Journal Club

Loss aversion is not robust: A re-meta-analysis

Zheng Li

2025-04-15

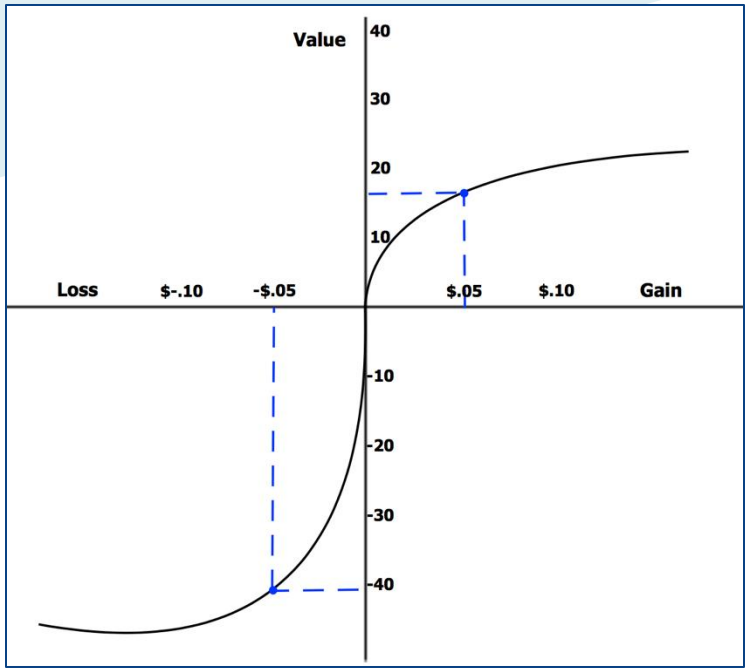
Introduction

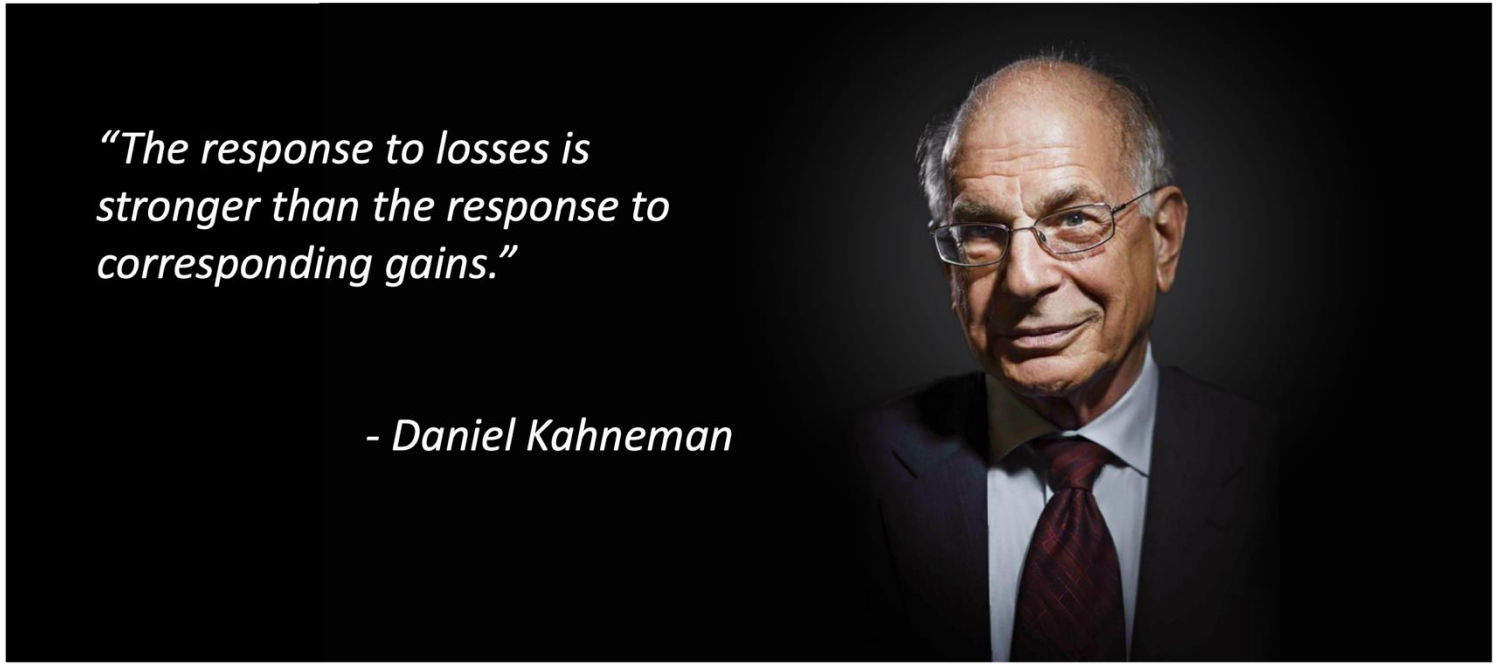
Paper

Yechiam, E., & Zeif, D. (2025). Loss aversion is not robust: A re-meta-analysis. *Journal of Economic Psychology*, *107*, 102801. https://doi.org/10.1016/j.joep.2025.102801

1. Loss Aversion
2. Issues and Confounders
3. Re-meta-analysis
4. Discussion

What is Loss Aversion?





Is Loss Aversion Real?

- Ever since, loss aversion has been believed to be “true”.
- Empirically/experimentally testing loss aversion: **estimate λ**
- Brown, A. L., Imai, T., Vieider, F. M., & Camerer, C. F. (2024). Meta-analysis of Empirical Estimates of Loss Aversion. *Journal of Economic Literature*, 62(2), 485–516. https://doi.org/10.1257/jel.20221698
  - Analyzed 607 empirical estimates of λ over 150 studies from 1992 to 2017
  - Found a mean $\lambda \approx 1.96$ (with 95% confidence)
    - close to Tversky & Kahneman’s original estimate of ~ 2.25 (1992)
  - “Few characteristics are substantially correlated with differences in the mean estimates…”
    - Robust, cross-domain loss aversion confirmed…?
