

# Credit Risk Modelling Courses for Finance Professionals

Course Director: Professor Brian O'Kelly  
Creative Capital Partners

Brand New Course

## WHO SHOULD ATTEND

- ✓ Risk Managers
- ✓ Credit Portfolio Managers
- ✓ Credit Relationship Managers
- ✓ Quantitative Analysts
- ✓ Bank and insurance regulators

## REGISTRATION FEES:

Standard Course Fees: **GBP 1,750 plus VAT (where applicable)** per person for the 2-day course. Fee includes tuition, lunch, refreshments and teaching materials. Hotel accommodation is not included in the course fee. VAT will be charged only on the invoice for (i) Swedish persons or entities or (ii) entities or persons not registered for VAT in other domiciles.

## INVOICE:

An invoice will be sent upon receipt of registration form. Please note that payment must be received prior to the course.

## TEAM DISCOUNT

When two or more colleagues from one institution attend the same course, there is a 10% discount available on the second and additional bookings.

## CANCELLATION POLICY:

A full refund less an administration fee of GBP 100 will be given for cancellation requests received up to 10 working days before the event. Cancellations must be made by email before the 10 working days deadline. Delegates who cancel less than 10 days before the event, or who don't attend, are liable to pay the full course fee and no refunds can be given. However, if you have paid your course fee in full, you may wish to attend the next course, as an alternative. Of course, a replacement delegate is always welcome.

## LAPTOPS:

Delegates must bring their own laptops complete with a version of Excel 2007 (or later) and Adobe Acrobat together with an active USB port. All other materials will be supplied.

## PERSONAL DETAILS

Family Name \_\_\_\_\_ (Mr/Mrs/Ms)

First Name \_\_\_\_\_

Position \_\_\_\_\_ Department \_\_\_\_\_

Company \_\_\_\_\_

Address: \_\_\_\_\_

Postcode \_\_\_\_\_ Country \_\_\_\_\_

Telephone \_\_\_\_\_ Email \_\_\_\_\_

## PAYMENT DETAILS

☐ Please Invoice me/ my institution. Purchase order no \_\_\_\_\_

☐ MONEY TRANSFER please remit the payments to SEB, ST BV, 106 40, Stockholm, Sweden Swift Code: ESSESESS, IBAN: SE93 5000 0000 0542 3826 3774

☐ CHEQUE enclosed with order for GBP \_\_\_\_\_ made payable to CREATIVE CAPITAL PARTNERS

☐ PAYPAL to CREATIVE CAPITAL PARTNERS

## 5 EASY WAYS TO REGISTER

Post this form to: Luke Mellor  
Creative Capital Partners  
Engelbrektsgatan 25  
Stockholm S-114 32  
Sweden

Register on Facebook: Creative Capital Partners

Telephone us on: +46 73 645 9936

email us: luke.mellor@creative-cap.com

## PUBLIC SECURITIZATION COURSES THE WORLD OVER IN 2020



## CREDIT PORTFOLIO RISK MODELLING

2 Day Excel Based Practical Programme  
Email for Dates – 25% Discount Online Courses

Assessing the risk of credit portfolios is a key challenge facing banks, funds, insurers and pension funds investing in credit-risk assets. This course will address the major issues confronting those charged with modelling credit portfolio risks:

- The key elements of credit risk: probability of default, loss given default and exposure at default.
- The impact of correlation on the shape of the credit portfolio loss distribution
- Measuring the effect of concentrations in a credit portfolio
- Assessing the risk of a borrower guaranteed by another entity
- How Basel II and Basel III assess the credit risk of retail, corporate and bank loan portfolios
- Determining the capital required to achieve a desired credit rating for debt
- Measuring and pricing the credit risk of structured debt

18 Years  
Securitisation  
Training  
1999-2017

Each delegate will receive a prestigious Certificate of Completion together with free copies of all the software used.

Social Media: Search for “Creative Capital Partners” on any of the above social media for details of this and all our other courses worldwide

Information Hotline: +46 73 645 9936  
luke.mellor@creative-cap.com

# CREDIT PORTFOLIO RISK MODELLING

REGISTRATION ON DAY ONE IS AT 8:30AM – THE COURSE RUNS FROM 9:00AM UNTIL 5:00PM

## COURSE OVERVIEW

The default correlation between two borrowers is much less than their equity correlation. Low default correlation implies that most of the risk in credit portfolios is diversifiable. The benefits of applying a portfolio approach to credit are, therefore, all the greater.

The aim of the course is to teach the fundamental concepts of Credit Portfolio Risk Modelling.

A primary reason to adopt a quantitative portfolio approach to credit risk management is so that concentration risk can be addressed on a more systematic basis. Similarly, credit lines and limits can be established in a consistent manner.

