What are imprecise probabilities good for?

- Modelling flexibility: no need to fully specify all structural and distributional assumptions
- Simplify elicitation: can work with partial probability specifications & probability bounds
- Built-in sensitivity analysis: automatic part of methodology, not an additional analysis
- Built-in indecision modelling: theory tells you when you have insufficient data
- Unification of frequentist & Bayesian decision making: Wald 1939

What are imprecise probabilities not good for?

- Conceptual complexity: explicit acknowledgment of incompleteness is hard
- Computational complexity: in many cases, much more computational power required
- Non-risk-critical problems: classical methods serve their purpose extremely well in many applications
- Alternative models for incompleteness: confidence levels, info gap
- Terrible name: "incomplete probability"?