#### The use/abuse of copulas in actuarial science and finance

Isidoor Pinillo Esquivel

#### Overview

- Papers read
- Gaussian copula
- Modelling dependence
- Tools

### Papers read

- Embrechts, McNeil, and Straumann [EMS02]
- Frees and Valdez [FV98]
- Donnelly and Embrechts [DE]

#### **CLT**

multivariate clt



### Gaussian copula

recap def of copula explain that people didnt knew copulas

## Modelling dependence 1

Causal ml Modelling with multivariate RVs  $\approx$  marginals + copulas, (issues) Usually only data and domain knowledge Non parametric vs parametric data and computational limitations approximate assumptions issues at tails

## Spherical distributions

## tail dependence

# Modelling CDOs

#### Conclusion