

Dynamic risk measures: time consistency and the role of bubbles

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Convex risk measures quantify the risk of a financial position as the worst expected loss with respect to a class of probabilistic models which are taken more or less seriously, and this is made precise by a penalty function. In a dynamic setting, where the risk assessment is updated as new information comes in, and where positions are replaced by uncertain cash flows, different notions of time-consistency correspond to different supermartingale properties of the process of penalty functions. In particular we discuss the appearance of “bubbles” in the penalty process which may lead to an excessive penalization of relevant models and thus to an underestimation of the model risk. The talk will be based on joint work with Irina Penner and Beatrice Accaio.