Civil War in the Shadow of Intervention

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IN WHICH YOUR HUMBLE PRESENTER CONSCRIPTS A REBEL FORCE OUT OF A COLLECTION OF UNWITTING PEACE SCIENTISTS.

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or: **a thought experiment**

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We're thinking about starting a civil war.

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Libya

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Libya **1965**

main question

Do would-be civil warriors take
the system's response into account?

yes

yes

...but not how you'd think they would.

contributions

Substantive

- Simple but novel argument
- Internationalist improvement
- Counterintuitive findings

Technical

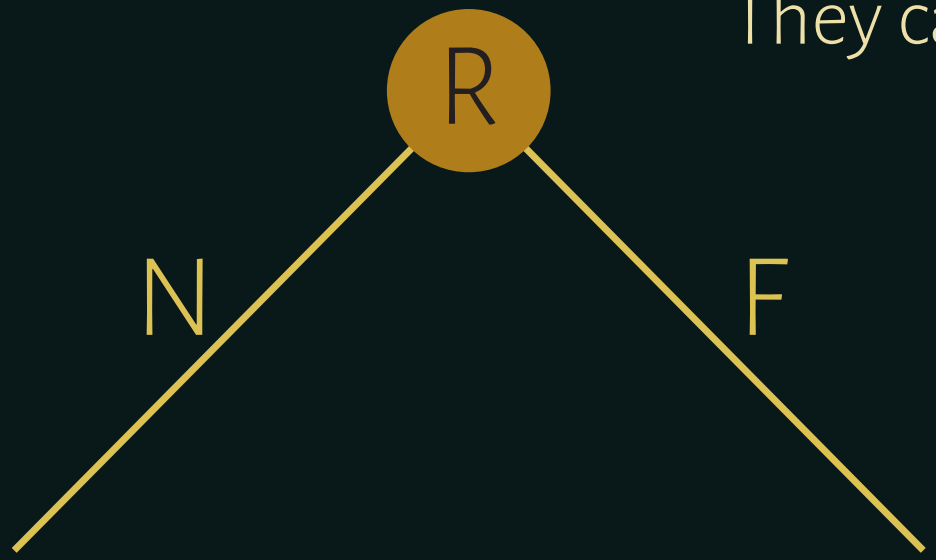
- New statistical model
- Rare-events multinomial logit
- Multinomial auto-logistic

roadmap

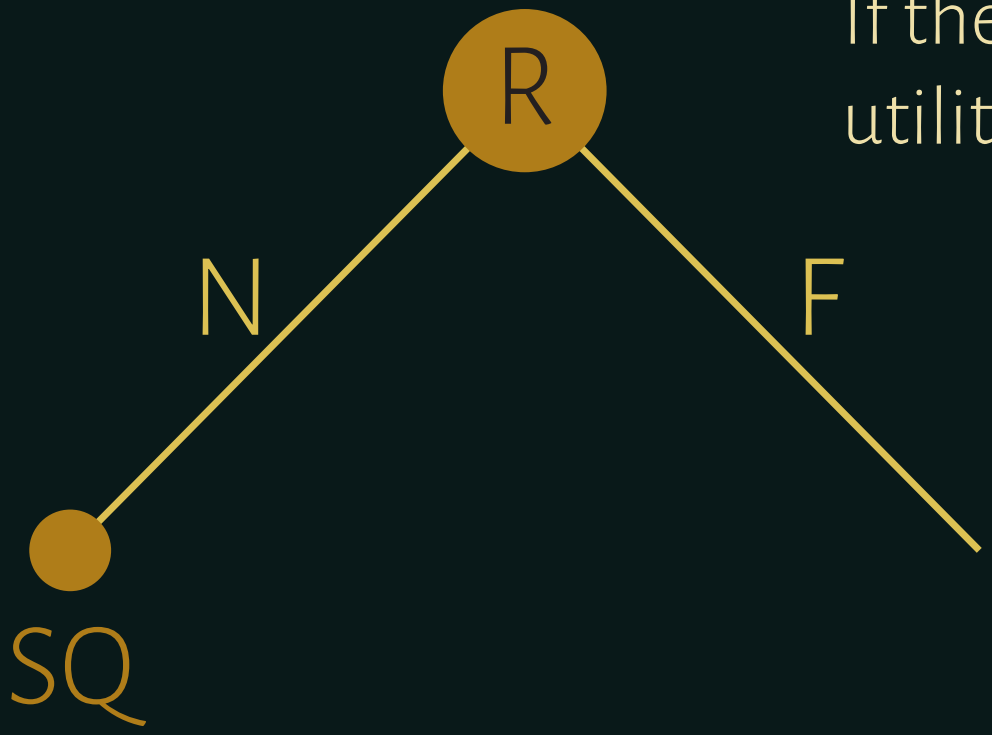
1. A model of choice and response
2. The interveners' decision
3. The rebels' decision
4. Wrap-up

1. A model of choice and response

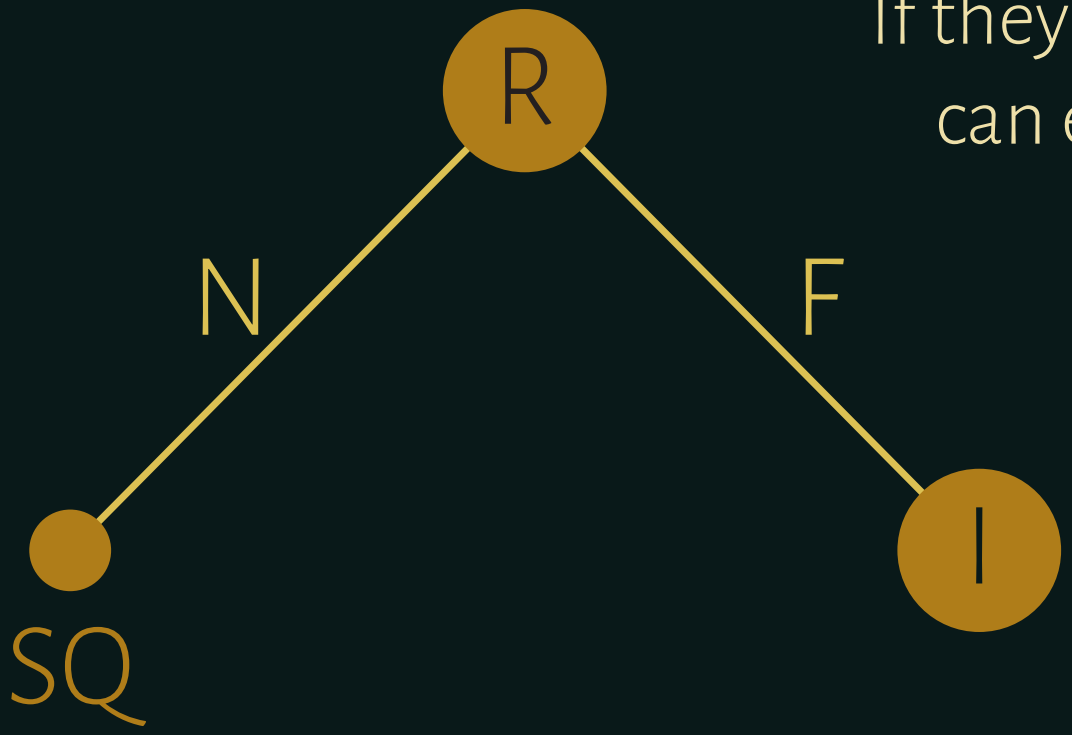
Consider a Rebel group.



They can do Nothing, or they can Fight a civil war.

