

**The 48th Money, Macro and Finance Research
Group Annual Conference, 7-9 September, 2016
Department of Economics, University of Bath**

**Optimal Monetary Policy and Imperfect
Information in DSGE Models**

**A Dynare/Matlab-Based Pre-Conference
One-Day Course, 6th September**

PAUL LEVINE
UNIVERSITY OF SURREY
p.levine@surrey.ac.uk

JOSEPH PEARLMAN
CITY UNIVERSITY
Joseph.Pearlman.1@city.ac.uk

Contents

1	Introduction	1
2	Instructors	1
3	Course Fee	2
4	Time-Table	2
5	Course Details	2

1 Introduction

This one-day course is aimed at early researchers with knowledge of Dynamic Stochastic General Equilibrium (DSGE) macroeconomic models and some practical experience of Matlab and Dynare. In the morning sessions, after going through the standard New Keynesian (NK) DSGE model, various optimal monetary policy exercises will be demonstrated. The information assumption at this stage is model-consistent rational expectations with perfect information of the full current state of the model.

In the afternoon this assumption will be relaxed to imperfect information - typically observations of only a subset of the state. The sessions will start by explaining the imperfect information solution demonstrating this option (designed by the Course instructors) in Dynare. Then we will proceed to compare Bayesian estimation with perfect versus imperfect information and show that the latter improves the fit of the model to the data.

The Course is lab-based and will feature practical exercises throughout the day. Profiles for the instructors and further details of the Course are as follows.

2 Instructors

Paul Levine is a Professor in the School of Economics at the University of Surrey. He received a first-class BSc and a PhD, both in Mathematics, from the University of Manchester and an MSc in economics (distinction) at Queen Mary, London. In 1984 he became a senior research officer at the Centre for Economic Forecasting, London Business School and was appointed Professor of Economics at the University of Leicester in 1989. In 1994 he moved to the University of Surrey where he now leads the Centre for International Macroeconomic Studies (CIMS). He has acted as a consultant and/or visiting researcher at the IMF, the ECB, the central banks of Peru and Nigeria, and the World Bank. His main research is on the use of empirically-based DSGE models for the study of macroeconomic policy. He has published over 100 refereed articles or chapters and 2 books.

Joseph Pearlman is a Professor in the Department of Economics at City University, London. He graduated from Cambridge University with a BA Mathematics (2nd Class) in

1972, and then an MSc (distinction) in 1974 followed by a PhD in Control Theory in 1977, both from Imperial College. He later completed a part-time MSc in Economics from LSE in 1986. He had ESRC funding for a sabbatical at the Centre for Economic Forecasting at London Business School 1988-89. His general Research Interests are: Macroeconomic Policy; Growth Theory; International Trade and Growth. He has had articles published in the European Economic Review, Economic Journal, Journal of Economic Dynamics and Control, Journal of Economic Theory, Oxford Economic Papers, and the Journal of Development Economics.

3 Course Fee

The fee for academics and PhD students are: £100. For participants from central banks, ministries or the private sector the fee is £200. Lunch and coffee/tea, course notes and course-specific model software is included in this cost. The sessions will be conducted in a computer lab with Matlab and Dynare installed. It should be noted when using the material outside the Course that Dynare is free software, but Matlab must be purchased.

4 Time-Table

9.45 - 10.15 am: Registration
10.15 - 11.30 am: Session 1
11.30 - 11.45 am: Coffee and Tea
11.45 am - 1.15 pm: Session 2
1.15 - 2.15 pm: Lunch
2.15-3.30 pm: Session 3
3.30 - 3.45 pm: Coffee and Tea
3.45 - 5.15 pm : Session 4

5 Course Details

1. Construction and Solution of the Non-Linear New Keynesian Model
2. Optimal Monetary Policy with Commitment, Discretion and Optimized Simple Rules

3. Zero Lower Bound Considerations
4. A Robust Optimal Simple Monetary Rule
5. Rational Expectations Solution with Imperfect Information
6. When Can Perfect Information be Inferred?
7. Estimation of DSGE Models with Perfect and Imperfect Information
8. Exercises in Lab (all day)