Multidimensional Screening with Rich Consumer Data

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Abstract :

We study multi-good sales by a seller who has access to rich data about a buyer's valuations for the goods. Optimal mechanisms in such multi-dimensional screening problems are known to in general be complicated and not resemble mechanisms observed in practice. Thus, we instead analyze the optimal convergence rate of the seller's revenue to the first-best revenue as the amount of data grows large. Our main result provides a rationale for a simple and widely used class of mechanisms---(pure) bundling---by showing that these mechanisms allow the seller to achieve the optimal convergence rate. In contrast, we find that another simple class of mechanisms---separate sales---yields a suboptimal convergence rate to the first-best and thus is outperformed by bundling whenever the seller has sufficiently precise information about consumers.