Speculation, Crises, and Behavioral Finance

Professor Gur Huberman
gh16@columbia.edu,
807 Uris
Global EMBA, April, 2015

Overview

The following topics will be covered:

- A roadmap for financial speculation
- Applications to quantitative equity investment
- The financial crisis in the US and in the euro zone
- Individual decision making and their applications to markets

Finance - corporate and capital markets - is based on the twin premises of optimal, rational behavior on part of market participants and of frictionless markets. Successful speculation in financial markets depends on understanding the weaknesses of these two assumptions and how they can interact to produce opportunities of exploitable mispricing.

Frictions are present always and everywhere, and in important contexts create perverse incentives and surprising outcomes in financial markets.

A good deal of time will be devoted to the exploration of frictions and their implications, especially in the context of the recent financial crisis. Applications to asset management will be discussed throughout the course.

Research on decision making has documented systematic deviations from optimality, even when strong incentives to optimize are present. These deviations manifest themselves in important ways in finance, and are collected in the emerging subfield of behavioral finance.

Behavioral finance is a subfield in finance. The lectures and class discussions will draw on and routinely challenge your knowledge from prior courses.

The term behavioral finance has various interpretations: from the strict requirement that to qualify as “behavioral finance” an idea must have strong grounding in the psychology of decision making to a much looser interpretation that accepts any approach that is in conflict with the neo classical/markets-are-efficient paradigm. The course will adopt the latter approach and therefore will be heavy on finance and light on behavioral decision making.
The course is an indictment of market efficiency. At various points it will point at the reasons for its failure. Understanding these reasons does not immediately imply the design of specific money-making strategies, but may help in constructing them.

Financial markets’ possible dysfunctionality suggests perils and opportunities, often at the same time. The course will highlight both.

Students who will take it will
  o Develop a blueprint of financial speculation and learn to appreciate its strengths and weaknesses,
  o Improve their understanding of financial markets and the relation between human behavior and asset prices,
  o Understand and improve their own decision making processes,
  o Gain insights into the motives and modes of behavior of other market participants as well as colleagues and employees.

The course presents a heterodox approach to finance. Students thinking of careers in the financial services industry will find it useful.

**Course Material and Delivery Methods**

The course will consist of lectures and of case discussions. A few cases will be covered in class. Students should prepare for class discussions of these cases.

Students should read ALL the cases before the course meets. Below you will find a series of short questions pertaining to the cases covered from the course’s second day and onward. They will help your orientation in the case. Please answer them in writing and download the answers into the designated Assignment on Canvas.

Please prepare the first two cases for thorough discussions before the course meets. These are Royal Dutch/Shell and LTCM (A). You should download your write-ups on these cases also at the Canvas assignment before the first meeting. These write-up will discuss the main points of the case as you perceive them and should not exceed two pages each.

Students will prepare the remaining cases in groups as the course progresses.

Each group will submit a write-up about each case, again, in the appropriate assignment.

The write-ups will be graded.

In our first meeting we will discuss the HBS case on Royal Dutch/Shell; the relevant questions are at the end of the syllabus. Please prepare.
Grading

There will be two possible sets of grading weights. In the first, the grade will be based on the pre-course assignments (10%), case write-ups (20%), class participation (10%), and a final exam (60%). In the second method, the grade will be based on the pre-course assignment (5%), case write-ups (10%), class participation (5%), and a final exam (80%). The grading weights used will be those more favorable to the student.

In class

No electronic device in class, except when explicitly needed for the class. No email, SMS, or texting of any kind.

Block week day by day plan

Day 1, morning:
A deviation from a simple pricing model: Royal Dutch/Shell (case)
Excess volatility in financial markets (lecture)

Day 1, afternoon:
The ingredients of speculation; the structure and trades of LTCM (case)

Day 2, morning:
More trades of LTCM, limits of arbitrage, the demise of LTCM
Quantitative equity investment, behavioral insights and empirical regularities. (lecture)

Day 2, afternoon:
An example of quantitative equity investment: Martingale (case)
The centrality of thinking about others (in-class experiments, lecture)

Day 3, morning:
Behavioral finance in money management GMO (case)
Bank runs and crisis overview (lecture)

Day 3 afternoon:
AQR and Momentum equity investment strategy (case)

Day 4, morning:
Liquidity in the financial crisis and Auction Rate Securities (case)
Regulatory forbearance and bank accounting (lecture)

Day 4, afternoon:
Speculation during the crisis in Washington Mutual covered bonds (case)

Day 5, morning:
The euro and its crisis (lecture)
Familiarity and ambiguity as drivers of portfolio composition (lecture)

Day 5, afternoon:
Wrap-up and final exam

First day introduction Please write a brief description of yourselves, your careers so far, your career goals, why you are taking this course and what are your expectations from it. Please include your picture. There's a Canvas assignment in which I'd like you to submit this short essay.

