Would you accept $1 out of $10?

People turn down free money to punish an unfair split: the ultimatum game, its money-only answer, what people really do, and why culture shapes what is fair.

1 Self-tests

take it or walk away

- Stranger splits **$10** · you accept (you get the offer) or refuse (**both $0**) · offers: **$1**, then **$3**
- Then you split: offer **$1** · **$3** · **$5**? · no right answer · nothing stored or sent
- Many refuse $1 → give up $1 so the other also gets $0 · the amount matters: a limit somewhere between

2 Money-only answer

think from the last move

- **Ultimatum game**: "one player proposes how to split a sum; the other accepts, or refuses and both get nothing"
- **Proposer** = splits · **responder** = accepts or refuses
- Solve **backward** (Micro Lesson 8): last move first → money-only responder accepts **any** offer > $0 (`$1 > $0`)
- ⇒ money-only proposer offers the smallest: **$1 of $10**, keeps $9 · **$1 of $20**, keeps $19
- A refusal of $1 of $20 costs: responder **–$1** · proposer **–$19** → a cheap way to punish

3 Evidence

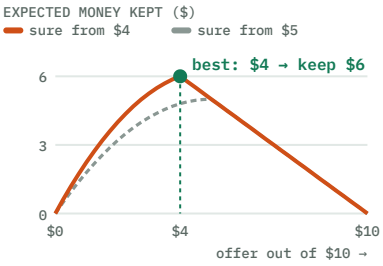
Güth · Schmittberger · Schwarze

- 1982 · German economists · **first ultimatum game** → offers often close to **half** · low offers often **refused**
- Offers **below a fifth** (< 20%, under $2 of $10) → refused **40%–60%** ≈ half the time (industrial countries)
- **Fairness preference**: "caring about a fair split, not only about your own money, enough to pay to avoid an unfair one"
- $1 of $20 = `1 ÷ 20 = 5%` → far below 20% ⇒ high risk of a "no"

4 Best offer

toy model, made-up numbers

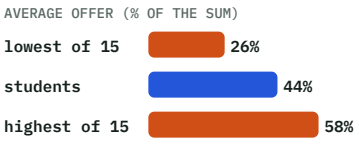
- Chance of yes `= offer ÷ $4` (sure from $4) · **expected money** `= (10 − offer) × chance`
- `$1 → 9 × ¼ = $2.25` · `$2 → $4` · `$3 → $5.25` · `$4 → $6` · `$5 → $5` · `$6 → $4`
- Less than $4 → refusals eat the gain · more → money given away ⇒ best: **offer $4, keep $6**
- A place that expects half: sure only from **$5** → best **$5** (`$4 → 6 × 0.8 = $4.80`) ⇒ stricter fairness, higher offer



5 Culture

Henrich · dictator game

- **Joseph Henrich** (American anthropologist: studies how people live in different cultures) and colleagues · 2001 · **15 small societies**, hunters to farmers
- Average offers **26% → 58%** (students in industrial countries ≈ 44%) · some groups refused even high offers ⇒ what is fair is partly **learned**
- **Dictator game**: "one player splits a sum and the other has no say" → offers **lower**, but still > $0
- ⇒ ultimatum generosity = fear of a "no" + care for fairness itself



6 Uses · defense

fair beats free

- **Judged on fairness**, not only money: tips · prices that jump after a storm · pay cuts
- Pay cut with good profits → compared with **fair pay**, not with no job → feels unfair → less effort, some leave → firm loses more than it saves
- Pays to punish (refuses $2 of $20) · gives freely (tip where nobody can punish) · money only ($1 to a computer that accepts anything)
- Defense: making an offer → **would they see it as fair?** · receiving one → **is my anger worth the money?** · $10 of $100 → `90 × ½ = $45` · $40 → **$60**

Watch out: the money-only offer is **not** the best-paying one with real people · $1 of $10 → `9 × ¼ = $2.25` vs $4 → **$6** · and a refusal is not a mistake: it is a price paid for fairness