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Options and semi-Markov regime-switching

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Abstract.

Since the seminal work of Black & Scholes, stochastic finance has known an incredible expansion and the search for more refined models has been going on for some time now. Regime-switching models are models that allow for the parameters to change as the economic regime evolves. Regime-switching models were first introduced in a discrete-time setting but were soon imported in continuous-time. My talk will shortly present which type of models we deal with (semi-Markov regime-switching). These models are quite involved and allow for more flexibility than the simpler Markov switching models. Unfortunately, you can't win both ends and the increase in flexibility also brings some new problems. We will present these problems and partial solutions to them.