

Ruin theory with Parisian delays

by

David Landriault, University of Waterloo

Jean-François Renaud, University of Waterloo

Xiaowen Zhou, Concordia

Inspired by Parisian barrier options, we consider the following definition of ruin for an insurance risk model: the surplus process is allowed to spend time under a pre-specified default level before ruin is recognized. The same idea can also be applied to the classical dividend barrier strategy. Using the modern language of scale functions, we study Gerber-Shiu functions and dividend payments in an insurance risk model driven by a spectrally negative Lévy process of bounded variation. In the process, a generalization of the two-sided exit problem is obtained.