

**SLOAN SCHOOL OF MANAGEMENT
MASSACHUSETTS INSTITUTE OF TECHNOLOGY**

Andrew W. Lo
E52-454

Fall 2009
8-5727

15.970 Special Seminar: Financial Crises

This half-semester course focuses on the dynamics of financial crises. By studying the historical, economic, and psychological aspects of the most significant financial crises that have occurred in the past, we hope to learn about their common origins and develop proposals for regulatory reform and crisis preparation and prevention. Emphasis will be placed on in-depth research findings and forensic financial analysis using historical data and quantitative methods, but we will also cover qualitative aspects of financial crisis including the roles of business ethics, leadership, and corporate governance. Classes will consist of a combination of lectures, discussion, and guest speakers. No prior background in quantitative analysis is assumed other than Finance Theory I (15.401 or 15.414) and the standard admissions requirements for the MIT Sloan MBA/MFin/SF programs.

Course Materials

- C. Reinhart and K. Rogoff, 2009, *This Time Is Different: Eight Centuries of Financial Folly*. Princeton University Press.
 - Hot off the presses, this book is a remarkably comprehensive retrospective on financial crises that is sure to become a classic.
- C. Kindleberger and R. Aliber, 2005, *Manias, Panics, and Crashes: A History of Financial Crises*, 5th Edition. John Wiley & Sons.
 - Originally published in 1978, this book was among the first to systemically document and study financial crises.
- L. Gonzales, 2004, *Deep Survival*. W.W. Norton.
 - This best-seller is a fascinating study of how we get ourselves into life-threatening situations such as mountain-climbing accidents and getting lost in the woods, and why some of us survive and others do not.
- Reading Packet
 - The reading packet, available from Copy Tech, contains a few additional readings.

Course Requirements and Grading

Grades will be determined by class participation (15%) and your performance on the assignments (45%) and final exam (40%). As noted in the course outline, there will be written assignments consisting of two problem sets and one case. You should work on these assignments and case write-ups *individually*, not in groups.

Recitations

Stavros Valavanis (svalavan@mit.edu), an MIT PhD student, will hold recitations as indicated in the course outline. During recitations (Fridays 2:00–3:00pm), Stavros will review class material and present additional applications and problems. Stavros will also be available outside of class for additional help.

Administrative Assistant

Jayna Cummings, E52–450, (617) 258–5727, jcummin@mit.edu.

Additional Readings (not required)

V. Acharya and M. Richardson, eds., 2009, *Restoring Financial Stability: How to Repair a Failed System*. New York: John Wiley & Sons.

- A collection of articles by NYU finance faculty on the current financial crisis.

M. Carey and R. Stulz, eds., 2007, *The Risks of Financial Institutions*. Chicago, IL: University of Chicago Press.

- A collection of articles by NBER economists from various universities on risks in the financial industry.

D. Gray and S. Malone, 2008, *Macrofinancial Risk Analysis*. New York: John Wiley & Sons.

- An application of derivatives pricing models to the analysis of macroeconomic and sovereign risks.

M. Gazzaniga, 2008, *Human: The Science Behind What Makes Us Unique*. New York: HarperCollins.

- An engaging and readable summary of what we know about human behavior from a neuroscientific perspective.

Course Schedule and Assignments

This is an approximate schedule for the course; some material may take longer or shorter to cover than the time allotted. Abbreviations: G = Gonzales, KA = Kindleberger and Aliber, RP = Readings Packet, RR = Reinhart and Rogoff.

Lectures

Session	Date	Topic	Assignment
1	Oct 26	Introduction to Crises and Forensic Financial Analysis.	RP 3, 7–9, KA 1–3, G Part 1
2	Nov 2	Guest Lecturer: Prof. Kenneth Rogoff.	RR Part 1 RP 12
3	Nov 9	August 1998 and LTCM: Guest Lecturer: Dr. Eric Rosenfeld.	RP 1, 10 LTCM Case Due
4	Nov 16	August 2007 and the Quant Meltdown.	RP 5 Problem Set 1 Due
5	Nov 23	The Financial Crisis of 2007–2009.	RP 2, 4, 6 Debate
6	Nov 30	The Role of Ethics. Guest Lecturer: Mr. Harry Markopolos.	KA 9, RP 11 Problem Set 2 Due
7	Dec 7	Surviving Crises. Guest Lecturer: Mr. Laurence Gonzales.	RP 8–9 G Part 2

Recitations

Session	Date	Topic
1	Oct 30	Getting access to historical data, and review of fixed-income arbitrage strategies.
2	Nov 6	Simulating equity market-neutral strategies in Excel.
3	Nov 13	Review of behavioral finance.
4	Nov 20	Estimating hedge-fund illiquidity exposures.
5	Dec 4	Course review.

Readings Packet

Cases

1. 'Long-Term Capital Management, L.P.' HBS case 9-200-007.

Articles

1. Chan, N., Getmansky, M., Haas, S. and A. Lo, 2006, "Do Hedge Funds Increase Systemic Risk?", *Federal Reserve Bank of Atlanta Economic Review* Q4, 49–80.
2. Gorton, G., 2009, "The Subprime Panic", *European Financial Management* 15, 10–46.
3. Gray, D., 2009, "Modeling Financial Crises and Sovereign Risks", to appear in *Annual Review of Financial Economics* 1.
4. International Monetary Fund, 2009, *Global Financial Stability Report: Responding to the Financial Crisis and Measuring Systemic Risks* (April). Washington, DC: International Monetary Fund.
5. Khandani, A. and A. Lo, 2007, "What Happened to the Quants in August 2007?", *Journal of Investment Management* 5, 29–78.
6. Khandani, A., Lo, A. and R. Merton, 2009, "Systemic Risk and the Refinancing Ratchet Effect", available at SSRN: <http://ssrn.com/abstract=1472892>.
7. Lo, A., 1999, "The Three P's of Total Risk Management", *Financial Analysts Journal* 55, 13–26.
8. Lo, A., 2004, "The Adaptive Markets Hypothesis: Market Efficiency from an Evolutionary Perspective," *Journal of Portfolio Management* 30, 15–29.
9. Lo, A., 2005, "Reconciling Efficient Markets with Behavioral Finance: The Adaptive Markets Hypothesis", *Journal of Investment Consulting* 7, 21–44.
10. Lo, A., 2008, "Hedge Funds, Systemic Risk, and the Financial Crisis of 2007–2008: Written Testimony of Andrew W. Lo", prepared for the U.S. House of Representatives Committee on Oversight and Government Reform, November 13, 2008 Hearing on Hedge Funds.
11. Markopolos, H., 2009, "Testimony of Harry Markopolos, CFA, CFE, Chartered Financial Analyst, Certified Fraud Examiner, Before the U.S. House Of Representatives Committee on Financial Services", February 4, 2009.
12. Rajan, R., 2006, "Has Finance Made the World Riskier?", *European Financial Management* 12, 499–533.