# Michail Chronopoulos

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September 2015 – present

Brighton BN2 4AT **©**: Personal Webpage United Kingdom **©**: UoB Webpage

**EDUCATION** University College London, London, UK

PhD, Statistics, 2011

• Dissertation Topic: "Investment decision making under uncertainty: the impact of risk aversion, operational flexibility, and competition"

• Primary Supervisor: Afzal Siddiqui • Subsidiary Supervisor: Bert De Reyck

Western Michigan University, Kalamazoo MI, USA

MSc, Statistics, May 2007

University of Ioannina, Ioannina, Greece

B.A., Mathematics, May 2004

University of Brighton, Brighton, UK Teaching

September 2016 - Present **PGCert** 

QUALIFICATIONS

Research Mathematical Finance, Operational Research, Real Options, Game Theory, Economics, Statistics, Interests

Applied Probability

Current University of Brighton, Brighton, UK

EMPLOYMENT Lecturer in Mathematical Sciences, Department of Computing Engineering and Mathematics

> Norwegian School of Economics, Bergen, Norway September 2015 – present

> Adjunct Associate Professor in Management Science, Department of Business and Management Sci-

ence

**PREVIOUS** EMPLOYMENT Norwegian School of Economics, Bergen, Norway September 2012 – August 2015

Assistant Professor in Management Science, Department of Business and Management Science

London Business School, London, UK

August 2011 – August 2012

Research Fellow, Management Science and Operations Subject Area

University College London, London, UK

August 2011 - August 2012

Research Associate in Energy Policy, Department of Management Science and Innovation

SELECTED **Publications**  Chronopoulos, M, V Hagspiel, & SE Fleten (2016), "Stepwise Investment and Capacity Sizing under Uncertainty," OR Spectrum, available online.

Chronopoulos, M & S Lumbreras (2016), "Optimal Regime Switching under Risk Aversion and Uncertainty," European Journal of Operational Research, 256(2): 543–555.

Blyth, W, D Bunn, M Chronopoulos, & J Munoz (2016), "Systematic Analysis of the Evolution of Electricity and Carbon Markets under Deep Decarbonisation," *Journal of Energy Markets*, 9(3): 59–94. (2 citations)

Lumbreras, S, DW Bunn, A Ramos, & M Chronopoulos (2016), "Real Options Valuation Applied to Dynamic Transmission Expansion Planning," *Quantitative Finance*, 16(2): 231–246. (1 citation)

Chronopoulos, M, V Hagspiel, & SE Fleten (2016), "Stepwise Green Investment under Policy Uncertainty," *The Energy Journal*, 35(4): 87–108. (1 citation)

Chronopoulos, M & A Siddiqui (2015), "When is it Better to Wait for a New Version? Optimal Replacement of an Emerging Technology under Uncertainty," *Annals of Operations Research*, 235(1): 177–201. (7 citations)

Chronopoulos, M, B De Reyck, & A Siddiqui (2014), "Duopolistic Competition under Risk Aversion and Uncertainty," *European Journal of Operational Research*, 236(2): 643–656. **(6 citations)** 

Chronopoulos, M, DW Bunn, & A Siddiqui (2014), "Optionality and Policymaking in Re-Transforming the British Power Market," *Economics of Energy & Environmental Policy*, 3(2). (5 citations)

Chronopoulos, M, B De Reyck, & A Siddiqui (2013), "The Value of Capacity Sizing under Risk Aversion and Operational Flexibility," *IEEE Transactions on Engineering Management*, 60(2): 272–288. (10 citations)

Chronopoulos, M, B De Reyck, & A Siddiqui (2011), "Optimal Investment under Operational Flexibility, Risk Aversion, and Uncertainty," *European Journal of Operational Research*, 213(1): 221–237. (27 citations)

Chronopoulos, M, B De Reyck, & A Siddiqui (2009), "Optimal Investment and Operational Decision-Making under Risk Aversion and Uncertainty," Conference Proceedings, INFORMS MSOM and SIG Meetings.

# SELECTED WORKING PAPERS

Sendstad, HL & M Chronopoulos, "Sequential Investment in Emerging Technologies under Policy Uncertainty," http://ssrn.com/abstract=2795475, under review.

Sendstad, HL & M Chronopoulos, "Sequential Innovation Investment and Technology Switching under Rivalry and Uncertainty".

Yushu, L & M Chronopoulos, "Empirical Option Pricing under Regime Switching and Stochastic Transition Probabilities".

Bunn, D, B De Reyck, M Chronopoulos, & A Siddiqui, "Generation Capacity Expansion in Electricity Markets under Rivalry and Uncertainty".

