Concave Measures and the Fuzzy Core of Exchange Economies with Heterogeneous Divisible Commodities

Farhad Hüsseinov
Department of Economics, Bilkent University
06800 Bilkent, Ankara, Turkey
e-mail: farhad@bilkent.edu.tr

Nobusumi Sagara
Faculty of Economics, Hosei University
4342, Aihara, Machida, Tokyo 194–0298, Japan
e-mail: nsagara@hosei.ac.jp

Abstract

The main purpose of this paper is to prove the existence of the fuzzy core of an exchange economy with a heterogeneous divisible commodity in which preferences of players are concave measures defined on a $\sigma$-algebra of admissible pieces of the total endowment of the commodity. The problem is formulated as the partitioning of a measurable space among finitely many players. Applying the Yosida–Hewitt decomposition theorem, we also demonstrate that partitions in the fuzzy core are supported by prices in $L^1$.

Key words: Nonatomic vector measure; Concave measure; Fuzzy coalition; Fuzzy core; Supporting price; Yosida–Hewitt decomposition.

MSC 2000: Primary: 28E10, 28B05; secondary: 91A12, 91B32.
JEL Classification: C71.