PS05

Correlation Structure of Infectious Default Model

Shintaro Mori
Kitasato University, 1-15-1 Kitasato, Sagamihara, Kanagawa 228-8555

We discuss the correlation structure of an infectious default and recovery model for N obligors. Obligors are assumed to be exchangeable and their states are described by N Bernoulli random variables S_i. They are expressed by multiplying independent Bernoulli variables $X_i, Y_ij, Y_i'j$, and default and recovery infections are described by Y_{ij} and $Y_i'j$. From the default probability function $P(k)$ for k defaults, we study the correlation structures, the conditional default probabilities and conditional correlation coefficients. By comparing them with those of an implied default distribution function inferred from the quotes of iTraxx-CJ, we show that to explain the behavior of the implied distribution, the recovery effect is necessary.