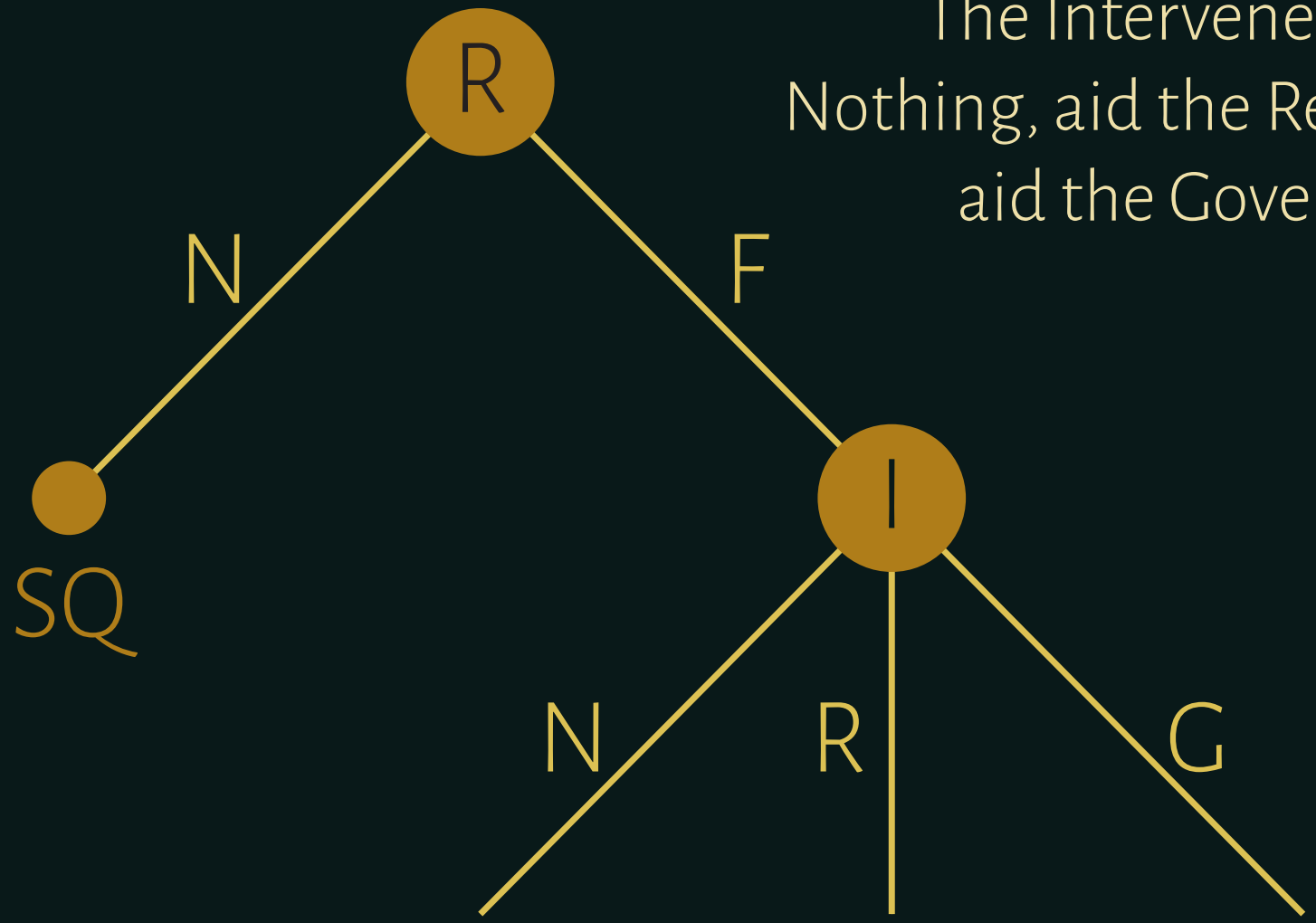


If they do nothing, they get utility from the Status Quo.

