NAKE Course "Econometrics of Pricing and Macro-Finance"

Alain Montfort

23 – 25 January 2012

Schedule (content of lectures may be subject to small changes)

Monday 23 January 2012		
Monday Afternoon (3hrs)	Session 1: Chapters 1, 2 & 3 1)Econometric Modeling of the Information, Historical Dynamics 2)Stochastic Discount Factor, Risk Neutral Dynamics 3)Typology of Econometric Asset Pricing Models	
Tuesday 24 January 2012		
Tuesday Morning (3hrs)	Session 2: Chapters 5 & 6 5)Interest Rates Term Structure 6)Exchange Rate Modeling	
	Lunch	
Tuesday Afternoon (3hrs)	Session 3: Chapters 7 & 8 7)Credit Risk Analysis 8)Econometric Framework of Macro-Finance	
Wednesday 25 January 2012		
Wednesday Morning (3hrs)	Session 4: Chapters 9 & 10 9)Response Functions 10)Applications	

Examination
Essay

Credits
3 ECTS can be granted to those participants needing it.

Location
Maastricht University School of Business and Economics (SBE)
Tongersestraat 53, 6211 LM, Maastricht, The Netherlands
For route description, click here.

Participation fee
Research master students and PhD candidates in Economics or Business from the Universities of Maastricht, Tilburg, Utrecht and Groningen can participate free of charge.
Other students/ researchers should contact the organizers (see below) for participation (and participation fee).

Residence
You can search and book at http://www.unimaas.nl/congresbureau/aanvraag.htm.
As the building of the SBE is situated in the center of the city, you are advised to book a hotel in the city center.

Contact the organizers
For more information, contact Esther Kockelkoren at e.kockelkoren@maastrichtuniversity.nl

ECONOMETRICS OF PRICING AND MACRO-FINANCE

Alain MONFORT

The objective of this course is to study the models and the econometric methods which are adapted to asset pricing and macro-finance problems. A general discrete time methodology of asset pricing is presented and a typology of pricing models is proposed. The various approaches are first applied to options, interest rates (based from riskless and defaultable bonds) and exchange rates. Then a general framework for macro-finance modeling is derived, which is able to take into account crises, default risk, liquidity risk, contagion... The notion of response function is treated in detail. Applications to term premia in the U.S. and spreads in the euro-zone are given.

1. ECONOMETRIC MODELING OF THE INFORMATION, HISTORI-CAL DYNAMICS

Factors, Laplace transform, conditionally Gaussian, Mixed Gaussian or Spline dynamics, Car models, semi-parametric approach.

2. STOCHASTIC DISCOUNT FACTOR, RISK NEUTRAL DYNAMICS

Stochastic discount factor (SDF), CCAPM, absence of arbitrage opportunity, exponential affine SDF, risk neutral (RN) dynamics, risk premia.

3. TYPOLOGY OF ECONOMETRIC ASSET PRICING MODELS

Status of the short rate, direct modeling, direct modeling with RN constraints, back-modeling, Internal Consistency Conditions (ICC), non-linear state-space models.

4. OPTION PRICING

Truncated Laplace transform, transform analysis, conditionally Gaussian, Mixed Gaussian approach, regime switching, GARCH modeling (with or without switching), stochastic volatility.

5. INTEREST RATES TERM STRUCTURE

Zero coupon bonds, affine models, Gaussian models with stochastic risk sensitivity, switching VARMA models, quadratic and Wishart models application to US term structure.

6. EXCHANGE RATE MODELING

Joint modeling of interest rates, exchange rates and market indexes of several countries, futures, forwards, swaps, options, Wishart processes.

7. CREDIT RISK ANALYSIS

Modeling of defaultable bonds, first to default rates, Credit VaR, examples.

8. ECONOMETRIC FRAMEWORK OF MACRO-FINANCE

Factor models, regime switching, systemic risk, default risk, liquidity risk, contagion, modeling of rating transition.

9. RESPONSE FUNCTIONS

Innovation, new information, quantitative and qualitative information, information on future responses, information on filters, information on future paths.

10. APPLICATIONS

Term premia, inflation risk premia, persistence, averaging estimators, interest rate spreads, historical and risk neutral default probability.

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