AFIN328

Financial Risk Management

S2 Day 2015

Dept of Applied Finance and Actuarial Studies

Contents

General Information

Unit convenor and teaching staff
Unit Convenor
Chi Truong
chi.truong@mq.edu.au
Contact via Email
E4A 452
Wed 4-5pm during teaching weeks. Other times by appointment.

Lecturer
Geoff Loudon
geoff.loudon@mq.edu.au
Contact via Email
E4A 230
Wed 1-2pm during teaching weeks. Other times by appointment.

Teaching Assistant
Veronica Chen
afin328@mq.edu.au
Contact via Email

Credit points
3

Prerequisites
6cp at 200 level including (AFIN252 or (AFIN250 and (AFIN270 or STAT272)))

Corequisites

Co-badged status

Unit description

The aim of this unit is to prepare students for analytical duties a graduate is expected to carry out in a financial institution, or for research for a higher degree. On completing the unit, successful students also attain practical knowledge of how to apply and evaluate the quantitative methods covered in the unit in analysing and managing portfolios as well as the risk arising from various financial investments. In particular, students are expected to be able to: examine and find optimal investments strategies with respect to risk and return; attain an excellent knowledge of the role and characteristics of international financial markets and institutions; understand the pricing of various financial products and how they can be used for hedging; evaluate econometric models for financial variables; and acquire an extensive knowledge on the major approaches to managing market, credit and operational risks. By undertaking this unit, students have an opportunity to consolidate and extend the knowledge they attained in first and second year finance units. Students are introduced to advanced techniques in financial markets and risk management practices with plenty of opportunities to apply them to real-world data through several tutorial tasks and a written assignment.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

On successful completion of this unit, you will be able to:

Know how to measure expected returns, risks and dependencies among financial instruments.

Understand the role and characteristics of international financial markets and the institutions and intermediaries.

Understand the pricing of various financial products like equity, fixed income instruments or derivatives and know how these products can be used for risk management and hedging.

Evaluate quantitative models for financial variables, for example with respect to their volatility, dependence structure and time series properties.

General Assessment Information
GradeBook

It is the responsibility of students to view their marks for each within session assessment on iLearn within 20 working days of posting. If there are any discrepancies, students must contact the unit convenor immediately. Failure to do so will mean that queries received after the release of final results regarding assessment marks (not including the final exam mark) will not be addressed.

Scaling

A Standardised Numerical Grade (SNG) gives you an indication of how you have performed within the band for your descriptive grade. The SNG is not a mark, and you may not be able to work it out based on your raw examination and other assessment marks. Nor are you able to determine you are "one mark away" from a different grade.

Assessment Tasks

Name	Weighting	Due
Class Test	20%	Week 7 in lectures
Assignment	20%	Fri 30/10/2015 11:59pm AEST
Final Examination	60%	University examination period

Class Test

Due: **Week 7 in lectures**
Weighting: **20%**

The Class Test is scheduled to be held during the regular lecture in Week 7. The total time available for the class test is 90 minutes. The class test is based on topics covered during lectures 1 to 5, inclusive. No dictionaries of any kind are allowed in the class test. Non-programmable calculators are allowed, provided that they are not capable of storing text. Refer to iLearn for further details.

No extensions will be granted. Students who do not sit the test will be awarded a mark of 0, except for cases in which an application for special consideration is made and approved.

On successful completion you will be able to:
- Know how to measure expected returns, risks and dependencies among financial instruments.
- Understand the role and characteristics of international financial markets and the institutions and intermediaries.
- Understand the pricing of various financial products like equity, fixed income instruments or derivatives and know how these products can be used for risk management and hedging.
- Evaluate quantitative models for financial variables, for example with respect to their volatility, dependence structure and time series properties.

Assignment

Due: **Fri 30/10/2015 11:59pm AEST**
Weighting: **20%**

The Assignment investigates a topical issue in financial risk management chosen by the convenor. Students will work in groups of 3 or 4. The assignment must be submitted to Turnitin. Refer to iLearn for further details.

No extensions will be granted. Late assignments will be accepted up to 72 hours after the submission deadline. There will be a deduction of 20% of the total available marks made from the total awarded mark for each 24 hour period or part thereof that the submission is late (for example - 25 hours late in submission - 40% penalty). This penalty does not apply for cases in which an application for special consideration is made and approved.

