

The 2-band strategy in de Finetti's optimal dividend problem

It is well known that the barrier strategy is not always an optimal strategy in the de Finetti's optimal dividend problem when the surplus is modeled by a compound Poisson risk process. One of the early works of Gerber indicates that in such a case a so-called 2-band strategy might be optimal. A 2-band strategy is a strategy depending on three parameters $0 \leq b_1 < b_2 < b_3$ and can be seen as a concatenation of two barrier strategies. Namely, when the surplus is in the interval $[0, b_2)$, dividends are paid out according to a barrier strategy at b_1 and when the surplus is in $[b_2, \infty)$, dividends are paid according to a barrier strategy at b_3 . In this talk, we derive the value function of a general 2-band strategy and determine what are the parameters b_1 , b_2 and b_3 that lead to the 'best' 2-band strategy.