T11P01 / Agent-Based Models in Public Policy Research: Perspectives and Issues

Topic : T11 / METHODOLOGIES
Chair : Alberto Asquer (School of Oriental and African Studies, University of London)
Second Chair : Inna Krachkovskaya (SOAS University of London)

GENERAL OBJECTIVES, RESEARCH QUESTIONS AND SCIENTIFIC RELEVANCE

Since Shelling's 'segregation model' in the early 1970s, the use of a computational approach to simulate the interactions between a number of agents gained attention in many social science areas. Bordering contemporaneous developments in game theory, the emergence of agent-based models (ABMs) opened up novel theoretical and methodological perspectives to the understanding of various social processes. The approach gained steam in the following decades, when opportunities arose from increased computational power that became conveniently available. The launch of specialised venues like the Journal for Artificial Societies and Simulation and of resources like Leigh Tesfatsion's web site.

Yet, the impact of ABM on social science research – from economics to sociology to public policy – has been relatively modest so far. Within public policy, some ABM studies have been made in such areas as, for example, land use (Matthews et al 2007), urban planning (Ligmann-Zielinska and Jankowski 2007), income tax evasion (Bloomquist 2006), financial regulation (Krachkovskaya and Asquer 2015), terrorism (Elliot and Kiel 2004), and transport (Maggi and Vallino 2016). By and large, however, the ABM approach has not really delivered any significant advance in theorising the policy process, and its impact on policy advice and practice has been similarly rather modest.

This panel aims to address the question of how ABMs can help advance public policy research and theory. The panel will welcome papers that:

a) Provide a review and critical appraisal of ABMs in public policy research and theory;
b) Use ABMs in original public policy research;
c) Discuss theoretical and methodological issues for advancing the use of ABMs in public policy research;
d) Discuss the use of ABMs in policy advice and practice.

Papers may be either theoretical or empirical. Theoretical papers may discuss the limitations and weaknesses of ABMs, and the reasons why the ABM approach has not been strongly related to public policy frameworks and scholarly traditions so far. Empirical papers may present original studies that use ABMs for analysing public policy issues and/or producing policy advice or evaluations.

References:

Krachkovskaya, I., & Asquer, A. (2015). Do Central Counterparts Improve the Stability of Derivatives Market? Some Evidence from an Agent-Based Model. CeFiMS Research Paper DP136 (https://www.cefims.ac.uk/research/).

Bloomquist, K. M. (2006). A comparison of agent-based models of income tax evasion. Social Science Computer Review, 24(4), 411-425.

Elliott, E., & Kiel, L. D. (2004). A complex systems approach for developing public policy toward terrorism: an agent-based approach. Chaos, Solitons & Fractals, 20(1), 63-68.

Ligmann-Zielinska, A., & Jankowski, P. (2007). Agent-based models as laboratories for spatially explicit planning policies. Environment and Planning B: Planning and Design, 34(2), 316-335.

Maggi, E., & Vallino, E. (2016). Understanding urban mobility and the impact of public policies: The role of the agent-based models. Research in Transportation Economics, 55, 50-59.

Matthews, R. B., Gilbert, N. G., Roach, A., Polhill, J. G., & Gotts, N. M. (2007). Agent-based land-use models: a review of applications. Landscape Ecology, 22(10), 1447-1459.

CALL FOR PAPERS

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Session 1Agent-Based Models in Public Policy Research: Perspectives and Issues

Thursday, June 27th 08:00 to 10:00 (MB 2.255)

Discussants

Alberto Asquer (School of Oriental and African Studies, University of London)

Inna Krachkovskaya (SOAS University of London)

Simulating policy process theories with agent based modelling

Klein Raphael (EPFL)

Fisheries policy and invasive seaweeds: An agent-based model for policy research

Ofori Roland (Michigan Technological University)

Blue Carbon Ecosystem Conservation in the Philippines: Understanding the Behavior and Interactions of Agents Under Alternative Policy Scenarios

Rizalino Cruz (National College of Public Administration and Governance, University of the Philippines)

Exploring Civil Service Bargain Regimes: An Agent-Based Model of the Relationship between Elected Public Officers and Public Managers

Alberto Asquer (School of Oriental and African Studies, University of London)

Inna Krachkovskaya (SOAS University of London)