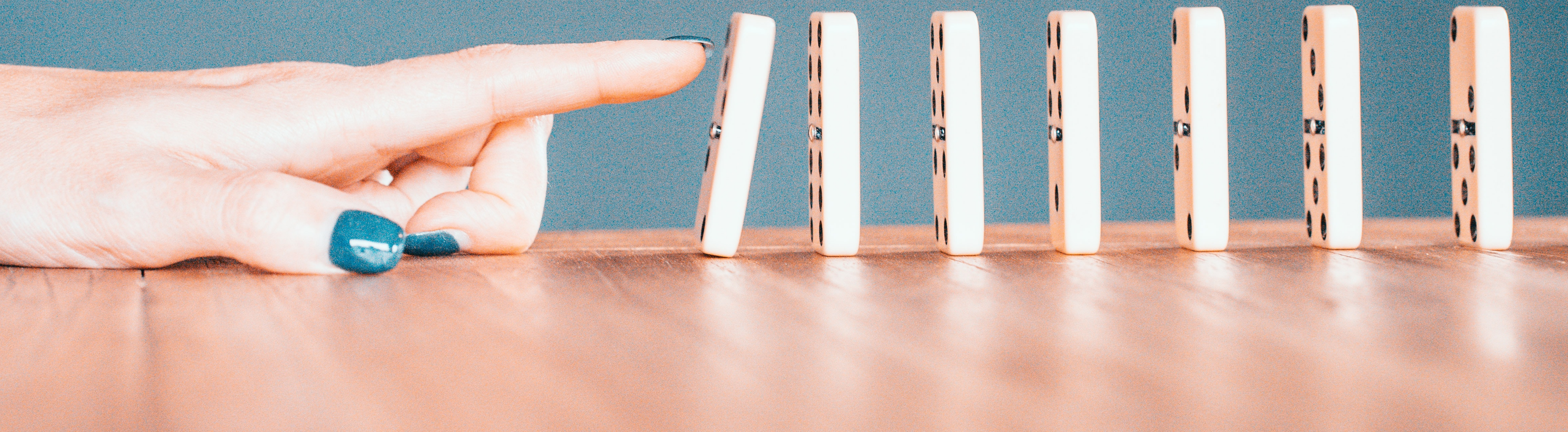


Science, Technology, and Innovation Policy & Causality

REvaluation22, Vienna, May 6, 2022

Paul Hünermund, Strategy & Innovation

Impact



We Strive for Impact

Strategic Objectives:

Eurostars aims to stimulate these SMEs to lead international collaborative research and innovation projects by easing access to support and funding. It focuses on the needs of SMEs, and specifically targets the development of new products, processes and services and the access to transnational and international markets.

Through this joint Programme, based on Article 185 of the Lisbon Treaty, Eurostars aims at combining the best of two worlds with a bottom-up approach, a central submission and evaluation process, and synchronized national funding in 33 countries.

The Eurostars programme aims at supporting those R&D performing SMEs by:

- ▶ creating a sustainable European R&D support mechanism for R&D performing SMEs;
- ▶ encouraging participating SMEs to create new economic activities based on R&D results and bring new products, processes and services to the market faster than would otherwise be possible;
- ▶ promoting technological and business development and internationalisation of the participating SMEs.

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Evaluation State-of-the-Art?

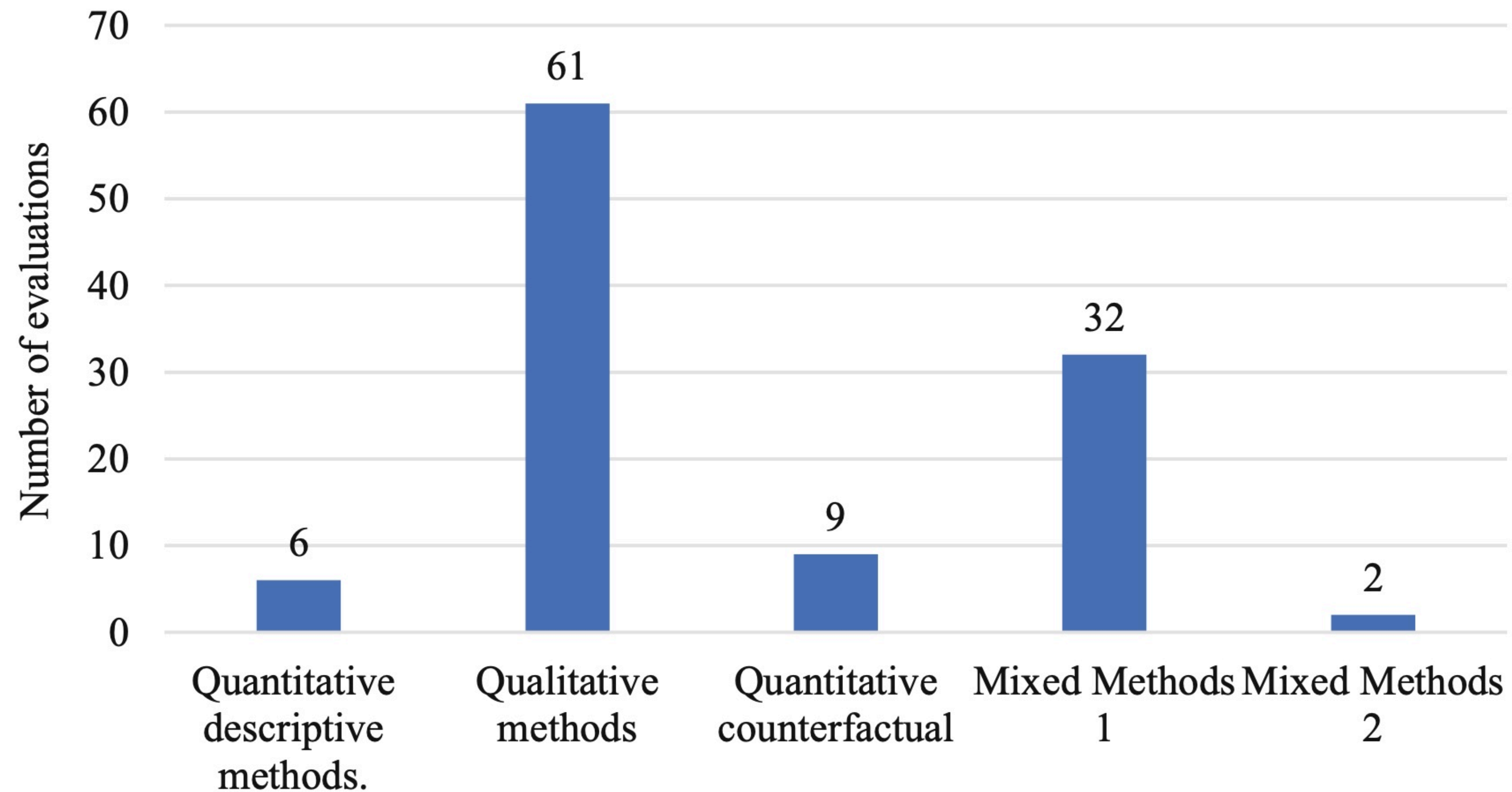
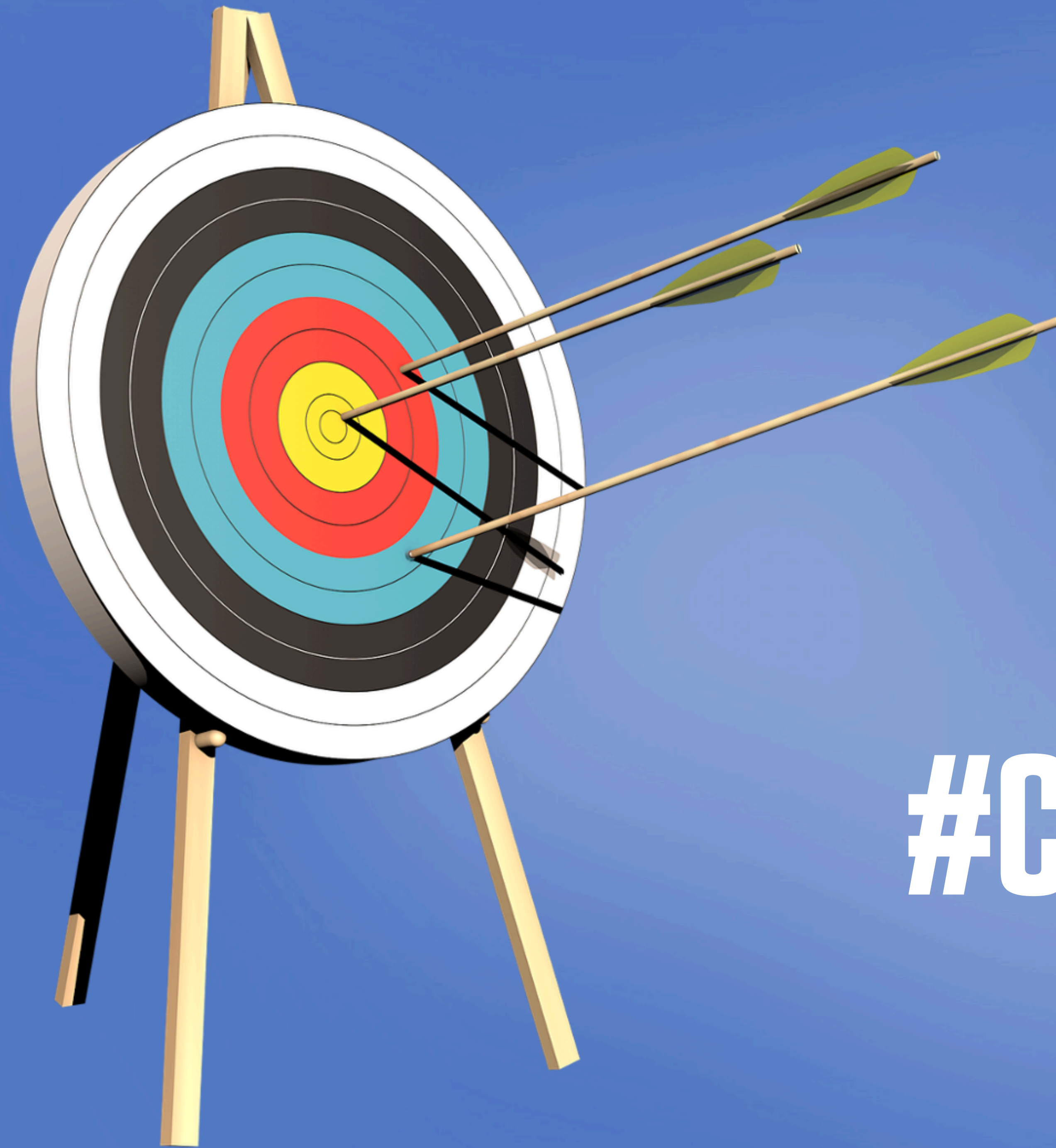
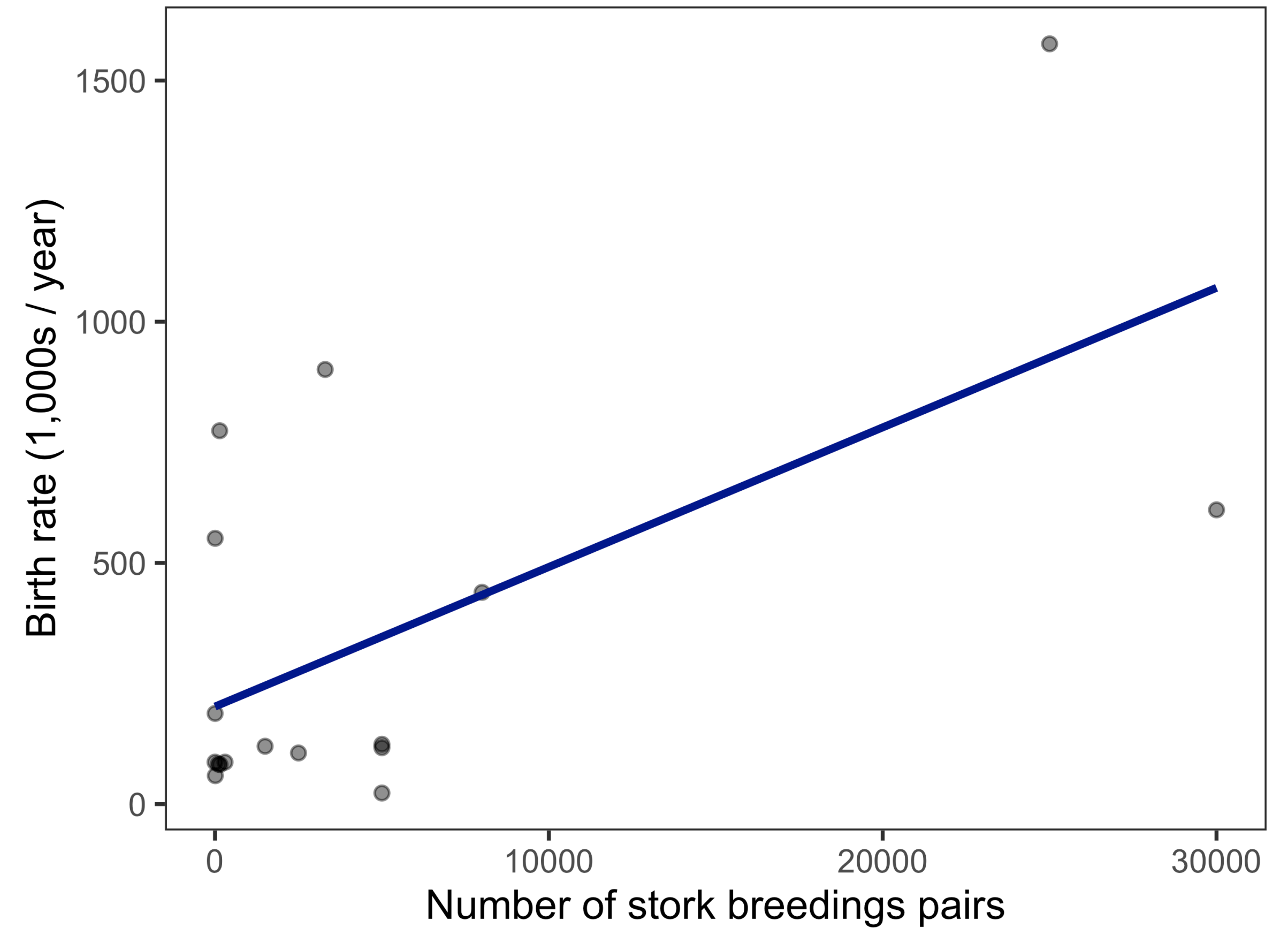


