

Non Linear Mixture of Asset Return Models

Sandrine Tobelem-foldvari

London School of Economics and Political Science

Abstract / Resumo:

Following recent developments in the study of ambiguity aversion in the decision-making process, we propose a non-linear methodology that combines different asset return models in order to define the best allocation for a portfolio of financial assets. More precisely, we consider the Ambiguity Robust Adjustment methodology (first introduced in Barrieu & Tobelem 2009) that encompasses two steps: the single models weights are first adjusted through a non-linear function ψ to account for the model specific ambiguity, then the adjusted weights for the different models are blended through a function π . In this paper, we investigate non-linear forms for the blending function π and we show that they allow a better portfolio performance than classical linear blended portfolios (such as the Subjective Expected Utility portfolio) or a linear form of the ARA portfolio.