SPECIAL COLLOQUIUM

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A Note on the Cost of Hedging Variable Annuities

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C405 Wells Hall
10:20 a.m. - 11:10 a.m.
Refreshments: 10:00 a.m.

Abstract

For variable annuities, the cost of hedging must be taken into consideration when firms use the dynamic hedging strategy. In this paper, we study hedging costs by assuming the hedge position follows a random walk with boundary conditions. We find that re-balancing delta to the initial position is always more cost-efficient than re-balancing it to the edge for a fixed transaction cost. However, when the transaction cost is proportional to the hedge limit, re-balancing to the initial position is always less cost-efficient than re-balancing to the edge. Moreover, we quantify the magnitude of the efficiency in both cases. The results in this work may allow practicing actuaries and finance professionals to make judicious decisions.

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