Fig. 3 Evaluative methods used in evaluations of Swedish growth and innovation policies



#Causality

Do Storks Deliver Babies?



Probably not...

Call:

```
lm(formula = births ~ storks + population + area, data = matthews_2000)
```

Residuals:

Min	1Q	Median	3Q	Max
-323.56	-32.14	27.06	70.68	324.05

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	-7.354e+01	6.170e+01	-1.192	0.2546
storks	9.429e-03	5.994e-03	1.573	0.1397
population	6.889e+00	3.144e+00	2.191	0.0473 *
area	9.032e-04	3.866e-04	2.336	0.0361 *

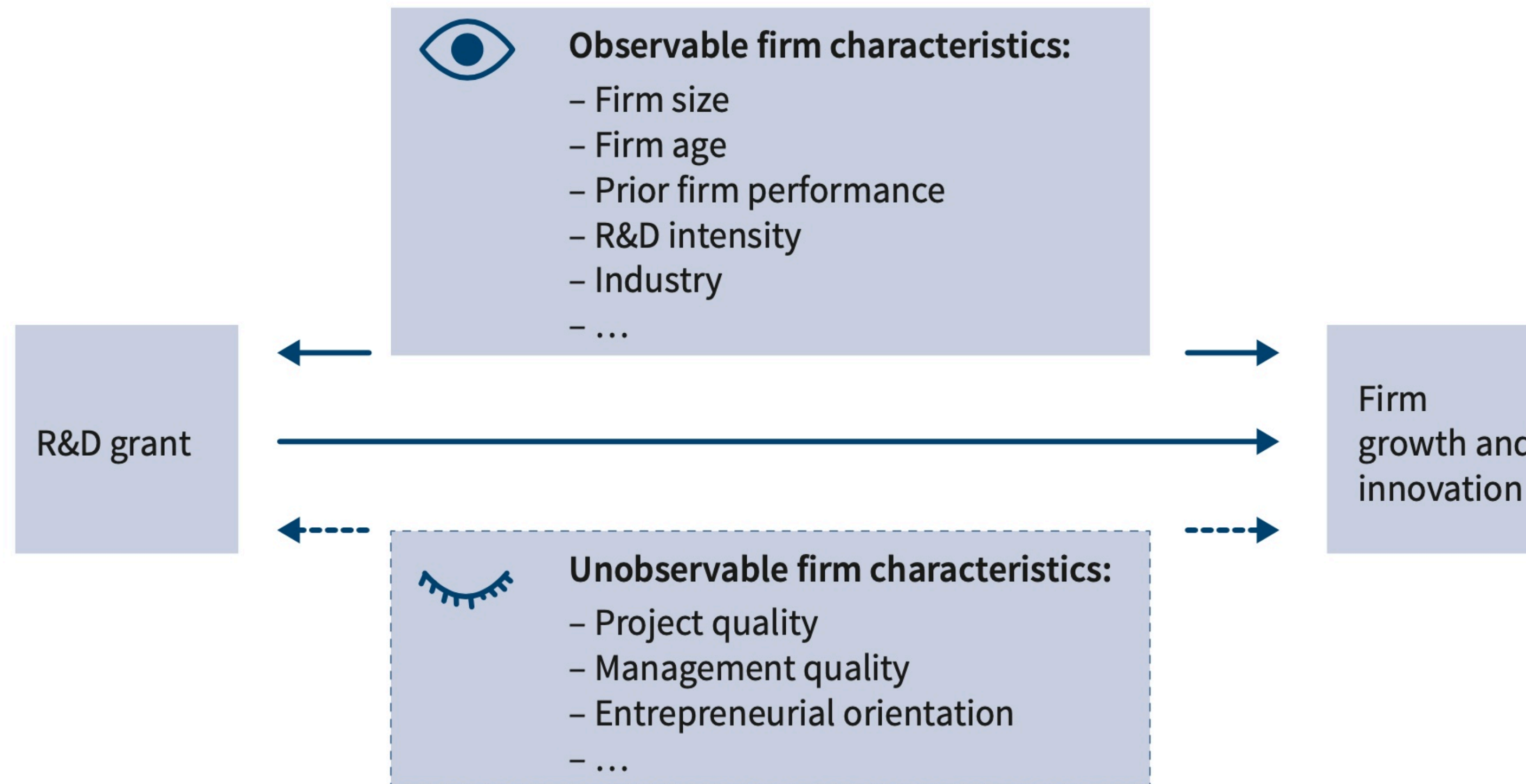
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 167.4 on 13 degrees of freedom

