Runjie(Roger) Geng

Personal Information

Citizenship:	Chinese
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Education

2007.09-2011.06	B.A. in Physics, Shanghai Jiaotong University, China
2011.09-2013.06	M.A. in Finance, Shanghai Jiaotong University, China
2013.09-Current	Ph.D. candidate in Finance, University of Zurich, Switzerland
2018.09-2019.01	Visiting at Department of Economics, Yale University, USA

Research Interests

Financial economics, general equilibrium theory, bounded rationality, heterogeneous agents, asset pricing in general equilibrium models

Working Papers

Recursive equilibria in dynamic economies with bounded rationality

This paper provides a general way of modeling bounded rationality in the dynamic stochastic general equilibrium framework with infinitely lived heterogeneous agents and incomplete markets. Different from a rational agent, a bounded rational agent is associated with an extra parameter ϵ, which can be interpreted as the "level of irrationality". The bounded rational agent does not know the true probability distribution of the economy fundamentals. To make decisions, the bounded rational agent forms a belief of a stationary distribution of the fundamentals and then use the Markov transition associated with it to maximize utility. If a distribution of the fundamentals stays "closer" to its next-period transition than ϵ, the agent would consider it as ϵ-stationary. In equilibrium, each agent maximizes utility with an ϵ-stationary belief and markets clear. The main theorem of this paper shows that for any strictly positive ϵ, a recursive equilibrium exists. This result provides a potential way of measuring the "level of irrationality" for many behavioral models. Besides, there are two applications for a special case of the model, when ϵ is extremely close to zero: It lays foundation for numerically computed equilibria of models with the rational expectation assumption; and it can be viewed as an epsilon-equilibrium existence result for models with heterogeneous heuristics.

Existence of equilibrium in stochastic overlapping generations economies with nonconvexities (with Felix Kubler))

Non-convexities and discrete choices have become important modeling tools in modern macro-economics. Unfortunately, existence of competitive equilibria in the presence of such non-convexities is not always ensured and most results on the existence of equilibrium that

can be found in the literature consider a very general model and are not directly applicable to the macro-models used in the literature.

In this paper we explain the three main problems one needs to face when proving existence and give simple sufficient conditions for the existence of competitive equilibria in stochastic OLG models with discrete choices and non-convex preferences. We also consider a version of the model without aggregate uncertainty but with bankruptcy and default and prove existence of a steady state equilibrium.

Conference Presentations

2018	Computing in Economics and Finance, Milan
2018	Society for Economic Dynamics Annual Meeting, Mexico City
2018	EEA-ESEM Annual Meating, Cologne

Award

2018	Swiss Finance Institute Best Paper Doctoral Award, Switzerland "Recursive equilibria in dynamic economies with bounded rationality"