ECON3206/ECON5206
Financial Econometrics
Course Outline
Semester 2, 2015

Part A: Course-Specific Information

Students are also expected to have read and be familiar with Part B Supplement to All Course Outlines. This contains Policies on Student Responsibilities and Support, Including Special Consideration, Plagiarism and Key Dates. It also contains the BUSINESS SCHOOL program learning goals.
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1 STAFF CONTACT DETAILS

Lecturer-in-charge: Valentyn Panchenko
Room: BUSINESS SCHOOL 440
Phone No: 9385 3363
Email: v.panchenko@unsw.edu.au

Consultation Times: TBA

Tutor name: The name of the tutor will be posted on the Course Website.

1.1 Communications with staff
You should feel free to contact your lecturer(s) about any academic matter. However, it is strongly encouraged, for efficiency, that all enquiries about the subject material be made at lectures or tutorials or during consultation time. Discussion of course subject material will not be entered into via lengthy emails.

Email correspondence on administrative matters (e.g. advising inability to attend a tutorial) will be responded to within 48 hours, but not over weekends. Please note that the lecturer has no advance notice of the date and time of the exam.

2 COURSE DETAILS

2.1 Teaching Times and Locations
Lectures run from Week 1 to Week 12. The time and location are

**Wednesday 16:00-18:00, Colombo Theatre C (B16)**

Tutorials start in Week 2 and finish in Week 13. A list of tutorial classes, times and tutors will be posted on the Course Website.

2.2 Units of Credit
The course is worth 6 units of credit. This course is taught in parallel to both undergraduate and postgraduate students.

2.3 Summary of Course
This course is concerned with the special statistical characteristics that arise when modelling time series data, such as commodity prices, interest rates or exchange rates. Topics include key characteristics of financial data, concepts of volatility and risk, modelling time varying volatility (ARCH models), and modelling relationships among financial series. The knowledge and methods acquired in this course are particularly useful and sought after in the public and private finance sector.

2.4 Aims and Relationship to Other Courses
The course aims to provide students with the basic framework for modelling financial time series data. In particular, it will benefit students in terms of:
1. Developing their ability to model the expected mean and volatility in financial data as a means to a more informed assessment of the risk and return associated with different investment strategies;

2. An awareness of the empirical evidence supporting alternative models of asset price determination;

3. Developing their proficiency with the computer skills required to actually model financial data in practice (students should be proficient in EViews by the end of the course).

This course is offered as part of the economics stream in the B.Com and B.Econ degrees (ECON3206) and M.Com degree (ECON5206).

A prerequisite for ECON3206 is ECON2209 Business Forecasting. A prerequisite for ECON5206 is ECON5248 Business Forecasting. The course requires good mathematical and statistical skills.

2.5 Student Learning Outcomes
The Course Learning Outcomes are what you should be able to DO by the end of this course if you participate fully in learning activities and successfully complete the assessment items.

The Learning Outcomes in this course also help you to achieve some of the overall Program Learning Goals and Outcomes for all students in the BUSINESS SCHOOL. Program Learning Goals are what we want you to BE or HAVE by the time you successfully complete your degree. You demonstrate this by achieving specific Program Learning Outcomes - what you are able to DO by the end of your degree.

For more information on the Program Learning Goals and Outcomes, see Part B of the course outline.

The following table shows how your Course Learning Outcomes relate to the overall Program Learning Goals and Outcomes, and indicates where these are assessed:
<table>
<thead>
<tr>
<th>Program Learning Goals and Outcomes</th>
<th>Course Learning Outcomes</th>
<th>Course Assessment Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>This course helps you to achieve the following learning goals</td>
<td>On successful completion of the course, you should be able to:</td>
<td>This learning outcome will be assessed in the following items:</td>
</tr>
<tr>
<td>1 Knowledge</td>
<td>Explain various assumptions, concepts, principles, and methodologies underlying time series models for financial data</td>
<td>• In-tutorial Tests&lt;br&gt;• Group Assignment&lt;br&gt;• Final Exam (AOL)</td>
</tr>
<tr>
<td>2 Critical thinking and problem solving</td>
<td>Use learned statistical techniques and skills to analyse, interpret and present relevant data.</td>
<td>• In-tutorial Tests&lt;br&gt;• Group Assignment&lt;br&gt;• Final Exam (AOL)</td>
</tr>
<tr>
<td>3a Written communication</td>
<td>Construct written work that is logically and professionally presented.</td>
<td>• In-tutorial Tests&lt;br&gt;• Group Assignment&lt;br&gt;• Final Exam (AOL)</td>
</tr>
<tr>
<td>3b Oral communication</td>
<td>Not specifically addressed.</td>
<td>Not specifically assessed in this course.</td>
</tr>
<tr>
<td>4 Teamwork</td>
<td>Work collaboratively to complete a task.</td>
<td>• Group Assignment</td>
</tr>
<tr>
<td>5a. Ethical, environmental and sustainability considerations</td>
<td>Identify and assess ethical considerations in problems in economics and business.</td>
<td>• Final Exam (AOL)</td>
</tr>
<tr>
<td>5b. Social and cultural awareness</td>
<td>Formulate economic and business interactions in analytical terms and analyse them using tools provided by the theory.</td>
<td>Not specifically assessed in this course.</td>
</tr>
</tbody>
</table>

