

Expressions of Uncertainty in Evaluations

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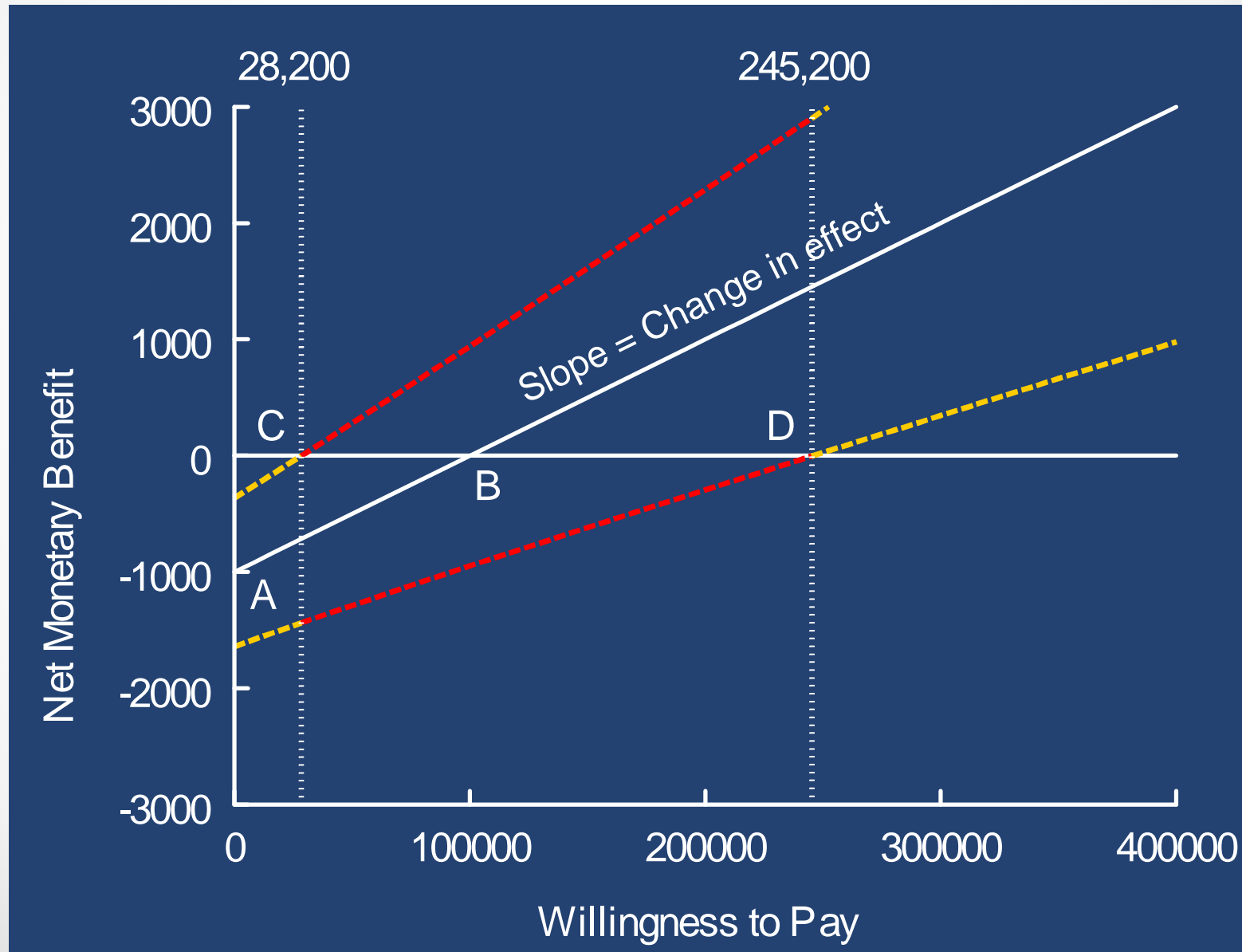
University of Washington, Seattle and
The National Bureau of Economic Research