Multiple R-squared: 0.8708, Adjusted R-squared: 0.841

F-statistic: 29.21 on 3 and 13 DF, p-value: 4.784e-06

The Confounding Problem

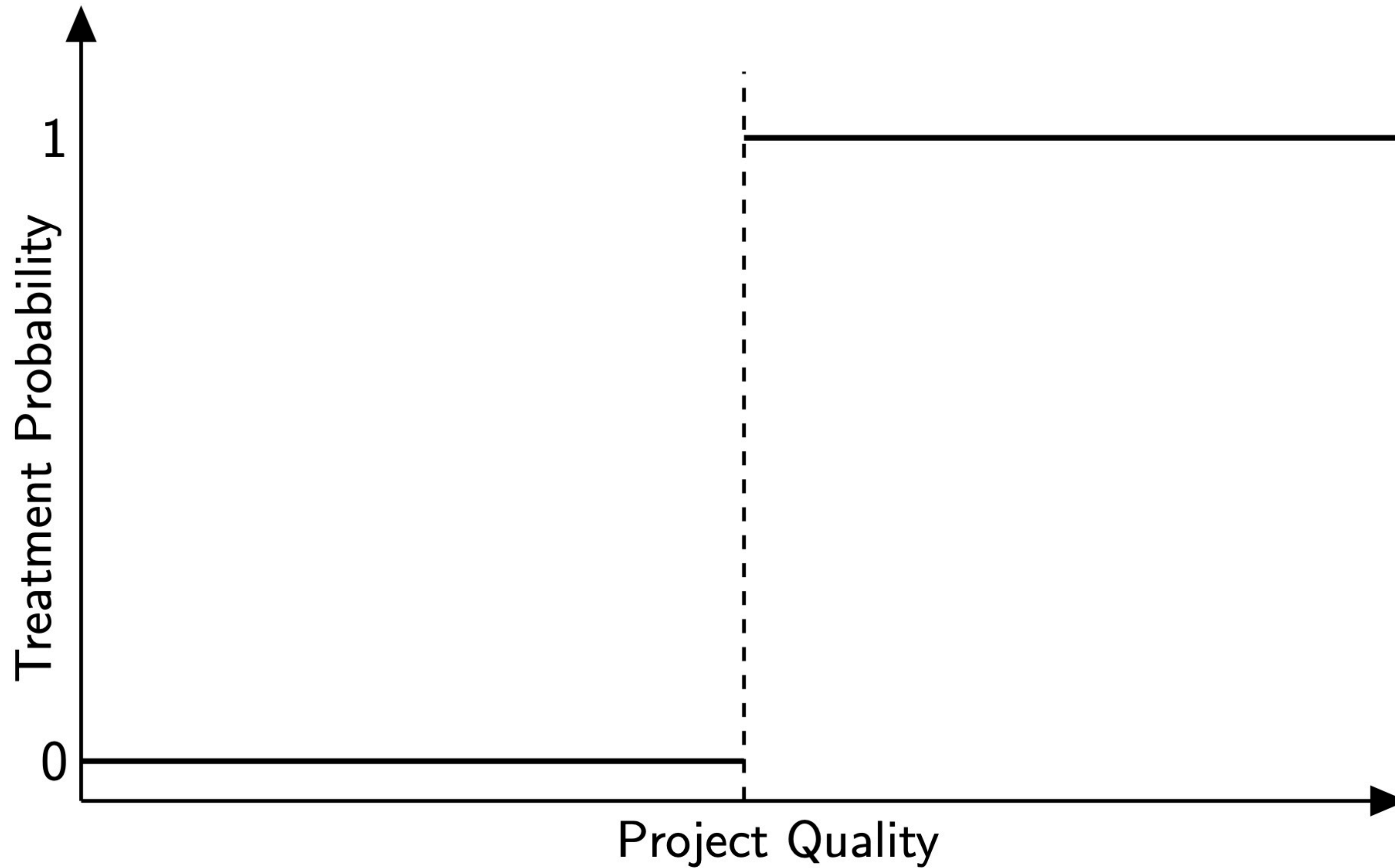


Note: The evaluator's goal is to estimate the causal effect of R&D grants on firm growth and innovation (depicted by the solid arrow connecting the two variables). However, differences in firm characteristics between funded and non-funded firms can lead to a correlation that does not reflect any genuine causal relationship. Not all of these confounding firm characteristics might be observable to the evaluator.

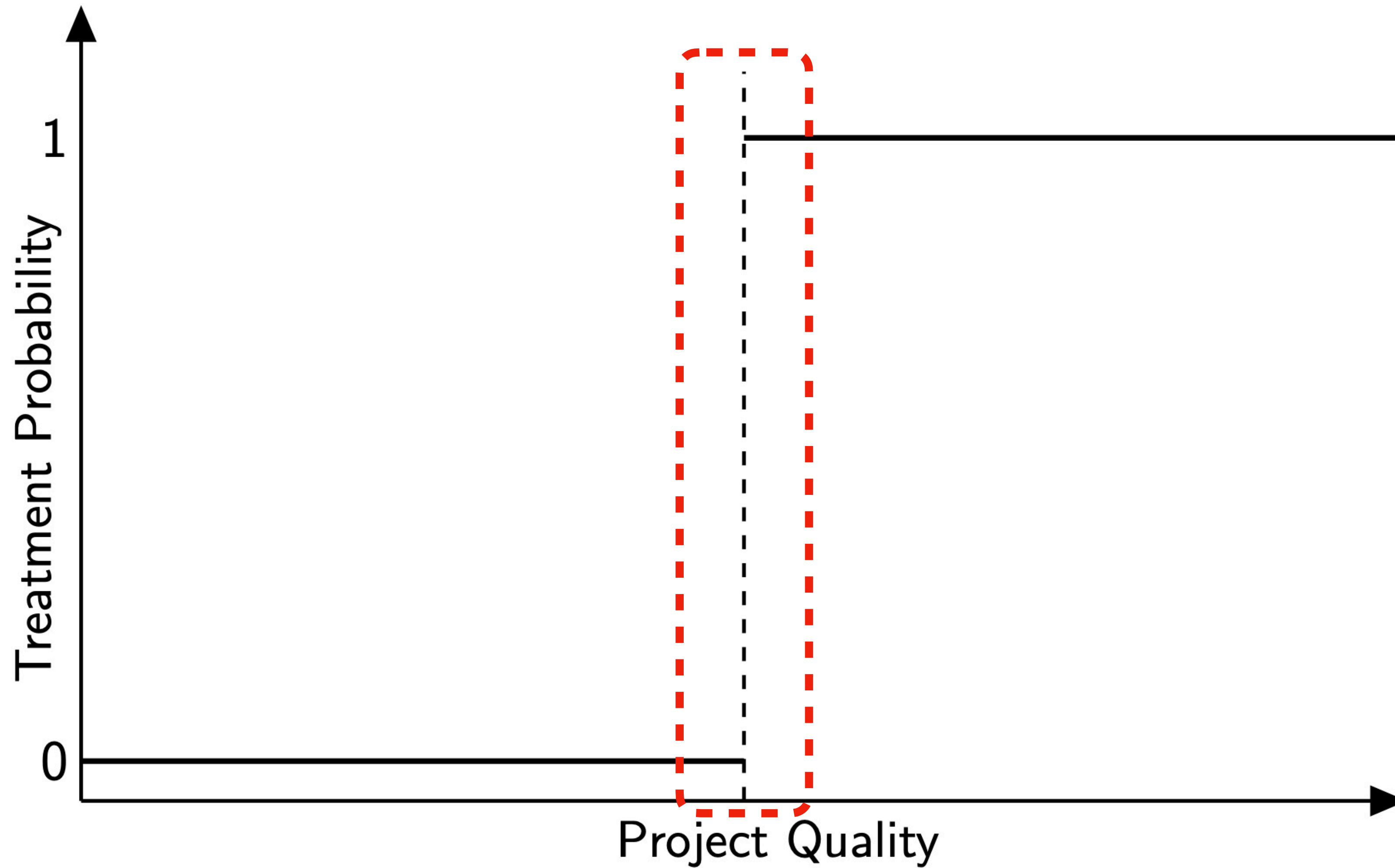
Source: Authors' illustration.

