TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI

VICTORIA
UNIVERSITY OF WELLINGTON

School of Economics and Finance

MMPE 503: Economic Relationships in an Empirical Context

MMAF 524: Financial Econometrics

Trimester 2 2016

COURSE OUTLINE

Prescription

An introduction to applied econometrics and its use in quantifying relationships in practical settings. The course includes building a working knowledge of how and when to apply particular techniques, with applications from microeconomics, macroeconomics, policy evaluation, and economic development.

Course Learning Objectives

Students should be able to:

1. apply quantitative tools to model, estimate and forecast financial variables,
2. analyze the statistical properties of financial prices and returns,
3. evaluate models of risk based on the Capital Asset Pricing Model and variants assuming non-normal return processes,
4. analyze recent advances in unit root and co-integration methods in modeling the term structure of interest rates and asset price bubbles,
5. describe the strengths and limitations of alternative quantitative methods by reproducing existing results using computer skills and mathematical modeling techniques, in conjunction with a range of financial data set,
6. perform sensitivity analyses on proposed models, which should include the application of alternative distributional specifications to model risk.

Course Content

This course is concerned with the application of quantitative tools to model, estimate and forecast financial variables. Topics considered include: the analysis of the properties of financial data with an emphasis on non-normality and non-stationarity; the application of estimation methods including unit roots and co-integration, to the rational valuation model of share prices; the application of the GARCH class of models to estimate volatility and to test the capital asset pricing model.

The intended schedule is as follows:

Week	Date	Topic
1	Jul 11–15	Intro, Summary Statistics, and Hypothesis Testing
2	Jul 18–22	Classic Linear Regression Models
3	Jul 25–29	Classic Linear Regression Models (cont.d)
4	Aug 1–5	Forecasting and ARIMA Models
	Aug 10	**ASSIGNMENT 1 is due 5pm**
5	Aug 8–12	Forecasting and ARIMA Models(cont.d)
6	**Aug 16**	**TEST 1, 2 hours, at 1:40pm**
Mid-Semester Break (Aug 20–Sep 4)		
7	Sep 5–9	Panel Data: Fixed vs. Random Effects Models
8	Sep 12–16	Difference-in-Differences Estimation
9	Sep 19–23	Unit Roots and Cointegration
10	Sep 26–30	Volatility Models
11	Oct 3–7	Nonlinear Models
	Oct 12	**ASSIGNMENT 2 is due 5pm**
12	Oct 10–14	Nonlinear Models (cont.d)
Study Break (Oct 17–20)		
Examinations (Oct 21–Nov 12), see http://www.victoria.ac.nz/timetables/		

Trimester Dates

Teaching Period:	Monday 11^{th} July	- Friday 14^{th} October
Study Period:	Monday 17^{th} October	- Thursday 20^{th} October
Examination Period:	Friday 21^{st} October	- Saturday 12^{th} November (inclusive)

Withdrawal from Course

1. Your fees will be refunded if you withdraw from this course on or before Friday 22^{nd} July 2016.

2. The standard last date for withdrawal from this course is Friday 23^{rd} September 2016. After this date, students forced to withdraw by circumstances beyond their control must apply for permission on an *Application for Associate Dean's Permission to Withdraw Late* including supporting documentation. The application form is available from either of the Faculty's Student Customer Service Desks or online.

Name and Contact Details

Lecturer:	Yiğit Sağlam (Coordinator, Lecturer)	Debbie Turner (Administrator)
Office:	RWW212	RWW111
Office Phone:	4-463-9989	4-463-6386
E-mail:	Yigit.Saglam@vuw.ac.nz	debbie.turner@vuw.ac.nz
Office Hours:	Tuesdays from 10:30am to 13:30pm	

Lecture Times and Room Numbers

Lectures: Classes will be held on Tuesdays (during the teaching period) from 12:40pm to 2:30pm in Railway West Wing RWW315.

Tutorials: In addition to the lectures, we will also have a tutorial session right after the lectures every week in Railway West Wing RWW202. During the tutorial sessions, we will put the methods covered in lectures into practice.

