Social Value of Public Information in Large Network Games

Kota Murayama
Chinese University of Hong Kong

Abstract

This paper studies a large beauty contest model in which agents' coordination motives are heterogeneous and embedded in a network structure. In equilibrium, agents are over-sensitive to public information relative to the efficient benchmark, and an agent's degree of inefficiency is proportional to her Katz-Bonacich centrality. A generalization of the anti-transparency result is provided: public information provision is detrimental to welfare if and only if the mean square of agents' Katz-Bonacich centralities is sufficiently large. In particular, these negative welfare effects may arise even when agents' coordination motives are positive but arbitrarily small on average. An extension examines targeted information dissemination and shows how to optimally select information receivers based on their network position.