Contingent Uncertainty, Strategic Uncertainty, and Coordination

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Abstract: Uncertainty about the coordination of common efforts (e.g. team projects, alliances) often coexists with uncertainty about other variables (e.g. weather, market fluctuations, political instability). In certain coordination games in which equilibria can potentially arise at any common effort level, ex ante equilibrium selection (particularly of high-effort, high-payoff equilibria) has been a persistent game theoretical challenge. This is largely due to the strategic uncertainty of each participant about the behavior of others, in the absence of communication and credible commitment. We performed experiments in which exogenous noise was added to the decisions of participants in a minimum-effort coordination game. Results indicate that this added contingent uncertainty can prevent perfect coordination at the lowest-payoff equilibrium, and thus make coordination at higher-payoff equilibria possible.