The Actuarial Profession
making financial sense of the future

DIY dependence tools *or*
The virtues of mixing

Andreas Tsanakas, Lloyd's

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Agenda

- Three problems
- Background: Dependence structures
- Background: Mixing
- A quick and dirty copula
- Dependent reinsurer defaults
- Correlations with tail-dependencies
- Uncertainty, information and dependence

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Three problems

- Actuaries are increasingly called upon to model dependencies between risks
- Some particular modelling challenges:
  - Have to simulate from tail dependent risks
  - Model clustering of reinsurance defaults
  - Combine a full correlation matrix spec with tail dependence
- Will show easy ways of doing these

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