Course Delivery

The course material will be delivered via one three hour block per week for the 12 teaching weeks. It is essential that you have access to Blackboard, and check it frequently as new information, content and readings will be posted often.

Readings

Lecture notes, announcements, assignment questions and other information will be posted on the blackboard website: http://blackboard.vuw.ac.nz.

The following textbook is required for this course:

> Ruey S. Tsay, *An Introduction to Analysis of Financial Data with R*, John Wiley & Sons, 416 pages, October 2012
> ISBN-10: 0470890819, ISBN-13: 978-0470890813.

The following textbooks are also useful resources:

> Campbell, J.Y., A.W. Lo, and A.C. MacKinlay, *The Econometrics of Financial Markets*, Princeton University Press, 1997.
> Cochrane, J.H., *Asset Pricing*, Princeton University Press, 2001.
> Taylor, Stephen J., *Asset Price Dynamics, Volatility, and Prediction*, Princeton University Press, 2005.
> Ait-Sahalia, Y., and Hansen, L., *Handbook of Financial Econometrics*, Elsevier.

The university library has several copies available for interested readers.

Mandatory Course Requirements

None.

Expected Workload

The **expected workload** is a total of 200 hours. In addition to the lecture times, this might include tutorial preparation of 32 hours, reviewing material for the test and exam of 100 hours and working on assignments for 32 hours.

Assessment Requirements

The Assessment Handbook will apply to all VUW courses: see
http://www.victoria.ac.nz/documents/policy/staff-policy/assessment-handbook.pdf.

If you cannot complete an assignment or sit a test or examination, refer to:
www.victoria.ac.nz/home/study/exams-and-assessments/aegrotat

Type	CLOs	Due/Test date	Notes	Weight
Assignment 1:	1–4	August 10^{th}	due 5pm	20%
Assignment 2:	1–6	October 12^{th}	due 5pm	20%
Test 1:	1–6	August 16^{th}	2 hours, at 10am	30%
Final Exam:	1–6	TBA	2 hours	30%

The assessment requirements and the corresponding weights are the same for both MMAF524 and MMPE503 courses. However, the content of the assessment items may be different given the aim of the courses. Please bring your calculator for the tests. All assessment marks (except for the exam) will be published on Blackboard via My Grades.

Group Work

There is no group work outside of the block release.

Examinations

Students who enrol in courses with examinations are obliged to attend an examination at the University at any time during the formal examination period. The final examination for this course will be scheduled at some time during the following period:
Friday 21^{st} October - Saturday 12^{th} November (inclusive).

Penalties

Students are expected to attend classes and participate in class discussions. At the margin, for assessment purposes, consideration will be given to your contribution to class discussion and activities.

Late assignments are discounted by 10% for each day after the due date. Assignments submitted a week after the due date will not be accepted.

Materials and Equipment

To implement the theoretical development of forecasting, we will use *R* to practice forecasting techniques. *R* is an open-source software, so students can download and install it to their own computer. It is also installed and ready-to-use in the computer classrooms located in the Railway West Wing.

Silent non-programmable calculators are permitted in the test and final examination.

Use of Turnitin

Student work provided for assessment in this course may be checked for academic integrity by the electronic search engine http://www.turnitin.com. Turnitin is an on-line plagiarism prevention tool which compares submitted work with a very large database of existing material. At the discretion of the Head of School, handwritten work may be copy-typed by the School and submitted to Turnitin. A copy of submitted materials will be retained on behalf of the University for detection of future plagiarism, but access to the full text of submissions will not be made available to any other party.

Student Feedback

Student feedback on University courses may be found at:
www.cad.vuw.ac.nz/feedback/feedback_display.php.

Communication and Additional Information

Course documents and other information will be available on the course website at http://blackboard.vuw.ac.nz. Announcements will also be posted there.

Link to General Information

For general information about course-related matters, go to:
http://www.victoria.ac.nz/vbs/studenthelp/general-course-information

Note to Students

Your assessed work may also be used for quality assurance purposes, such as to assess the level of achievement of learning objectives as required for accreditation and academic audit. The findings may be used to inform changes aimed at improving the quality of VBS programmes. All material used for such processes will be treated as confidential, and the outcome will not affect your grade for the course.

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