Contents

- Risk vs Model ambiguity
- Optimality vs Robustness
- Robust design of pension and insurance contracts for intrinsically uncertain environments
We don’t know the “true” model in economics
Task: make a decision or design a contract
**OPTIMALITY VS ROBUSTNESS**

- Optimal decision is sensitive to underlying model
  - Example: mean-variance optimal asset mix or ALM
  - Optimal in-sample, but poor out-of-sample performance

- Robust decision explicitly takes model ambiguity into account
  - Find “reasonable” decision that works well for multiple models, e.g. “1/N rule”
  - “Sub-optimal” in-sample, but good out-of-sample
Can we find “reasonable” contract design that works well for multiple models?

- Mandatory participation & collective investment
- Explicit ownership of assets for each participant
  - No conflicts of interest!
  - No surplus?
  - No inter-generational risk-sharing?
Can we find “reasonable” contract design that works well for multiple models?

- Explicit formulation of “real” ambition
  - E.g: 70% of final wage (to maintain standard of living)
- Explicit formulation of “funding plan” to fit budget
  - Show gap between ambition and economic reality
  - Ambition determines the investment strategy
Explicit formulation of when to cut the ambition
+ Take “state of the world” into account
+ Avoid cut when economy is doing poorly!

Currently we do cut in bad states...

Red: cut in good states
Blue: cut in bad states