

BOSTON COLLEGE
Department of Economics

EC 367
Financial Engineering
Spring 1996
Prof. Christopher Baum

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Office Hours: F 2-4
& by appt.

Syllabus available on the World Wide Web:
<http://fmwww.bc.edu/EC/>

Required texts: (1) Marshall and Bensai, *Financial Engineering*.
(2) Blair, ed., *The Deal Decade: What Takeovers and Leveraged Buyouts Mean for Corporate Governance*.
(3) Daily issues, *Wall Street Journal*; a semester's subscription is highly recommended.

Requirements: grades will be based on:

40% Empirical research project
40% Final examination
20% Assignments

Goals and purposes: This course focuses on a variety of new instruments developed by financial engineers that have transformed households' and corporations' behavior in financial markets. Topics include futures, options, swaps, risk management techniques, hedging, and corporate takeovers and leveraged buyouts. The course will require significant individual research of an empirical nature into an aspect of those markets. EC367 should be viewed as complementary (but not a substitute) to EC361 (Monetary Theory and Policy), EC 362 (Financial Markets), EC380 (Capital Theory and Finance) and EC395 (Real Estate Finance). Prerequisites include completion of intermediate theory (EC201,202, or 401,402), and statistics (EC151). As empirical research is a sizable element of the course, econometrics (EC328) would be helpful but is not required.

Policy statement: Absolutely no makeup examinations. Assignments – especially the term project – will not be accepted after their announced due dates. It is your responsibility to be familiar with the College's policy on academic integrity and intellectual honesty, especially as it applies to the preparation of research papers.

The class will meet for 27 lectures. The final examination will be comprehensive. A tentative outline of topics to be covered is given below. You are expected to have prepared for each lecture prior to the class meeting.

TENTATIVE OUTLINE

lectures	Chapters / Topics (DD: <i>The Deal Decade</i>)	
1	1, 2, 3	Introduction and Overview
2, 3	4, 5	Valuation and Return
4, 5	6, 7	Risk
6, 7	8	Interest Rates and Exchange Rates
8, 10	16, 17	Fixed Income Securities
11, 12	12	Futures and Forwards
13, 14	13, 23	Swaps and Synthetic Instruments
15, 16	14, 15	Options
17, 18	18, 19, 25	Equity Securities and Hybrids
19, 20	20	Asset/Liability Management
21, 22	21	Hedging
23 -27	22, 24, DD	Corporate Restructuring and Takeovers

**Research Projects: DUE AT CLASSTIME, Wednesday, 1 May 1996.
Thursday, May 9, 12:30 PM : Final Examination**

Empirical Research Project

The term paper will be an empirical research paper, in which you research a topic of interest using data from the financial markets which you gather and manipulate. I will try to provide some suggested topics, and will expect you to discuss your topics with me (and submit a written paper proposal) prior to doing the major work on the paper. This is to be an analytical paper, rather than purely library research, *which must make use of appropriate empirical techniques to study some relevant data on the topic*. I cannot stress strongly enough that papers which do not contain some first-hand analysis of data are *not acceptable*, and will not lead to an acceptable grade in the course.

The paper may take one of three forms:

- an examination of the development of a particular financial innovation, instrument, or strategy; or
- an examination of the use of an innovative financial instrument or strategy by a particular corporation or agency, in a case study format; or
- an examination of a particular corporate takeover or major restructuring, analyzing the "before and after" as a case study.

For any of these three forms, one of the primary considerations must be the availability of data. You are urged to familiarize yourself with the on-line sources available via the O'Neill Library's Reference Department (e.g. Disclosure, Bloomberg, InfoTrac, WWW-accessible sources); please see Ms. Pearl Alberts for expert assistance. You should ensure that the data you will need are indeed publicly available before committing yourself to a topic.

You may use any set of research tools you choose for the paper and assignments; use of Excel for the Macintosh (available at the O'Neill Computing Facility) is encouraged, as some course materials will be made available via **Project AGORA** file servers. At the present time, Windows/Intel PCs may have difficulty accessing those servers. Warning: most of the data you might need for a project in this area will have to be collected and input "by hand" from the *Wall Street Journal* or industry yearbooks. This will involve a considerable amount of time and effort; budget your time accordingly.