How to select who to fund: Improving selection processes to allocate public funding

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Goals for today

Agenda

– Funding 'customer journey'

– Challenge

– Ways to experiment

– Designing an experiment

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– Funding 'customer journey'

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– Designing an experiment

Context: what type of funding?

- R&D and science funding
- Selecting startups and businesses to support
- VCs and accelerators
- Grants for SMEs

Illustrative customer journey

What programme features do businesses value? (marketing trials focused on different features)

Can we encourage more/better applications? (eg nudging trials)

How best to provide applicants support to prepare applications?

| Announce and promote funding call | Support applicants and receive applications | Assess proposals and select which to fund | Agree terms and finalise agreement | Funding drawdown | Next phase |

Insufficient applications

Wrong projects selected

Projects/firms delayed or fail

Can the selection processes be improved? (eg behavioural biases)

Does providing written feedback adds value? (eg startup chile)

What will be done with applicants turned down?

Is there a need for additional support for funding recipients?

How to increase the commercialisation and/or application of the knowledge produced

Themes:

1. Getting the right applications

1. Assessing and selecting applicants

1. Measuring impact of the funding

1. Supporting applicants or funded projects

Getting the right applications

Quality of applications

Reach

Diversity

POSSIBLE CHANGES:

1. Change the **language** that you use to communicate the call

2. Changing the **channels** you use to communicate the call

3. **Emphasising different aspects** of the call (do applicants care just about the funding? Flexibility? Prestige?)

4. Changing the applications **questions** or **supporting** applicants

Assessing and selecting applications

How much information to ask

What information to ask

**Who** does the selection

How many steps/people/etc

International differences in basic research grant funding – a systematic comparison

Jürgen Janger, Nicole Schmidt, Anna Strauss

Studien zum deutschen Innovationssystem Nr. 9-2019

WIFO – Austrian Institute of Economic Research

February 2019

Table 50: Summary table: Organisation of peer review of and criteria used in Single project funding, 2017

Country	DE	AT	CH	NL	UK	US	
Agency	DFG	FWF	SNSF	NWO	EPSRC	NIH	NSF
Reviewers							
External and internal (1. and/or 2. stage of review)	x	x	x	x	x	x	x
First-stage external reviewers only academics/researchers	x	x	x¹			x	x
First-stage external reviewers predominantly national						x	x
First-stage external reviewers national and international	x				x		
First-stage external reviewers predominantly international		x	x	x			
Second stage reviewers elected/nominated by scientific community	x	x	(x)				
Second stage reviewers chosen by agency				x	x	x	x
Review Process							
First stage predominantly mail review	x	x	x	x	x		(x)
First stage predominantly panel review						x	
Second stage involves discussion of proposals among "review boards" (external researchers different to first stage-researchers discuss proposals)	x	x	x	x	x		
Rights of Applicants							
Applicants can suggest reviewer(s)						x	x
Applicants can refuse specific reviewers		x	x			x²	x
Applicants have no influence on reviewer selection	x						
Applicants can provide feedback to/appeal against reviewers' comments				x	x	x	
Review Criteria							
Number of criteria	5	4	3	4	5	5	6
Explicit weights for criteria	N/A	N/A	N/A	Yes	Yes	N/A³	N/A
Special criteria for first time applicants	Yes	Yes	No⁴	No⁴	No⁴	Yes	No
Impact or applicability/utilisation of research is a criterion	No	No	No⁵	Yes	Yes	Yes	Yes

Source: Graves, Barnett, & Clarke (2011)

The column labels across the top of the parallel-coordinates chart: VC, JDRF, T1D, Expert, T1D, Jr., Co-author, Full Associate, Co-author, Jr., No T1D, Full Associate, No T1D,

"The challenge and opportunity of designing and executing field experiments for innovation systems", Karim Lakhani keynote at IGL2018

Column labels: VC · JDRF · T1D, Expert · T1D, Jr. · Co-author, Full Associate · Co-author, Jr. · No T1D, Full Associate · No T1D, J...

