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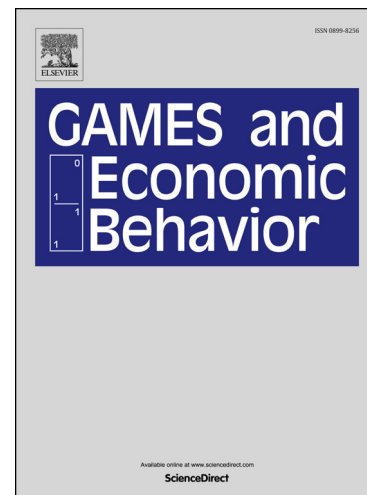
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Competitive Pricing and the Core: with Reference to Matching*

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Abstract

Lloyd Shapley's contributions with respect to the core are interpreted as *subdifferentiability* characterizations of the pricing of individuals that is similar to the pricing of commodities in economic models of exchange with transferable utility. *Differentiability* of the core is interpreted as perfect substitutability with respect to the pricing of individuals. Differentiability implies, but is not implied by, equivalence of the core and Walrasian equilibria. Differentiability eliminates opportunities for strategic misrepresentation of utilities. The assignment model with transferable utility is framed in the setting of exchange economies and its individual and commodity pricing is extended to non-transferable utility.

Keywords: subdifferential, core, market game, assignment model, Walrasian equilibrium, perfect substitutability.

JEL CLASSIFICATIONS: C71 (Cooperative Games); C78 (Matching Theory); D51 (Exchange Economies)

1 Introduction

The first application of the Gillies-Shapley concept of the core was to the assignment model (Shapley [1955]), more fully elaborated in the influential paper by Shapley and Shubik [1972]. Necessary and sufficient conditions for a non-empty core of a transferable utility game were given by Bondareva [1963] and Shapley [1967] in terms of balanced sets. Shapley and Shubik [1969] exhibited the intimate connections between the core and Walrasian for market games with transferable, also known as quasilinear, utility.

Shapely [1969] also pioneered extensions of results from transferable to non-transferable utility through the introduction of the λ -transfer scheme. Gale and Shapley [1962] formulated the non-transferable version of the assignment model, called two-sided matching by Roth and Sotomayor [1990], along with an algorithm for achieving a stable matching. With some exceptions (e.g., Roth, Rothblum, and Vande Vate [1993]), the non-transferable utility version of the assignment model has been analyzed without regard to duality properties that

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