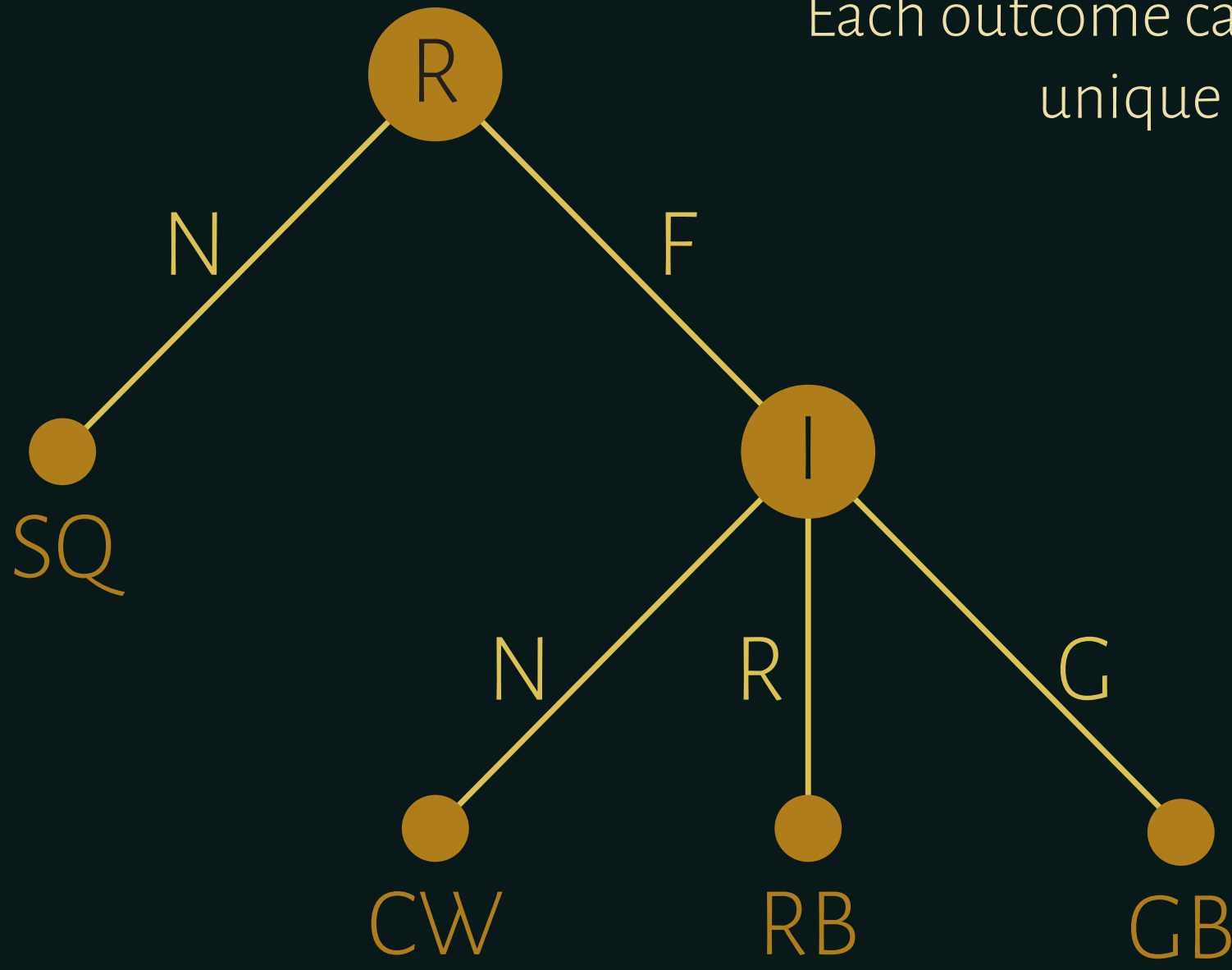


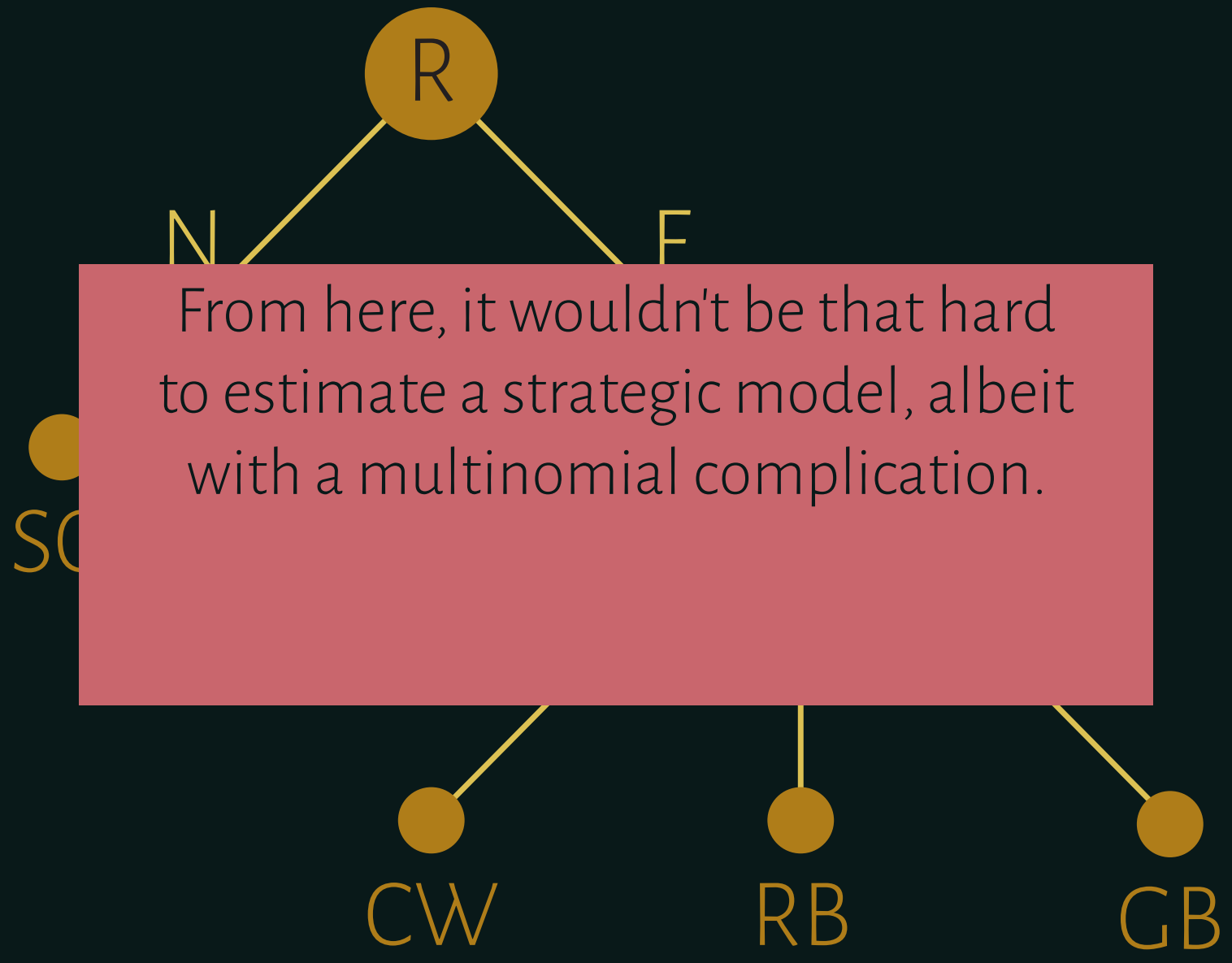
If they Fight, an Intervener can enter into the game.

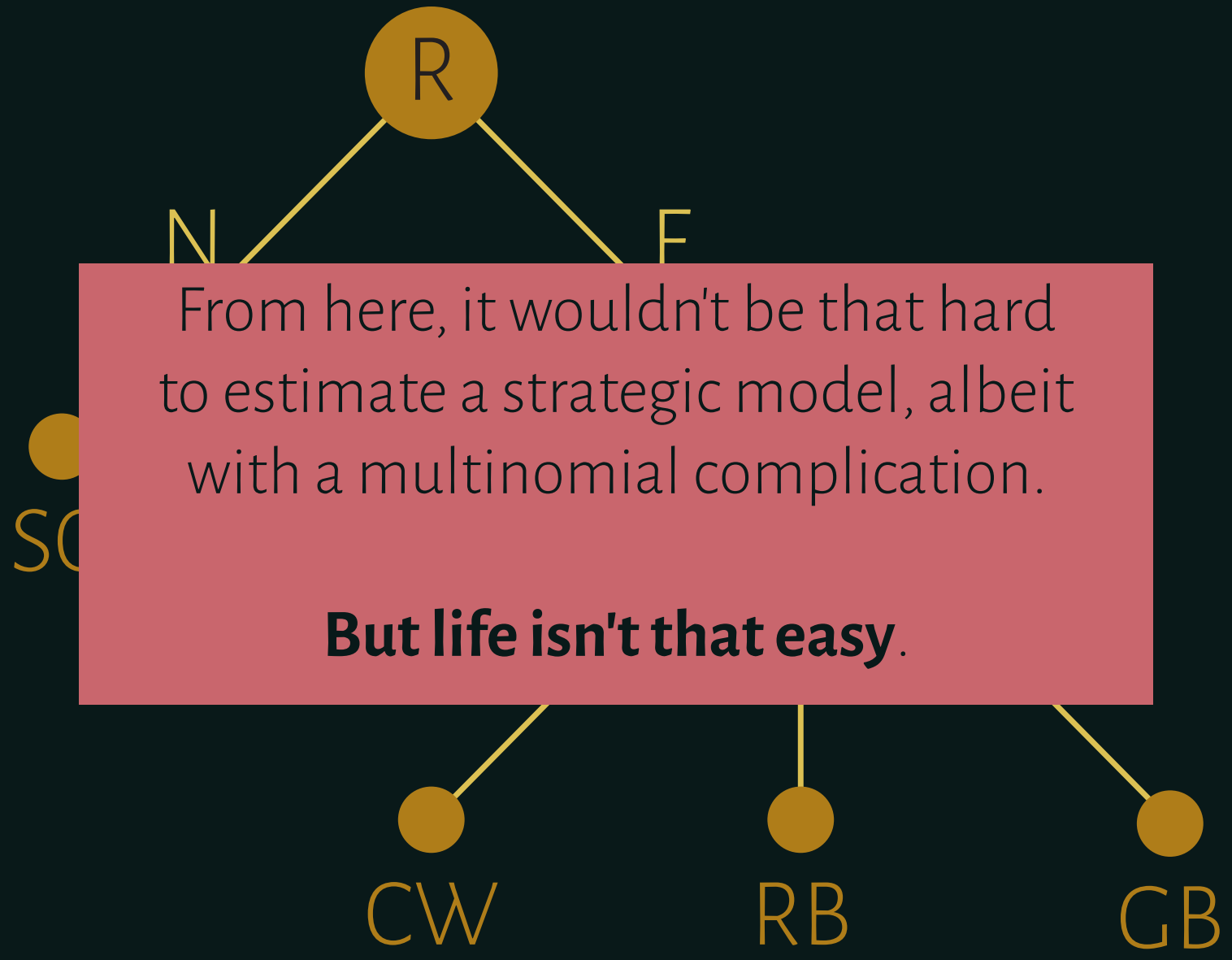
The Intervener can do Nothing, aid the Rebels, or aid the Government.



Each outcome carries a unique utility.




