Equilibrium Investment
with Random Risk Aversion

Sascha Desmettre[1] and Mogens Steffensen[2]

[1]University of Linz.
[2]University of Copenhagen.

Abstract

We solve the problem of an investor who maximizes utility but faces random preferences. We propose a problem formulation based on expected certainty equivalents. We tackle the time-consistency issues arising from that formulation by applying the equilibrium theory approach. To this end, we provide the proper definitions and prove a rigorous verification theorem. We complete the calculations for the cases of power and exponential utility. For power utility, we illustrate in a numerical example, that the equilibrium stock proportion is independent of wealth, but decreasing in time, which we also supplement by a theoretical discussion. For exponential utility, the usual constant absolute risk aversion is replaced by its expectation.

Keywords: Certainty equivalents; Random risk aversion; Time-inconsistency; Equilibrium approach; Power and Exponential utility.