

The Core of a Transferable Utility Game as the Solution to a Public Good Market Demand Problem

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Abstract

The core of a monotonic transferable utility (TU) game is shown to be the set of prices that incentivize each individual to demand the grand coalition in a market demand problem in which the goods being demanded are coalitions viewed as public goods. It is also shown that the core is the intersection of superdifferentials evaluated at the grand coalition of linearly homogeneous, concave, real-valued functions that are associated with person-specific TU games derived from the original game. These characterizations of the core demonstrate how a market demand approach to the core in the spirit of Baldwin and Klemperer (unpublished 2014, *Econometrica* 2019) is related to the superdifferential approach of Aubin (*Mathematics of Operation Research* 1981) and Danilov and Koshevoy (*Journal of Mathematical Analysis and Applications* 2000).

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