BUSINESS SCHOOL
Te Kura Pakihi

FINC 308 : Financial Econometrics – Course Syllabus

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Office Hours: everyday (including Saturday and Sunday) between 13.00 and 24.00, with inevitable breaks (I have an "always in the office, open to student visits" policy; but of course I may have to do something elsewhere, or some tasks may need special timing –then give a prior notice-).

Description and Aims

This paper builds on FINC 203 (Data Analysis) to provide more specialized training of advanced econometric techniques, used in postgraduate and research studies as well as research-analysis type of jobs. Thus, the first and foremost audience of this paper is students who plan postgraduate studies in the future (e.g., those who will undertake Master of PhD research must take this paper).
Econometrics helps us empirically test theories; understand relationships between variables that are of interest for businesses and financial institutions. Successful completion of this paper will make you gain skills that will distinguish you from the 'average', (e.g., to be one of the few in your workplace who can conduct an econometric analysis or read and understand an empirical study), to apply for technical-expertise jobs, and to successfully conduct academic research.
This is an applied econometrics course, we will learn by doing, and all of our classes will be held in the computer lab.

Learning Outcomes

Upon successful completion of this paper, you should:
1) have good understanding of types and forms of data, and how to use them in econometric analysis
2) be reminded and now better understand and internalize the principles and diagnostics of regression analysis and its statistical inference
2) learn advanced time series techniques such as ARIMA, VAR, Cointegration and GARCH.
3) be able to read and understand empirical research studies that use these econometric techniques
4) be able to replicate the empirical work of some of these studies
5) know how to access data sources, and prepare data for econometric analysis

Course Delivery

Lecture Day/Time/Room: Mon 15.00–17.00 TG05 and Wed 15.00–17.00 CO316

All of our classes will be held in computer lab in front of the computer; first discussing a theoretical understanding of the econometric technique, and then applying it.
Class attendance (both physical and mental) is strictly required.
While no tutorials are arranged for this course, I will be happy to provide assistance outside class time.

Class Practice

Econometrics is difficult to learn from the books; it can be learned in the class by applying. All classes will build progressively upon the previous one; therefore if you miss one class it will be difficult to make up later and to understand the subsequent classes. For this reason, I require full attendance (notwithstanding exceptional situations); and whenever a student misses a class s/he should review the missed material by asking his/her friends. I will ask questions about the missed content the very next time I see the absent student.

Expectations and Workload

Reviewing (and replicating) work done in the previous class will be the best way of preparing for the next class. We will also have group homeworks.

A basic time budget can be outlined as follows: 52 hours class time + 26 hours of preparation for classes by reviewing previous material (i.e., 1 hour preparation for each 2-hour session) + 50 hour for group homeworks + 20 hours preparing for exams = 148 hours. In addition: 10-20 hours for parallel reading of the book is recommended.

Course Learning Resources

Recommended Textbook: "Introductory Econometrics for Finance" by Chris Brooks, 2008

Blackboard *Blackboard* **https://blackboard.otago.ac.nz/** provides you with access to course materials, class slides and data files. Blackboard is used to email the whole class so it is important that you check your student e-mail and *Blackboard* regularly.

Econometrics Software: we will use two software packages (command of which will be a precious asset in your CV)
1) *JMulti* (available in university computers via Student Desktop + you can freely download and install into your personal computer)
2) *SAS* (available in university computers via Student Desktop)

Assessment

My policy is a strong enforcement of gradual and smooth-progressive build-up of learning. Therefore, I will require you to be always able to retrieve essential content. This is an indication of true learning (as opposed to memorizing during the exam night, and then forgetting in a few weeks). I will reinforce this type of learning by continual Q-A and unannounced mini-quizzes. This system will reward true learners.

All material presented is examinable (except where stated otherwise). Important assessment information such as due dates and content will announced at lectures and on Blackboard. *Students are responsible for ensuring that they are aware of this information, keeping track of their own progress, and catching up on any missed classes.*

Decomposition of the term grade:
Applied Exam I: 25%
Applied Exam II: 25%
Written Exam (multiple choice test): 25%
Attendance: 5%
Class participation: 10%
Group assignments and homeworks: 10%

Class participation score covers your correct answer rate to my spontaneous questions during classes, your useful comments, questions that help everyone in the class clarify important points, detecting my errors and omissions.

Group assignments and homeworks: The accuracy, quality and timely submission of assignments will be the basis for scoring them.

Term grade will depend on both absolute and relative performance.

Plusage policy: I offer plusage (up to a maximum of 15%) only to reward outstanding participation / contributions to our class activities and group homeworks. How to get plusage bonuses: Act in the class to show that you are a sincere, true learner, who progressively builds up knowledge (not just by studying the days before the exam). Show me that you synchronize your mind with me. Typical examples include detecting my errors and omissions, being always ready to answer class questions, doing homework assignments with insight and showing its outcome to benefit everyone in the class.

Learning Outcomes

Learning Outcome	Assessment	Assessment	Assessment	Exam	Total
A good understanding of econometric theory	Written exam			25	25
Ability to apply econometric techniques	Applied exams			50	50
Progressive Learning	Group homeworks Participation	10	10		25

Course Calendar
The calendar and the reading plan may change during the semester, based on your specific interests, my observations of your needs and events in world financial markets.

Lecture		Topic	Reading	Notes
1		Review: Data, OLS Regression		
2		OLS Regression cont'd (dummy variables,)		
3		Regression Diagnostics		
4		Time series, Stationarity, unit root tests; persistence		
5		Univariate ARIMA models		
6		VAR models		
7		VAR applications, Impulse response functions		
Mid Semester Break				
8		Applied Exam I		
9		Cointegration		
10		VECM models		
11		GARCH models		
12		GARCH applications		
13		Review and Applied Exam II		

Learning Objectives: The student can command *JMulti* software, an asset in student's CV together with a command of *SAS*. The student is expected to become able to read, understand, critically evaluate and replicate the work in empirical research papers that employ time series econometrics.

Note on exams: As a very useful practice, I score applied exams together with each student sitting together, discussing the way the student interpreted and approached the question, and showing him/her his/her errors and/or most appropriate ways of approaching the problems.

Note on Group Projects: Please form groups of 4-5 at the beginning of the semester.