Minisymposium 14 - Stochastische Marktmodelle

Pricing credit from the top down with affine point processes

KAY GIESECKE (STANFORD UNIVERSITY)

The value of any credit derivative is a function of market wide risk factors generated by the complex web of relationships in the economy. To incorporate these factors, we estimate the value of credit derivatives from the top down by modeling aggregate credit losses directly. We show how to make this approach computationally tractable within the class affine point processes, which are intensity-based jump processes driven by affine jump diffusions. An affine point process is sufficiently flexible to account for both cyclical dependence in the economy and market contagion. Further, it supports Fourier transform based pricing and calibration. We illustrate our top down approach in the context of CDS index and tranche spreads.