R
N
F
SC
From here, it wouldn't be that hard to estimate a strategic model, albeit with a multinomial complication.
CW
RB
GB



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But life isn't that easy.

the world is **complex**

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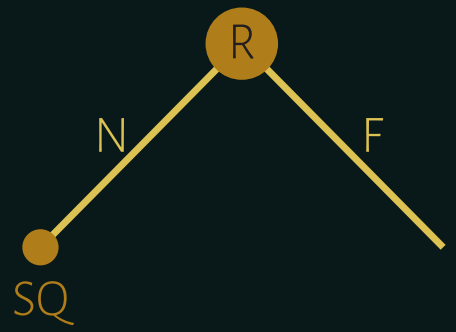

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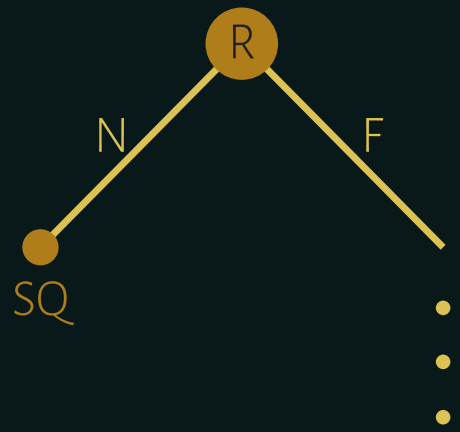

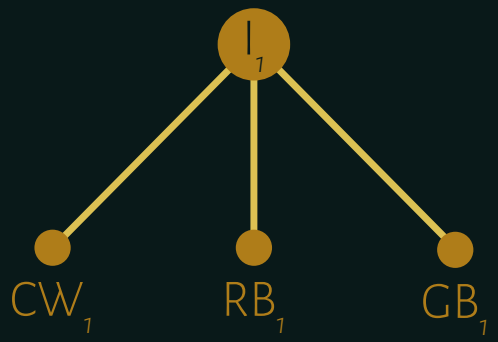

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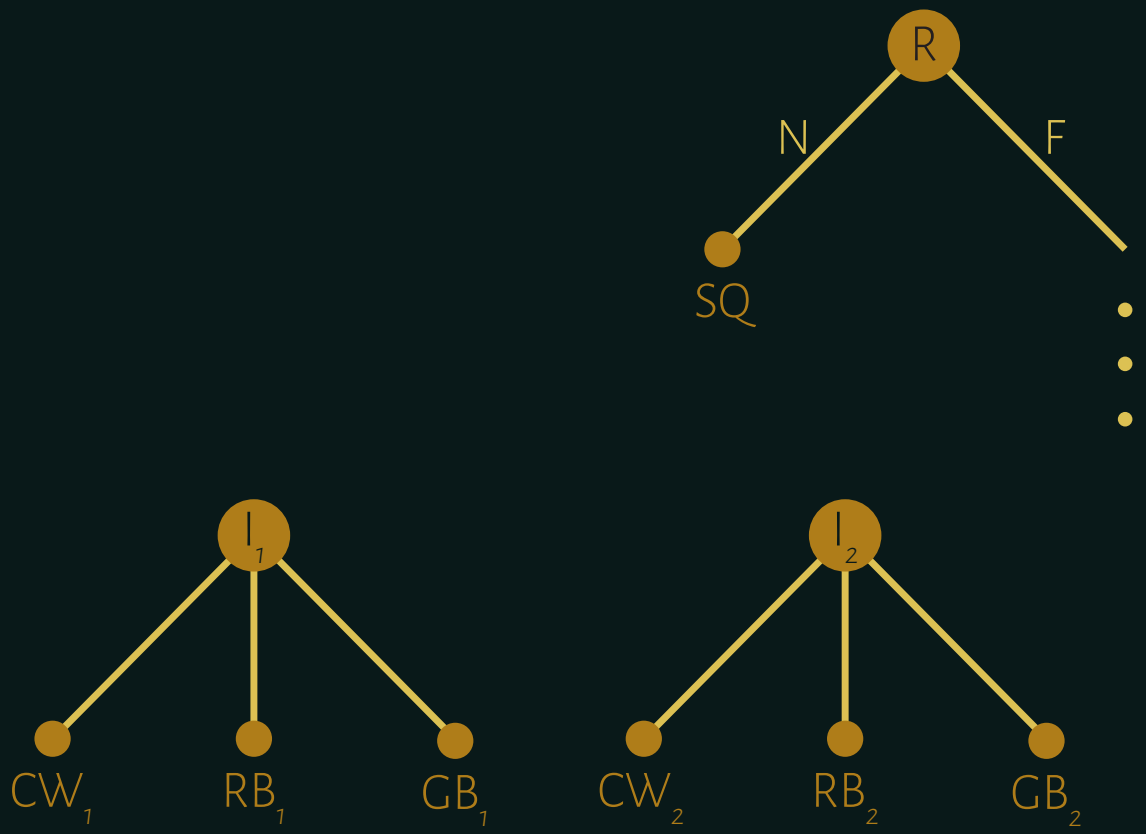

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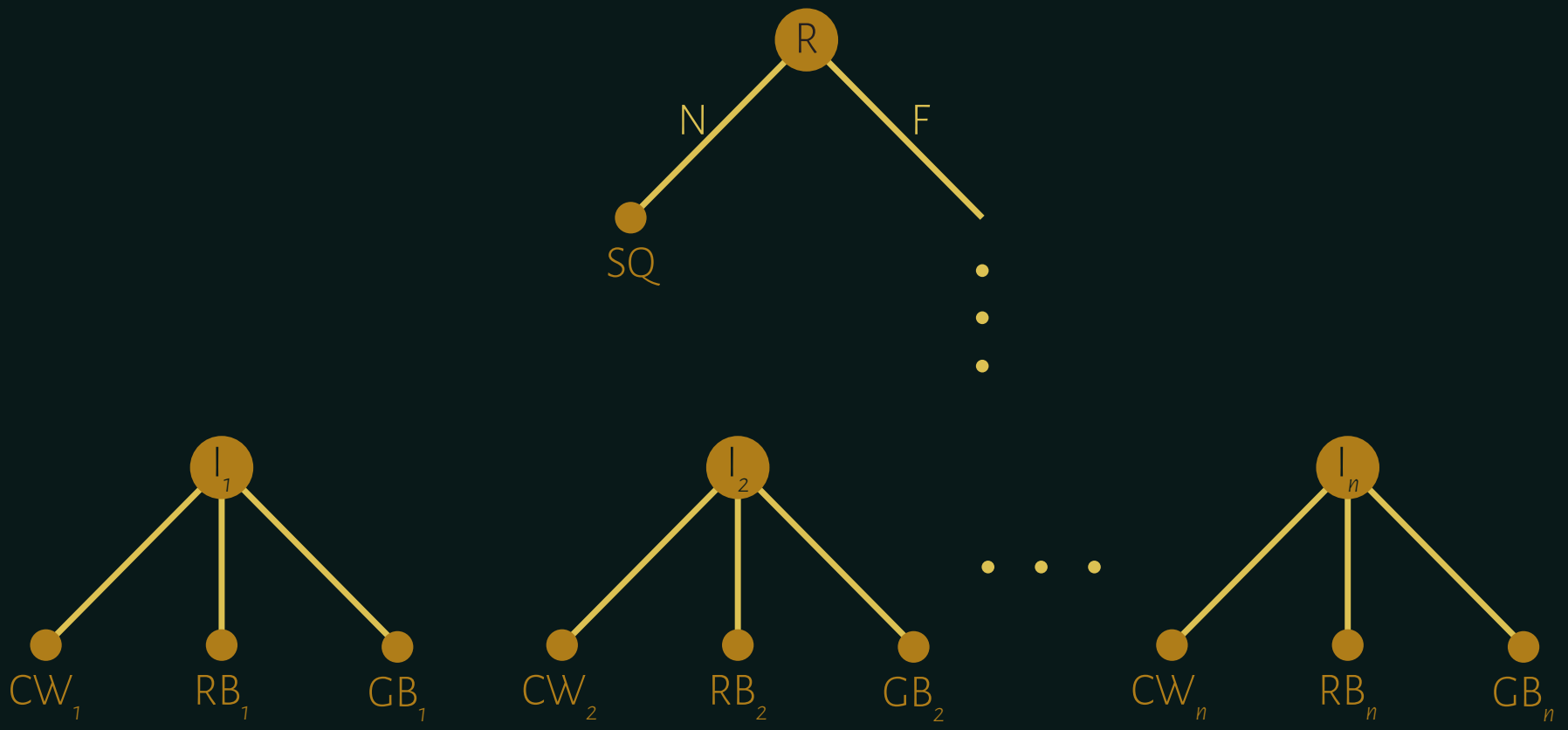