"The challenge and opportunity of designing and executing field experiments for innovation systems", Karim Lakhani keynote at IGL2018

POSSIBLE CHANGES:

1. Making process **shorter** or **breaking** it into steps

2. Changing the types of **questions**

3. Changing **who** assesses and who selects the applications

4. Changing the applications questions or **supporting** applicants

5. Using new methods and tools (data, algorithm, etc)

Measuring the impact of the funding

Effect of assessment/selection on **outcomes**

Different **kinds** of impact

Causal evidence

Source: Wu, Wang, & Evans (2019)
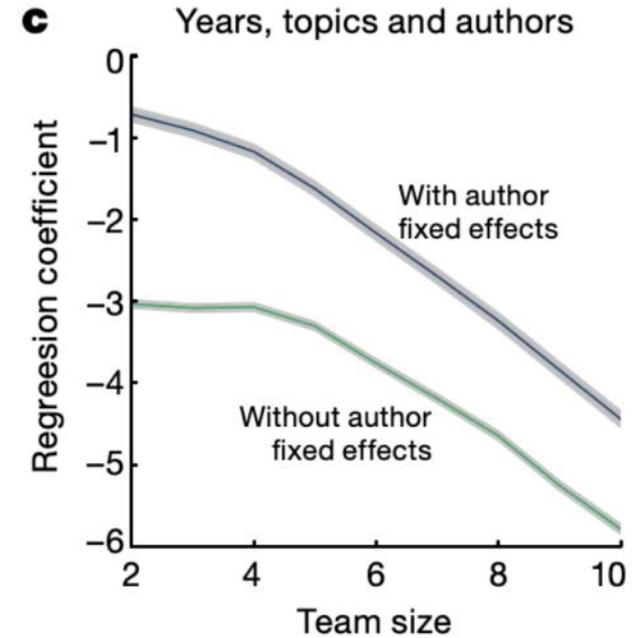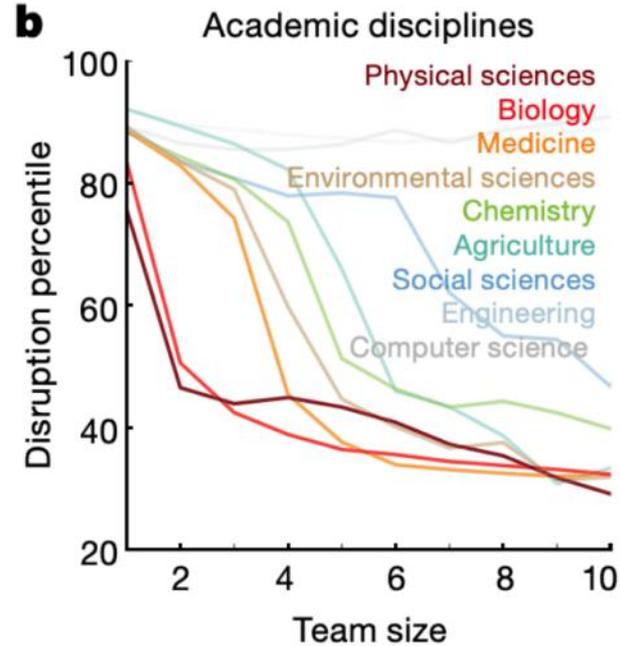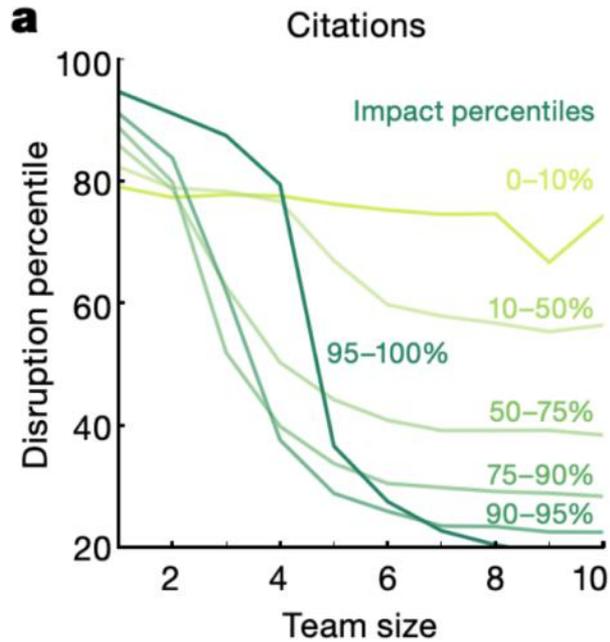
POSSIBLE CHANGES