More specifically, on completion of the course, students should be able to:

1. Statistically describe and interpret financial data
2. Apply basic models/methods to analyse financial time series
3. Model the mean behaviour of financial time series.
4. Model the volatility in financial data and perform Value-at-Risk calculations that are used as an input into the financial decision making process.
5. Model the long-run relationships among financial time series.
6. Be proficient at econometric modelling of financial data using the software program EVIEWS, which is widely used in the commercial world.
3 LEARNING AND TEACHING ACTIVITIES

3.1 Learning Activities and Teaching Strategies
The examinable content of the course is defined by the references given in the Lecture Schedule, the content of Lectures, and the content of the Tutorial Program.

Lectures
The purpose of Lectures is to provide a logical structure for the topics that make up the course; to emphasize the important concepts and methods of each topic, and to provide relevant examples to which the concepts and methods are applied.

Tutorials
Tutorials are an integral part of the subject. Tutorial questions and discussions will gradually build on the material discussed in lectures. These exercises allow students to practise and better their understanding of the material covered in lectures.

Out-of-Class Study
While students may have preferred individual learning strategies, it is important to note that most learning will be achieved outside of class time. Lectures can only provide a structure to assist your study, and tutorial time is limited.

A recommended strategy (on which the provision of the course materials is based):

- Reading of the relevant chapter(s) of the text/notes/slides and other required material (if any) before the lecture. This will give you a general idea of the topic area.
- Attending lectures, where the context of the topic in the course and the important elements of the topic are identified. The relevance of the topic should be explained.
- Attending tutorials and attempting the tutorial questions beforehand.

4 ASSESSMENT

4.1 Formal Requirements
In order to pass this course, you must:

- achieve a composite mark of at least 50 out of 100;
- make a satisfactory attempt at ALL assessment tasks. This means attendance at 80% of tutorials (9 tutorials) and a mark of at least 40% in all assessment items;

AND

- Achieve a satisfactory level of performance in the final exam, which means a minimum 46% of the final exam.
4.2 Assessment Details

Assessment details are listed in the table below. Please note that *employment obligations or holiday/travel plans of any kind are not acceptable reasons for failing to complete any assessment items.*

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Weighting</th>
<th>Length</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Assignment</td>
<td>15%</td>
<td>No more than 8 pages</td>
<td>21 October, 18:00 (Week 12)</td>
</tr>
<tr>
<td>Midsession Exam</td>
<td>15%</td>
<td>1 hour</td>
<td>9 September (Week 7) during lecture time</td>
</tr>
<tr>
<td>In-tutorial Tests</td>
<td>10%</td>
<td>15 minutes each</td>
<td>Week 5 and Week 9</td>
</tr>
<tr>
<td>Final Exam</td>
<td>60%</td>
<td>2 hours</td>
<td>As scheduled in official exam period</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.3 Tutorial Discussion and Participation

80% of attendance (9 tutorials) is required by UNSW and BUSINESS SCHOOL rules. Attendance may be checked.

If, owing to illness or other exceptional circumstances, you are unable to attend your usual tutorial, you may try to attend another tutorial in the same week. However, you are required to attend your usual tutorial class at least 9 times during the session. This allows for occasional absence due to minor illness and other reasons, hence special consideration applications will not reduce this requirement.

