Dynamic Social Interactions: Identification and Characterization *

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Abstract

Social interactions are interactions not mediated through markets, in which an agent's preferences depend on other agents' actions. We are particularly interested in social and economic phenomena in which agents prefer to conform their actions to the actions of their social group. Examples of such social processes which are determined in part by preferences for conformity abound: the decision of a teen to commit a criminal act or to drop out of school (Case and Katz [8], Glaeser, Sacerdote and Scheinkman [12], and Crane [10]), out-of-wedlock births (Crane [10]), smoking (Jones [17]), urban agglomeration (Benabou [1], Schelling [19]).

The importance of social interactions for policy analysis relies on the fact that when social interactions are quantitatively important, policy interventions on single agents might have large social multiplier effects. The theoretical literature generated existence and characterization results for static economies with additive quadratic preferences, extreme value distributed shocks, and symmetric interaction effects, Blume [3] and Brock and Durlauf ([6]), economies with a finite number of agents, Glaeser and Scheinkman, [14], backward looking myopic dynamics, either as a simple explicit dynamic process with random sequential choice (Brock and Durlauf [5]), or as an equilibrium selection procedure (Glaeser and Scheinkman [14], Blume and Durlauf [4]). Only recently Bisin, Horst and Ozgur [2] obtained general existence results for dynamic economies with rational forward looking agents.

The objective of the present paper is two-folds: First, to characterize statistical properties (spatial correlations, social multiplier) at equilibrium of a class of static economies (complete and incomplete information and with different social structures, eg. overlapping groups, simple networks) of social interactions, derive comparative statics analysis of such properties

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and study identification with respect to selection-induced correlations. Secondly and most importantly, to characterize equilibrium properties of a class of dynamic economies with social interactions, e.g., ergodicity, auto-correlation, speed of convergence and other statistical properties.

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