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The asymptotic Shapley value for a simple market game. (English) Zbl 1173.91372
Econ. Theory 40, No. 2, 333-338 (2009).

Authors' abstract: We consider the game in which b buyers each seek to purchase 1 unit of an indivisible good from s sellers, each of whom has k units to sell. The good is worth 0 to each seller and 1 to each buyer. Using the central limit theorem, and implicitly convergence to tied down Brownian motion, we find a closed form solution for the limiting Shapley value as s and b increase without bound. This asymptotic value depends upon the seller size k , the limiting ratio b/ks of buyers to items for sale, and the limiting ratio $[ks - b]/\sqrt{b + s}$ of the excess supply relative to the square root of the number of market participants.

Reviewer: [Tadeusz Radzik \(Jelenia Góra\)](#)

MSC:

[91B26](#) Auctions, bargaining, bidding and selling, and other market models
[91A12](#) Cooperative games
[91A40](#) Other game-theoretic models
[60F99](#) Limit theorems in probability theory

Cited in **6** Documents

Keywords:

[simple market game](#); [buyers](#); [sellers](#); [Shapley value](#); [limit theorem](#)

Full Text: [DOI](#)

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