University of the West of England
BRISTOL

MODULE SPECIFICATION

Code: UMECRK-15-M **Title**: Risk Management **Version**: 1

Level: M **UWE credit rating:** 15 **ECTS credit rating**: 7.5

Module type: Standard

Owning Faculty: FBL **Field**: Economics

Valid from: 1 September 2008 **Discontinued from:**

Contributes towards: MSc Finance, MA Economics

Pre-requisites: None

Co-requisites: None

Excluded combinations: None

Aim of module

- Is to provide students with a profound knowledge and critical understanding of recent techniques and issues in risk management
- Is to provide students with a critical awareness of risk in financial markets
- Is to equip students with recent methods of risk measurement
- The module complements and extends knowledge acquired in the previous semester

Learning outcomes

On successful completion of this module students will be able to:

- Distinguish different sources of financial and operational risks (A)
- Apply and critically assess simple approaches of risk measurement (A)
- Demonstrate an understanding of the fundamental concepts of hedging with derivatives (A)
- Apply complex risk measurement techniques and will be able to discuss their drawbacks and advantages (A)
- Distinguish different forms of market risk and their measurement and management (A)
- Understand yield curves and calculate duration and convexity measures (A)

In addition the educational experience may explore, develop, and practise but not formally discretely assess the following:

- Working as a team member.
- Presentation of own work to a group
- Facility in the use of EXCEL

Syllabus outline

1. Sources of risk (financial)
2. Sources of risk (operational and business risks)
3. Simple approaches to risk measurement (s.d. variance, CAPM, 'Greeks')
4. Volatility and GARCH modelling (Using EXCEL Solver: S&P 500)
5. Value at Risk measures (expected shortfall, time horizon, confidence level, types of VaR measures,
   back testing, stress testing)
6. VaR and historical simulation (methodology, accuracy, historical and weighted historical simulation)

7. Extreme value theory (define, parameter estimation, choosing the threshold, QQ plot; application: S&P 500)
8. Hedging with derivatives (forwards and futures)
9. Hedging with derivatives (options)
10. Credit risk (credit ratings, historical default probabilities, estimating default probabilities from bond prices)
11. Interest rate risk and asset/liability management (measuring interest rates, duration, yield curve, interest rate deltas)
12 Managing operational risk (different ways of operational risk management, steps to measuring operational risk, capital attribution for operational risk)

Teaching and learning methods

The aim of the module is to provide students with an understanding of a variety of financial and operational risks, their measurement and management. A variety of teaching methods will be used, centred on conventional lectures and seminars. However, selected topics (e.g. 4, 5 and 6) will be explored through workshop sessions using EXCEL.

The core of the programme will be a series of lectures and seminars. A variety of teaching methods will be used. Students will be confronted with a series of practical exercises which will enable them to build up a range of valuation and other analytical techniques.

Students will be actively encouraged to make themselves familiar with the study skills web pages and in particular to read widely around the subject matter. Active use will be made of the Blackboard facilities.

Reading Strategy

Students will be encouraged to make full use of the print and electronic resources available to them through membership of the University. These include a range of electronic journals and a wide variety of resources available through web sites and information gateways. The University Library's web pages provide access to subject relevant resources and services, and to the library catalogue. Many resources can be accessed remotely. Students will be presented with opportunities within the curriculum to develop their information retrieval and evaluation skills in order to identify such resources effectively.

Students will be expected to utilise a range of reading and other materials to undertake further independent research to extend their familiarity and appreciation of the subject and to help them prepare for the in-course assessment and examination in this module. To this end, extensive use will be made of Blackboard, additionally, students will also be encouraged to utilise the study skills web pages.

At the moment, the essential reading (and core text) is likely to be Hull, J C, 2007, *Risk Management and Financial Institutions*. London: Pearson. Subject to confirmation in module handbook, students will be expected to purchase the core text.

At this level we would also expect students to explore sources which report the most recent research in risk and risk management. This would include the working papers of LSE's Financial Markets Group, the journals *Risk* and *Journal of Risk Management*, and the Bank of England's *Financial Stability Review.*

Indicative sources:

Bodhoukh, J, M Richardson and R Whitelaw, 'The best of both worlds', *Risk*, 11, May 1998, 64-67
Christoffersen, P F, 2003, *Elements of Financial Risk Management*. London: Academic Press.
Crouhy, M, Galai, D, and Mark,R, 2000, *Risk Management*. London: McGraw-Hill
Marrison,C, 2002, *The Fundamentals of Risk Measurement*. London: McGraw-Hill.
Journal of Risk Management
Risk.

Assessment

There will be both formative and summative assessment on the module. The formative assessment will be through continuous feedback on tutorial and workshop exercises whilst the summative assessment will be through a two hour exam. The major part of the examination will require students to write an analysis of selected risk management problems. The analysis will be written without recourse to notes, books or other aids and it will require students to show that they can apply concepts and principles that have been discussed in the course.

Percentage split

Weighting between components A (controlled component) and B	n/a

ATTEMPT 1

First Assessment Opportunity
Component A

Description of each element	Element weighting
1 2 hour exam (part seen)	100%

Second Assessment Opportunity (further attendance at taught classes is not required)

Component A

Description of each element	Element weighting
1 2 hour exam (part seen)	100%

ATTEMPT 2 (OR SUBSEQUENT): Attendance at taught classes is required