Soundness and Its Role in Bug Detection Systems
-- An Economic Perspective

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Soundness has a cost

- Compilers
  - cost: missed optimization opportunity
  - alternative: wrong program!!
  - “utility curve“:
Soundness has a cost (cont’d)

- Bug detection
  - cost: false positives
  - alternative: missed errors
    ... but, they’re there anyways

```
utility

less FP
less bugs

unsoundness
```

Optimum