

Learning in Games

Duarte Gonçalves

University College London

Topics in Economic Theory

Overview

1. Learning in Games
2. Fictitious Play
3. Classes of Games
4. Other Models of Learning

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- Best-Response Dynamics
- Steady State Equilibria
- Convergence
- Stability

3. Classes of Games

4. Other Models of Learning

Best-Response Dynamics

- Introduction (Nash!) Berger 2007 JET, Brown's original fictitious play

Steady State Equilibria

Stochastic Approximation

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- Potential Games
- Supermodular Games

4. Other Models of Learning

Monderer Shapley 1996 GEB, Potential Games

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Replicator dynamics Evolutionary GT / ESS

Papers: Ritzberger Weibull 1995 Ecta, Evolutionary Selection in Normal-Form Games
Robalino Robson 2016 AER, The Evolution of Strategic Sophistication
Dekel Ely Yilankaya 2007 REStud, Evolution of Preferences
Fudenberg He 2018 Ecta, Learning and Type Compatibility in Signaling Games
Mohlin 2012 GEB, Evolution of theories of mind
Hart Mas-Colell 2003 AER, Uncoupled Dynamics Do Not Lead to Nash Equilibrium
Milgrom Roberts 1991 GEB, Adaptive and sophisticated learning in normal form games
Hofbauer Sandholm 2002 Ecta, On the Global Convergence of Stochastic Fictitious Play
Fudenberg Levine 2009 ARE, Learning and Equilibrium
Fudenberg Levine 1993 Ecta, Self-Confirming Equilibrium
Fudenberg Levine 1993 Ecta, Steady State Learning and Nash Equilibrium
Fudenberg Levine 1998, The Theory of Learning in Games