

ECONOMICS 468 (Section A01)

Financial Econometrics

Course Registration Number: 13501

K.G. Stewart
BEC 352
721-8534

Fall 2011

ECON 468	Units: 1.5	Hours: 3-1
Financial Econometrics		
The application of econometric methods to asset pricing models and financial data. Topics may include: stylized facts for financial returns, forecasting returns, volatility modelling and forecasting, tests of the random walk hypothesis, option pricing, extreme values and value at risk, asset portfolios, modelling with ultra-high frequency data.		
Prerequisites: 365, or STAT 350 or STAT 353, or permission of the department; COM 240; ECON 366 and 435 recommended.		
Pre- or corequisites: 225.		

Class Time and Location: TWF 9:30–10:30, DSB C114.

Office Hours TWF 10:30–12:00 am, or by appointment.

Course Web Page Access to course materials and other information is through Moodle.

Textbook T.C. Mills and R.N. Markellos, *The Econometric Modelling of Financial Time Series* (Cambridge University Press, 2008).

Supplementary References The following supplementary references will sometimes be used and are on reserve in the McPherson library (or, in the case of Tsay, available as an eBook through the McPherson website). You may also find them helpful in developing your ideas for the replication project. Extensive use will be made of Chapters 15–18 of Stewart, plus selected readings from earlier chapters. (You may be able to buy a used copy of this book online or at Subtext for little more than the cost of photocopying these sections.)

Campbell, J.Y., Lo, A.W., and A.C. MacKinlay, *The Econometrics of Financial Markets* (Princeton University Press, 1997). HG4523 C34

Gourieroux, C., and J. Jasiak, *Financial Econometrics: Problems, Models, and Methods* (Princeton University Press, 2001) HB139 G68

Ruppert, D., *Statistics and Finance: An Introduction* (Springer, 2004). HG176.5 R86

Stewart, K.G., *Introduction to Applied Econometrics* (Brooks/Cole, 2005). HB139 S753

Tsay, R.S., *Analysis of Financial Time Series*, 3rd ed. (Wiley, 2010). eBook

Computer Usage This course uses the software package EViews for econometric analysis.

Syllabus Our goal this term will be to work through key parts of the Mills-Markellos book (referenced below as MM). This primary text will be supplemented with other readings such as the above supplementary references.

1. *Financial time series and their characteristics*. MM Chap. 1; Tsay, Chap. 1; the sections of Stewart indicated on Assignment 1.
2. *Forecasting principles*. Stewart Sec. 5.1 of Chap. 5.
3. *Time series: Some basic concepts*. Stewart Chap. 15.
4. *Fluctuations*. Stewart Chap. 16; MM Chap. 2.

Midterm examination: Tuesday October 18

5. *Trends*. Stewart Chap. 17; MM Chap. 3.
6. *Further Selected Topics* from MM Chaps. 4, 5, 8, including ARCH Models: Tsay, Chap. 3.
7. *Cointegration*. Stewart Chap. 18; MM Chap. 9.

Grading	Assignments	20%	
	Midterm exam	20%	(Tuesday October 18)
	Replication project	20%	
	Final exam	40%	

This course uses the standard Department of Economics numerical score/letter grade equivalency:

$90 \leq A+$	$75 \leq B+ < 80$	$60 \leq C+ < 65$
$85 \leq A < 90$	$70 \leq B < 75$	$55 \leq C < 60$
$80 \leq A- < 85$	$65 \leq B- < 70$	$50 \leq D < 55$
		$F < 50$

No *E* grades will be assigned.

Replication Project A handout will be distributed describing what is expected in connection with this term paper.

Assignments in this course play a central role in helping you learn the material and prepare for exams. You may work jointly with other students on assignments. However the assignment solutions you submit for grading should be your own work, independently written up, accompanied by your own computer output.

Course Policies

This course operates within the Undergraduate Course Policies of the Department of Economics, which may be found online at web.uvic.ca/econ/undergraduate/course.policies.php. Below are some elaborations of those policies.

Examination Policies

English Language Skills English is the language of instruction at the University of Victoria; your enrollment is taken to imply that you are functionally literate. All written work must

use complete sentences and be organized in a logical, coherent manner. The mark you receive will be determined by the quality of your written response as well as by the content of your answer.

Dictionaries (both paper and electronic) are not permitted in examinations. It is not practical during exams with large classes for invigilators to check dictionaries to ensure that extraneous information has not been entered.

Calculator Usage In examinations in which calculators are permitted, you may use only a Sharp EL-510R. This is the same calculator that is prescribed by the Math Department for its exams. It is sold in the bookstore for around \$10.

Headgear Caps and hats that interfere with eye contact should not be worn during exams.

Beverages and Washroom Policies Please do not bring beverages other than water to an exam. As the final exam will not exceed two hours duration and it is not practical to arrange for invigilators to accompany students to the washroom, if it becomes necessary for you to use the washroom during an exam you must turn in your paper at that time. You are therefore advised to avoid consuming diuretics such as coffee and pop immediately prior to an exam.

If a medical condition requires frequent washroom use this can be accommodated through the Resource Centre for Students with a Disability.

Supplemental and Deferred Exams The above numerical score/letter grade equivalency makes no provision for *E* grades. This means that supplemental exams are not given in this course. Deferred final exams are given only on the granting of a formal university academic concession, normally only for documented medical reasons; deferred exams are given in July. See below for an explanation of the medical documentation required for an academic concession.

End-of-Term Travel Students are advised not to make travel plans until after the examination timetable has been finalized. Students who wish to finalize their travel plans at an earlier date should book flights that depart after the end of the examination period (see the University Calendar). *There will be no special accommodation if travel plans conflict with the examination.*

Other Policies

Drop Policies I do not take attendance, and so there is no policy of automatically dropping students who do not attend. Enrolled students who decide not to take the course are responsible for initiating their drop.

