On a Stochastic Growth Model with L^∞ Dual Vectors: A Differential Analysis

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Abstract

Many economic analyses are based on the property that the value of a commodity vector responds continuously to a change in economic environment. As is well-known, however, many infinite dimensional models such as an infinite time-horizon stochastic growth model lack this property. In the present paper, we will investigate a stochastic growth model in which dual vectors lie in an L^∞ space, in which case the value of a commodity vector is continuous with respect to exogenous parameters. This result is based on the differentiation method in Banach spaces.