Students should also note that, in certain circumstances, such as where a request for special consideration is made in relation to assessment items, tutorial attendance will be taken into account in determining your final assessment or whether special consideration is granted.
4.4 In-tutorial Tests

There will be two written in-tutorial tests in Weeks 5 and 9. Students will have 15 minutes to complete each test. The tests will cover learned material up to Weeks 4 and 8 respectively.

Students must sit the tutorial tests in the tutorial group to which they have been allocated.

No supplementary in-tutorial tests will be offered. Students who do not attend and do not have adequate reasons will be awarded a mark of zero.

In cases of serious illness, students will need to apply for Special Consideration with full and convincing documentation of that illness. Students who are found to be genuinely too ill to have attended an in-tutorial test will have their mark in the final exam re-weighted to include the mark reserved for the missed test.

Work commitment, holiday/travel plans are NOT valid reasons for Special Consideration.

Applications for special consideration must be lodged online through myUNSW within 3 working days of the assessment (Log into myUNSW and go to My Student Profile tab > My Student Services channel > Online Services > Special Consideration). Then submit the originals or certified copies of your completed Professional Authority form (pdf - download here) and any supporting documentation to Student Central.

4.5 Mid-session exam

Mid-session exam will take place during the lecture time in Week 7. The exam will take 1 hour. The exam will cover learned material up to Week 6 (Topics 1-3 inclusive).

No supplementary mid-session exam will be offered. Students who do not attend and do not have adequate reasons will be awarded a mark of zero.

In cases of serious illness, students will need to apply for Special Consideration with full and convincing documentation of that illness. Students who are found to be genuinely too ill to have attended a mid-session exam will have their mark in the final exam re-weighted to include the mark reserved for the missed exam.

Work commitment, holiday/travel plans are NOT valid reasons for Special Consideration.

Applications for special consideration must be lodged online through myUNSW within 3 working days of the assessment (Log into myUNSW and go to My Student Profile tab > My Student Services channel > Online Services > Special Consideration). Then submit the originals or certified copies of your completed Professional Authority form (pdf - download here) and any supporting documentation to Student Central.

4.6 Group Assignment

The group assignment gives students opportunities to demonstrate their understanding of the learned principles/techniques and their ability to apply them to practical problems. It also provides an environment for students to cooperate. The assignment topic, format and marking criteria are set out in a separate document on the course website (TBA).
4.6.1 Submission Procedure for Group Assignment
Each group must submit 1 hard copy AND 1 electronic copy (in Word format or PDF) of their assignment. The electronic copy must be submitted via Moodle by 18:00, Wednesday, 21 October 2015. Further instructions will be available on the website.

The hard copy must be submitted before or after the lecture on the 21 of October or to your Tutor at the beginning of the tutorial class in Week 12. Do not use plastic sheets or binders. Simply staple the pages together. Student names and IDs must be on the cover page.

All electronic copies of essays will checked for plagiarism on the Turnitin software into which they are uploaded. See notes on Plagiarism below and also note that the Turnitin software will automatically check against all other assignments submitted.

4.6.2 Late Submission of Group Assignment
20% of the value of each assignment will be deducted for each day (24 hours) or part thereof which the electronic copy of an assignment is submitted to the course website after the deadline. Assignments submitted more than five days late will not be marked.

4.7 Final Exam Format
The final exam will cover the entire course, consisting of short-answer type questions and simple deduction/calculation. All material covered in the lectures, tutorial program and the assignment is examinable. The duration of the final exam will be 2 hours and will be held in the University’s final examination period.

4.8 Quality Assurance
The BUSINESS SCHOOL is actively monitoring student learning and quality of the student experience in all its programs. A random selection of completed assessment tasks may be used for quality assurance, such as to determine the extent to which program learning goals are being achieved. The information is required for accreditation purposes, and aggregated findings will be used to inform changes aimed at improving the quality of BUSINESS SCHOOL programs. All material used for such processes will be treated as confidential and will not be related to course grades.

5 COURSE EVALUATION AND DEVELOPMENT
Each year feedback is sought from students and other stakeholders about the courses offered in the School and continual improvements are made based on this feedback. UNSW's Course and Teaching Evaluation and Improvement (CATEI) Process is one of the ways in which student evaluative feedback is gathered. You are strongly encouraged to take part in the feedback process.
6  COURSE RESOURCES

The website for this course is on UNSW Moodle at: http://moodle.telt.unsw.edu.au

Lecture notes, lecture slides and tutorial questions, with additional readings, will be posted on the Moodle Course website. Lecture notes provide concise description of lecture material, but cannot be used as a substitute for the textbook.