### Teaching

### University of Brighton, Brighton, UK

September 2015 – present

Lecturer

- MM151: Mathematical and Professional Skills

- MM255: Mathematical Methods

- MM341: Advanced Operational Research

- MM345: The Mathematics of Finance

- FY001: Core Mathematics (Engineering)

XE220: Mathematics and Control (Engineering)

# Norwegian School of Economics, Bergen, Norway

September 2012 – August 2015

Lecturer

– ENE422: Financial Aspects of Energy and Commodity Markets, taught at the level of Hull (2009), Options, Futures, and Other Derivatives, 7th Edition, Prentice-Hall.

### University College London, London, UK

**September 2008 – June 2010** 

Teaching Assistant

– ECON 2601: Economics II, taught at the level of Varian (1992), i.e., the MSc version of the textbook, and Mankiw, NG (2003), Macroeconomics, 5th Edition

# Western Michigan University, Kalamazoo MI, USA

September 2005 - May 2007

Teaching Assistant

- STAT 216: Business Statistics.
- STAT 160: Statistics and Data Analysis.

### Supervising

Lars Hegnes Sendstad, Doctoral Research Associate (2014–Present)

Alexander Alm, MSc Project (2015–2016)

Gabrielle Lattanzio, MSc Project (2015–2016)

Joachim Hansteen and Gjermund Larsen, MSc Project (2015–2016)

Kim Oshikoji, MSc Project (2015–2016)

Mats Abelsen and Stig Nystad, MSc Project (2014–2015)

Ole Randa, MSc Project (2014–2015)

Baek Ahyoung, MSc Project December (2014–2015)

Magnus Torgersen and Jone Helland, MSc Project (2014–2015)

Trine Tjetland and Martine Larsen, MSc Project (2014–2015)

Yi Zhou, MSc Project (2013–2014)

Ole Christian Sand, MSc Project (2013–2014)

Anastasia Ushakova, MSc Project (2013-2014)

### Workshops

Michail Chronopoulos and Gunnar S. Eskeland, "The Value of Better Wind Information in Investment Decisions" in <u>Intermittent Renewables</u>, Balancing Power and Electricity Market Design, Hardingasete, Norway (25–27 August 2014).

Modelling and Managing Electricity Markets, London Business School, 23 April 2012 London UK The workshop presents the latest techniques for price risk modelling, under the current challenges of technology mix, intermittency and market structure changes, as well as the effects of various regulatory interventions and policies

# Conference Presentations

Lars H Sendstad & Michail Chronopoulos, "Sequential Innovation Investment and Technology Switching under Rivalry and Uncertainty," in the  $\underline{34\text{th}}$  FIBE Conference, Bergen, Norway (5–6 January 2017).

Lars H Sendstad & Michail Chronopoulos, "Sequential Innovation Investment and Technology Switching under Rivalry and Uncertainty," in the <u>20th Annual International Real Options Conference</u>, Bergen, Norway (15–18 June 2016).

Lars H Sendstad & Michail Chronopoulos, "Sequential Investment in Emerging Technologies under Risk Aversion and Policy Uncertainty," in the <u>33rd FIBE Conference</u>, Bergen, Norway (7–8 January 2016).

Lars H Sendstad & Michail Chronopoulos, "Sequential Investment in Emerging Technologies under Risk Aversion and Policy Uncertainty," in the 19th Annual International Real Options Conference, Athens, Greece (17–20 June 2015).

Michail Chronopoulos & Sara Lumbreras, "Optimal Regime Switching under Risk Aversion and Uncertainty," in the 19th Annual International Real Options Conference, Athens, Greece (17–20 June 2015).

Michail Chronopoulos, Verena Hagspiel, & Stein-Erik Fleten, "Stepwise Green Investment under Policy Uncertainty" in the 32nd FIBE Conference, Bergen, Norway (8–9 January 2015).

Michail Chronopoulos, Verena Hagspiel, & Stein-Erik Fleten, "Stepwise Green Investment under Policy Uncertainty" in <u>Annual meeting of the Institute of Operations Research and Management Science (INFORMS)</u>, San Fransisco, CA, USA (9–12 November 2014).

Michail Chronopoulos & Gunnar S Eskeland, "The Value of Wind Information in Investment Decisions" in IAEE 2014, Rome, Italy (28-31 October 2014).

Michail Chronopoulos & Afzal Siddiqui, "When is it Better to Wait for a New Version? Optimal Replacement of an Emerging Technology under Uncertainty" in the <u>31st FIBE Conference</u>, Bergen, Norway (9–10 January 2014).

Michail Chronopoulos & Afzal Siddiqui, "Optimal Replacement of a Renewable Energy Technology under Uncertainty" in <u>Annual meeting of the Institute of Operations Research and Management Science (INFORMS)</u>, Minneapolis, MN, USA (9–10 October 2013).