1. Changing the assessment / selection process

2. Changing the **type** of funding

3. Funding **more or fewer** proposals

4. Changing the **amounts** of funding

5. **Supporting** funded projects

Supporting applicants or grantees

Supporting (certain kinds of) **applicants**

Supporting **funded projects**

Providing **feedback**

POSSIBLE CHANGES:

1. Providing more feedback based on information already gathered

2. Collecting more data to share with applicants

3. Piloting support structures for applicants

4. Providing support to funded projects: training, mentoring, etc

Agenda

Break out into table groups

4-5 people per table

Themes:

1. Getting the right applications

1. Assessing and selecting applicants

1. Measuring impact of the funding

1. Supporting applicants or funded projects

Introduction
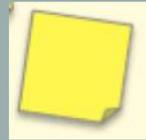
Write down the most interesting / important challenge

2 minutes

Discussion

Agree on <u>one</u> challenge

8 minutes

Agenda

How can you experiment?

Ways to experiment

1. Data

2. Messaging trials (AB testing)

3. RCTs

4. 'Shadow' experiments

1. Data

Data

Correlations

Simulations

Text analysis

Look at 'near misses'

a
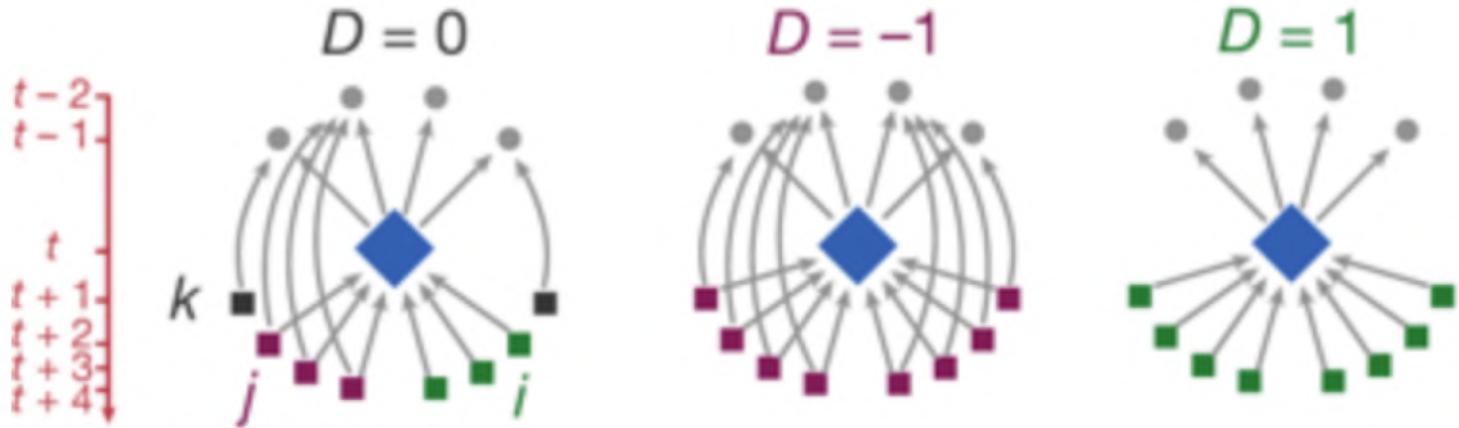
$$\text{Disruption: } D = p_i - p_j = \frac{n_i - n_j}{n_i + n_j + n_k}$$

Source: Wu, Wang, & Evans (2019)

Is Blinded Review Enough? How Gendered Outcomes Arise Even Under Anonymous Evaluation

