Optimal Dividends With Applications To Insurance

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Abstract

The purpose of this thesis is to investigate how the optimal dividend problem relates to insurance mathematics, in particular the Cramér-Lundberg model. The optimal dividend problem will be studied for both restricted and unrestricted dividend rates. We will derive optimal value functions for restricted and unrestricted dividend rates when the reserve dynamics are governed by the Cramér-Lundberg model and its approximation. In order to achieve this aim we will assume that claim sizes are exponentially distributed, this will enable us to find explicit solutions to the Hamillton-Jacobi-Bellman equations.

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