

13th Annual International Conference on

Real Options

Theory Meets

Practice

Organized by

Real Options Group

University of Minho, Portugal

University of Santiago de Compostela, Spain

In cooperation with

Bank of Cyprus Chair/University of Cyprus

Northwestern University

and University of California at Los Angeles

June 17 - 20, 2009

Braga, Portugal & Santiago, Spain

Program Sessions Summary Guide

DAY 1 - THURSDAY, JUNE 18 (BRAGA, PORTUGAL)

8:30-9:00 Registration
9:00-10:00 Welcome & President's Address
10:45-12:00 Infrastructure/Systems Investment (3)
12:00-1:15 Luncheon
1:15-2:30 Case Applications (4)
2:45-4:00 Empirical Evidence (3)
4:30-5:20 Keynote Address by Michael J. Brennan (U. Manchester)
5:30-6:20 Panel Discussion: Financial Crisis, Volatility and Real Options Views
6:30-8:00 Tour of Braga
8:15-9:30 Networking Reception

DAY 2 - FRIDAY, JUNE 19 (BRAGA, PORTUGAL)

Track I	Track II
9:00-10:15 Commodity Switching Options (3)	9:00-10:15 Optimal Investment (Timing & Scale) (3)
10:45-12:00 Energy Applications (3)	10:45-12:00 Competition & Strategy Games (4)
12:00-1:30 Luncheon Address by Richard de Neufville (MIT)	
1:30-3:00 Optimal Extraction & Harvesting (4)	1:30-3:00 Environmental Policy & Sustainable Development (4)

3.15 MOVE TO SANTIAGO, SPAIN BY BUS

Excursion in Santiago, Gala Dinner & Networking

Gala Dinner Address by Dean Paxson (U. Manchester)

DAY 3 - SATURDAY, JUNE 20 (SANTIAGO, SPAIN)

Track I	Track II
8:30-9:00 Registration	
9:00-10:15 Capital Structure (3)	9:00-10:15 Alternative Methods (3)
10:45-12:00 Debt/Agency (3)	10:45-12:00 Location & Segmentation (3)
12:00-1:30 Luncheon	
1:30-2:45 Theoretical Issues (3)	1:30-2:45 Investment, Divestiture/Abandonment (3)
3:15-4:30 Computational Applications (3)	3:15-4:30 Conceptual Models (3)
4:40-5:30 Panel Discussion: Current State, Challenges and Future Prospects	

Program Sessions

DAY 1 – THURSDAY, JUNE 18

8:30 – 9:00 Registration

9:00 – 9:15 Welcome

9:20 – 10:00 President's Address

*L. Trigeorgis (U. Cyprus & President, Real Options Group)
Human Capital Flexibility*

10:00 – 10:45 Morning Coffee Break

10:45 – 12:00 Infrastructure/Systems Investments

Chairperson: L. Trigeorgis (U. Cyprus)

F. Blank, T. Baidya (PUC-Rio), and M. A. Dias (PUC-Rio and Petrobras, Brazil), *Private Infrastructure Investment Through Public Private Partnership: An Application to a Toll Road Highway Concession in Brazil*

M.-A. Cardin and R. de Neufville (Massachusetts Institute of Technology, USA), *Identifying Real Options "In" Large-Scale Infrastructure Systems*

S. von Helfenstein (Braver P.C., USA), *Real Options in Economic Systems and Portfolio Theory*

12:00 – 1:15 Luncheon

1:15 – 2:30 Case Applications

Chairperson: E. Ortíz (UNAM, Mexico)

C. Juan, F. Olmos, P. Alfaro (U. of Valencia, Spain) and R. Ashkeboussi (Frostburg State U., USA), *Strategic Alliances, Contractual Options and Risk Transfers in Land-Marine Transportation*

M. Mendez (ESIC Business and Marketing School), A. Goyanes (EETEK) and Prosper Lamothe (U. Autonoma de Madrid, Spain), *Valuation of a Wind Farm Investment: An Application in Spain*

