General Description

The course will cover the new literature in macroeconomics that explores the interconnections between macroeconomic aggregates and inequality among consumers. Per Krusell and Tony Smith will co-teach the course. It is primarily aimed at participants in the Euro Area Business Cycle Network but applications will also be considered from doctoral students, post-doctoral researchers and economists working in central banks and government institutions outside of the network, as well as commercial organisations (fees applicable for non-network organisations).

Course Detail

Modern macroeconomic theory relies on microfoundations: the behaviour of the various economic agents (consumers, firms, etc.) is described from first microeconomic principles, and markets are described explicitly, so that welfare analysis can be carried out with standard methods. However, the vast majority of models used in practice (e.g., at central banks) to study applied questions builds on the “representative-agent” framework, i.e., these models abstract from the reality of consumer heterogeneity. Similarly, they treat firms as all identical. These assumptions were natural and attractive simplifications as the theory was initially developed. However, a large number of theoretical and empirical investigations have called these simplifications into question and instead studied implications of heterogeneity among consumers (and firms) along with incomplete insurance markets. The alternative modelling framework was developed beginning around 20 years ago, and it has been further refined and extended. In particular, the resulting models can now be implemented quantitatively and systematically compared to the representative-agent model. Several recent such comparisons argue, in particular, that the recent crisis cannot be well understood without a heterogeneous-consumer perspective.

The present course will review these theoretical developments, beginning with a core model and building up toward recent advanced models aimed at full-fledged quantitative analysis. Since quantitative heterogeneous-agent modelling requires some investment in computational methods, the course will also briefly go over such methods. Throughout the intense course, the participants will thus accumulate some basic theoretical knowledge as
well as programming skills and then implement these in order to analyse some simple examples. The course will also cover the empirical literature on inequality in income and wealth, partly to examine causes of inequality and partly in order to be able to calibrate, or estimate, key parameters in the heterogeneous-consumer model. This part will also involve a brief discussion of Thomas Piketty’s recent work on trends in, and causes behind, inequality. Finally, the course will require students to carry out some hands-on computation, assisted by a teaching assistant.

The following programme outlines the structure of the course, along with estimates of how much time will be spent on each topic:

Section I. Basic theory (4 hrs).
The purpose of this section is to introduce the core heterogeneous-agent model, along the lines of Huggett (1993) and Aiyagari (1994), and some extensions to it. This part also involves some amount of computational analysis. The focus in the section is on steady states/long-run implications.

Section II. Long-run inequality: an empirical assessment (4 hrs).
This section looks at the data from the perspective of the basic model. The empirical findings in Piketty’s work will also be reviewed here, and his theoretical work will be put in the context of the basic theory above.

Section III. A macroeconomic framework with heterogeneous consumers (8 hrs).
This section analyses macroeconomic fluctuations from a heterogeneous-consumer perspective. The core model will be the one developed in Krusell and Smith (1998) but many extensions and alternatives will also be discussed. An important element in this section is computational methods.

Section IV. The recent literature (2 hrs).
This brief final section will review current research and, in particular, emphasize the channels that seem to be important for understanding how macroeconomies behave during severe crises.

Administrative Information:

The course will take place in Stockholm at Sveriges Riksbank and participants will be invited to make their own arrangements for accommodation and meals. Further information will be available to successful applicants. Candidates should apply by sending an email with their details to CEPR’s Events Manager, Nadine Clarke (nclarke@cepr.org) by September 26th, 2014. We ask that you send a current version of your CV with your application. EABCN is grateful for the generous assistance from Sveriges Riksbank.

About the instructors:

Per Krusell has been professor at Stockholm University since 2008 but spent over 20 years in the United States, most recently with tenured positions at the University of Rochester and Princeton University. He obtained his PhD from the University of Minnesota and has published broadly in leading journals. His research spans many aspects of macroeconomics, including technological change, labour markets, public policy, inequality, political economy, and climate economics.

Tony Smith has been professor at Yale University since 2003 and also held a tenured position at Carnegie Mellon University. He obtained his PhD from Duke University and has published broadly in leading journals. His research spans macroeconomics and econometrics, where he in particular invented the method of indirect inference. Tony’s most cited paper is also Per’s most cited paper: the macroeconomic model from 1998 which will
be a core model of this course. More recently, he has applied these computational and statistical tools to the development of a global economy-climate model with substantial geographic detail (jointly with Per) and to the estimation of models of labour-income risk.