On successful completion you will be able to:

- Know how to measure expected returns, risks and dependencies among financial instruments.
- Understand the role and characteristics of international financial markets and the institutions and intermediaries.
- Understand the pricing of various financial products like equity, fixed income instruments or derivatives and know how these products can be used for risk management and hedging.
- Evaluate quantitative models for financial variables, for example with respect to their volatility, dependence structure and time series properties.

Final Examination

Due: **University examination period**
Weighting: **60%**

The Final Exam lasts 3 hours with 10 minutes reading time. The exam will cover all topics taught across the entire unit. You are permitted ONE A4 page of paper containing reference material on both sides. The material must be handwritten. The page will not be returned at the end of the final examination. No dictionaries of any kind are allowed in the class test. Non-programmable calculators are allowed, provided that they are not capable of storing text. Refer to iLearn for further details.

To be eligible to pass this unit, a pass is required in the final examination.

On successful completion you will be able to:

- Know how to measure expected returns, risks and dependencies among financial

instruments.

- Understand the role and characteristics of international financial markets and the institutions and intermediaries.
- Understand the pricing of various financial products like equity, fixed income instruments or derivatives and know how these products can be used for risk management and hedging.
- Evaluate quantitative models for financial variables, for example with respect to their volatility, dependence structure and time series properties.

Delivery and Resources

Classes

Classes in this unit are composed of a two-hour lecture, and a one-hour tutorial. Lectures commence in Week 1 and tutorials commence in Week 2. Tutorials will lag the lectures. For example, the tutorial in Week 2 will cover the questions assigned from the lecture in Week 1.

Unit materials are learnt by attending lectures, by attempting tutorial questions prior to the tutorial, and through independent learning. The lectures provide a general overview of the topics highlighting a number of concepts and techniques. Further additional reading material may be provided. Students are strongly advised to study the additional reading material provided provided by the unit convenor, and further explore all relevant concepts and techniques.

Timetables

All students are required to attend their timetabled classes. The timetable for classes can be found on the University web site http://www.timetables.mq.edu.au/

Required Text

Hull, J. (2015) *Risk Management and Financial Institutions*, 4th Edition, Wiley.

This book can be purchased from the Macquarie University Co-op Bookshop.

We may supplement the text with readings from journals and other textbooks as required.

Technology Used and Required

- Internet access;
- Access to iLearn;
- Non-programmable financial or scientific calculator (see below about calculators);
- Computer with Microsoft Excel; and
- DerivaGem software available on the CD obtained by purchasing the required text.

Calculators

Financial and scientific calculators may be used in any examination for this unit. Only non-

programmable calculators (no text retrieval capacity) are allowed in an examination

If you choose to buy a financial calculator and are planning to enrol in the Chartered Financial Analysts (CFA) course after you graduate from Macquarie University, you may wish to purchase a financial calculator that meets CFA examination requirements. For specific requirements, see the CFA Institute's web-site, http://www.cfainstitute.org. The two CFA-approved calculators are:

- Texas Instruments BA II Plus (including BA II Plus Professional); or
- Hewlett Packard 12C (including Hewlett Packard 12C Platinum).

Another recommended calculator is the Hewlett Packard HP17BII or HP17BII+. This is used in Macquarie University's Master of Applied Finance program.

Unit Schedule

Week	Hull chapters	Topic
1	1-6	Introduction
2	7-9	Managing market and interest rate risk
3	10, 11	Volatility, Correlations and Copulas
4	12, 13	Value-at-Risk, Expected Shortfall: theory
5	13, 14	Value-at-Risk, Expected Shortfall: practice
6	15-17	Regulation
7		Class test
		Mid session break
8	18, 19	Credit risk
9		*No classes this week due to public holiday*
10	20, 21	CVA, DVA and Credit VaR
11	22, 23	Scenario analysis, stress testing and operational risk
12	24, 25	Liquidity and model risk
13	26-28	Economic capital, enterprise risk management

Learning and Teaching Activities

Teaching and Learning Strategy

The teaching strategy in this unit recognises that students learn independently and assume responsibility for the learning process and with academic integrity. Students are expected to participate in the unit by attending lectures, reading the provided material, thoroughly revising the lecture notes, preparing answers to the provided tutorial and other exercise questions, and reading additional material about important issues in investment and risk. What we aim to achieve in this unit is deep (as opposed to surface) learning. Thus, learning is interpreted as making sense or abstracting meaning. Learning involves relating parts of the subject matter to each other and to the real world. Further learning is understood as comprehending the world by understanding and re-interpreting knowledge. The teaching philosophy is articulated as comprising large group learning, small group learning, and independent learning.

