

Mechanism Design without Quasilinearity ^{*}

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Abstract

This paper studies a model of mechanism design when agents' preferences over transfers need not be quasilinear. In a general model of non-quasilinearity, we characterize dominant strategy incentive compatible mechanisms using a monotonicity property. We also establish a revenue *uniqueness* result: for every dominant strategy implementable allocation rule, there is a unique payment rule that can implement it. We show that every dominant strategy incentive compatible, individually rational, and revenue-maximizing mechanism must price the *worst* alternative (outside option) at zero price.

These results apply to a wide variety of problems (single object auction, multiple object auction, public good provision etc.) under suitable richness of type space. Our results can be applied to models where preferences of agents are arbitrarily small perturbations of quasilinear preferences and illustrate the (non)-robustness of some of the classic results in mechanism design with quasilinearity. For the case of two alternatives, we provide a Myerson-like characterization. We apply this result to study various problems in private values single object auction setting.

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