

Incentives in Transformation – P2P, ABM and a new kind of Policy

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Wednesday 26th Feb. University of Essex

Outline of day

I will talk about how agent-based modelling (ABM) can inform cooperation theory in order to suggest new ways to think about, engineer and *potentially* frame policy for emerging peer-to-peer (P2P) systems². I believe P2P systems *could* produce a major change in the future financial architecture³ towards highly decentralised models that *can* be modelled using ABM. This will require new ways of managing policy that, I believe, will *merge* notions of modelling, engineering and policy.

In addition to discussing some of my previous and on-going work, I will demonstrate the design of a simple ABM model in Java, from first principles, and set some experimental tasks with the model in the lab sessions. The model will demonstrate the emergence of group-level incentives based on a simple non-network emergent population structure.

I aim for the day to be *highly* informal. I will have things to talk about but welcome participants who bring problems and on-going interests to the discussion (within the context of ABM, P2P and cooperation). In the lab sessions there will be structured activities but if participants wish to demonstrate or discuss their own projects then they are encouraged to do so.

Timetable

09:30 – 11:00	Lecture 1	14:00 – 15:30	Lecture 2
11:00 – 11:30	Coffee break	15:30 – 16:00	Coffee break
11:30 – 13:00	Lab 1	16:00 – 17:00	Lab 2
13:00 – 14:00	Lunch	17:00	End

Relevant materials⁴

- Axelrod, R (1980) *The evolution of cooperation*. Basic Books. [Worth reading if you have not already done so. Simple ABM experiments leading to policy discussion].
- Hales, D., Shutters, S. (2012). *Cooperation through the endogenous evolution of social structure*. Proc. of Complex 2012 conf. in Santa Fe, NM. Dec. 5-7th 2012, Springer. <http://cfpm.org/~david/papers/complex2012.pdf>. [Gives an overview of some of the models I will talk about. You should read this before the day.]
- Labour Finance and Industry blog post on P2P finance: <http://bit.ly/1kDImLQ>
- Blog post on why “big data” is not the answer: <http://bit.ly/1dXY4ve>
- You can find some videos of talks on by webpage at www.davidhales.com in addition to various presentations and publications.
- Andreas Antonopoulos blog post on bitcoin as platform: <http://oreil.ly/Jsgggs>

¹ Also, Visiting fellow, Centre for Policy Modelling, Manchester (cfpm.org), Fellow, Synthesis think-tank (synthesisips.net), Visiting fellow, OU centre for complexity and design (complexityanddesign.org).

² I will introduce the P2P approach, and overview the systems bittorrent and bitcoin.

³ See for example, ripple: <http://bit.ly/1kKByMD>

⁴ Not required reading but you might find interesting. Particularly the blogs and videos – they don't take much time.