- Yechiam, E., & Zeif, D. (2025). Loss aversion is not robust: A re-meta-analysis. *Journal of Economic Psychology*, *107*, 102801. https://doi.org/10.1016/j.joep.2025.102801

Issues: Design Drives the Data

- Loss aversion estimates are shaped by **how we measure them** (elicitation method), not just what people perceive and judge.

Issue I: *Asymmetry of Gains and Losses*

🟢	If heads, you lose €2	If tails, you win €6
🟢	If heads, you lose €3	If tails, you win €6
🟢	If heads, you lose €4	If tails, you win €6
🔴	If heads, you lose €5	If tails, you win €6
🔴	If heads, you lose €6	If tails, you win €6
🔴	If heads, you lose €7	If tails, you win €6

(Gächter, Johnson, and Herrmann, 2010)

In many studies, α & β were ignored in estimation:

- (e.g., Charpentier, Hindocha, Roiser, & Robinson, 2016; Fairley & Sanfey, 2020; Füllbrunn & Luhan, 2017; Takeuchi et al., 2017)

$$v(x) = \begin{cases} x^{\alpha}, & \text{if } x \geq 0 \\ \lambda|x|^{\beta}, & \text{if } x < 0 \end{cases}$$

(a) $\alpha = \beta = 0.4$: $0.5\lambda \times |-4|^{0.4} = 0.5 \times 6^{0.4} \Rightarrow \lambda \approx 1.09$

(b) Ignore α & β: $0.5 \times |-4|^{0.4} = 0.5 \times 6^{0.4} \Rightarrow \lambda \approx 1.33$

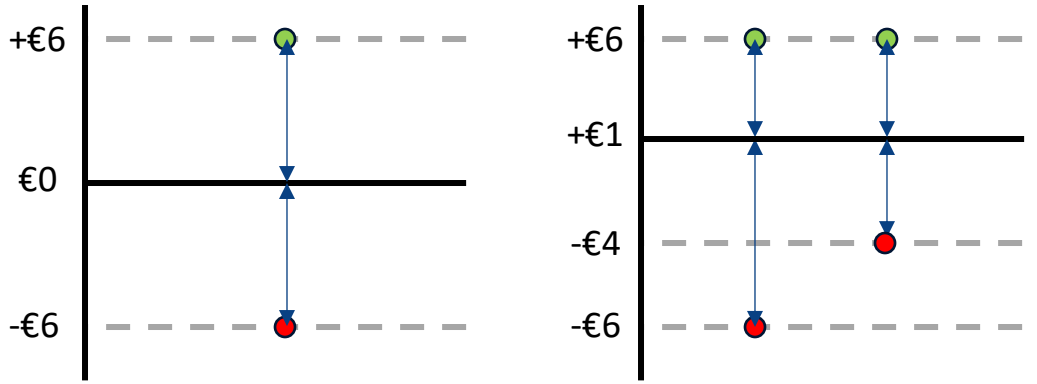
Diminishing sensitivity to large values is misattributed to λ