© ifo Institute

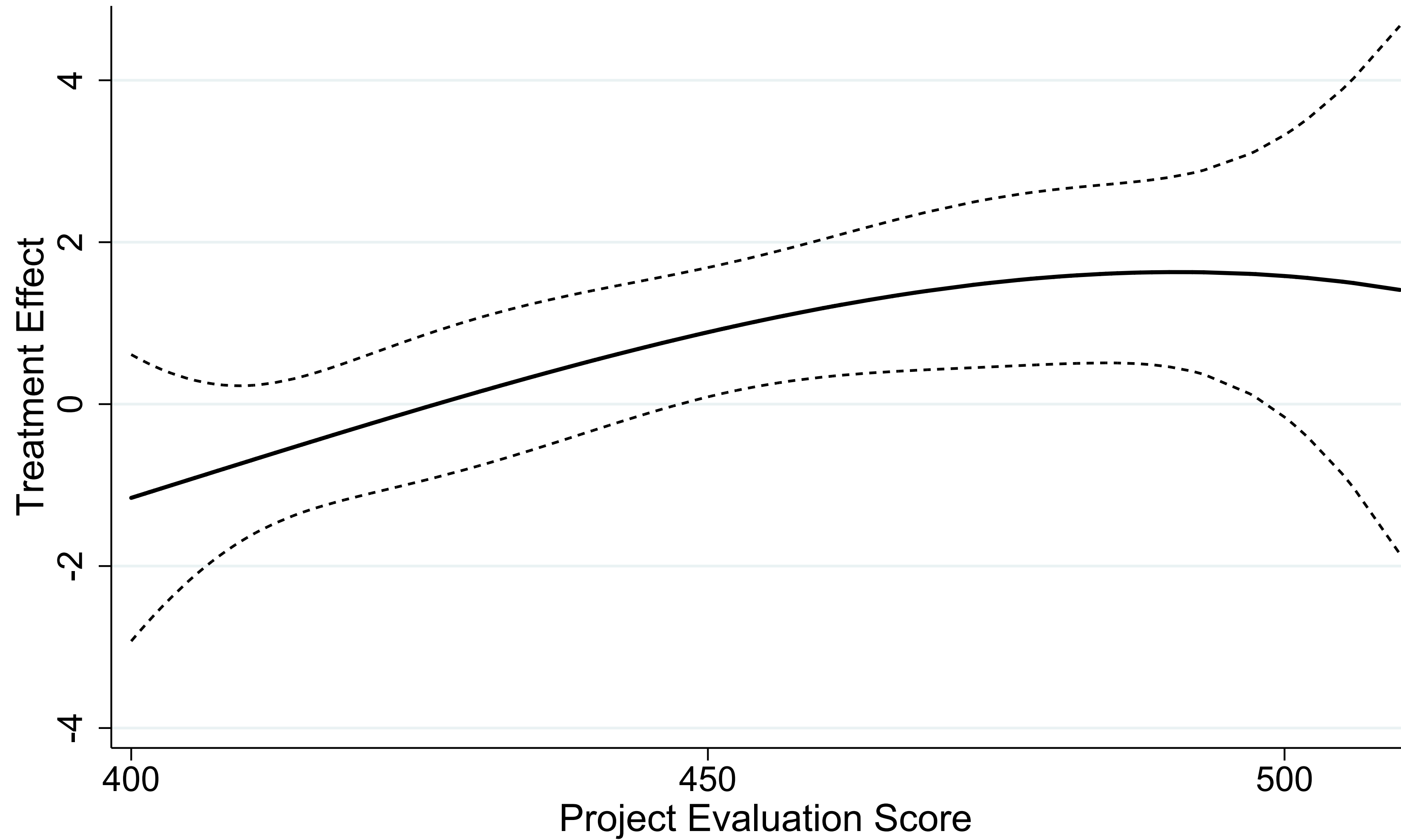
Regression Discontinuity Design



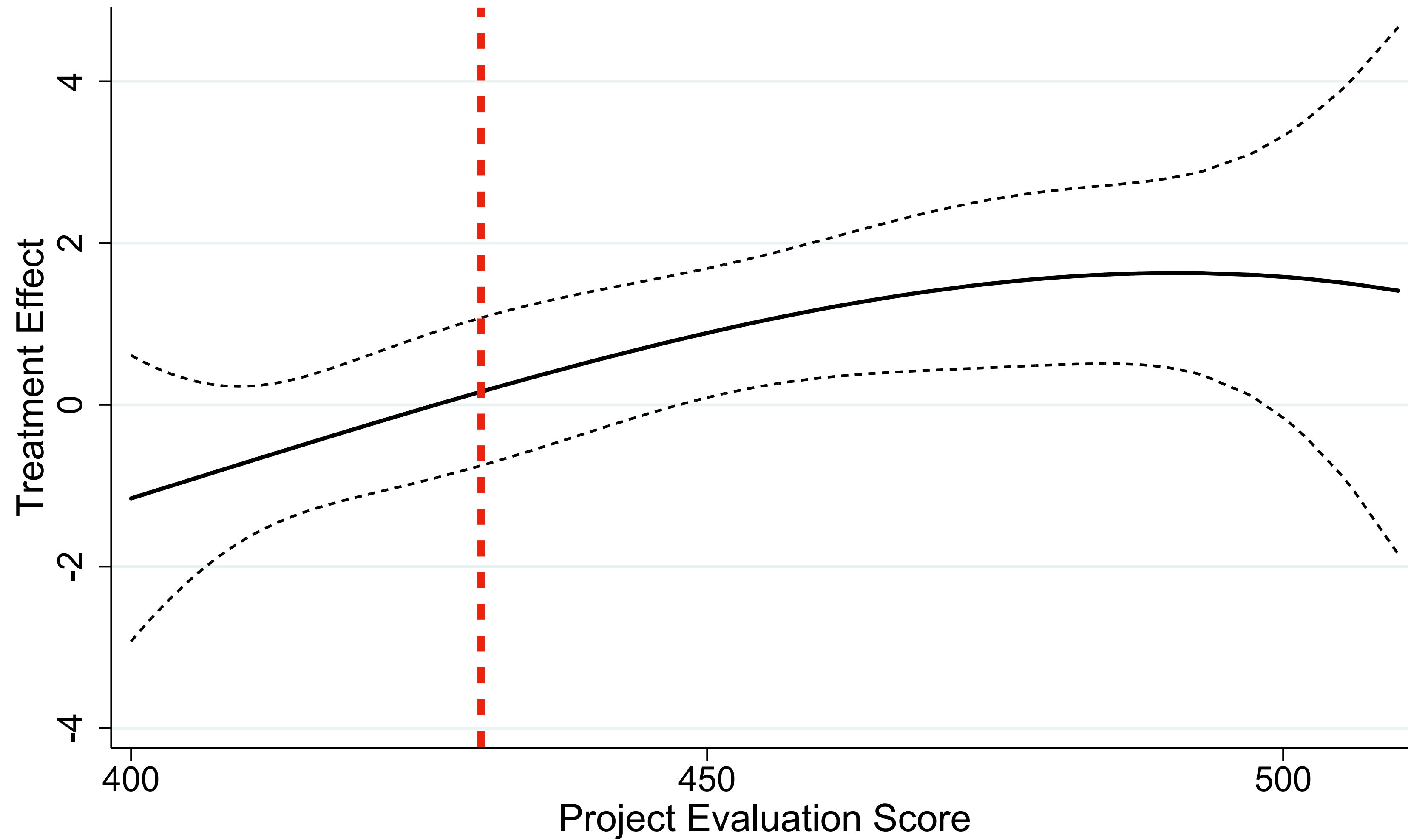
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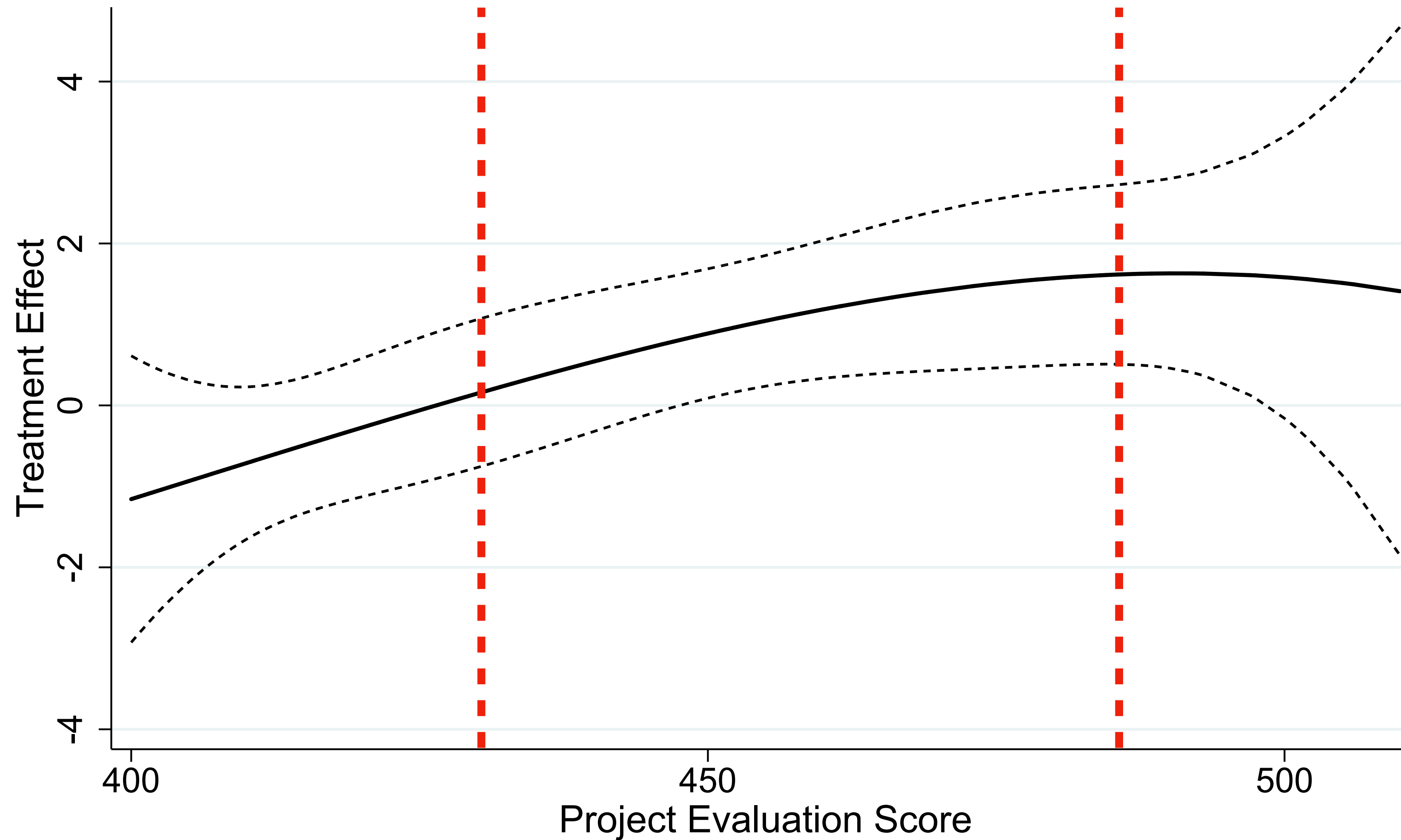
Treatment Effect Heterogeneity



