PROBABILITY
AND
MATHEMATICAL STATISTICS
Vol. 28, Fasc. 2 (2008), pp. 203–234

ORDERINGS AND RISK PROBABILITY FUNCTIONALS IN PORTFOLIO THEORY

Sergio Ortobelli
Svetlozar Rachev
Haim Shalit
Frank J. Fabozzi

Abstract: This paper studies and describes stochastic orderings of risk/reward positions in order to define in a natural way risk/reward measures consistent/isotonic to investors' preferences. We begin by discussing the connection between the theory of probability metrics, risk measures, distributional moments, and stochastic orderings. Then we examine several classes of orderings which are generated by risk probability functionals. Finally, we demonstrate how further orderings could better specify the investor's attitude toward risk.

2000 AMS Mathematics Subject Classification: Primary: 60E15, 91B16; Secondary: 91B28.

Keywords and phrases: Probability metrics, stochastic dominance, FORS orderings, Mellin transform, coherent and convex measures.