Structured investment products are created from portfolios and can only be analysed using portfolio modelling techniques. For instance, understanding the risks embedded in RMBS, CDOs and ABS requires the ability to implement credit portfolio modelling techniques.

## CREDIT RISK OVERVIEW

A portfolio credit risk methodology can inform a rational, risk-based capital allocation process.

A rigorous, quantitative credit risk measurement approach equips the investment manager to identify diversification benefits and act on the insights provided.

- Measuring credit risk: the structural and reduced form approaches
- Modelling credit risk: default and credit migration modes
- Measuring default correlation
- Simple models of corporate structure, subordination and default processes.
- Case study: measuring the risk of one entity guaranteed by another

## CAPITAL ALLOCATION

- Allocating portfolio capital to the component exposures
- Using covariance as basis for capital allocation
- Capital allocation based on contribution to tail of distribution
- Tail-based and variance-based allocation approaches compared

## PORTFOLIO RISK MANAGEMENT

The Vasicek credit portfolio modelling approach is introduced to assess the effect of correlation in a highly-diversified portfolio. This approach is extended to assess the capital a bank requires to support that portfolio at a target rating level. The Basel II internal ratings-based capital formula is introduced and the link to the Vasicek model is established.

The CreditMetrics model will be used to derive the full credit loss distribution and determine its attributes. The contribution of each facility to portfolio capital will be calculated and each facility's RAROC and EVA determined. By reducing credit concentrations and taking exposure to new credits which exhibit less correlation with the portfolio, the RAROC and EVA of the portfolio can be improved.

## RISK MANAGEMENT STRATEGY

The course will take an in depth look at risk management strategy. Topics will include:

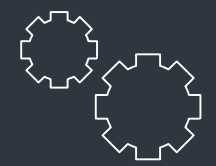
- Portfolio management objectives: balancing risk and diversification to maximise risk adjusted return on assets..
- Diversification, granularity and correlation concepts
- Techniques to reduce concentration risk: syndication, sub-participation, whole loan sales, credit derivatives, securitisation
- Valuation of credit default swaps (CDS)
- CDS structure and uses as well as index and basket CDS
- Using index tranche products to measure default correlation

## CREDIT RISK MODELS - INTRODUCTION TO CREDIT PORTFOLIO MODELS

- Use of basic statistics for risk management:
- Volatility, correlation, VaR, Monte Carlo simulation
- Use of copula functions to model default correlation
- Default models and mark to market / multi-state models
- Models used in industry: KMV, Credit Risk+, CreditMetrics
- Key features and advantages and disadvantages of each model
- Scenario and sensitivity analysis
- Sensitivity of key inputs
- Case study: analysing a simple structural Credit Portfolio model

## ECONOMIC CAPITAL

- Key differences between regulatory (Basel II) and economic capital
- Uses of economic capital and economic value added concepts in a bank
- Relationship between shareholder, regulatory and economic capital



## COURSE DIRECTOR

**Dr. Brian O'Kelly** is Professor of Finance at Dublin City University (DCU) in Ireland and an Associate at Creative Capital Partners, a training and securitisation consultancy founded in 1999. Its clients include the ECB, the UK FCA, the EIB as well as other major banks worldwide. Thousands of credit professionals have taken their courses. Professor O'Kelly leads the M.Sc. in Investment, Treasury and Banking programme at DCU. He has worked in senior **risk roles in AIB Capital Markets, QED Equity and Permanent TSB for over twenty years.**



## TEACHING METHODS

Each topic is explored in depth and then understanding is enhanced by applying the methods learned to a practical problem. Delegates are invited to build models embedding the principles which have been introduced. Completed Excel-based models are provided by the Course Director after each topic is completed



## PRE-COURSE READING

Upon registration, each delegate will be sent an email link to a Dropbox account where all the pre-course material will be available. In addition, to the background course material, the Dropbox account will contain a short cheat sheet of Excel functions that will ensure even an Excel beginner will be armed with the requisite programming skills.



## COURSE BACKGROUND

A robust credit portfolio model is a necessity for any organisation acquiring credit-risk assets. Understanding how each credit contributes to the risk of the overall portfolio is a central component of the investment decision.

## COURSE OBJECTIVES

This course aims to equip delegates with the knowledge and the tools necessary to analyse the risk of credit portfolios and enable them to initiate appropriate changes.

It develops the basic mathematics necessary to undertake equity portfolio analysis and then adapts the approach to the demands of the credit market. It applies the portfolio approach first to a portfolio of two credits, then to an infinitely diversified portfolio of credits, before finally applying the approach to a typical real-world portfolio.