C. E. Cardoso, D. M. L. Martin, E. F. Marcal, H. Kimura (Mackenzie Presbyterian U.) and E. K. Kayo (U. of Sao Paulo, Brazil), *When to Get in or Get Out: Analysis of Coffee Planting in Brazil*

E. Martinez-Miranda and E. Ortiz (U. Nacional Autonoma de Mexico, Mexico), *Valuation of Social Investment: An Application to a Highway Development Project in Mexico*

2:45 – 4:00 Empirical Evidence

Chairperson: M.R. Armada (U. Minho, Portugal) and D. Paxson (U. Manchester)

I. Estrada, G. de la Fuente and N. Martín-Cruz (U. Valladolid, Spain), *An Empirical Study of Technological Joint Venture Formation*

P. de Andrés, G. de la Fuente (U. Valladolid, Spain) and L. Pacheco (U. Austral de Chile, Chile), *The Impact of Growth Options on Systematic Risk: Empirical Evidence from European Firms*

M. Hajek (Czech Technical U. in Prague, Czech Republic), *Deferral Option on Thermal Building Rehabilitation Investment: Empirical Evidence from Residential Customers in Czech Republic*

4:00 – 4:30 Afternoon Coffee Break

4:30 – 5:20 Keynote Address by Michael J. Brennan (U. Manchester)

Tranching and Rating

5:30 – 6:20 Panel Discussion

Financial Crisis, Volatility and Real Options Views

Moderator: Gill Eapen (Decision Options LLC, USA)

Panelists Include:

Luiz Brandao (PUC-Rio, Brazil)

Sarah von Helfenstein (Braver PC, USA)

Dean Paxson (U. Manchester, UK)

Richard de Neufville (MIT, USA)

6:30 – 8:00 Tour of Braga

8:15 – 9:30 Networking Reception

Sponsored by ROG and U. Minho

DAY 2 – FRIDAY, JUNE 19

8:30 – 9:00 Registration

9:00 – 10:15

I. Commodity Switching Options

Chairperson: L. Brandao (PUC-Rio, Brazil)

M. Cassano and G. Sick (U. Calgary, Canada), *Valuation of the Spark Spread in an LM6000 Power Plant in Canada*

L. E. T. Brandão (PUC-Rio), G. M. Penedo (Banco Itaú) and C. Bastian-Pinto (PUC-Rio, Brazil), *The Value of Switching Inputs in a Biodiesel Plant in Brazil*

J. Dockendorf and D. Paxson (U. Manchester, UK), *The Value of Switching Outputs in a Fertilizer Plant in the US*

II. Optimal Investment (Timing & Scale)

Chairperson: K.J.M. Huisman (Tilburg U., Netherlands)

V. Hagspiel, K.J.M. Huisman and P. M. Kort (CentER, Tilburg U., Netherlands), *Production Flexibility and Investment under Uncertainty*

M. Goto (Waseda U.) and R. Takashima (U. Tokyo, Japan), *Optimal Investment, Capacity Choice and Outsourcing*

M. Della Seta (Tilburg U., Netherlands), *The Learning Curve and Optimal Timing and Intensity of Investment*

10:15 – 10:45 Morning Coffee Break

10:45 – 12:00

I. Energy Applications

Chairperson: T. Mennel (ZEW, Germany)

F. Kjærland and B. Larsen (Bodø Graduate School of Business, Norway), *The Value of Operational Flexibility to Add Thermal to Hydropower: An Application in Norway*

B. Felix, O. Woll and C. Weber (U. Duisburg-Essen, Germany), *Gas Storage Valuation Under Limited Market Liquidity: An Application in Germany*

S. Scatista and T. Mennel (Centre for European Economic Research /ZEW, Germany), *Comparing Feed-In-Tariffs and Renewable Obligation Certificates: The Case of Wind Farming in Germany*

II. Competition & Strategy Games

Chairperson: D. Paxson (U. Manchester, UK)

