

BOSTON COLLEGE

DEPARTMENT OF ECONOMICS

EC 327: **Financial Econometrics**, Spring 2011

<http://fmwww.bc.edu/EC-C/S2011/327/>

Prof. Christopher Baum

LCOB 486, email baum@bc.edu

Hours: M,W 1:00–2:45 PM and by appt.; email 7x24

This course builds on EC 228 to present a number of econometric techniques employed in finance and economics. These include panel data models, selected topics in time series analysis, and limited dependent variable models. Additional applications and datasets are drawn from the finance and economics literature.

Required text/software:

J.M. Wooldridge (W), *Introductory Econometrics: A Modern Approach*, South-Western College Publishing, 4th ed. 2009.

Additional readings, available from the course home page in PDF.

Access to the *Stata* statistical package, version 10.x or 11.x. *Stata* is available to all BC community members on <http://apps.bc.edu>; it may also be used in the O'Neill Library CTRC. Personal copies may also be purchased: see below regarding GradPlan options.

Recommended text: C.F. Baum (B), *An Introduction to Modern Econometrics Using Stata*, Stata Press (stata-press.com), 2006. On reserve at O'Neill Library.

Expected background:

(a) Completion of EC 228, *Econometric Methods*, or equivalent; (b) familiarity with the materials in W Appendices A, B, C, D, E which will not be covered. A set of notes covering Appendices D, E is available on the website.

Calculus will be employed, if sparingly. An understanding of partial derivatives and matrix algebra is valuable.

Course requirements:

25% final examination; 20% midterm examination; 25% graded homework assignments; 30% empirical research project (including mandatory presentation). No makeup examinations will be given. Homework assignments, which will involve both analytical exercises and computer work, are to be your own work and will not be accepted after their due dates. The empirical research project will not be accepted after its due date. You are responsible for familiarity with the College of Arts & Sciences' policy on academic integrity (<http://www.bc.edu/integrity>). You are expected to attend each lecture, having adequately prepared the material to be discussed. Please help us keep to the schedule by arriving and getting settled before the lecture is scheduled to commence.

Software: The homework assignments will require you to become familiar with *Stata*, a general-purpose statistical package in wide use across social science disciplines. A tutorial on the use of *Stata* will be provided outside of class hours; the "slide show" on which this is based is available from the course home

page. Stata has the same “look and feel” on all platforms on which it runs: Macintosh, Windows, Linux, and Unix. There are also extensive web-based tutorials on the use of Stata for regression analysis, accessible via the course home page. There is also extensive on-line help within the program, and links from Stata’s `findit` command to Internet-accessible resources as well. You may submit any questions on Stata use to me via email, which I read and answer seven days a week, or ask them in class at any time.

You may access Stata, on or off campus, from your own computer using the BC Applications Server (<http://apps.bc.edu>). Off-campus use may require the use of VPN on your machine (see the Help Center). An adequate number of copies of Stata for both Windows and Mac OS X platforms have been installed in the CTRC in O’Neill. If you would like to acquire a copy of Small Stata (the student version) for Windows, Mac OS X or Linux for your own use, you may order it through the Stata GradPlan (<http://www.stata.com/order/new/edu/gradplans/gp-campus.html>). Materials ordered by phone or fax through the GradPlan are ready for pickup in 1–2 business days from Mrs. Tubman in the Economics office, LCOB 412B.

The student version, Small Stata, is limited in the number of observations and variables which may be analyzed, but otherwise is a full version of Stata. Stata/IC is more appropriate if you are thinking of using the software for a senior thesis project. You will need access to the Internet to work with the datasets that will be analyzed in homework assignments.

The class will meet for 27 sessions from 19 January to 4 May. A midterm exam is tentatively scheduled for Wednesday, 2 March.

Tentative Schedule

Meetings	Readings	Topics
Jan 19, 24, 26	W 13; B 9	Pooling cross sections over time
Jan 31, Feb 2, 7, 9	W 14, 16.6; B 9	Advanced panel data methods
Feb 14, 16, 21, 23, 28, Mar 14	W 17; B 10	Ltd. dependent variables, sample selection
Mar 16, 21, 23, 28, 30	W 11, 12.6	OLS with time series data, ARCH, GARCH
Apr 4, 6, 11, 13, 20, 27	W 18, Stata <code>var</code>	Advanced time series topics
May 2, 4		Student presentations
Thursday 12 May, 12:30 PM	Final Exam	