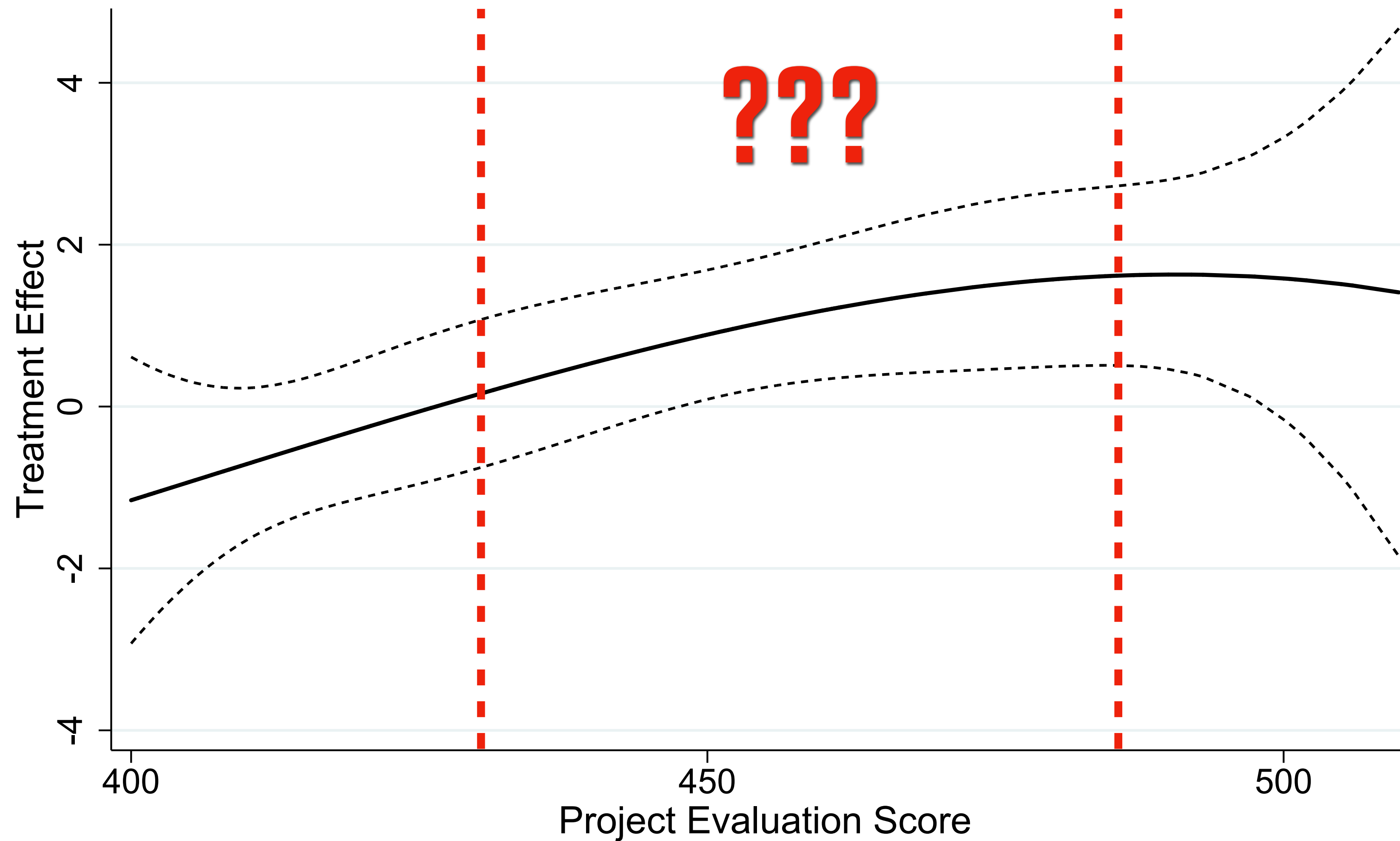
Treatment Effect Heterogeneity



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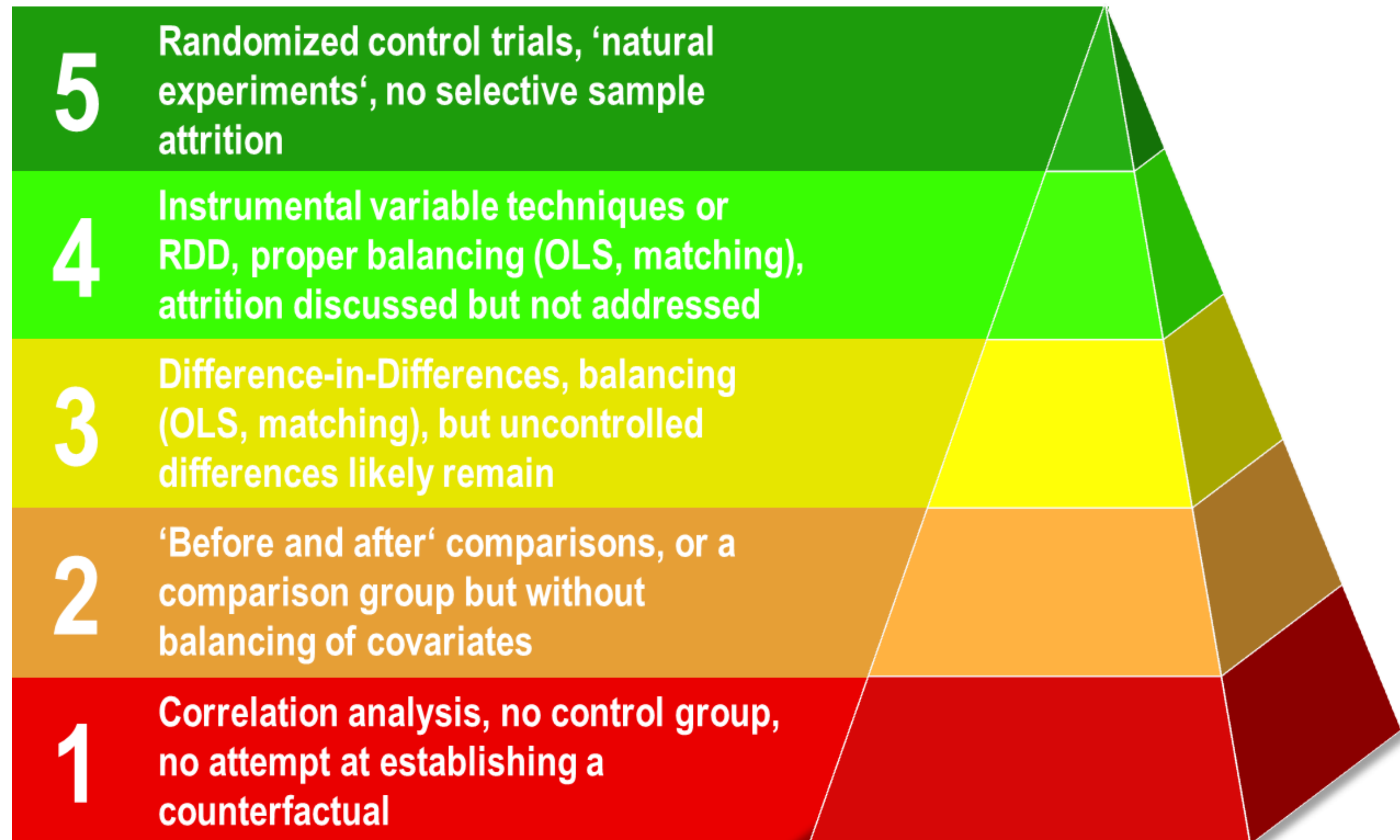


Treatment Effect Heterogeneity



How to move forward?

