ON A CLASS OF DYNAMIC SPECTRAL RISK-MEASURES AND DISTORTION OPERATORS

Abstract: Spectral risk measures form a family of static risk measures which is widely deployed in risk analysis due to their intuitive and explicit form. Such risk measures are coherent in the sense of Artzner et al. (1999) and have been axiomatically characterised in Kusuoka (2001). In this talk we present a new class of dynamic risk-measures which may be regarded as a dynamic extension of static spectral risk-measures and which are given in terms of Peng's g-expectations driven by Levy processes, with driver functions g of certain shape. We discuss properties of such dynamic risk-measures, and show that such continuous-time risk-measures arise in the limit of discrete time spectral risk-measures under vanishing time-step. This involves a certain non-standard scaling of the corresponding spectral weight-measures that we identify explicitly. This talk is based on joint work with M. Stadje and D. Madan.

Keywords: Spectral risk-measure, distortion operator, dynamic risk-measure, g-expectation, limit theorem

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