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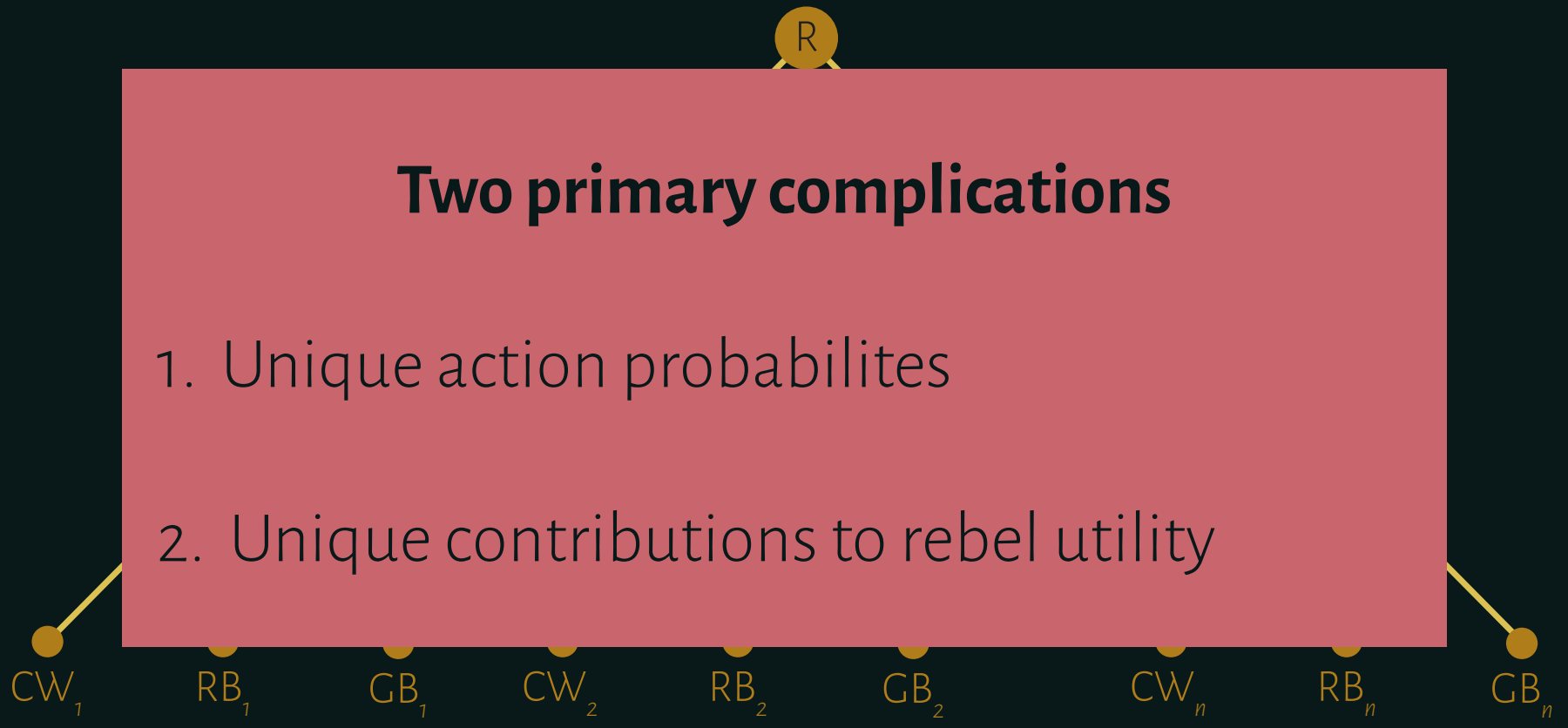

Two primary complications

1. Unique action probabilites

2. Unique contributions to rebel utility

simplification and synthesis

Assume inaction doesn't affect rebel utility.

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Then the expected utility of fighting is

$$\sum_{i \in \mathcal{I} \setminus R} \Pr(s_i = R) u_R(RB_i) + \Pr(s_i = G) u_R(GB_i)$$

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State i's probabilistically-weighted contribution to utility for aiding **rebels**

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State i's probabilistically-weighted contribution to utility for aiding **rebels**

State i's probabilistically-weighted contribution to utility for aiding **government**

empirical strategy

We proceed in two steps:

1. Estimate action probabilities; and
2. Estimate utility contributions.

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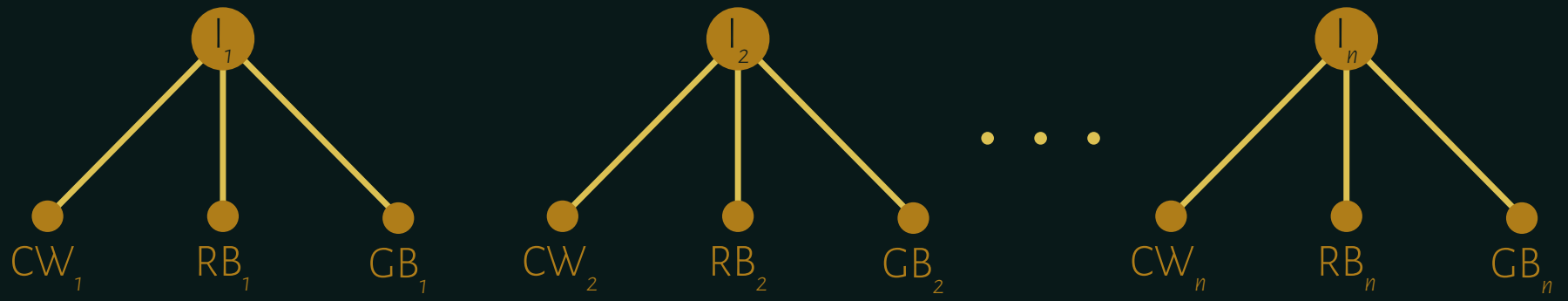
Since this generalizes statistical backwards induction (Bas, Signorino, and Walker) to multiple players, I call it **n-player statistical backwards induction** (nSBI).

