

Projective system approach to the martingale characterization of the absence of arbitrage

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Working Paper Universidad Carlos III de Madrid 01-15. Business
Economics Series 05. Marzo 2001

Abstract

The equivalence between the absence of arbitrage and the existence of an equivalent martingale measure fails when an infinite number of trading dates is considered. By enlarging the set of states of nature and the probability measure through a projective system of topological spaces and Radon measures, we characterize the absence of arbitrage when the time set is countable.

Key words: Arbitrage, Martingale Measure, Asset Pricing, Radon Measure, Projective System

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