
Lower and Upper Bounds of Martingale Measure Densities in Continuous Time Markets

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In a continuous time market model we consider the problem of existence of an equivalent martingale measure with density lying within given lower and upper bounds and we characterize a necessary and sufficient condition for this. In this sense our main result can be regarded as a version of the fundamental theorem of asset pricing. In our approach we suggest an axiomatic description of prices on L_p -spaces (with $p \in [1, \infty)$) and we rely on extension theorems for operators.