A future study on Two assets contingent claims pricing problem

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Abstract

In this talk, we consider the two assets contingent claims pricing problem on the model with stochastic interest and stochastic correlation. We assumed that the risk-free interest rate evolves stochastically as Cox–Ingersoll–Ross process. The the correlation variable is assumed to satisfying the bound-Jacobi process. We first derive the pricing partial differential equation for the European-style contingent claim and investigate the properties of the value function. The neural network approach will be applied to find the numerical solution. For the American-style contingent claim, we provide the free boundary problem with the early exercise region. The early exercise region for the different kind of products will be discussed, where the product includes the exchange option, spread option, basket option, and better-of option. Moreover, the value function as well as the the early exercise region of the perpetual options are also considered.