Integral equation for few perpetual securities under jump diffusion process

Yuan-Chung Sheu and Yu-Ting Chen

Department of Applied Mathematics
National Chiao Tung University
TAIWAN

Abstract — We consider some perpetual securities under the jump-diffusion process by extending the work of Gerber and Landry (1998) to the case of two-sided jumps with applications to the structural form modeling of credit risk and the pricing of perpetual American options. Regularity and integral equation of certain payoff functions are presented. Hence, sufficient conditions for the renewal equation in Tsai and Willmot (2002) are shown to be unnecessary under some conditions.

`Presenter's Name` — **Yuan-Chung Sheu**