Julian Kolev, Yuly Fuentes-Medel, Fiona Murray
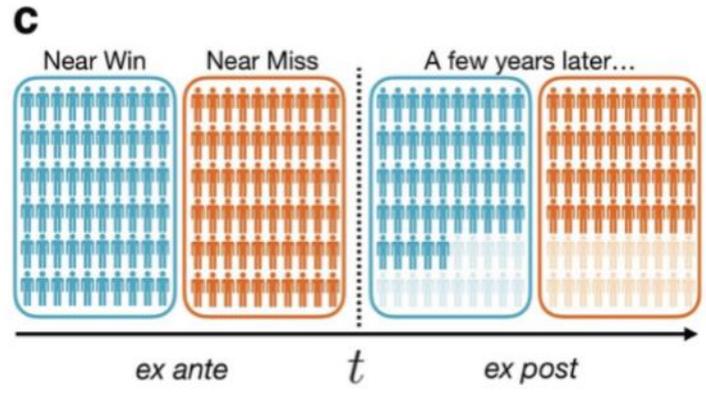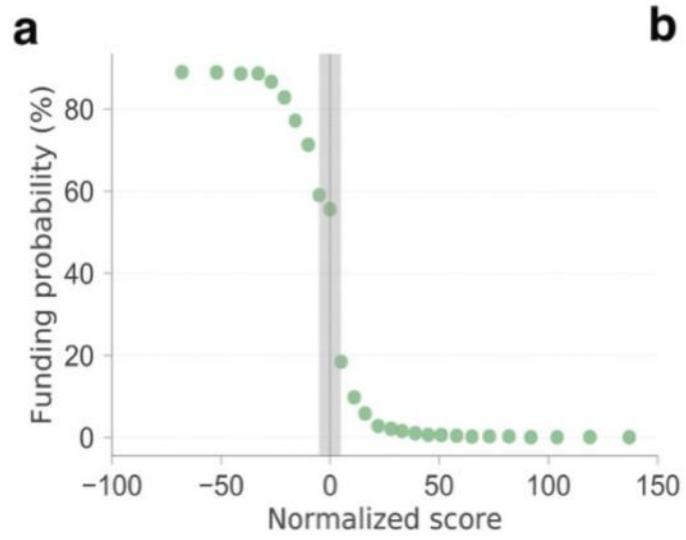
Source

Source: Wang, Jones, & Wang (2019)

Panel A—Average scores
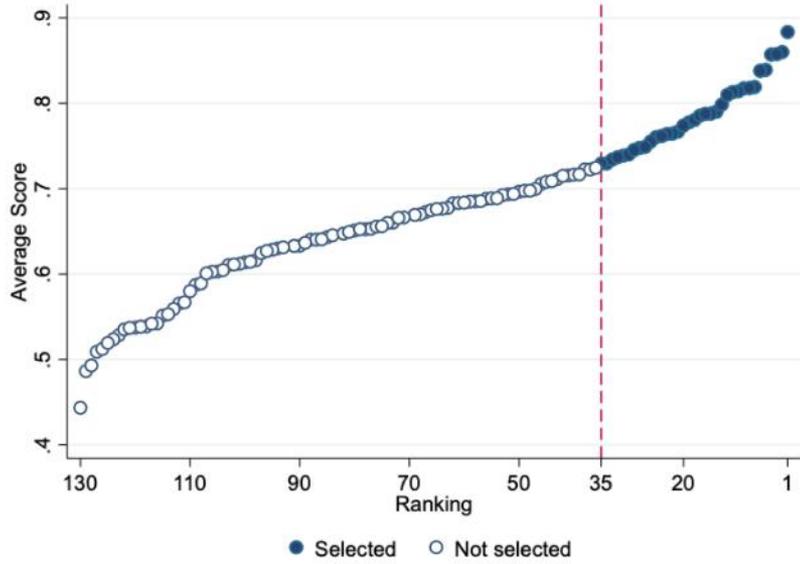
Panel B—Adjusted Scores
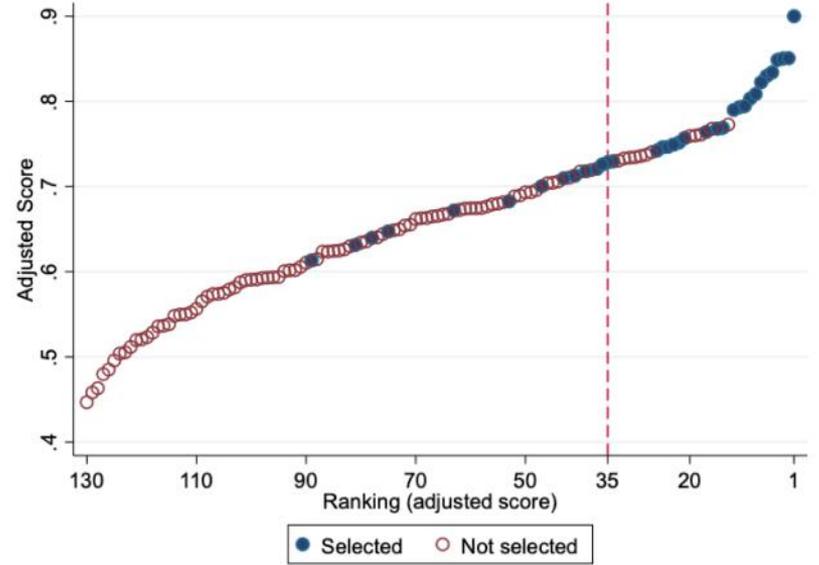
Source: Gonzalez-Uribe & Reyes (2019)