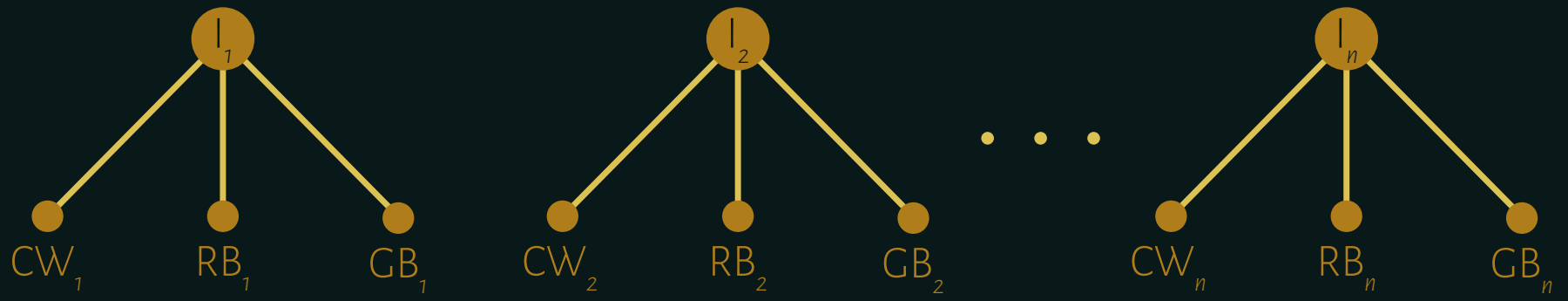
2. The interveners' decision



Using Regan's data, we can code intervention decisions for civil wars that **actually happened**.

We can model the decision with a multinomial logit.

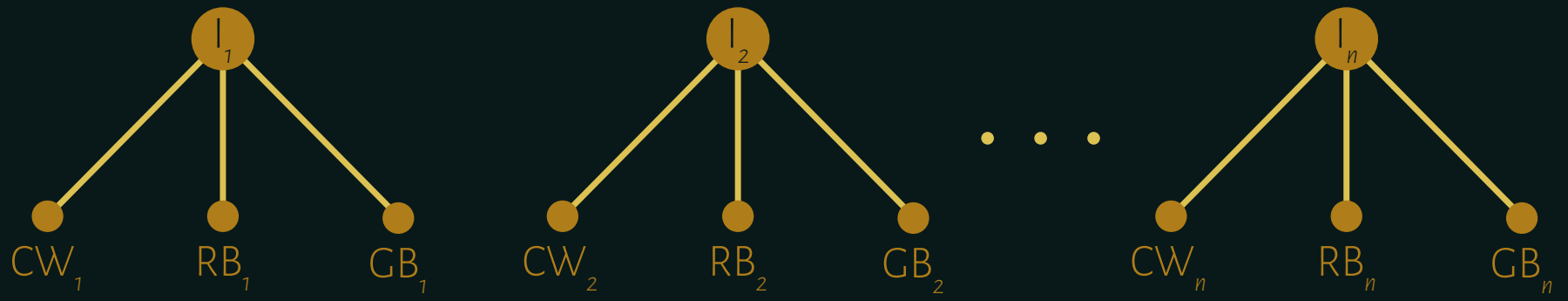
We can use the results to predict intervention decisions for all civil wars that **could have happened**.



But life isn't that easy.

Intervention is **spatially-dependent**.

Both kinds of intervention are **rare events**.



But life isn't that easy.

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And we need these probabilities to be **really good**.

spatial effects

If my friends intervene in a civil war, am I more likely to?

Am I likely to follow their intervention bias?

What about my enemies?

It stands to reason that we have spatial effects, and so we need to control for them.

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Result: **multinomial autologistic model**.

spatial effects

What makes states similar or dissimilar?

I use two measures:

1. Difference in Polity scores; and
2. S-Scores.

Each distance measure means including four new terms into the model.