1. Build A Culture of Experimentation



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2. Do Experimental Pilot Studies



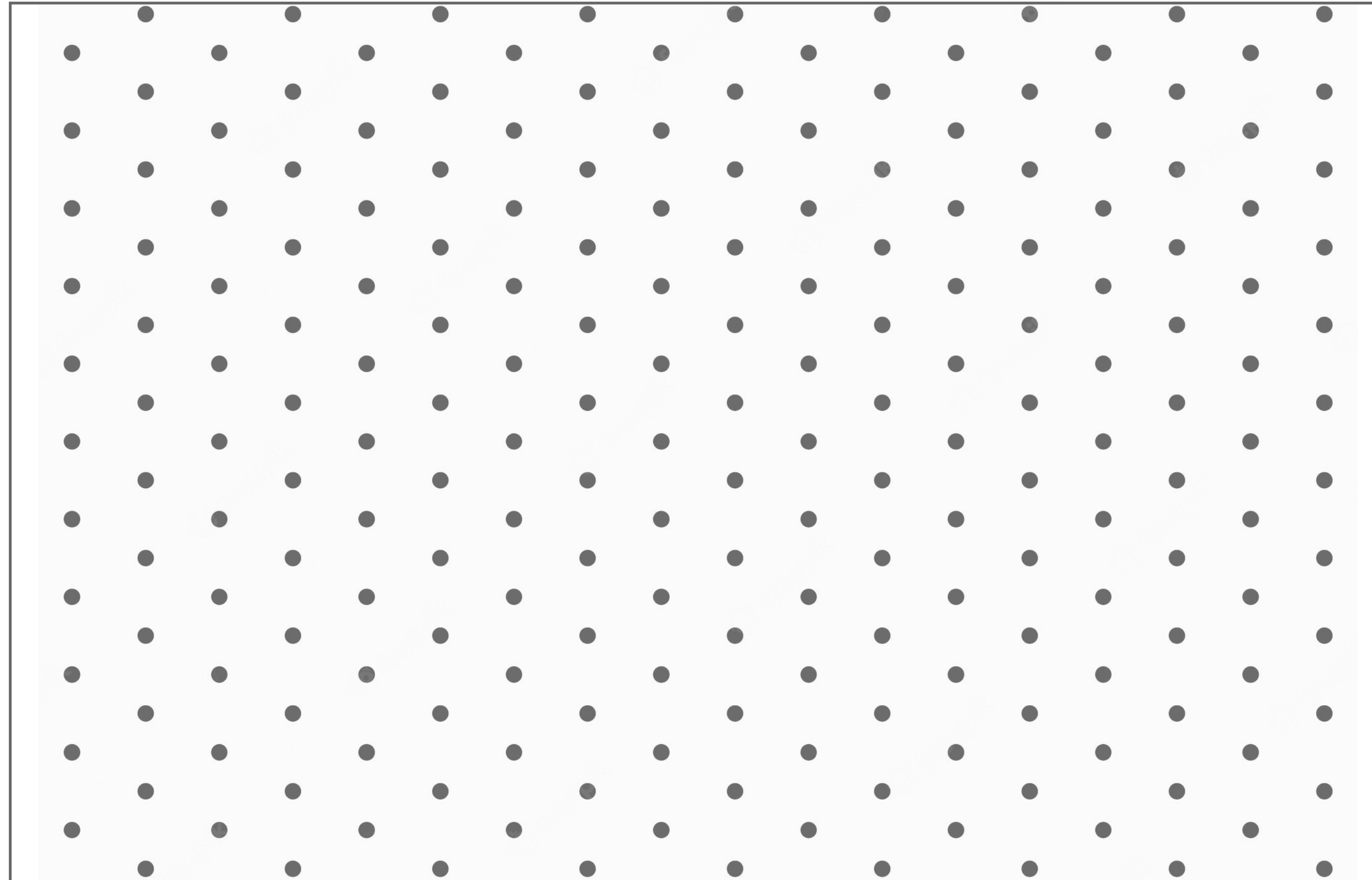
3. Invest in Cumulative Knowledge Production



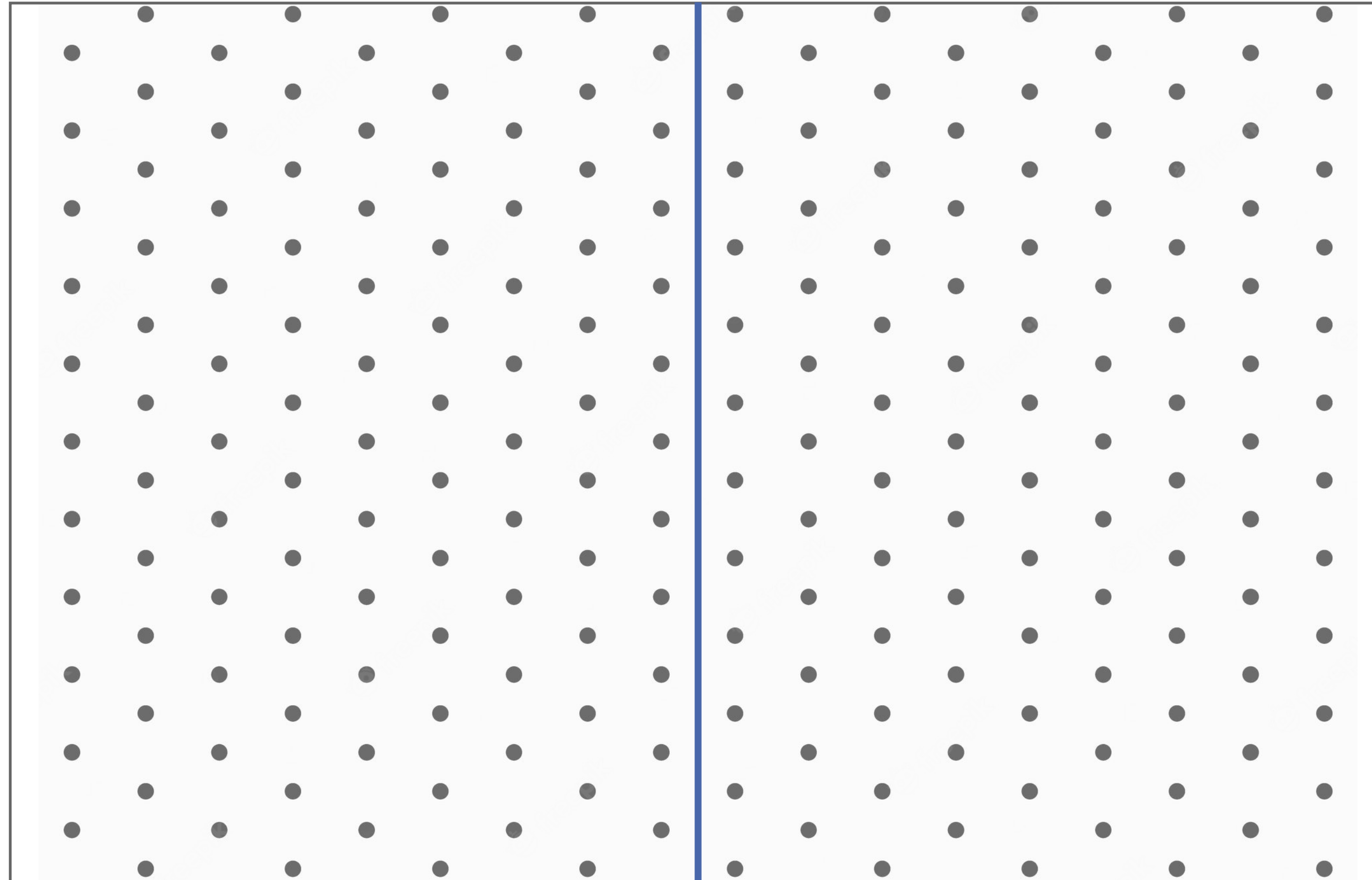
4. Focus on the 'How' and 'Why'