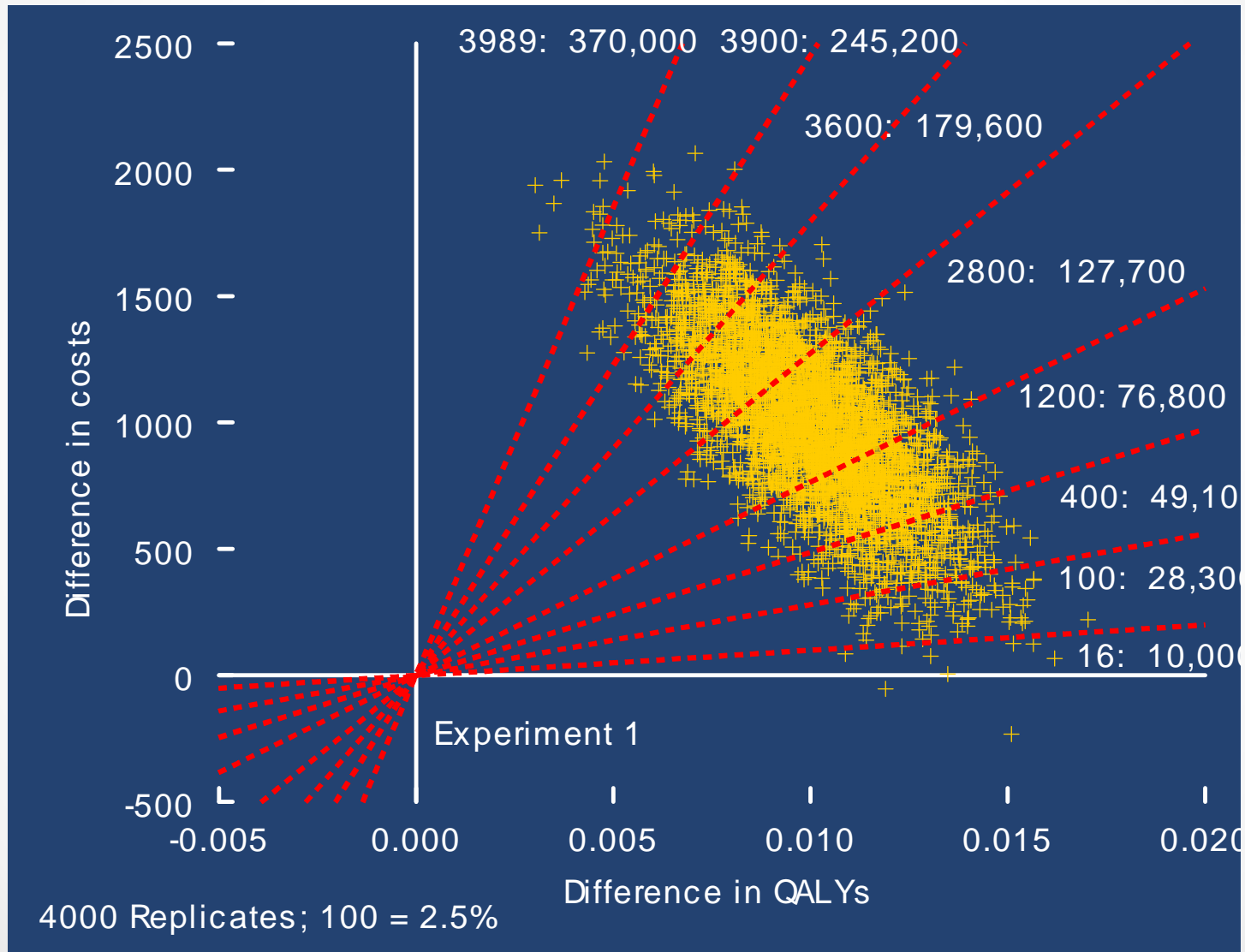
95% Confidence Range for Cost-Effectiveness Ratio: $\Delta C/\Delta B$

- If maximum willingness to pay is **included** within the confidence interval, we **CANNOT** be confident that the two therapies differ in their cost-effectiveness
- If it is **excluded from / outside** the interval, we **CAN** be 95% confident that one of the treatment is cost-effective compared to the other

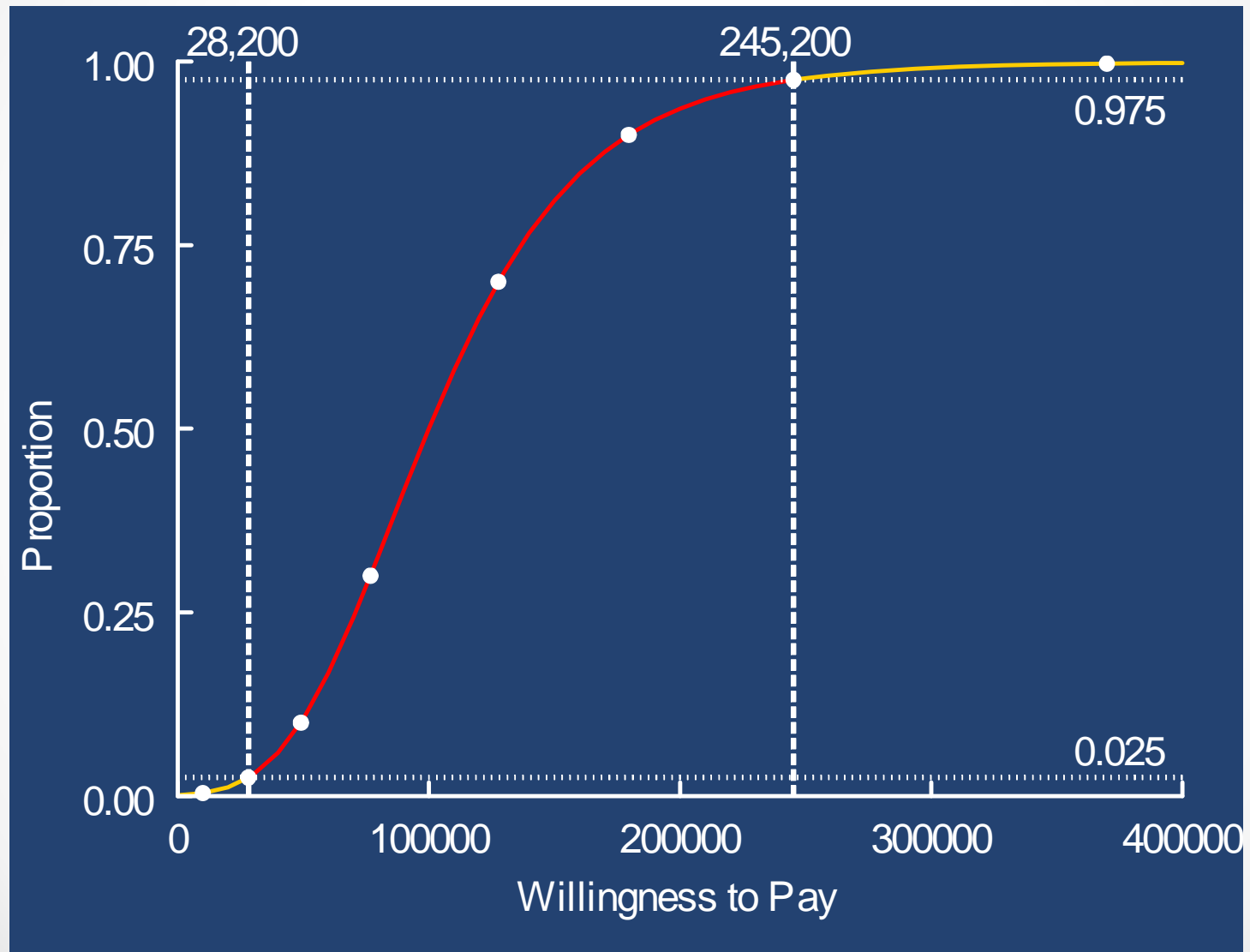
NMB Approach: $(WTP * \Delta B) - \Delta C$

