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CALCULATING VALUE AT RISK. CASE STUDY ON THE INTEREST RATE RISK MANAGEMENT

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Abstract. Value at risk assesses financial risk by evaluating the probability of loss that results from stochastic variation of the rate of returns. The methodology is based on historical data reflecting this variation, usually as an estimated probability of default function. The fact that return distributions are characterized by time varying volatility poses exceptional challenges in the estimation. In order to remedy this problem we can use Monte Carlo Simulations. This paper is meant to offer an overview of the main Value-at-Risk models and methods used for the management of interest rate risk, with an emphasis on the Monte Carlo Simulation method.

JEL Classification: G12, G14

Keywords: value at risk, time varying volatility, Historical Simulation, Monte Carlo Simulation, interest rate risk.

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