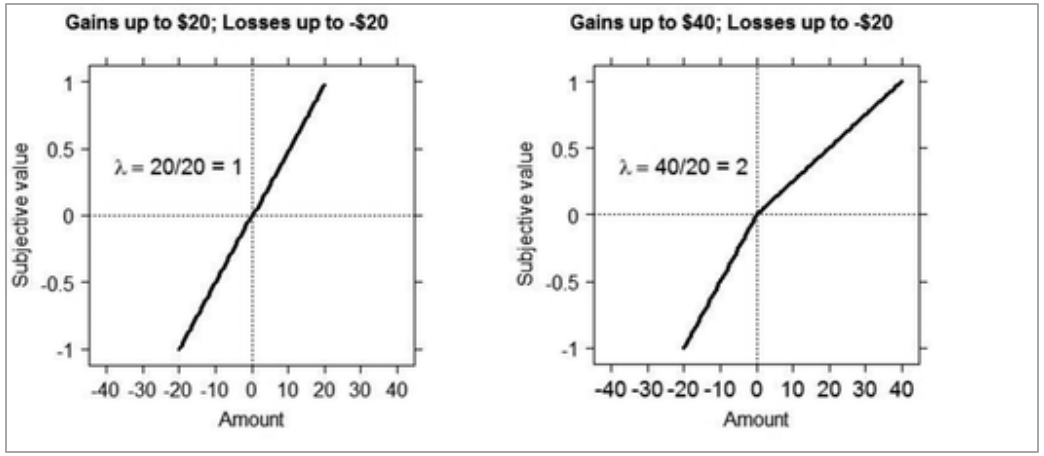
Issue I: *Asymmetry of Gains and Losses*

1. **Noisy selection**: Random choices can push λ up. For example, $\lambda \approx 1.37$ even with random cutoffs (Mrkva et al., 2020)

2. **Contrast effect** (Ert & Erev, 2013): Recently repeatedly seen large gains became the reference point, and even small losses feel worse or more unattractive

3. **Decision by sampling/ranking** (Walasek & Stewart, 2015): Subjective value can be determined by *ordinal rank* in mental sample distribution, instead of cardinal magnitude





Issue II: *Ordering of Choices*

	If heads, you lose €2	If tails, you win €6
	If heads, you lose €3	If tails, you win €6
	If heads, you lose €4	If tails, you win €6
	If heads, you lose €5	If tails, you win €6
	If heads, you lose €6	If tails, you win €6
	If heads, you lose €7	If tails, you win €6

Choices are usually ordered from small to large loss (or vice versa).

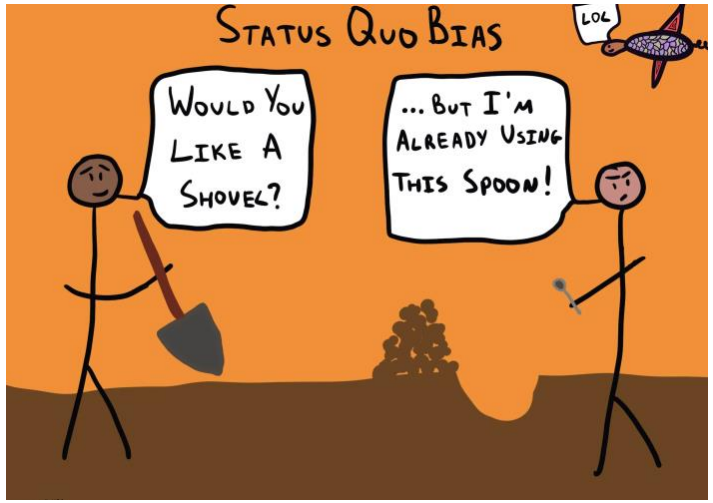
1. **Multiple-Choice illusion**:
   - Weakness of *MPL*: the seemingly "obvious" answer might be to select the option with the smallest loss (the first/last/safest option)?

2. **Middle-of-the-scale effect** (Harrison & Rutström, 2008)
   - Weakness of *MPL*: encourages subjects to select the middle row (ultimately, driven by noise?)
   - Synergy with asymmetry of L/G values: If the list runs from small to large losses, the middle loss is still large.

