Hong Kong Consortium of Quantitative Finance

# Hong Kong - Singapore joint Seminar Series in Financial Mathematics/Engineering

## Efficient Allocations under Ambiguous (Model) Uncertainty

**Prof. Frank Riedel**
**Bielefeld University**

### Abstract

We investigate consequences of model uncertainty on ex ante efficient allocations in an exchange economy. The ambiguity we consider is embodied in the model uncertainty perceived by the decision maker: they are unsure what would be the appropriate probability measure to apply to evaluate contingent consumption contingent plans and keep in consideration a set of alternative probabilistic laws. We study the case where the typical consumer in the economy is ambiguity-averse with smooth ambiguity preferences and the set of priors is point identified, i.e., the true law can be recovered empirically from observed events. Differently from the literature, we allow for the case where the aggregate risk is ambiguous and agents are heterogeneously ambiguity averse. Our analysis addresses, in particular, the full range of set-ups where under expected utility the Pareto efficient consumption sharing rule is a linear function of the aggregate endowment. We identify systematic differences ambiguity aversion introduces to optimal sharing arrangements in these environments and also characterize the representative consumer. Furthermore, we investigate the implications for the state-price function, in particular, the effect of heterogeneity in ambiguity aversion.

### About the speaker

Prof. Frank Riedel is the director of the Center for Mathematical Economics at Bielefeld University. His research interests include mathematical foundations of financial markets, game theory, model ambiguity, and general equilibrium theory. His research was published on Econometrica, Review of Economic Studies, Journal of Economic Theory, Annals of Applied Probability, Finance and Stochastics.

### Date

Nov 24, 2022 (Thursday)
(HK Time)

### Time

16:00 – 17:00
(HK Time)

### Zoom

https://polyu.zoom.us/j/92825391869?pwd=N1NQWG5GRC9vMXUxZjIxV3BhL2pPQT09

Meeting ID:
928 2539 1869
Passcode:
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