Assignment for the first day (1.1)

Read HBS case 5-201-093, Global Equity Markets: The Case of Royal Dutch and Shell, and answer the following questions.

1. Describe the structure of Royal Dutch/Shell Group. Does it differ from the equity listings of other companies that you know?

2. What are the ADRs? Why might companies find it attractive to issue ADRs? Why would investors be interested in this method of raising equity capital?

3. Identify price differentials between different equity listings of the Royal Dutch/Shell Group. How can they be explained? What percentage of the particular price differentials you identified can be due to the explanations you suggested?

4. Is there an arbitrage opportunity in the price differentials you identified? What kind of arbitrage transactions would you propose to exploit these opportunities?

5. Calculate the net payoffs of the arbitrage transactions you suggested. Can such transactions enforce market discipline?

6. To what extent and in what direction do prices of the stocks of RD or Shell move with the markets in which they trade? With exchange rates? How consistent is this observation with the fundamentalist approach to security analysis? How would you interpret this observation?

7. On the basis of your analysis and the findings presented in the case, what other suggestions would you propose to explain the observed phenomena? To what extent can you provide a satisfactory answer?
**Long-Term Capital Management, L.P. (A)**

Read HBS Case 9-200-007, Long-Term Capital Management, L.P. (A). Prepare answers to the following questions for class discussion. The assignment may seem brief, but it is not.

1. What are convergence, relative value, and directional trades strategies?

2. The case describes the following strategies: Swap-spread, Fixed-rate residential mortgages, Japanese government bond swap spread, Yield-curve relative-value trades, Selling volatility, Risk arbitrage, Equity relative value trades – Royal Dutch/Shell. Explain the mechanics and underlying logic of each of these. What’s the risk, i.e., what can go wrong?

**Assignment for the first day (2)**

Below are questions pertaining to seven of the cases we will discuss. Please answer each question briefly.

**LTCM (C)**

In September 1998 the NY Fed orchestrated a bailout of LTCM by major banks and investment banks. Was that a bailout? Was that in the public short-run interest? What were the long-run implications of the Fed’s actions?

**Auction Rate Securities**

1. Liquidity is a key consideration. What is it? What does the following sentence mean, “ARSs are liquid instruments?”

2. What is the auction outcome if the orders are as in Table 1 below?

<table>
<thead>
<tr>
<th>Orders</th>
<th>Hold orders (current holders)</th>
<th>Hold-at-Rate Orders (current holders)</th>
<th>Sell Orders (current holders)</th>
<th>Buy Orders (prospective holders)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Order Number</td>
<td>Order Quantity</td>
<td>Order Number</td>
<td>Order Quantity</td>
</tr>
<tr>
<td>1</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
<td>120</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>5</td>
<td>200</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td>6</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>Total 600</td>
<td>Total 300</td>
<td>Total 700</td>
</tr>
</tbody>
</table>

Source: Casewriters.

Figure A shows a hypothetical auction for 1000 auction rate securities. One current holder, holding 100 of the securities, submits a hold order. Six current holders, holding 600 of the securities, submit hold-at-rate orders. Three holders, holding 300, submit sell orders. Seven bidders who do not currently own the securities submit orders for a total quantity of 700.
**Washington Mutual Covered Bonds**

In September 2008, what are the possible scenarios for WaMu and their implications for the covered bonds? Will you hazard suggesting probabilities for these scenarios?

**GMO**

What, if anything, is distinctive about GMO as a business? What is the purpose of slicing? Does it work?

**Martingale**

Do you believe the risk anomaly (the beta-adjusted underperformance of high volatility stocks) will persist?

**AQR Momentum**

What are the appropriate benchmarks for the momentum funds?