RCT

Population

Selection

Randomisation

Treatment A   Treatment B   Control

Treatment   Treatment

Outcome measurement
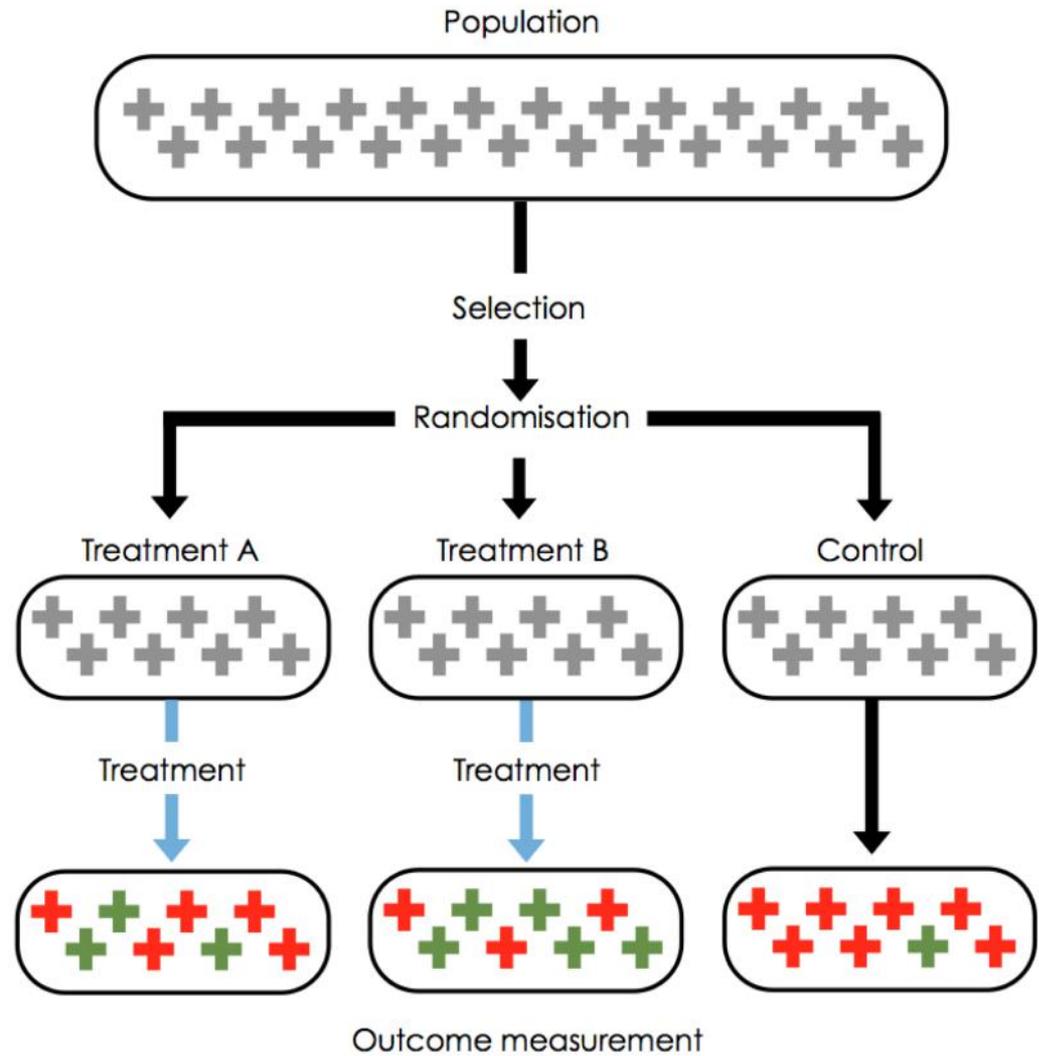
2. Messaging trials (AB testing)

