

Equity and Efficiency in a Measure Space with Nonadditive Preferences: The Problem of Cake Division[¤]

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Abstract

This paper considers a classical problem of cake division in a nonatomic finite measure space among finitely many individuals. We investigate a nonadditive continuous preference relation in a Borel σ -field and prove the existence of Pareto optimal envy-free partitions, Pareto optimal α -equitable partitions, and α -Rawls optimal partitions. We also show that Pareto optimal α -equitability is equivalent to α -Rawls optimality, but Pareto optimality does not imply Rawls optimality.

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