G. Femminis (Catholic U., Milan) and G. Martini (U. Bergamo, Italy), *R&D Investment With Inter-Firm Spillovers*

A. Azevedo (Hull U.) and D. Paxson (U. Manchester, UK), *Uncertainty and Competition in the Adoption of Complementary Technologies*

J. Imai (Keio U., Japan), *The Innovator's Dilemma Under Customer Preferences Uncertainty*

K. Huisman and P. Kort (CentER, Tilburg U., Netherlands), *Strategic Capacity Investment Under Uncertainty*

12:00 – 1:30 Luncheon Address by Richard de Neufville (MIT)

Flexibility in Design

1:30 – 3:00

I. Optimal Extraction & Harvesting

Chairperson: G. Sick (U. Calgary, Canada)

H. Ghoddusi (Vienna Graduate School of Finance, Austria), *Optimal Investment in Extraction Capacity of Exhaustible Resources*

M. Shumlich and C. Wilson (U. Saskatchewan, Canada), *Testing the Hotelling Valuation Principle: Empirical Evidence from Canadian Oil and Gas Royalty Trusts*

E. Navarrete (U. de la Frontera, Chile) and P. Lamothe (U. Autonoma de Madrid, Spain), *Optimal Stochastic Harvesting with Price and Stock Uncertainties: An Application to Radiata Pine Forest in Chile*

R. B. Kerr, D. M. L. Martin, H. Kimura, L. C. J. Perera, L. F. C. Basso (Mackenzie Presbyterian U., Brazil), and Fabiano Guasti Lima (U. Sao Paulo, Brazil), *Valuation and Optimal Harvesting: An Application to Eucalyptus Forestry Investment in Brazil*

II. Environmental Policy & Sustainable Development

Chairperson: E. Agliardi (U. Bologna, Italy)

M. Gotoh, (Waseda U.), R. Takashima (U. Tokyo) and M. Tsujimura (Ryukoku U., Japan), *Choice of Alternative Environmental Policies with Adjustment Costs under Uncertainty*

L. M. Abadie (BBK) and J. M. Chamorro (U. Basque Country, Spain), *Investments in Energy Efficiency Improvement Under Climate Policy Uncertainty*

E. Agliardi (U. Bologna, Italy), *Sustainable Development in Uncertain Economies*

K.-r. Hong (Central South U., China), *Sustainable Equilibrium Evaluation of Large-Scale Development Projects*

3:15 MOVE TO SANTIAGO, SPAIN BY BUS

Excursion in Santiago. Gala Dinner & Networking

Gala Dinner Address by Dean Paxson (U. Manchester, UK)

Why Real Options?

DAY 3 – SATURDAY, JUNE 20

8:30 – 9:00 Registration

9:00 – 10:15

I. Capital Structure

Chairperson: G. Pawlina (Lancaster U., UK)

T. Shibata (Tokyo Metropolitan U.) and M. Nishihara (Osaka U., Japan), *Dynamic Investment and Capital Structure Under Manager-Shareholder Conflict*

K. Yagi, R. Takashima (U. Tokyo) and K. Sawaki (Nanzan U., Japan), *An Optimal Investment Policy in Equity-Debt Financed Firms with Finite Maturities*

B. Lambrecht and G. Pawlina (Lancaster U., UK), *Capital Structure, Liquidity and Transferable Human Capital in Competitive Equilibrium*

II. Alternative Methods

Chairperson: M. Collan (Abo Academy U., Finland)

L. E. G. Fernández and M. Garijo (Polytechnic U. of Madrid, Spain), *Modeling Real Options Problems by Activity Diagrams and Simulation*

M. Collan, R. Fullér (IAMSR, Abo Academy U.) and J. Mezei (Turku U., Finland), *Compound Real Options with Fuzzy Pay-off*

V. Arkin and A. Slastnikov (Central Economics and Mathematics Institute, Russian Federation), *Variational Approach to Optimal Stopping and Stefan Problem*

10:15 – 10:45 Morning Coffee Break

10:45 – 12:00

I. Debt/Agency

Chairperson: G. Sick (U. Calgary, Canada)

