Inequality of Realization of a Stochastic Dynamics

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Abstract

This paper proposes a stochastic dynamics in which people who are endowed with different discount factors buy the capital stock periodically and are exposed to randomness at arithmetic progression times. We prove that the realization of the stochastic equilibrium may render the people quite unequal benefits. Its proof is based on Erdős Discrepancy Problem that an arithmetic progression sum of any sign sequence goes to infinity, which is recently solved by Terence Tao (2016). The result in this paper implies that in some cases, the sources of inequality come from pure luck.