spatial effects and model fit

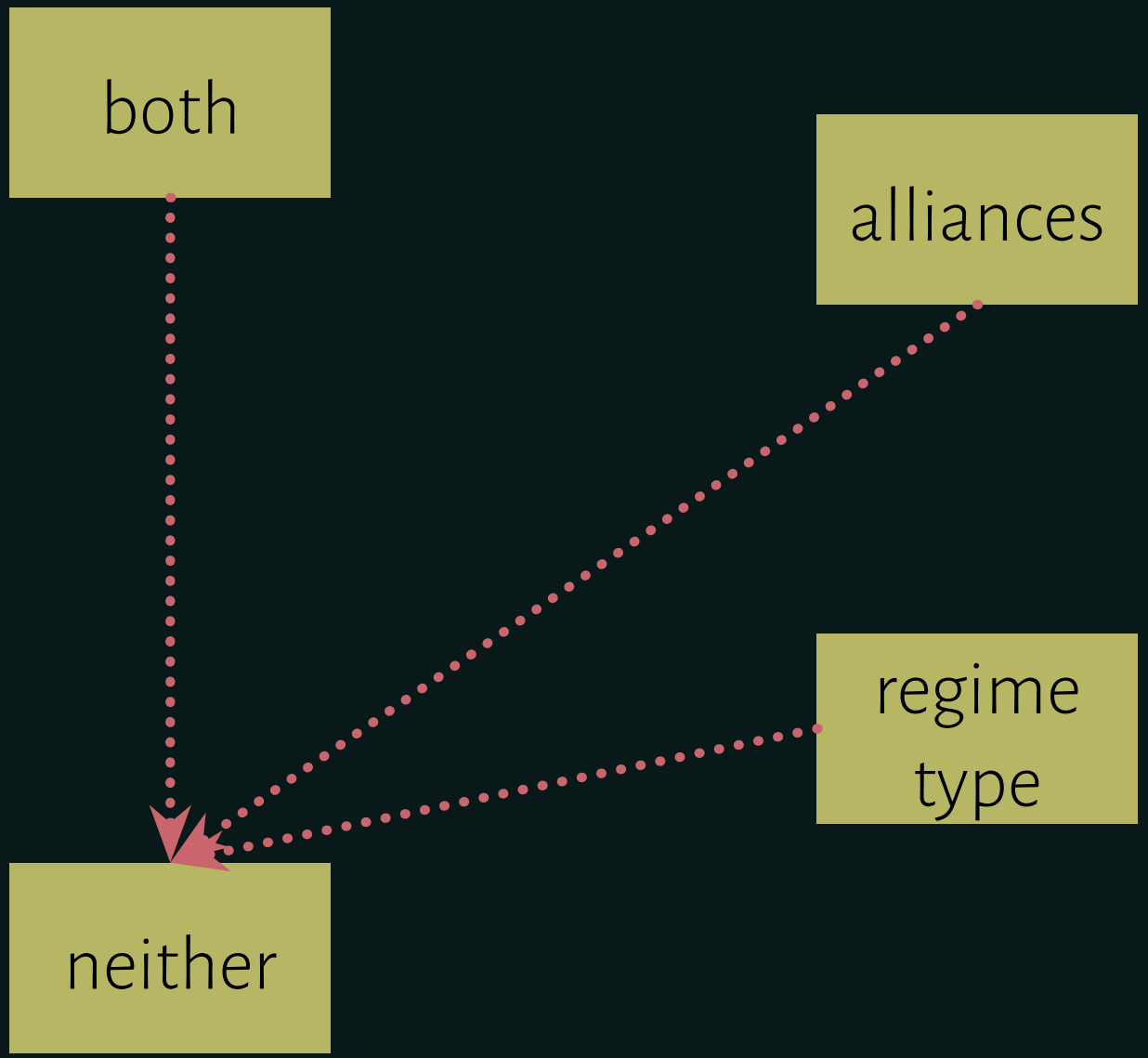
both

alliances

regime type

neither

spatial effects and model fit



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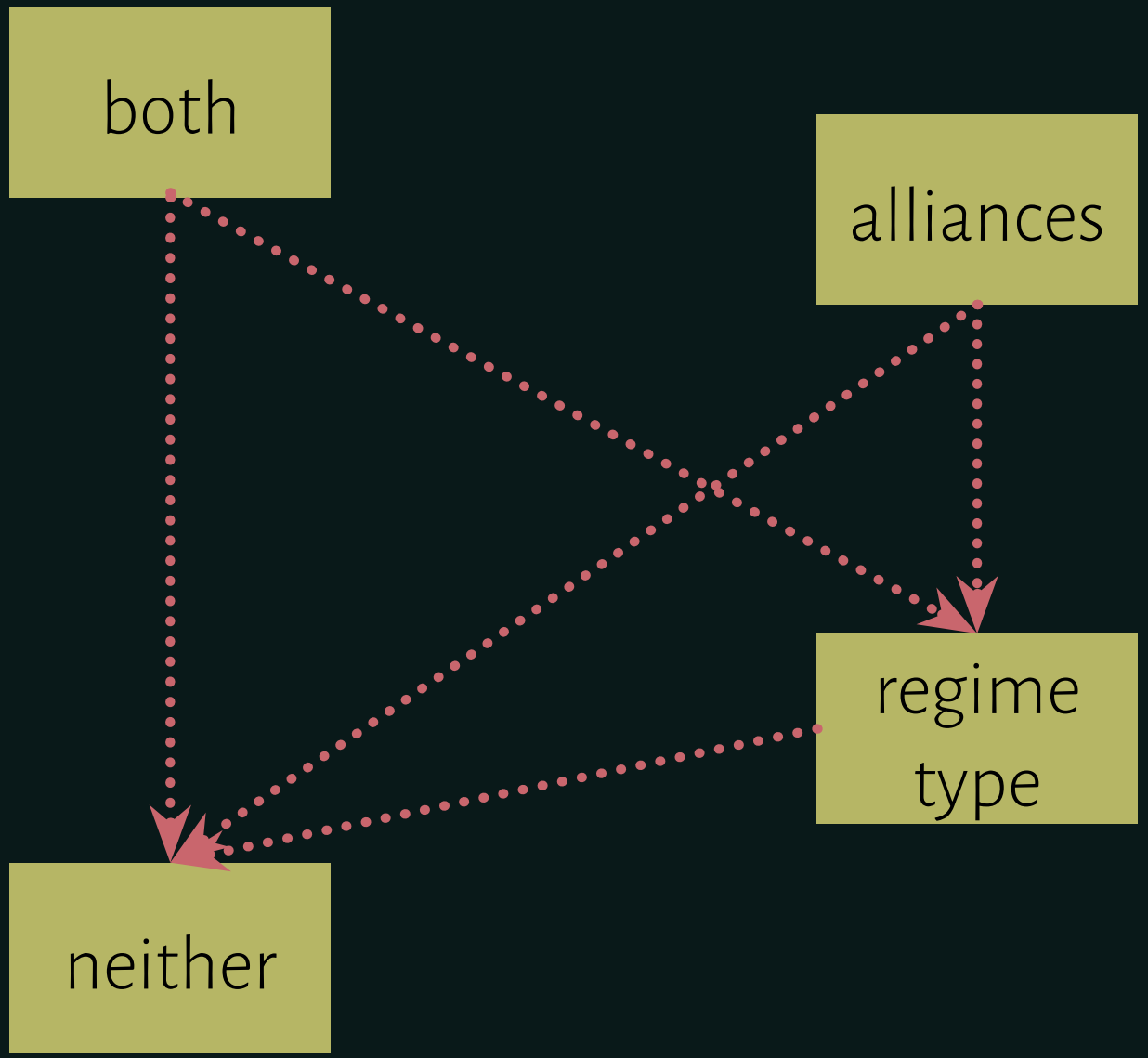

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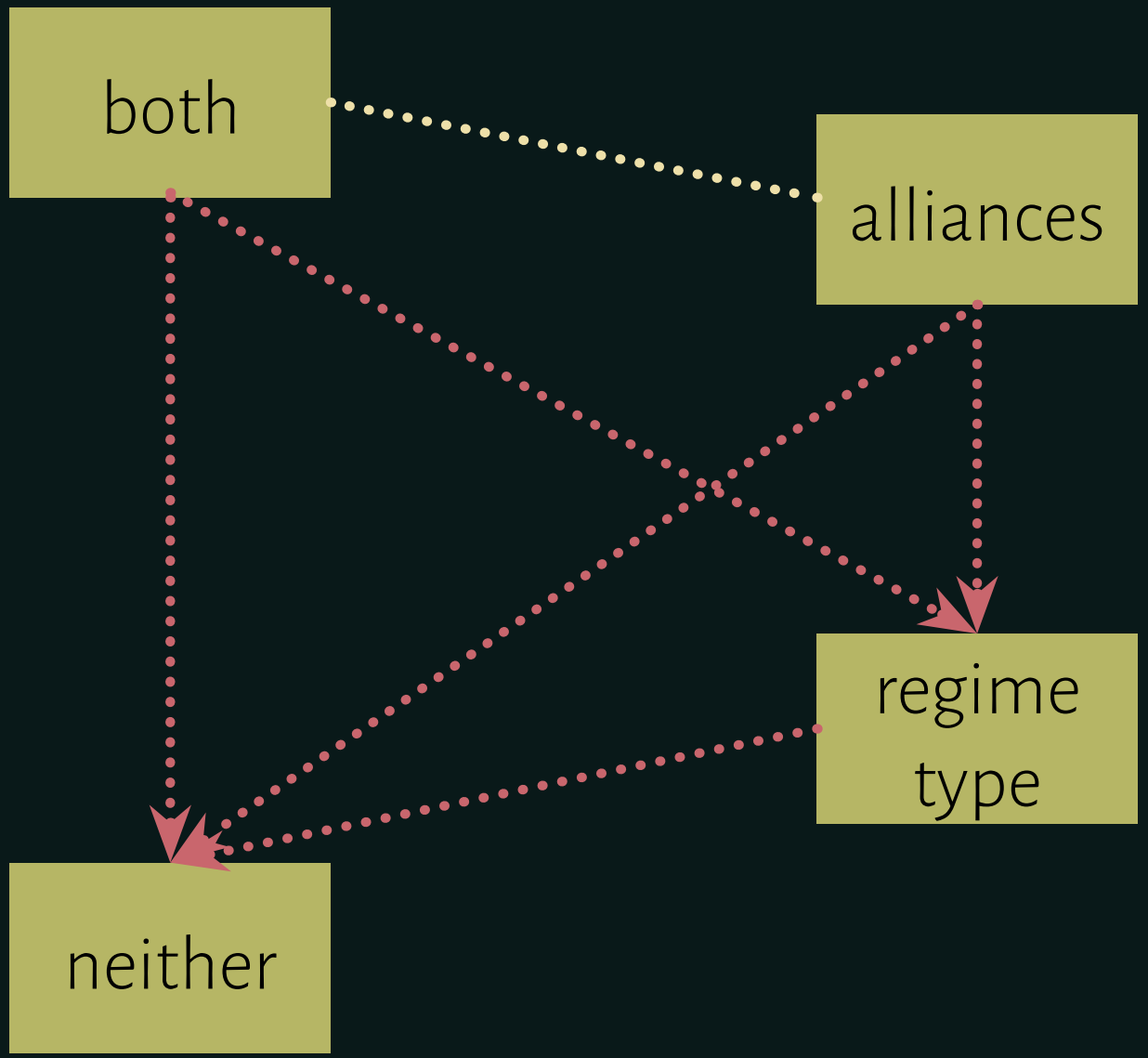

rareness

There aren't very many interventions.

The predicted probabilities will tend to be too low.

We really don't want that in this setting.