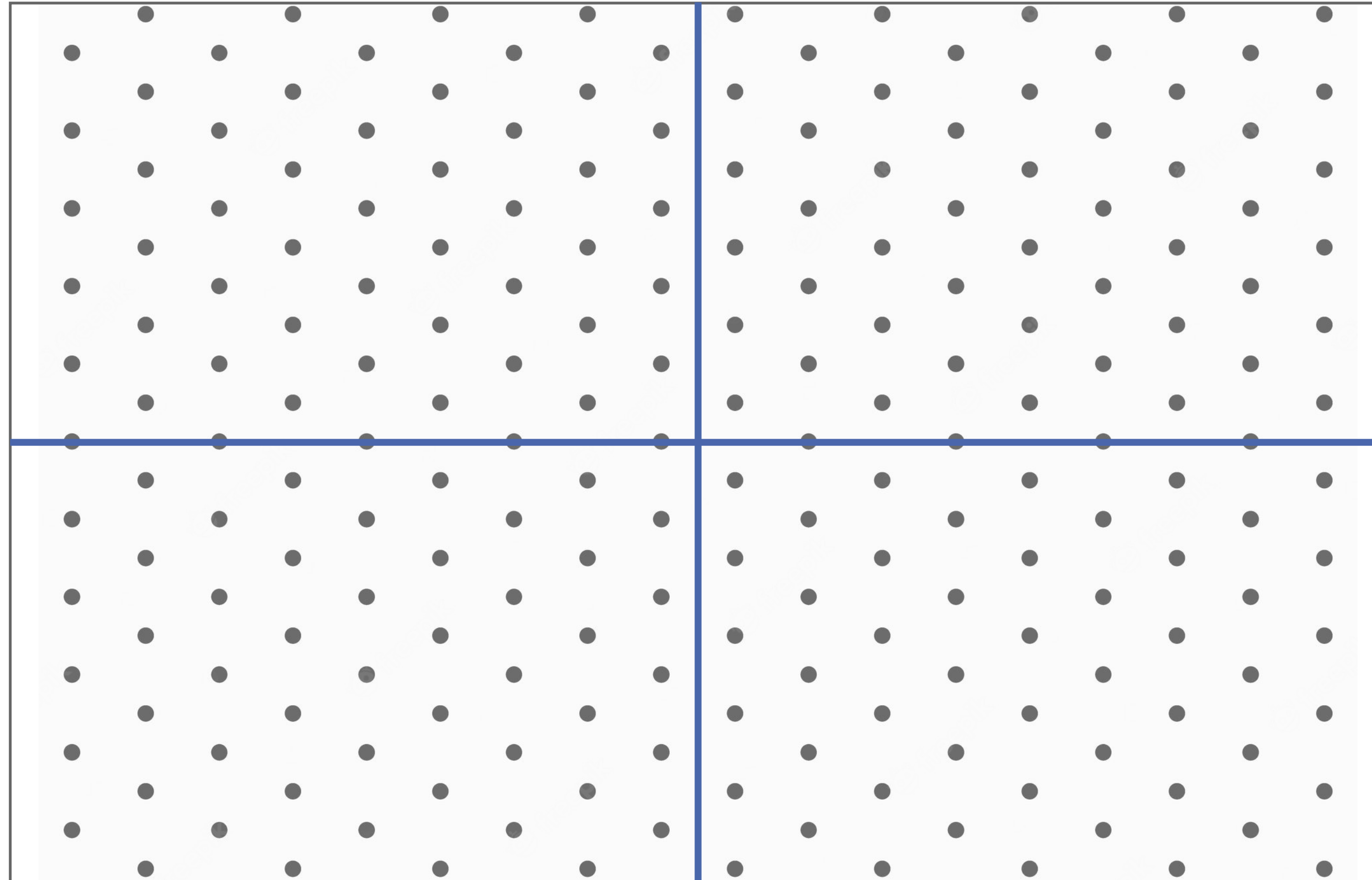
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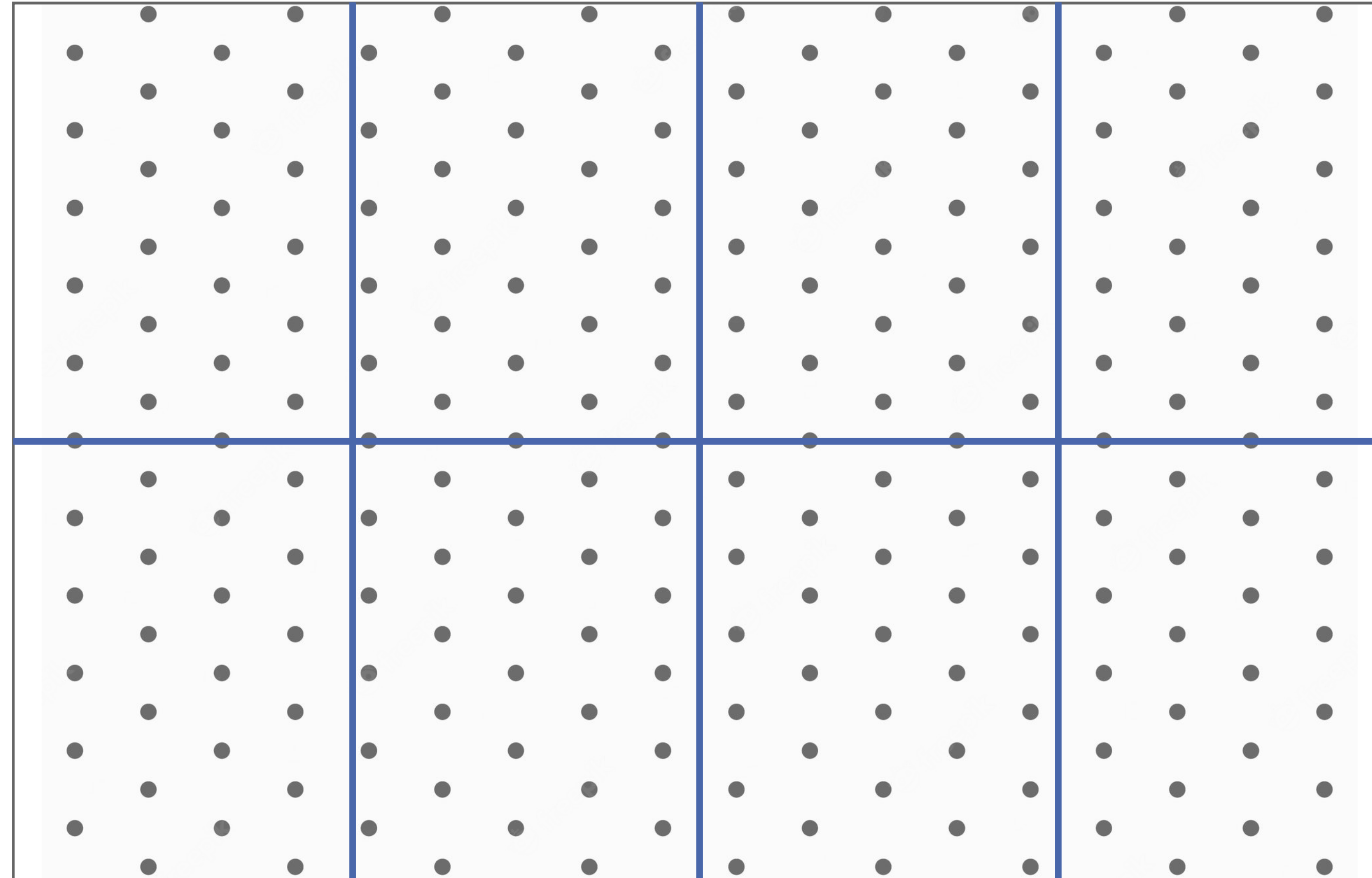
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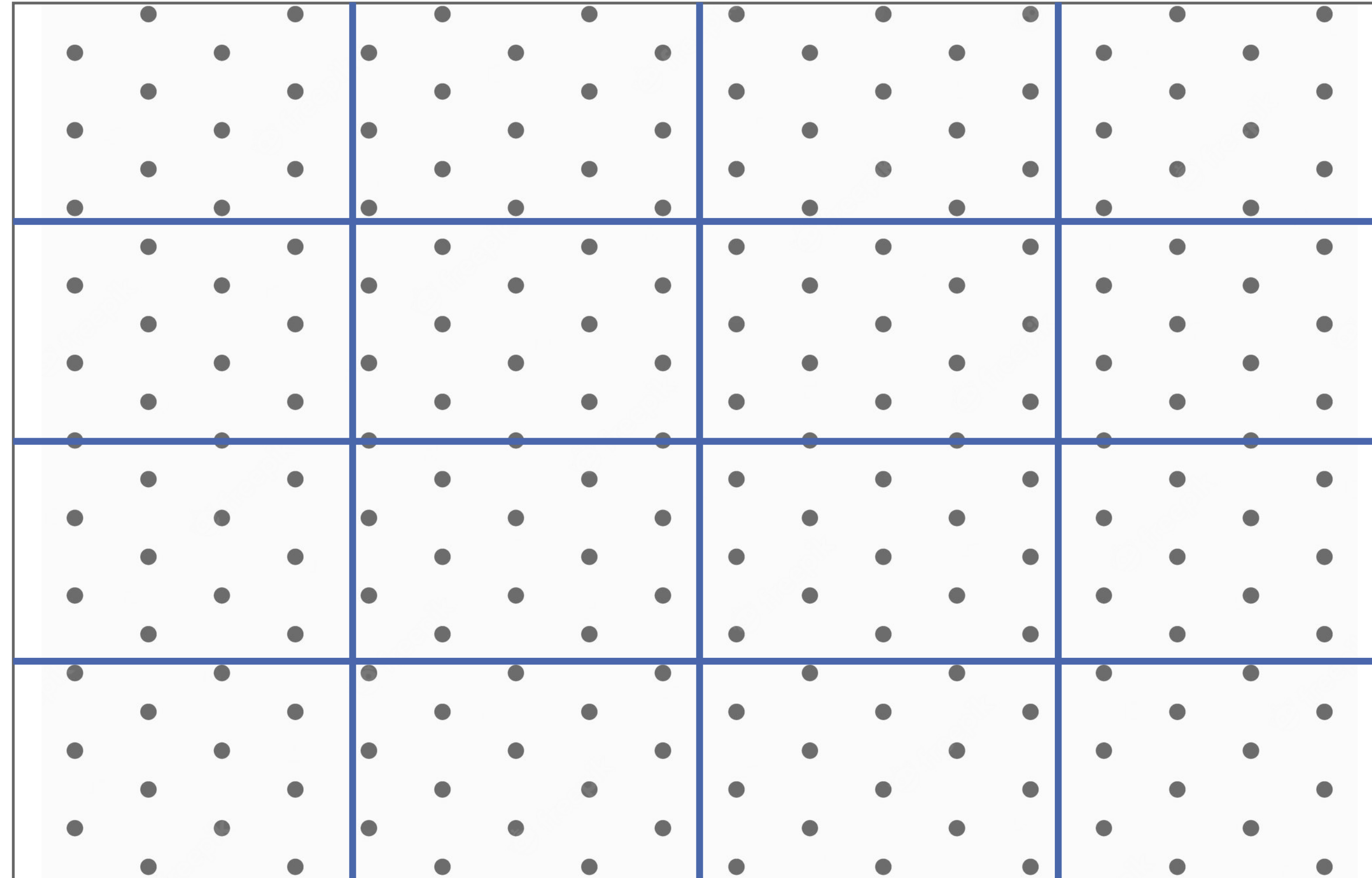
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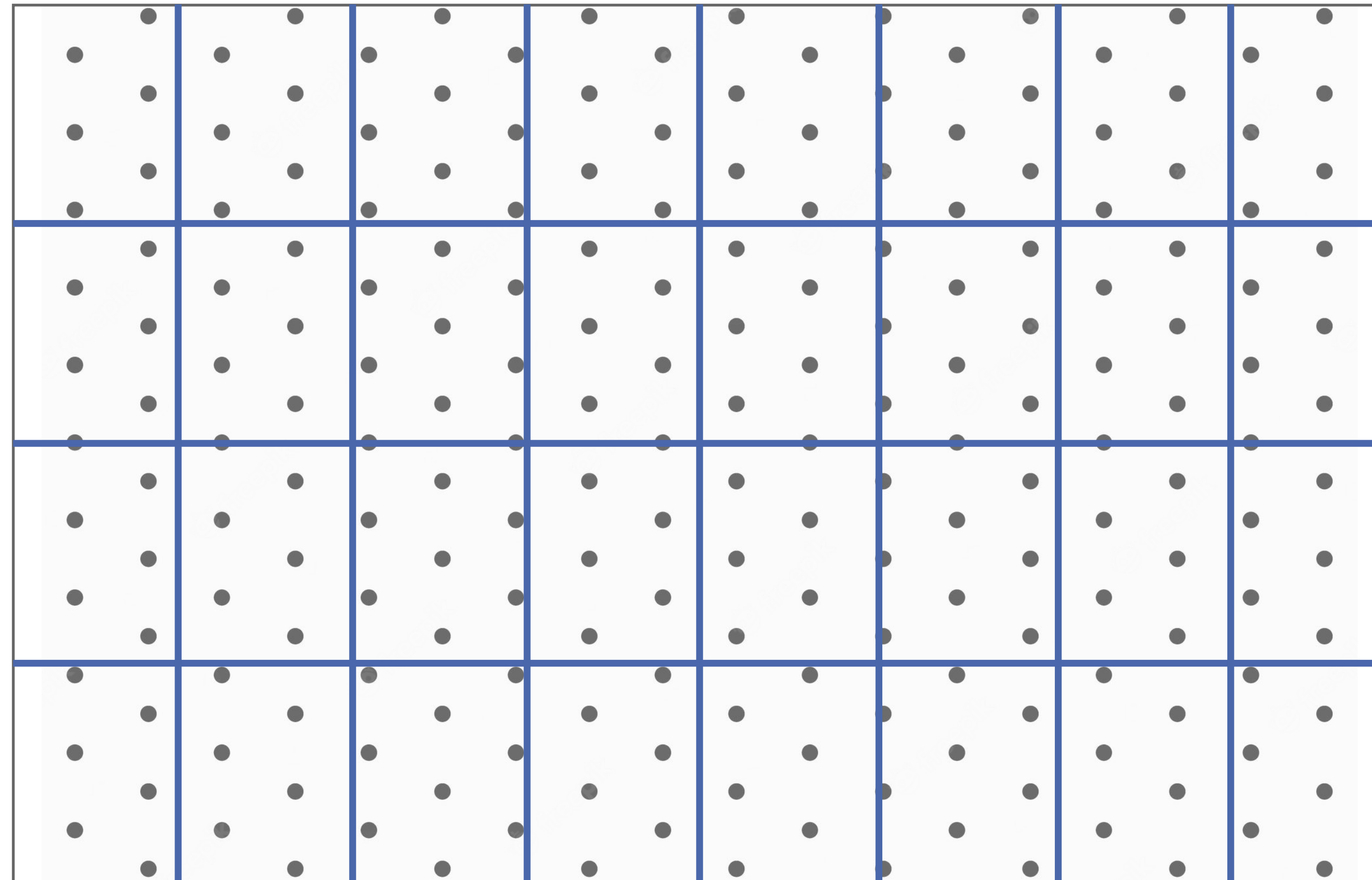
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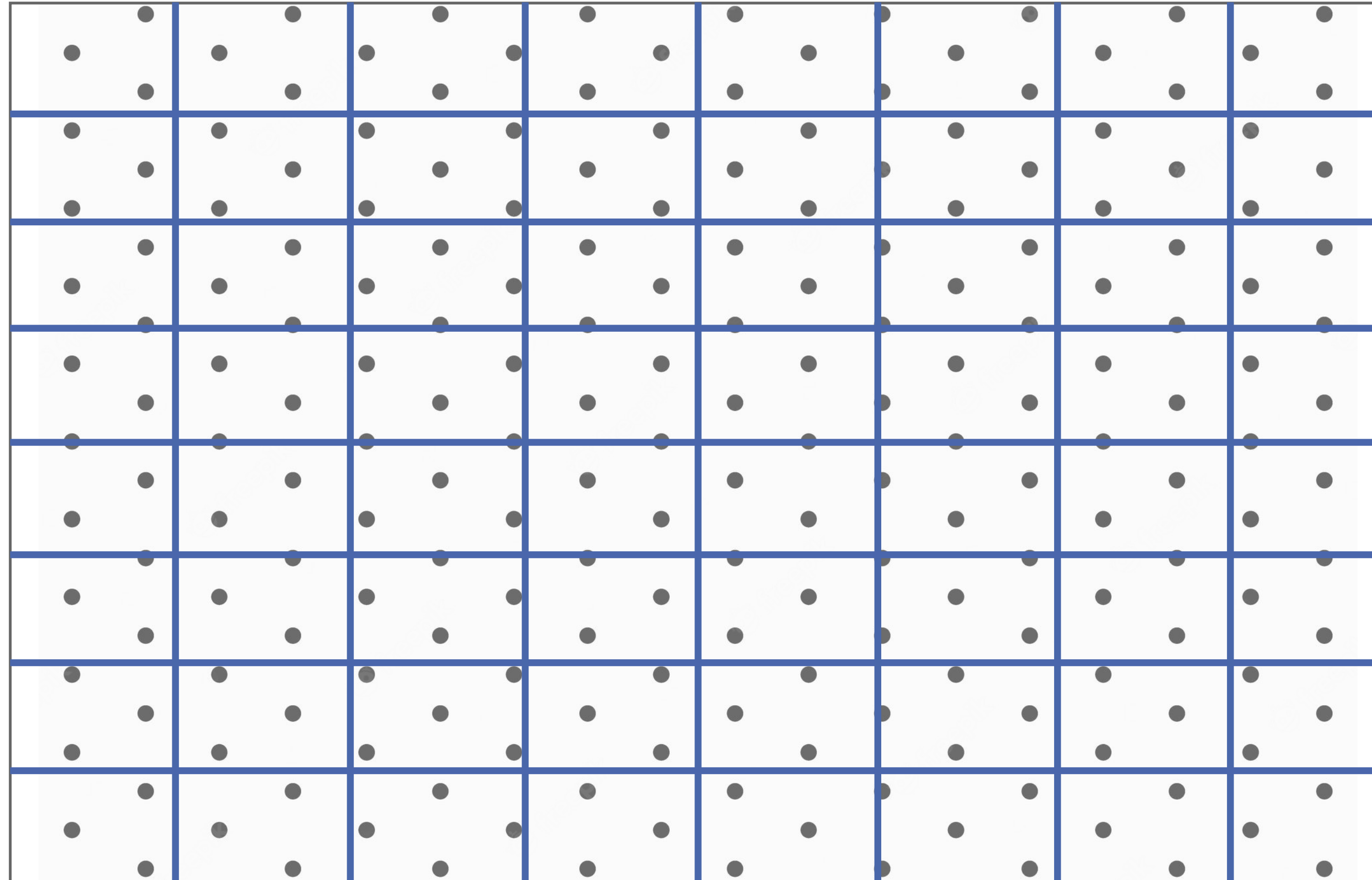
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5. Plan for Long-term Evaluation

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5,000+
Schools Impacted



20+
Papers and Publications



30+
Researchers

Summary

1. Build a Culture of Experimentation
2. Do Experimental Pilot Studies
3. Invest in Cumulative Knowledge Production
4. Focus on the 'How' and 'Why'
5. Plan for Long-term Evaluation

Thank you

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