Classroom Etiquette (or: R-E-S-P-E-C-T, find out what it means to me) You will find that it is my normal practice to begin class promptly on the half-hour and lecture for the full 50 minute class period. Students are expected to make whatever arrangements may be necessary in their private lives to ensure that they are seated in class prior to the beginning of lecture. It is not acceptable to disturb the class by habitually arriving late.

Except in extraordinary circumstances, please come to class prepared to remain in attendance for the entire class period. It is not appropriate to come and go from the classroom at leisure in the course of a lecture. If unusual circumstances require you to leave class early, please sit near the door and depart as inconspicuously as possible. Once you have left the classroom, do not return that day.

In general, observe the Scholastic Golden Rule: Do not disturb or distract your fellow students or the instructor. Specifically, do not chit-chat with your neighbours or consume food or beverages. It would also be appreciated if you would not wear headgear that interferes with eye contact.

Electronic devices should only be in use for class-related purposes; for example, the use of a PDA to take notes. Under no circumstances should other devices such as cellphones or music players be in evidence; please put these away prior to entering the classroom and do not take them out again until you have left. Cellphones should be turned off; never text during class or leave a class to take a phone call. If you believe you are using a laptop computer for class-related purposes, you should see me in advance during my office hours to ask permission.

Let good manners, civility, and mutual respect guide your behaviour.

Email Correspondence My email address is kstewart@uvic.ca. However you should only contact me by email on matters that relate to your personal participation in the course. For example, to notify me that hospitalization prevents you from taking an exam and that you will be applying to Records Services for an academic concession for medical reasons. It is best to send such emails from your @uvic.ca address. Emails from non-UVic addresses are sometimes misidentified as spam by the university's spam filters. Although I check my junk folder periodically, it may not be for some time.

Email messages are not a useful means of transmitting other types of information, in particular the following.

- *Questions about course material* are best raised in class or during my office hours. They cannot be answered effectively with email due to, among other things, the unavailability of diagrams and technical notation.
- *Questions about course administration* such as the arrangements governing assignments and exams. These matters are normally discussed in class and that is the best place for asking questions about them, so that other students can benefit from the clarification offered. I do not duplicate by email information that has been related in class or posted to the website.

As a rule, I do not reply to "generic" emails; i.e., messages that anyone could have written, as opposed to ones that relate to your individual role in the class. I do not normally respond to email queries about, for example, the content or format of exams, the progress of grading, when final grades are likely to be available, and so on. Remember that instructors are guided by the Golden Rule of Teaching, which is "Do not show favouritism to one student by doing something for them that you would be unwilling to do for the class as a whole." Before sending an instructor an email ask yourself: Would it be reasonable to expect the instructor to answer the same message from everyone in the class? If the answer is no, you are unlikely to receive a response.

Academic Integrity Students are expected to observe the same standards of scholarly integrity as their academic and professional counterparts, as articulated in UVic's Policy on Academic Integrity. Students who are found to have engaged in unethical academic behaviour, including the practices described in the relevant section of the Calendar, are subject to penalty by the University.

Working Environment "The University of Victoria is committed to promoting, providing and protecting a positive and safe learning and working environment for all its members."

Academic concessions for medical reasons, including both missed exams and assignments, must be fully documented. You should bring your physician's testimony to me in person when your health permits. In the meantime, an email message informing me of the situation and that medical documentation will be forthcoming is desirable whenever possible.

If you see a physician off-campus then you should have them complete the form on the reverse of this page, attaching their letterhead with contact information. The purpose of this form is so that your physician will know what information I need to make a decision on your case.

If you see a physician at UVic Health Services then you may use either the attached form or any Request for Academic Concession form that may be available there.

In the case of a missed final exam, University procedure is for the student to submit a Request for Academic Concession (RAC) form to Undergraduate Records. The RAC form is available at the Advising Centre, or Undergraduate Records, or online (search the UVic website). You should attach your medical documentation to this form. If your RAC is approved this will initiate the scheduling of a deferred exam by Records, which is normally taken by the end of the following term. In addition to submitting the RAC form you are of course also welcome to see me in person when your condition permits.

Student Name: _____ UVic Student Number: _____

To the Physician: This student is seeking to be excused from a university examination or other evaluation for medical reasons. Please provide the following information, selecting the answers that come closest to describing the situation.

Date: _____ Time: _____ a.m. p.m.

My relationship to the student is:

- The student is under an ongoing program of treatment for an extended illness.
- I am the student's regular physician, but the student has not been undergoing a program of treatment for an extended illness.
- The student is seeing me on a one-time basis.

The student's condition is best described as (check more than one box if appropriate):

- The student is currently hospitalized.
- The student was hospitalized in the recent past in connection with the present illness.
 - Date of admission: _____
 - Date of release: _____
- I have diagnosed an incapacitating medical condition, so that there is a compelling basis for this student to be treated differently from others in the class. The student is being treated as follows:
 - Surgery. Anticipated date of surgery: _____
 - Medication. The medication is: Prescription; Non-prescription.
 - Other (physiotherapy, acupuncture, psychiatric counseling, etc.)
 - No treatment appears necessary at this time.
- The student is suffering from a condition that, in its seriousness, lies somewhere between the previous item and the next.
- The student is not feeling well due to a condition similar in seriousness to, say, a cold.
- I have not established the presence of illness in the student.

Does the student have a fever? Yes No Not established

Physician's Signature: _____

Thank you for taking the time to provide this information. **Please staple your prescription letterhead to this form.** Any additional comments are welcome.