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A Bulow-Klemperer Result for Gains From Trade in Two-Sided Markets

We consider a two-sided market with unit-demand buyers, single-item sellers, and identical items. The designer's goal is to maximize the gains from trade (GFT). Myerson-Satterthwaite '83 states it's impossible to achieve the optimal GFT using a mechanism that's truthful and budget-balanced. Instead, we take the approach of Bulow-Klemperer from revenue maximization, asking: how many additional buyers must we recruit in order to use a simple, prior-free, deterministic mechanism to approximate the optimal GFT? We give results for our candidate mechanism, Buyer Trade Reduction, depending on the initial market size and agent distributions.

Joint work with Moshe Babaioff and Yannai Gonczarowski.