Control	Thousands of businesses are benefiting from professional advice. Now Growth Vouchers cover half the cost of getting professional advice for your business. Click here to apply
Time	Growth Vouchers is a government scheme that covers up to half the cost of getting professional advice for your business. **The vouchers are only available for this financial year so don't miss out.** Click here to apply.
Chosen	**You have been chosen to receive information about Growth Vouchers as we think you may be eligible for this scheme.** Growth Vouchers cover half the cost of getting professional advice. Click here to apply.
Social	**Thousands of businesses are applying for Growth Vouchers.** It's a government scheme that covers up to half the cost of getting professional advice for your business. Click here to apply.
Money	**Growth Vouchers offer up to £2,000 from government to cover half the cost of getting professional advice for your business.** Click here to apply.

Proportion of recipients clicking to apply for the Growth Vouchers scheme, Stage 1

1.56%	1.69%	1.72%	1.88%	2.37%
Control	£2,000 Offer	Others applying	Time limited	Chosen

Source

Control vs. treatment job posting in Gee (2018)'s experiment

Context: Message to social entrepreneurs after EoI

Messages:

1. Cash reward

1. Support

1. "Social"

Source: Ganguli, Le Coq & Huysentruyt (2018)

Feedback to applicants
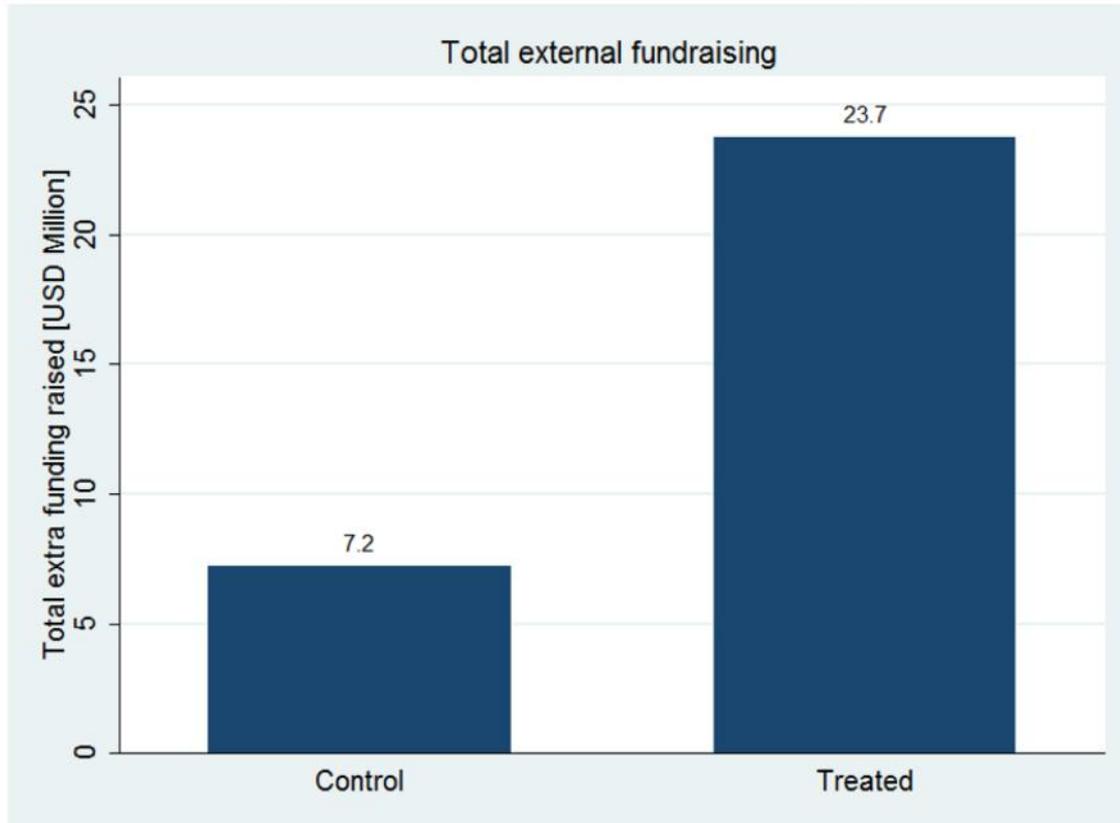
Source: Wagner (2016)

