UNIVERSITÀ CATTOLICA
del Sacro Cuore

Dipartimento di
Matematica per le Scienze economiche, finanziarie ed attuariali

Nell'ambito delle iniziative seminariali del Dipartimento, rivolte
alla ricerca ed alla didattica avanzata,

martedì 18 marzo 2025, alle ore 14:30
presso l'Aula 200 – via Necchi 9

si svolgerà il **SEMINARIO**

« ON VARIABLE ANNUITIES WITH SURRENDER CHARGES »
Speaker Alessandro Milazzo
(Università di Torino)

Variable annuities are life-insurance contracts designed to meet long-term investment goals. Such contracts provide several financial guarantees to the policyholder. A minimum rate is guaranteed by the insurer in order to protect the policyholder's capital against market downturns. Moreover, the policyholder has the right to early terminate the contract (early surrender) and to receive the account value. In general, a penalty, which decreases in time, is applied by the insurer in case of early surrender.

We provide a theoretical analysis of variable annuities with a focus on the holder's right to an early termination of the contract. We obtain a rigorous pricing formula and the optimal exercise boundary for the surrender option. We also illustrate our theoretical results with extensive numerical experiments.

The pricing problem is formulated as an optimal stopping problem with a time-dependent payoff, which is discontinuous at the maturity of the contract. This structure leads to non-monotone optimal stopping boundaries, which we prove nevertheless to be continuous. Because of this lack of monotonicity, we cannot use classical methods from optimal stopping theory and, thus, we contribute a new methodology for non-monotone stopping boundaries.

This seminar is based on a joint work with T. De Angelis and G. Stabile.

Per partecipare da remoto CLICCA QUI

Tutti gli interessati sono invitati a partecipare.