

## ABSTRACT

Salvatore FEDERICO

LIUSS University- Roma

Title: *“Constrained portfolio choices in the decumulation phase of a pension plan”*

I present a constrained investment problem for a defined contribution pension fund where retirees are allowed to defer purchase of annuity at some future time after retirement. The mathematical problem is naturally formulated as a stochastic control problem with constraints on the control and the state variables and approached by the tool of dynamic programming. The main result concerns the existence of regular solutions for the HJB equation. In a special case, when it is possible to find an explicit solution of to the HJB equation, it is also shown that the feedback map defines an optimal strategy in feedback form for the problem