3. Randomised experiments

Expertise of evaluators: Boudreau et al (2016) on 'intellectual distance'.

Iacovone et al in Mexico.

McKenzie and Sansone (2017) on Machine Learning vs judges vs formulas

Funding by 'triage'
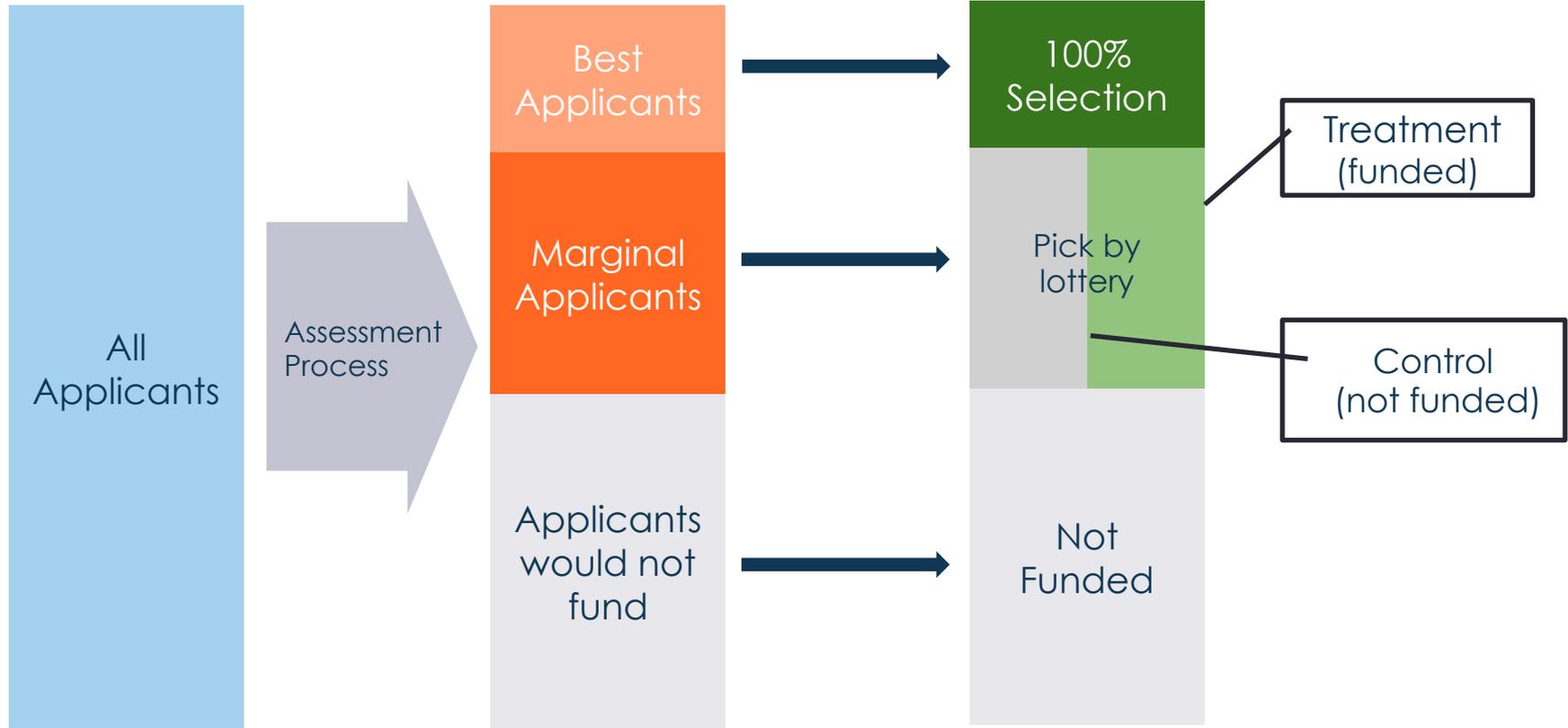
For more on this, see Avin (2018)

