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Presentation Title
Robust Binary Voting
(with Tangren Feng)

Abstract
In this paper, we study a new robustness concept in mechanism design with interdependent values: interim dominant strategy incentive compatibility (IDSIC). It requires truth-telling is an interim dominant strategy for each agent, i.e., conditional on her own private information, the truth-telling maximizes her expected payoff for all possible strategies the other agents could use. In a simple setting with two alternatives and no transfers, we characterize IDSIC together with two other well studied concepts: dominant strategy incentive compatibility (DSIC) and ex post incentive compatibility (EPIC). While both DSIC and EPIC permit only constant mechanisms in sufficiently rich environments, non-constant IDSIC mechanisms exist in any environment. The characterization of IDSIC suggests a simple class of (indirect) binary voting rules: Each agent reports Yes/No. Moreover, if the binary voting rule is also additive, then the indirect mechanism is versatile: It admits an interim dominant strategy equilibrium on all payoff environments and all corresponding type spaces.

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