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## "Aggregate Comparative Statics"

### Abstract

In aggregative games, each player's payoff depends on her own actions and an aggregate of the actions of all the players (for example, sum, product or some moment of the distribution of actions). Many common games in industrial organization, political economy, public economics, and macroeconomics can be cast as aggregative games. In most of these situations, the behavior of the aggregate is of interest both directly and also indirectly because the comparative statics of the actions of each player can be obtained as a function of the aggregate. In this paper, we provide a general and tractable framework for comparative static results in aggregative games. We focus on two classes of aggregative games: (1) aggregative of games with strategic substitutes and (2) "nice" aggregative games, where payoff functions are continuous and concave in own strategies. We provide simple sufficient conditions under which "positive shocks" to individual players increase their own actions and have monotone effects on the aggregate. We show how this framework can be applied to a variety of examples and how this enables more general and stronger comparative static results than typically obtained in the literature