Derek Bunn, Michail Chronopoulos, Bert De Reyck, & Afzal Siddiqui, "Generation Capacity Expansion in Electricity Markets under Rivalry and Uncertainty," in <u>Annual meeting of the Institute of Operations Research and Management Science (INFORMS)</u>, Phoenix, AZ, (14–17 October 2012).

Michail Chronopoulos, Derek Bunn, & Afzal Siddiqui, "An Options Approach to UK Energy Futures" in 35th IAEE International Conference, Perth, Australia (27 June 2012).

Michail Chronopoulos, Derek Bunn, & Afzal Siddiqui, "An Options Approach to UK Energy Futures" in UKERC Annual Assembly 2012, Warwick, UK (20–22 June 2012).

Derek Bunn, Michail Chronopoulos, Bert De Reyck, & Afzal Siddiqui, "Generation Capacity Expansion in Electricity Markets under Rivalry and Uncertainty," in 16th Annual International Real Options Conference, London, UK (27–30 June 2012).

Derek Bunn, Michail Chronopoulos, Bert De Reyck, & Afzal Siddiqui, "Generation Capacity Expansion in Electricity Markets under Rivalry and Uncertainty," in <u>Computational Management Science</u> Conference, London, UK (18–20 April 2012).

Michail Chronopoulos & Afzal Siddiqui, "Scaling the Capacity Size of the Investment Project under Uncertainty and Risk Aversion," in <u>Annual meeting of the Institute of Operations Research and Management Science (INFORMS)</u>, Austin, TX, USA (7–10 November 2010).

Michail Chronopoulos, Bert De Reyck, & Afzal Siddiqui, "Scaling the Capacity Size of the Investment Project under Uncertainty and Risk Aversion," in <u>Doctoral Candidates Colloquium part of the 27th FIBE Conference</u>, Bergen, Norway (7–10 January 2010).

Michail Chronopoulos, Bert De Reyck, & Afzal Siddiqui, "On the Impact of Operational Flexibility and Risk Aversion on Optimal Investment under Uncertainty" in <u>Annual conference of Manufacturing and Service Operations Management (MSOM) and the Special Interest Group (SIG) meetings</u>, Boston, MA, USA (28–30 June 2009).

INVITED SEMINARS Optimal Regime Switching under Risk Aversion and Uncertainty, University of Bergen, Bergen, Norway, (5 January 2017).

> Financial Management of Engineering Projects, London South Bank University, London, UK, (24-28 October 2016).

> When is it Better to Wait for a New Version? Optimal Replacement of an Emerging Technology under Uncertainty, Athens University of Economics and Business, Athens, Greece, (12 May 2014).

> Departmental seminar on the first and second chapter of the thesis. University College London, London, UK, (29 October 2009 and 20 October 2010).

### Honors and AWARDS

# • Finalist of the INFORMS Student Paper Travel Award (31 August 2010)

An award of the Energy, Natural Resources and Environment Section given annually to the best paper dealing with energy, environmental or natural resource issues by a student author who is presenting at the INFORMS Annual Meeting, as judged by a panel of the Energy and Natural Resources and the Environment Section.

# • Costas Goutis Prize (January 2009)

Awarded by the Department of Statistical Science for student excellence.

# Enabling ACTIVITIES

Chair of session "Real Options," FIBE 2017, Bergen, Norway (5–7 January 2017).

Chair of session "Finance II," FIBE 2015, Bergen, Norway (8-9 January 2015).

Chair of session "Optimal Resource Management," 16th Annual International Real Options Conference, London, UK (27 - 29 June 2012).

Chair of session "Energy and Natural Resources," FIBE 2013, Bergen, Norway (9–10 January 2014).

### Referee Service

Omega

Energy Economics Energy Policy Energy Systems

European Journal of Operational Research

IEEE Transactions on Smart Grid

International Journal of Production Economics

Journal of Energy Engineering

### Referees

- Derek Bunn, London Business School, Management Science and Operations Subject Area, London NW1 4SA, UK.
- Bert De Reyck, University College London, School of Management, London, WC1E 6BT, UK
- Afzal Siddiqui, University College London, Department of Statistics, London, WC1E 6BT, UK

# Computer Skills

Operating Systems Windows, Linux

Programming Matlab, Python, SAS, VBA, GAMS, Minitab

HTMLWeb Design **Typography** Latex

### LANGUAGES

Native Greek

Cambridge English: Proficiency (CPE) English Fluent

Norwegian Advanced

German Advanced Zentrale Mittelstufenprüfung (ZMP)