Issues: Other Confounders

Stake Size

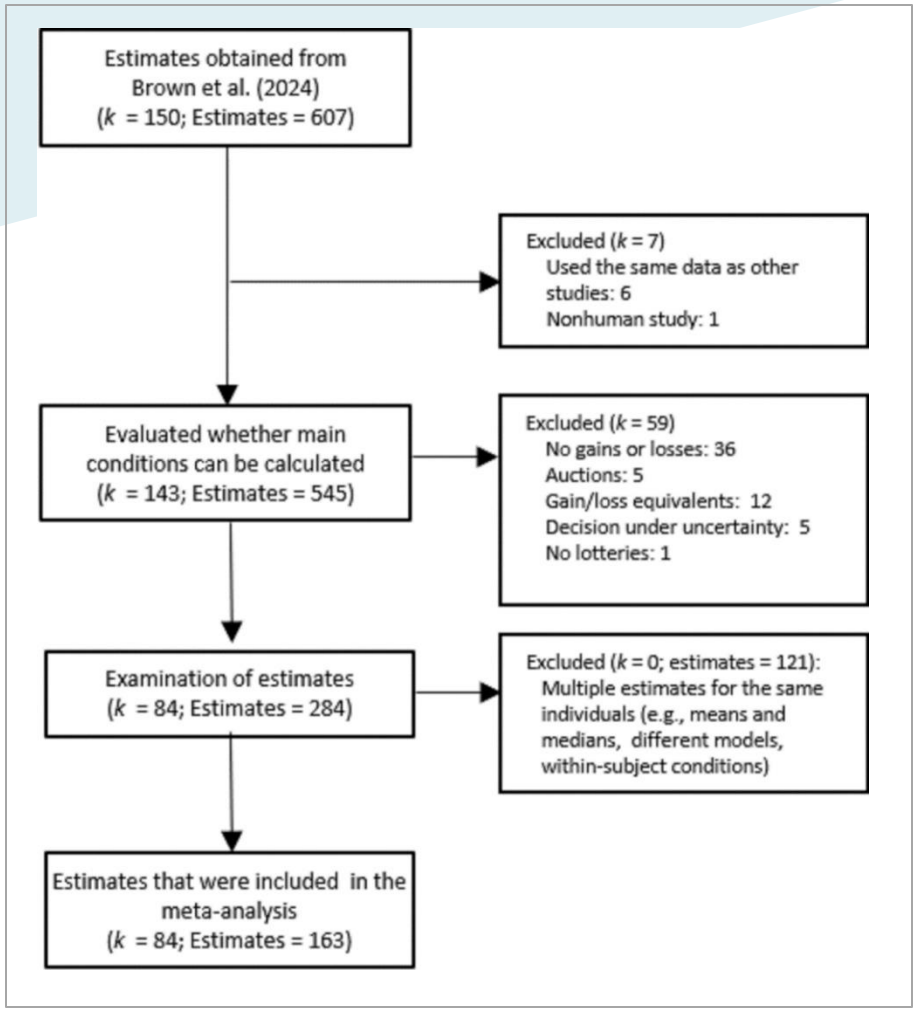
Framing



Elicitation

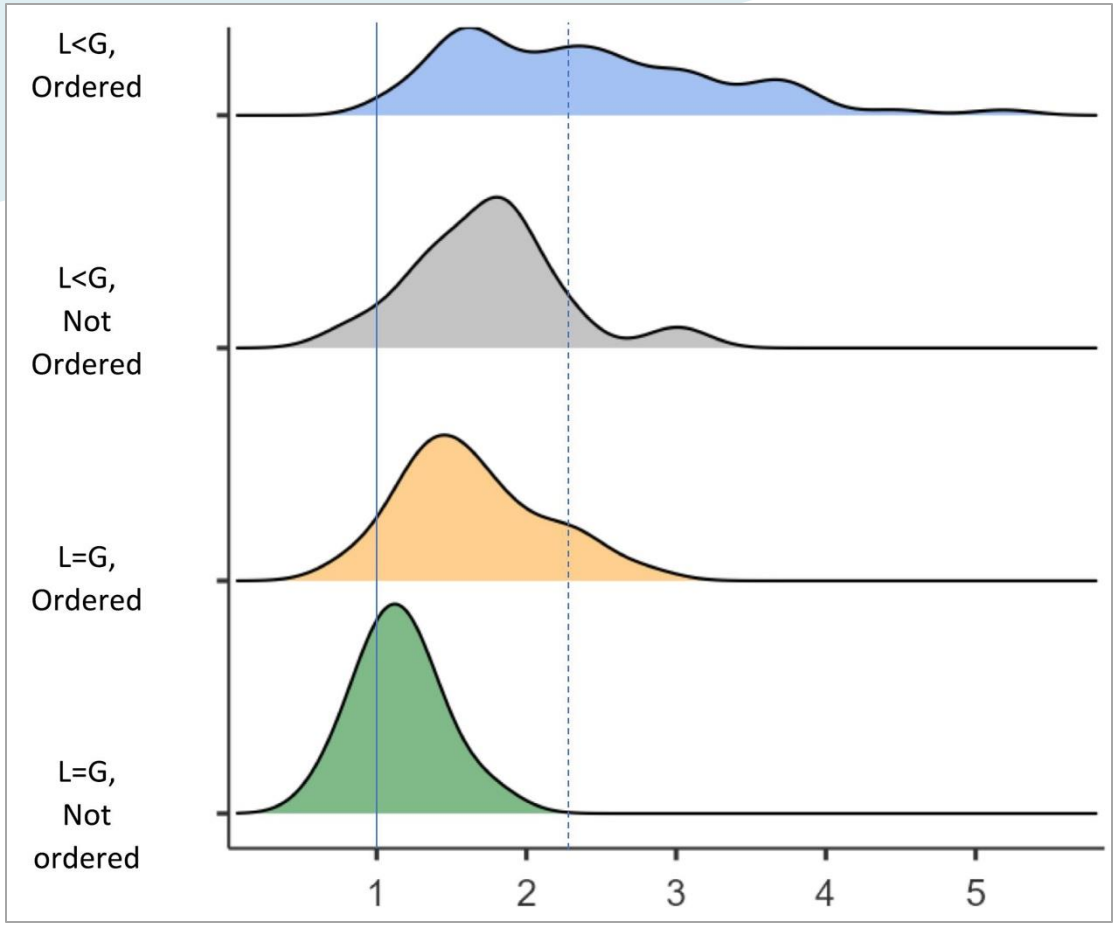
Incentivization

Re-Analysis: Approach



- 84 papers, ~149,000 participants, 163 λ estimates
- 7 Variables:
  - **L-G Asymmetry** (L<G, L=G, L>G): two dummies
  - **If ordered in size**
  - Stake size (USD, corrected to PPP)
  - Elicitation (Pricing vs. Choice)
  - If Accept/reject frame
  - If Real incentivization

Re-Analysis: Descriptive Results



λ	Ordered	Not ordered
L<G	2.296 ($k = 62$)	1.793 ($k = 31$)
L=G	1.585 ($k = 36$)	1.125 ($k = 22$)
L>G	1.317 ($k = 4$)	1.065 ($k = 8$)

Re-Analysis: Regression Results

Meta-regression results.

	Model 1 (L/G)	Model 2 (ordering)	Model 3 (both)	Model 4 (additional moderators)
Intercept	2.11 (0.05)***	2.05 (0.06)***	2.33 (0.05)***	2.62 (0.11)***
L = G	−0.68 (0.07)***		−0.70 (0.07)***	−0.70 (0.07)***
L > G	−0.88 (0.14)***		−0.68 (0.14)***	−0.81 (0.14)***
No ordering		−0.59 (0.09)***	−0.55 (0.07)***	−0.57 (0.08)***
Stake size (log)				−0.03 (0.06)
Pricing (CE)				−0.25 (0.17)
Accept/reject				−0.09 (0.09)
Incentivized				−0.31 (0.08)***
Model fit	χ^2 (2) = 106.19***	χ^2 (1) = 39.88***	χ^2 (3) = 161.11***	χ^2 (7) = 183.62***
	r^2 = 0.51	r^2 = 0.09	r^2 = 0.50	r^2 = 0.56
Estimates	163	163	163	147

Notes: * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$. The modal condition where L < G and gains/losses are ordered was used as a reference point.

Discussion

- Loss aversion is not robust to experimental designs, or is it?
- "Compression effect"/middle of the scale effect
- Fair use of MLP
- Open Q&A

Journal Club

Loss aversion is not robust: A re-meta-analysis

Zheng Li

2025-04-15