

Stochastic Default Risk Estimation Evidence from the South African Financial Market

Authors : Mesias Alfeus, Kirsty Fitzhenry, Alessia Lederer

Abstract : The present paper provides empirical studies to estimate defaultable bonds in the South African financial market. The main goal is to estimate the unobservable factors affecting bond yields for South African major banks. The maximum likelihood approach is adopted for the estimation methodology. Extended Kalman filtering techniques are employed in order to tackle the situation that the factors cannot be observed directly. Multi-dimensional Cox-Ingersoll-Ross (CIR)-type factor models are considered. Results show that default risk increased sharply in the South African financial market during COVID-19 and the CIR model with jumps exhibits a better performance.

Keywords : default intensity, unobservable state variables, CIR, α -CIR, extended kalman filtering

Conference Title : ICFME 2022 : International Conference on Financial Mathematics and Engineering

Conference Location : Sydney, Australia

Conference Dates : December 02-03, 2022