Emergence of Money with Cognitive Computational Agents

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Motivations

- The project builds on the two parallel streams of research developed in I3S and SKEMA.
- Using new methodology from computer science in order to find answers to important questions in social sciences: *Empirically-guided cognitive agent based methodology* to model the *emergence of money* in decentralized trading systems.

Objectifs du projet

- In a classic work Kiyotaki and Wright (1989) established conditions for a stationary Nash equilibrium where money is accepted in trade.
- Laboratory experiments (e.g. Duffy, 2001), often fail to find situations in which this equilibrium actually emerges.
- We extend the computational artificial-intelligent approach introducing agents that have more advanced cognitive abilities (da Costa Pereira et al. 2009; Mauri and Tettamanzi 2012.
- EMC2 project will implement experiments using Amazon's Mechanical Turk platform.

Résultats attendus

- The current project aims at generate novel insights at the cross-road between social sciences and computer science methodologies (e.g. machine learning).
- We plan to recruit a number of master students for both stages of the project. Students from social sciences will help out in implementing experiments in Mechanical Turk. While students from computer science will work on developing the computational model.
- Understand the causes of the failure of the short-sighted artificial agent models in a quite general economic environment.