Applied Macro-modelling: Fully Scalable models

Winter School on Agent Based and Stock Flow Consistent modelling.

Limerick, January 30th – February 7th

Why you should join our Winter School

If you are a highly motivated student of economics at masters or Ph.D. level, or you are working with a research center or a public institution and want to spend one week studying, researching, discussing, and exchanging experiences in the nice atmosphere of an Irish University campus nurtured by international experts and fellow students from all around the world, our winter school offers you:

- One-week winter university with international students and lecturers
- An opportunity to produce and confront research outputs such as thesis chapter or working paper with established scholars.
- Lab modules, to learn how to implement and apply the theoretical models using software like R, Java.
- Social activities.

Aims and objectives

The Stock-Flow Consistent and Agent-Based approaches are complementary and could be joined under what we call **Fully Scalable models**. On one hand, SFC models have so far been developed as general aggregative models, i.e. as systems of stock-flow consistent equations describing the laws of motion of the economy at the aggregate level. On the other hand, ABMs provide explicit micro-foundations to macroeconomic relations that, in ABMs, are emergent properties of the disequilibrium interactions occurring among heterogeneous agents. However, the use of the stock-flow consistent approach in ABMs has so far been limited (few exceptions to this are represented by the models of Kinsella et al., 2012, Seppecher and Salle, 2012 and Raberto et al. 2012).

The use of the stock-flow consistent approach in ABMs could thus contribute to improve the rigor of the micro-foundations provided by these models. However, it could also help to micro-found many of the Keynesian dynamics emphasized by SFC models. This is important also because SFC models are particularly suitable to study the effects of imbalances at the aggregate level. However, by construction, they cannot study the factors underlying the emergence of those imbalances, such as for example the factors leading to bubble-and-burst dynamics in asset markets. Finally,

we should mention the possibility of having some kind of mixed models where some sectors are agent based and others aggregated. Combining ABM and SFC allows thus to offer a wide variety of models with more or less complexity and different levels of aggregation, depending of the subject under scrutiny.

Organization of the courses

The schedule is the following: 6 hours of classes per day, 7 working days. In principle, 3 hours — in the morning — will be devoted to theoretical lectures concerning the different analytical models that the students are then going to apply to specific empirical situations.

After the lunch break — in the afternoon — 3 hours will be then devoted to lab classes, in order to implement the theoretical models seen in the morning. Participants will receive the source codes of the different software they are going to use so as to be able to work personally with the different models.

The winter school will dedicate specific sessions for the participants to present research projects or working papers. The participants and the professors of the winter school will discuss the presented papers. This will help students in producing a thesis-related output.

During the Winter School, some prominent economists –Profs Robert Axtell, Rudi. von Arnim, Dirk. Bezemer and Codrina Rada - will give seminars on topics related to the contents of the Winter School.

Brief description of the contents of the Winter School

Seminars:

- Rob Axtel (George Mason University): Agent-Based Modelling
- Dirk Bezemer (Groeningen University, TBC): Agent-Based/Stock-Flow-Consistent Modelling
- Rudy von Arnim (University of Utah): Structuralist Modelling
- Codrina Rada (University of Utah): Structuralist Modelling

Classes:

- Dr. Stephen Kinsella (University of Limerick): Post-Keynesian Stock-Flow Consistent Modelling
- Dr. Mauro Napoletano (OFCE): Agent-Based Modelling
- Dr. Andrea Roventini (University of Verona): Agent-Based Modelling
- Dr. Alberto Russo (Università Politechnica delle Marche): Agent-Based Modelling
- Dr. Antoine Godin (University of Limerick): Applied Post-Keynesian Stock-Flow Consistent Modelling

Course Material

All the didactic material — papers, hand-outs, assignments, PDF for assigned reading, source codes, etc. — will be available for download on the Winter School website before the beginning of the courses.

Coordinators

Dr. Antoine Godin and Dr. Weiou Wu

Application and fees

Due to limited available funding, we restrict the number of participants to 15. We will thus only consider applicants with strong interest in the field.

Application procedure

An expression of interest must be sent via mail before Friday December 20 to antoine.godin@ul.ie, attaching an updated CV, a letter of motivation. Later applications will also be evaluated, but only in the case of free posts.

Participation fee

The winter school is free of charge. Furthermore, the winter school covers accommodation, lunch and up to 100€ of travel transportation.

Further information

Further useful information, details, materials, contacts, links, will be available on the Winter School website (http://s120.ul.ie/drupal/winterSchool) as soon as possible.

For any question please write to antoine.godin@ul.ie or weiou.wu@ul.ie.

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Institute for New Economic Thinking

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