

INEFFICIENT MARKETS

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Abstract

Numerous experiments have demonstrated that with private values, the continuous double auction converges quickly and reliably to competitive equilibrium, resulting in full allocative efficiency. Furthermore, with common values, previous experiments have shown that the continuous double auction is informationally efficient, i.e. trade prices accurately summarize traders' dispersed private information. This paper considers an environment where traders' values and information consist of both private and common-value elements.

Under the rational expectations hypothesis, the introduction of common values has no adverse consequences for allocative and informational efficiency. In contrast, a Bayes-Nash model in which traders' optimal behavior reflects only a combination of their private and common-value information predicts that neither allocative nor informational efficiency is possible. In a series of experiments, we test these competing hypothesis and find that observed behavior is much better predicted by the Bayes-Nash model. The double auction is highly inefficient – only 50% of the gains from trade materialize – and prices differ significantly and substantially from their rational expectation levels.

We also investigate whether free-form communication enhances the performance of the continuous double auction. We find that cheap-talk communication has a positive effect in bilateral settings, but it has no effect or even a negative effect in larger, more competitive markets. The chat data can be classified according to a small number of communication protocols, which either reflect endogenously emerging institutions (negotiations, auctions, or posted prices), disclosure of private information, or inconsequential messages unrelated to trading (babbling). Truthful disclosure is stable in bilateral settings but breaks down in large groups with adverse effects for efficiency.

Our findings contrast with those of previous double auction experiments along a number of dimensions: (i) with private and common values, the informational and allocative efficiency of the double auction is low, (ii) more competition is beneficial only with private values, has no effect with private and common values, and *lowers* efficiency when communication is possible, and (iii) communication is beneficial only in bilateral settings but has no, or even a negative, effect in larger groups.

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