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On Duality Principle in Exponentially Lévy Market

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Abstract

This paper describes the effect of duality principle in option pricing driven by exponentially Lévy market model. This model is basically incomplete - that is; perfect replications or hedging strategies do not exist for all relevant contingent claims and we use the duality principle to show the coincidence of the associated underlying asset price process with its corresponding dual process.

The condition for the 'unboundedness' of the underlying asset price process and that of its dual is also established. The results are not only important in Financial Engineering but also from mathematical point of view.

Mathematics Subject Classification: 60G51, 62P05, 91B25, 91B26

Keywords: Option pricing, Lévy processes, incomplete market, option dual and primal**.**

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