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Observing Each Other's Observations in a Bayesian Coordination Game

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Abstract: *We study a Bayesian coordination game where agents receive private information on the game's payoff structure. In addition, agents receive private signals that inform them of each other's private information. We show, that once agents possess these different types of information, there exists a coordination game in the evaluation of this information. Even though the precisions of both signal types is exogenous, the precision with which agents forecast each other's actions in equilibrium turns out to be endogenous. As a consequence, there exist multiple equilibria which differ with regard to the way that agents weight their private information to forecast each other's actions.*

Keywords: Coordination Games, Equilibrium Selection, Primary Signals, Secondary Signals

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1 Introduction

Games with strategic complementarities give players a strong incentive to choose mutually consistent strategies. In reality, such choices are often complicated by the fact that players know neither the game's exact payoffs nor the other player's actions. In such environments, players have to rely on different "pieces" of private information to predict the other player's actions and thus their own payoffs from playing a particular strategy. That is, players try to sense whether and to which extent the other player may be "leaning" towards a particular action or that the other player might "misunderstand" the game or, respectively, may be under the "wrong impression" as to the situation.

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