Syllabus 2026; Prof. Alessandro Ramponi

📅 Week 4: [redacted] Mar 5

Macro topics: Mean-covariance framework, Copulas, Step 2c - Multivariate models for market risk

📈 Theory

- Introduction: mean-covariance
- Mean-covariance classes
- Visualization
- Affine transformations
- Grades and inverse sampling
- Definition of copulas
- Properties of copulas
- Elliptical copulas
- Implementation
- Step 2c: Multivariate models for market risk
- Vector autoregression of order one
- Analytical approach (cointegration)

📝 Selected homework

- Visualization and affine equivariance
- Dependence structures and copula invariance
- Copula-marginal implementation
- Cointegration for shadow rates