Textbook:

The main textbook for the subject is:


This book is recommended, but it is not mandatory. This book is written at an introductory level and covers most of the material we will discuss in class. In addition, it describes how to estimate the econometric models in the software program EViews.

Other econometrics book which covers the discussed topics may also be useful. For more advanced treatment you may consult books listed below.

Advanced texts:


These books treat the material at a more advanced level than the Brooks textbook. They are recommended for graduate and honours students and for undergraduate students who feel comfortable with more quantitative treatment and plan to pursue this subject in the future.

Journal Articles:


# 7 COURSE SCHEDULE

## 7.1 Lecture Schedule
Lectures start in Week 1 and finish in Week 12

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1 29 July</td>
<td>Introduction and Topic 1: Understanding Financial Data</td>
<td>Brooks: Chapter 1,2 Lecture notes: Topic 1</td>
</tr>
<tr>
<td>Week 2 5 August</td>
<td>Topic 2: Linear Regression Tests of Financial Models</td>
<td>Brooks: Chapters 3-5 Lecture notes: Topic 2</td>
</tr>
<tr>
<td>Week 3 12 August</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 4 19 August</td>
<td>Topic 3: Linear time series models</td>
<td>Brooks Chapter 6,7 Lecture notes: Topic 3</td>
</tr>
<tr>
<td>Week 5 26 August</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 6 2 September</td>
<td>Topic 4: Modelling long-run relationships in Finance</td>
<td>Brooks: Chapters 8 Lecture notes: Topic 4</td>
</tr>
<tr>
<td>Week 7 9 September</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 8 16 September</td>
<td>Topic 5: Risk and Volatility Models</td>
<td>Brooks: Chapter 9 Lecture notes 5</td>
</tr>
<tr>
<td>Week 9 23 September</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 10 7 October</td>
<td>Topic 6: Extensions of ARCH/GARCH models</td>
<td>Brooks: Chapter 9 (cont.) Lecture notes: Topic 6</td>
</tr>
<tr>
<td>Week 11 14 October</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 12 21 October</td>
<td>Remaining material and summary</td>
<td></td>
</tr>
<tr>
<td>Week 13 28 October</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* This schedule is approximate and is subject to changes.
### 7.2 Tutorial Schedule

Tutorials start in Week 2 and finish in Week 13.

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>NO TUTORIALS</td>
<td>No Tutorial</td>
</tr>
<tr>
<td>27 July</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 2</td>
<td>Follows from Lectures with a one week lag. See Section 7.1</td>
<td>Tutorial 1</td>
</tr>
<tr>
<td>3 August</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 3</td>
<td></td>
<td>Tutorial 2</td>
</tr>
<tr>
<td>10 August</td>
<td></td>
<td></td>
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<tr>
<td>Week 4</td>
<td></td>
<td>Tutorial 3</td>
</tr>
<tr>
<td>17 August</td>
<td></td>
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<tr>
<td>Week 5</td>
<td></td>
<td>Tutorial 4</td>
</tr>
<tr>
<td>24 August</td>
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<tr>
<td>Week 6</td>
<td></td>
<td>Tutorial 5</td>
</tr>
<tr>
<td>31 August</td>
<td></td>
<td></td>
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<tr>
<td>Week 7</td>
<td></td>
<td>Tutorial 6</td>
</tr>
<tr>
<td>7 September</td>
<td></td>
<td></td>
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<tr>
<td>Week 8</td>
<td></td>
<td>Tutorial 7</td>
</tr>
<tr>
<td>14 September</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 9</td>
<td></td>
<td>Tutorial 8</td>
</tr>
<tr>
<td>21 September</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mid-semester break: Saturday 26 September - Monday 5 October inclusive</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 10</td>
<td>No tutorial - tutorial times on Wed may be used for work on project with tutor help</td>
<td></td>
</tr>
<tr>
<td>5 October</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 11</td>
<td></td>
<td>Tutorial 9</td>
</tr>
<tr>
<td>12 October</td>
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<tr>
<td>Week 12</td>
<td></td>
<td>Tutorial 10</td>
</tr>
<tr>
<td>19 October</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 13</td>
<td></td>
<td>Tutorial 11</td>
</tr>
<tr>
<td>26 October</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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