

How can economics be rescued?

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Why change?

- Vernon Smith, Nobel Prize 2002: 'I urge students to read narrowly within economics, but widely in science. Within economics there is essentially only one model to be adapted to every application: optimization subject to constraints due to resource limitations, institutional rules and /or the behavior of others, as in Cournot-Nash equilibria. The economic literature is not the best place to find new inspiration beyond these traditional technical methods of modeling'
- Friedrich Hayek, Nobel Prize 1974: 'An economist who is only an economist cannot be a good economist'

Key assumption on agent behaviour

- **Rational Agent Rational Expectations –RARE**
- Individuals act in isolation
- Almost the whole discipline of psychology rejects the assumption of rationality empirically
- Almost the whole of sociology rejects the assumption that individuals act purely in isolation, they are part of society
- Not a good description of how capitalist economies work
- Can rational expectations ever be rejected for a ‘true believer’?
- Why did the 2008/09 crisis happen according to mainstream theory?

Much of economics ignores the work of its *own* Nobel prizewinners!

- *Heckman and McFadden* – micro econometricians. Heterogeneity of agents , but single ‘representative’ agent still used in mainstream theory
- *Kahneman* - psychologist : ‘humans reason poorly and act intuitively’
- *Phelps* – economist: ‘ After some neoclassical years at the start of my career I began building models that address modern phenomena. At Yale and at RAND, in part through my teachers William Fellner and Thomas Schelling, I gained some familiarity with the concepts of **Knightian uncertainty**, Keynesian probabilities, Hayek’s private know-how and M. Polyáni’s personal knowledge.’
- *Osltrom* – political scientist. Importance of cultural values in outcomes

'Social learning'/copying

- The phenomenon of 'social learning' – learning through observation or interaction with others – occurs widely in various forms in the animal kingdom (Hoppitt and Laland, *Advances in the Study of Behavior*, 2008)
- Natural selection is now believed to favour social learning strategies, mechanisms that specify when agents copy and who they copy (Rendell, Boyd et.al. *Science*, 2010)
- 'Many of the decisions we make are based not so much on the independent, rational calculation of the costs and benefits of different actions the mode of behaviour posited in economic theory – but on observing and copying others'.

Agent behaviour (1)

- **RARE**
- Bounded rationality relaxes this by limiting the amount of information available
- But agents still optimise (subject to available information)
- **Econophysics 'Particle' model**
- Zero intelligence; acts at random, cannot learn

Agent behaviour (2)

- Big gulf between the two paradigms
- Do we start from RARE and try to make it more realistic?
- Do we start from particle and try to make it more realistic?
- Alex Bentley and Paul Ormerod 'Agents, intelligence, and social atoms' in *Integrating Science and the Humanities* (M. Collard and E. Slingerland, eds.) Oxford University Press, forthcoming, 2010 www.paulormerod.com