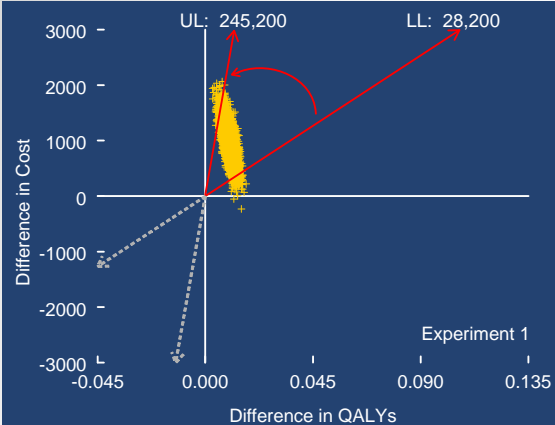


Acceptability Curves

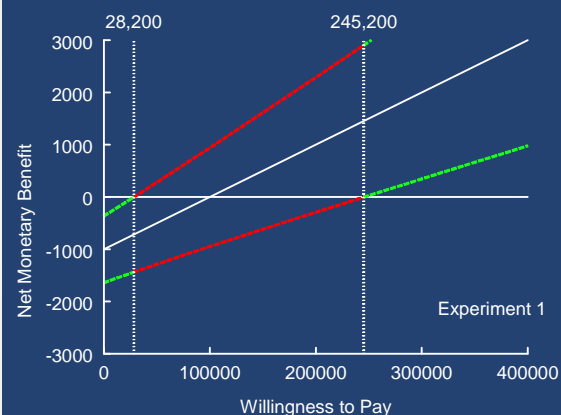


Acceptability Curves

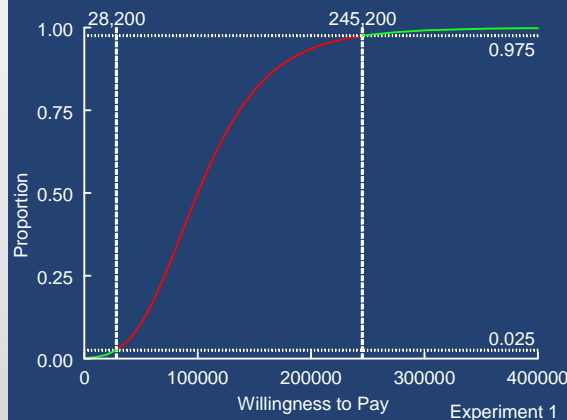




Confidence interval for CER
 CER CI: (28,200 to 245,200)



Confidence frontier for NMB
 CI intersect decision threshold (0) at 28,200 to 245,200



Acceptability curve
 Acceptability curve intersects 0.025 and 0.975 at 28,200 and 245,200

Expected Value of Future Research

- Acceptability Curves links directly to the value of future research
- Expected Value of Perfect Information:
 $\text{Pr}(\text{Decision today is wrong}) * E(\text{Loss due to wrong decision})$
- Can inform decisions on:
 - Whether to fund future research
 - How to prioritize across future research proposals
 - Whether to target interventions
 - How to design future research studies
- Active and growing field in CEA.
- Formally recognized as a method for prioritization in UK and also by PCORI (US)

References

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