A Mediator Approach to Mechanism Design with Limited Commitment

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Abstract :
We study the role of information structures in mechanism design problems with limited commitment. In each period, a principal offers a "spot" contract to a privately informed agent without committing to future spot contracts, and the agent responds to the contract. In contrast to the classical approach in which the information structure is fixed, we allow for all admissible information structures. We represent the information structure as a fictitious mediator and re-interpret the model as a mechanism design problem by the mediator with commitment. The mediator collects the agent's private information and then, in each period, privately recommends the principal's spot contract and the agent's response in an incentive-compatible manner (both in truth-telling and obedience). We provide several examples to identify why new equilibrium outcomes can arise once we allow for general information structures. We next develop a durable-good monopoly application. We show that trading outcomes and welfare consequences can substantially differ from those in the classical model with a fixed information structure. In the seller-optimal mechanism, the seller offers a discounted price to the high-valuation buyer only in the initial period, followed by the high, surplus-extracting price until some endogenous deadline, when the buyer's information is revealed and hence fully extracted. As a result, the Coase conjecture fails: even in the limiting case of perfect patience, the seller makes a positive surplus, and the trading outcome is not the first best. We also characterize mediated and unmediated implementation of the seller-optimal outcome.