” Shiller (1984)

Assignment 2 (to be handed in next week class)

- Problem to be posted on Blackboard

Information-Noise, Heuristics & Time: Class 2, Part I

A closer look at biases when evaluating information and consequent reaction time – Aug 21, 10am – 1pm

1

Discussion of information sources & sets

- Information Sets
 - Past prices, current announcements, insider information
- Noise v. Relevant Information
 - Role of media in setting mood (sentiment, feedback loops)
 - Presentation of information (framing, prediction addiction)
 - Data series (noise v. information)

2

Reaction time to information

- By investor type (instantaneous v. lagged)
- Potential consequences (dependence, momentum)

3

Investors biases based on information & reaction time

- Representativeness
- Anchoring & Availability
- Overconfidence v. Conservatism
- Hindsight v. Recognition

4

Revisit select economic paradigms

- Random Walk (“Markets have no memory, No free lunch”)
- Bayes’ Theorem
- Event Studies (eg. Post-earnings announcements), Non-stationarity

Learning Objectives

- What data sets market prices? What is the difference between noise & information?
- How is this information evaluated & reflected? Do different investor types have different reaction times?
- What are the implications on market price from feedback loops, volatility clusters and trading v. clock time?

Classroom exercise

- Experimental (flash cards in class)
- Do you have a (prediction) addition? What is information edge?

Reading on Blackboard

- “Noise,” Black (1986)
- “Rationality: The Fast & Frugal Way: Introduction,” Gigerenzer & Todd (2008)

Limits to Arbitrage: Class 2, Part II

Market frictions, liquidity shocks & market anomalies – Aug 21, 2pm – 5pm

1

Limits to arbitrage & liquidity pyramid

- Security type (geography)
- Strategy limitations (shorting)
- Taxes, liquidation preferences and other frictions

2

Documented case studies & anomalies

- Three recent case studies on arbitrage
 - 1998 Long Term Capital Management
 - 1999-2000 Internet/Dotcom bubble
 - 2009 (Mar-Apr) “Green Shoots” rally
- Variety of patterns/puzzles that appear to contradict efficient markets (weak form)
 - Equity Premium Puzzle
 - Myopic Loss Aversion
 - Volatility Puzzle
 - Predictability Puzzle

3

Revisit select economic paradigms

- Arbitrage Theory (“No Free Lunch v. Risky Lunch”)
- The Law of One Price

Learning Objectives

- What is arbitrage – academia v. real world?
- Are there limits to arbitrage?
- What are these limits?
- What are market anomalies and do they contradict efficient markets?

Classroom exercise

- Experimental (flash cards in class)
- Is this a pattern or am I seeing things?

Reading on Blackboard

- “The Cross-Section of Expected Returns,” Fama & French (1992)

Collective Aggregation of Individuals : Class 3

Market price set by - Marginal trader v. representative investor v. wisdom of crowds
Aug 27, 10am – 1pm

1

Aggregation of multiple buyers & sellers results in?:

- Marginal trader
- Representative investor
- Diversity, heterogeneity & wisdom of crowds (group think v. crowd think)

2

Review real-world trading strategies based on biases & anomalies

- Ignorance, Passive or Active management
- Momentum v. contrarian
- Herding, bubbles, buy winners/sell losers
- Black swans, black holes, bungee jumps
- Performance anxiety
- Actual real world funds implementing behavioral finance model factors

3

Myth Busters

- “A company insider buys so.....Buffett buys so.....the bottom is in so...”
- “This time is different” – decoupling, new sophisticated hedging tools
- “Ten sigma events happen once every 100 years 5-10 years?”

4

Revisit select economic paradigms

- Alpha (α), beta (β), error (ε) in risk-return models
- Diversification & correlation (does β measure risk or correlation? what happens to diversification when most asset classes have a $\rho = 1$)
- Joint hypothesis problem

Learning Objectives

- Do individual biases compound or cancel out at a market level?
- What happens when multiple buyers & sellers come together?
- How do we trade behavioral finance lessons? Are any funds doing it? Does it work?

Classroom exercise

- Experimental (flash cards in class)
- “I see ~~dead people~~ black swans!” vs. “Buy cause everybody says so” (CNBC, Buffett, Barron’s, Insiders)

Reading on Blackboard

- “An Institutional Theory of Momentum & Reversals,” Vayanos & Woolley (2008)
- “Investor Sentiment & the Cross-Section of Stock Return”, Baker & Wurgler (2003)

Exam & Emerging Areas of BH Finance: Class 4

Aug 28, 10am – 1pm

1

Exam (90 minutes, 10am – 11.30am, closed book)

- Closed book, no notes but a non-programmable calculator is allowed
- In class
- 60% of grade for course

2

A look at other areas in behavioral finance

- Sentiment & Price Dependence Factors
- Merging of practitioner and academic findings – new joint ventures?
- What's next – brain scans? (already being done, neuroeconomics)
- Extreme event probability functions (modelling tail events)
- Behavioral economics in other fields (law, health, wages, welfare, organization management)

Learning Objectives

- Examination
- Discussion about other areas of behavioral finance not covered in detail

Appendix: Default Policies and MBA Stern Honor Code

Behavior & Classroom Attendance

- Your behavior should respect your classmates' desire to learn. Students are expected to arrive to class on time and stay for the class period. Attendance is required as part of the grade. Please turn off cell phones during the class.
- Students unable to attend class or submit assignments on time are required to inform the instructor at least 48 hours in advance to avoid penalty.

Code of Conduct

- You are responsible for maintaining Stern's code of conduct which mandates zero tolerance for cheating and plagiarism. Violations of the code of conduct will be prosecuted with a minimum penalty of failure for the course, as required by the code of conduct rules. If you become aware of any violations of the code of conduct you must take whatever steps are necessary to stop the violators.

Collaboration on Graded Assignments

- You are permitted to work with other students in analyzing problem sets but each student must clearly disclose who they worked with and each student must submit assignments individually.

Office Hours & Feedback

- You are welcome to set up an appointment by email to discuss the course material and assignments.

Grading

- MBA students who do not submit Course Faculty Evaluations by the deadline will not have access to their final grades until the grade release date, which is determined by the program.

Other Accommodations

- If you have a qualified disability and will require academic accommodation during this course, please contact the Moses Center for Students with Disabilities (CSD, 998-4980) and provide me with a letter from them verifying your registration and outlining the accommodations they recommend. If you will need to take an exam at the CSD, you must submit a completed Exam Accommodations Form to them at least one week prior to the scheduled exam time to be guaranteed accommodation.

Appendix: Nature of “Flash Cards”

Aim is to:

- 1 test select psychological biases/heuristics (“rules of thumb”) in controlled class experiments (ie. all questions will be asked in first half of each class)
- 2 there is not always a right or wrong answer, the focus is on getting responses “straight from the gut”. One word or few words ONLY on cards provided at beginning of class (this forces you to weigh factors but commit (eg. True v. False, Yes v. No) to an answer. Submit anonymously (no-names) at end of session – this is not graded, it is used to generate class discussion
- 3 spend 2-5 minutes per question/card individually
- 4 illicit responses framed around words, picture, graph, movie clip etc in a particular order. Do not go back to prior responses