High Risk, High Reward? How Evaluation Architecture Shapes Research Funding

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Does Evaluation Architecture Matter?

- Funders want high-risk, high-reward science.
- **Holistic review:** one overall score, often seen as conservative.
- **SEU review:** outcomes, value, and odds rated separately, then combined.
- **This paper:** both forms on the same proposals in a live grant call.

What the Paper Finds

- Architecture matters: the two forms agree on only 3.5 of 25 winners.
- SEU favors safe, high-value projects and funds no high-risk one.
- **Takeaway:** making risk explicit penalizes it.

What I Love About the Paper

A Real Experiment in a Live Grant Call
Real proposals, real reviewers, and a pre-registered design.

A Big Question for Science Funders
The ERC and NIH fund high-risk science. The paper tests a reform first.

A Clear Warning for Funders
The proposed fix for risky science funds none of it here.

1. What Changes the Ranking: the Form or the Reviewer?

- Two things change at once: the form and the reviewer.
- Even with the same form, standard reviewers agree on only 11% of proposals.
- Hold the reviewer fixed: compare the SEU reviewer's own two rankings.

2. Is Holistic Review Really Conservative Here?

- Premise: standard review undervalues risky projects.
- Check: where does each risk group rank under each form (0 to 100)?

Places above high risk, low reward	Standard review	SEU review	Change
High risk, high reward	$+\mathbf{16}^{*}$	$+\mathbf{25}^{***}$	$+\mathbf{8}$
Low risk, high reward	0	$+47^{***}$	$+47^{***}$
Low risk, low reward	$+3$	$+26^{***}$	$+21^{**}$

$^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

3. What Should a Science Funder Maximize?

- SEU is risk neutral. Safe, valuable projects win by design.
- Favoring risk needs convex payoffs, option value, or diversification.
- The SEU form records forecasts. Score them once funded projects end.

Wrapping Up

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