

A Welfare Analysis of a Steady-State Model of Observational Learning

Eszter Kabos and Margaret Meyer

Abstract: It is now well understood that when individuals learn not only from private sources of information but also by observing the choices of previous decision-makers, information may fail to be aggregated, and incorrect herds may result. Extrapolating from such findings, the conventional wisdom seems to be that, relative to equilibrium outcomes, efficiency would be improved if individuals relied more on their private information and less on the choices of predecessors.

The canonical models of observational learning are, however, not particularly well suited to welfare analysis. In this paper, we develop a flexible, **steady-state framework** for characterizing equilibrium outcomes under a variety of observation structures, and we use it to examine the existence and form of welfare-improving interventions for a social planner. The steady-state approach transforms the planner's problem from a dynamic one to an effectively static one. We allow the planner to intervene only by altering the decision rules used by individuals, not by directly altering the information structure.

Our key results are as follows: We show that whether there exist welfare-improving adjustments for the planner and what form they take depends very much on the observation structure. In particular, we prove that there is **no scope** for the planner to improve welfare in a symmetric environment where each individual observes (with noise) the choice of only a single predecessor. For more general observation structures, we identify two distinct forces which can generate inefficiencies; we term these the "dispersion effect" and the "mean effect". We demonstrate that both forces can, for some observed data, make it optimal for individuals to place **less** rather than more weight on their private information.