

Dynamic Games with Local Interactions *

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Abstract

Preferences for conformity arguably provide a rationale for several important socio-economic phenomena, from smoking and other risky behavior in teens, to e.g., criminal activity and to peer effects in school performance, to local technology adoption and knowledge transfer among firms. We study dynamic economies with local interactions in general, and conformity in particular with a local network structure with varying levels of connectivity, local and global externalities, and complete and incomplete information. For these economies, we provide existence, ergodicity, and welfare results. The importance of local interactions for policy analysis relies on the fact that when local externalities are quantitatively important, policy interventions on single agents might have large social multiplier effects. Consequently, we characterize equilibria in terms of spatial equilibrium correlations and social multiplier effects, depending on the nature of interactions. Most importantly, we study formally the issue of the identification of local interactions with population data, with special emphasis on the restrictions imposed by dynamic equilibrium conditions.

Journal of Economic Literature Classification Numbers: C31, C62, C72, C73, Z13.

Keywords: Conformity, identification, local externalities, local interactions, Markov-perfect equilibrium, multiple equilibria, social interactions, social processes.

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