B. Djembissi (CNAM Paris, France), *Excessive Risk Taking and the Maturity Structure of Debt*

I. U. Gucbilmez, S. Banerjee and G. Pawlina (Lancaster U., UK), *A Theory of Loan Commitments Based on the Borrower's Investment Incentives*

H. Ghoddusi and B. Siyahhan (Vienna Graduate School of Finance, Austria), *Skilled Labor, Immigration Option and Optimal Investment in Human Capital*

II. Location & Segmentation

Chairperson: A. Rodrigues (U. Minho, Portugal)

R. Takashima and K. Yagi (U. Tokyo, Japan), *Optimal Investment Timing and Location Under Uncertainty*

G. Couto (U. Azores) C. Nunes (U. Técnica de Lisboa) and B. Silva (IST/UTL, Portugal), *Expected Time to Invest in a New Location*

A. Rodrigues (U. Minho, Portugal), *Market Segmentation Under Uncertainty*

12:00 – 1:30 Luncheon

1:30 – 2:45

I. Theoretical Issues

Chairperson: V. Babich (U. Michigan, USA)

R. Adkins, (U. Salford) and D. Paxson (U. Manchester, UK), *Redevelopment of Real Property Assets*

S. Jaimungal (U. Toronto, Canada), M. Souza (U. Federal Fluminense) and J. Zubelli, (Instituto de Matemática Pura e Aplicada, Brazil), *Real Option Pricing with Mean-Reverting Investment and Project Value*

V. Babich (U. Michigan, USA), *Manufacturer Capacity Ordering and Financial Subsidy Policy to Risky Suppliers*

II. Investment, Divestiture & Abandonment

Chairperson: L. Otero (U. Santiago, Spain)

M. Flanagan (Manchester Metropolitan U.) and D. Paxson (U. Manchester, UK), *Investment Timing and Foreclosure: An Application to Buy To Let Real Estate Property in the UK*

S. Gryglewicz (Erasmus U., Netherlands), *Partial Divestment and Firm Sale Under Uncertainty*

J. Oliveira (DGE, U. da Madeira) and J. Duque (ISEG, U. Técnica de Lisboa, Portugal), *A Multi-Cycle Two-Factor Model of Asset Replacement with Salvage*

3:15 – 4:30

I. Computational Applications

Chairperson: S. Martzoukos (U. Cyprus)

Y. Lawryshyn and S. Jaimungal (U. Toronto, Canada), *Valuation of a Municipal Wastewater Plant Expansion: An Application to a High Growth Resort Area in Canada*

S. Martzoukos (U. Cyprus), *Valuing Multivariate Contingent Claims With Catastrophic Risks*

G. Alesii (U. di L' Aquila, Italy), *Assessing Least Squares Monte Carlo for the Kulatilaka-Trigeorgis Switching Model*

II. Conceptual Models

Chairperson: M.R. Armada (U. Minho, Portugal)

T. Berg (Technical University of Munich), S. H. Mölls (Christian-Albrechts-U. of Kiel) and T. Willershausen (PricewaterhouseCoopers, Frankfurt, Germany), *Real Options, Uncertainty and Comparative Statics*

J. C. Dias (ISCAC Business School, Portugal) and M. Shackleton (Lancaster U., UK), *Investment Hysteresis and Hitting Time for Mean-Reverting CIR Diffusions*

N. Fusari (U. of Lugano and Swiss Finance Institute, Switzerland) and A. Gamba (U. of Verona, Italy, and George Washington University, USA), *Valuing Modularity As a Real Option*

4:40 – 5:30 Panel Discussion: Current State, Challenges and Future Prospects
Moderator: Gordon Sick (U. Calgary, Canada)

Panelists Include:

Kuno J.M. Huisman (Tilburg U., Netherlands)

Richard de Neufville (MIT, USA)

Dean Paxson (U. Manchester, UK)

Artur Rodrigues (U. Minho, Portugal)

Lenos Trigeorgis (U. Cyprus)

5:30 Closing Remarks
Conference Concludes