4. 'Shadow' experiments

Shadow experiments
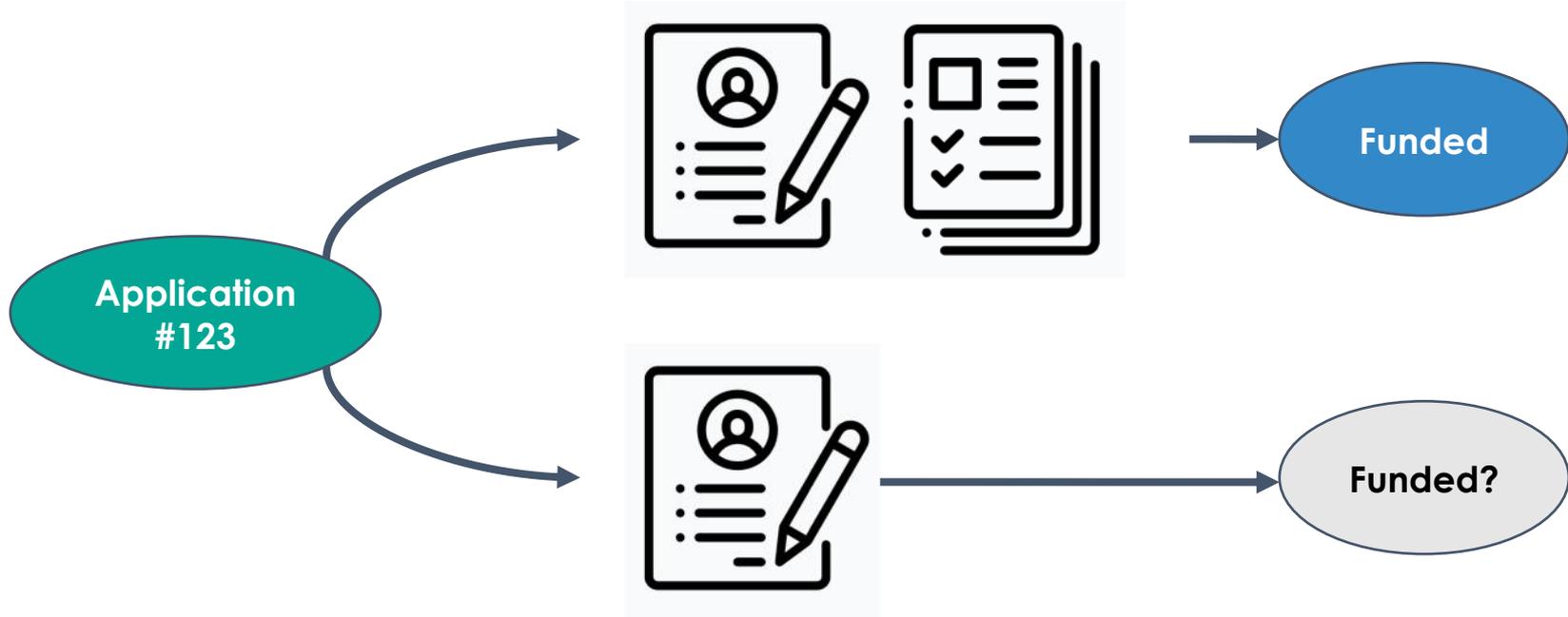
How certain are evaluators of their scores?

47% of reviewers changed their score (0% in the control group)

Source: Teplitskiy et al (forthcoming)

Agenda

Developing ideas to test

15 minutes

Group ideas

10 minutes

Thank you

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