Large group learning

Lectures are intended to provide an overview of conceptual frameworks and issues in applied finance that are critical to the core themes of the unit.

Small group learning

Tutorials are intended to provide an opportunity to work through solutions to exercise questions attached the lectures, and for discussion of the course materials. Group assessment tasks also provide an opportunity for students to learn together in small groups.

Independent learning

This unit also relies on independent learning where students read the textbook and other relevant material, revise the lecture notes, prepare answers to the provided exercise questions, participate in discussions and extend themselves by doing additional reading, questions, exercises and problems.

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central. Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy http://mq.edu.au/policy/docs/academic_honesty/policy.html

Assessment Policy http://mq.edu.au/policy/docs/assessment/policy.html

Grading Policy http://mq.edu.au/policy/docs/grading/policy.html

Grade Appeal Policy http://mq.edu.au/policy/docs/gradeappeal/policy.html

Grievance Management Policy http://mq.edu.au/policy/docs/grievance_management/policy.html

Disruption to Studies Policy http://www.mq.edu.au/policy/docs/disruption_studies/policy.html *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the Learning and Teaching Category of Policy Central.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/support/student_conduct/

Results

Results shown in *iLearn*, or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au.

Supplementary Examinations

Further information regarding supplementary exams, including dates, is available here

http://www.businessandeconomics.mq.edu.au/current_students/undergraduate/how_do_i/disruption_to_studies

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- Workshops
- StudyWise
- Academic Integrity Module for Students
- Ask a Learning Adviser

Student Services and Support

Students with a disability are encouraged to contact the Disability Service who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

IT Help

For help with University computer systems and technology, visit http://informatics.mq.edu.au/hel

p/.

When using the University's IT, you must adhere to the <u>Acceptable Use Policy</u>. The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

Learning outcomes

- Know how to measure expected returns, risks and dependencies among financial instruments.
- Understand the role and characteristics of international financial markets and the institutions and intermediaries.
- Understand the pricing of various financial products like equity, fixed income instruments or derivatives and know how these products can be used for risk management and hedging.
- Evaluate quantitative models for financial variables, for example with respect to their volatility, dependence structure and time series properties.

Assessment tasks

- Class Test
- Assignment
- Final Examination

Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

Learning outcomes

- Know how to measure expected returns, risks and dependencies among financial instruments.
- Understand the role and characteristics of international financial markets and the institutions and intermediaries.
- Understand the pricing of various financial products like equity, fixed income instruments or derivatives and know how these products can be used for risk management and hedging.
- Evaluate quantitative models for financial variables, for example with respect to their volatility, dependence structure and time series properties.

Assessment tasks

- Class Test
- Assignment
- Final Examination

Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

Learning outcomes

- Know how to measure expected returns, risks and dependencies among financial instruments.
- Understand the pricing of various financial products like equity, fixed income instruments or derivatives and know how these products can be used for risk management and hedging.
- Evaluate quantitative models for financial variables, for example with respect to their volatility, dependence structure and time series properties.

Assessment task

- Assignment

Effective Communication

We want to develop in our students the ability to communicate and convey their views in forms

effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

This graduate capability is supported by:

Learning outcome

- Understand the role and characteristics of international financial markets and the institutions and intermediaries.

Assessment task

- Assignment

Changes from Previous Offering

Some minor changes in topic coverage, consistent with revisions in latest edition of the required textbook.

Assessment tasks changed:

2014: Assessed Coursework 10%; Class Test 15%; Assignment 20%; Final Examination 55%

2015: Class test 20%; Assignment 20%; Final exam 60%

Research and Practice

- This unit uses research by Macquarie University researchers
- This unit uses research from external sources
- This unit gives you practice in applying research findings in your assignments
- This unit gives you opportunities to conduct your own research

Changes since First Published

Date	Description
15/07/2015	Update supplementary exam information.
15/07/2015	Update email address.