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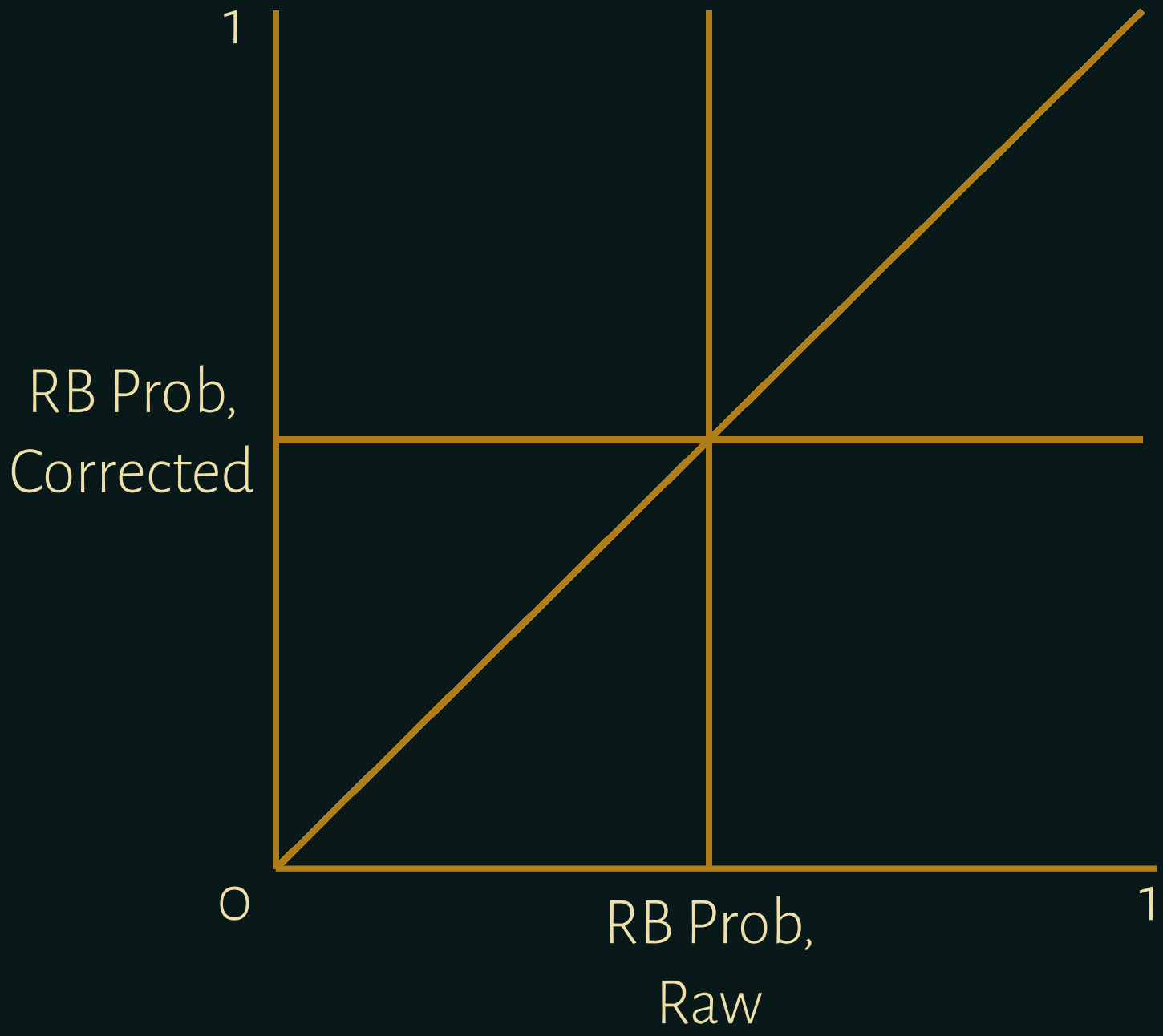
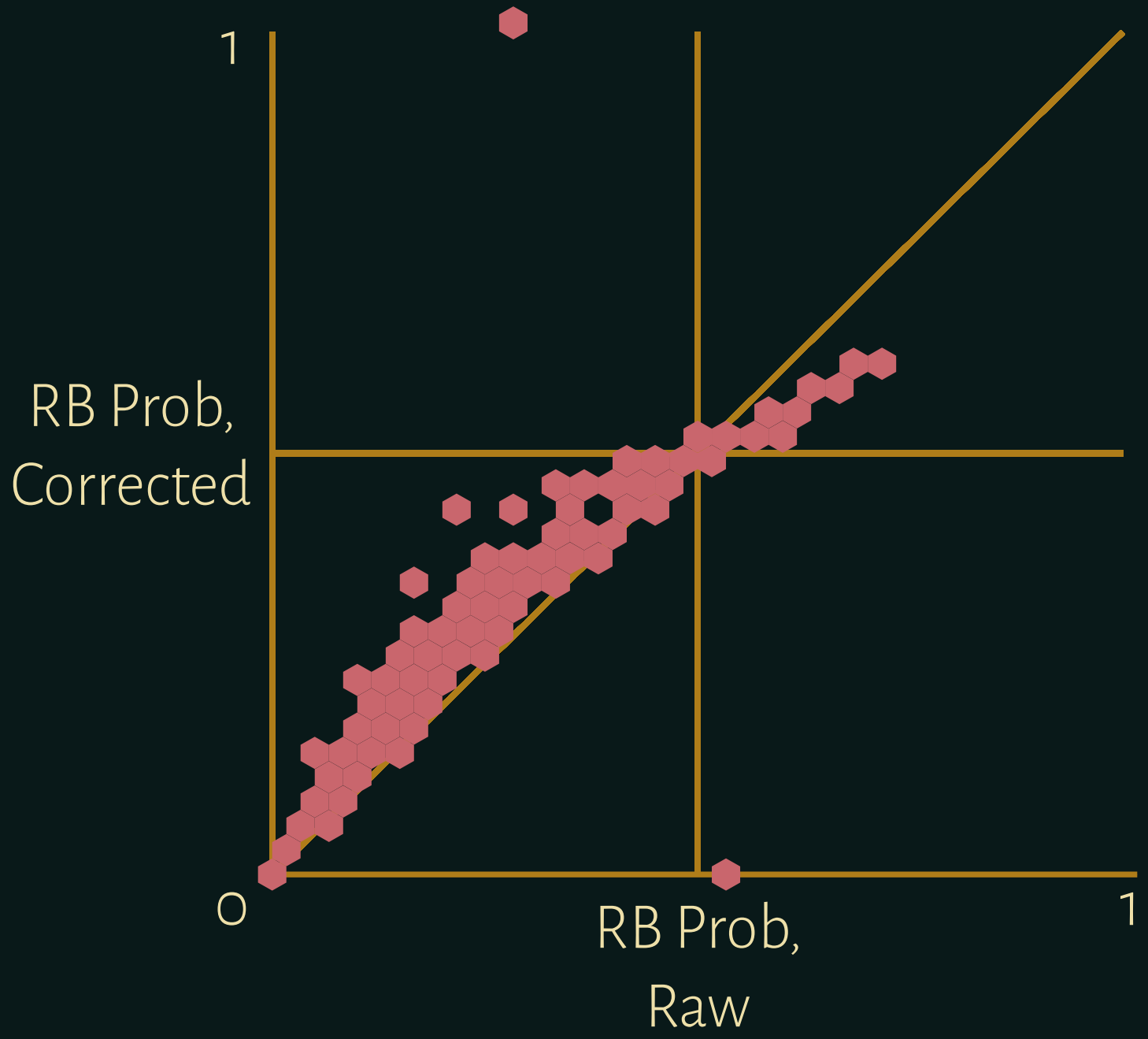
Result: **rare events multinomial logit**.


1
RB Prob,
Corrected
0
1
RB Prob,
Raw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RB Prob,
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1

so we take this R.E.A.L. model and...

We fit it for all intervention decisions in actual civil wars.

13,913 war-intervener pairs

We use results to predict probabilities for hypotheticals.

826,812 directed-dyads

We scale relevant regressors and sum up.

6,577 country-years

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Now we have new, systemic variables that we can add to a garden-variety country-year model!

3. The rebels' decision

strategy

Now we can use Fearon and Laitin's onset data.

Moreover, we can use their specification as a benchmark.

strategy

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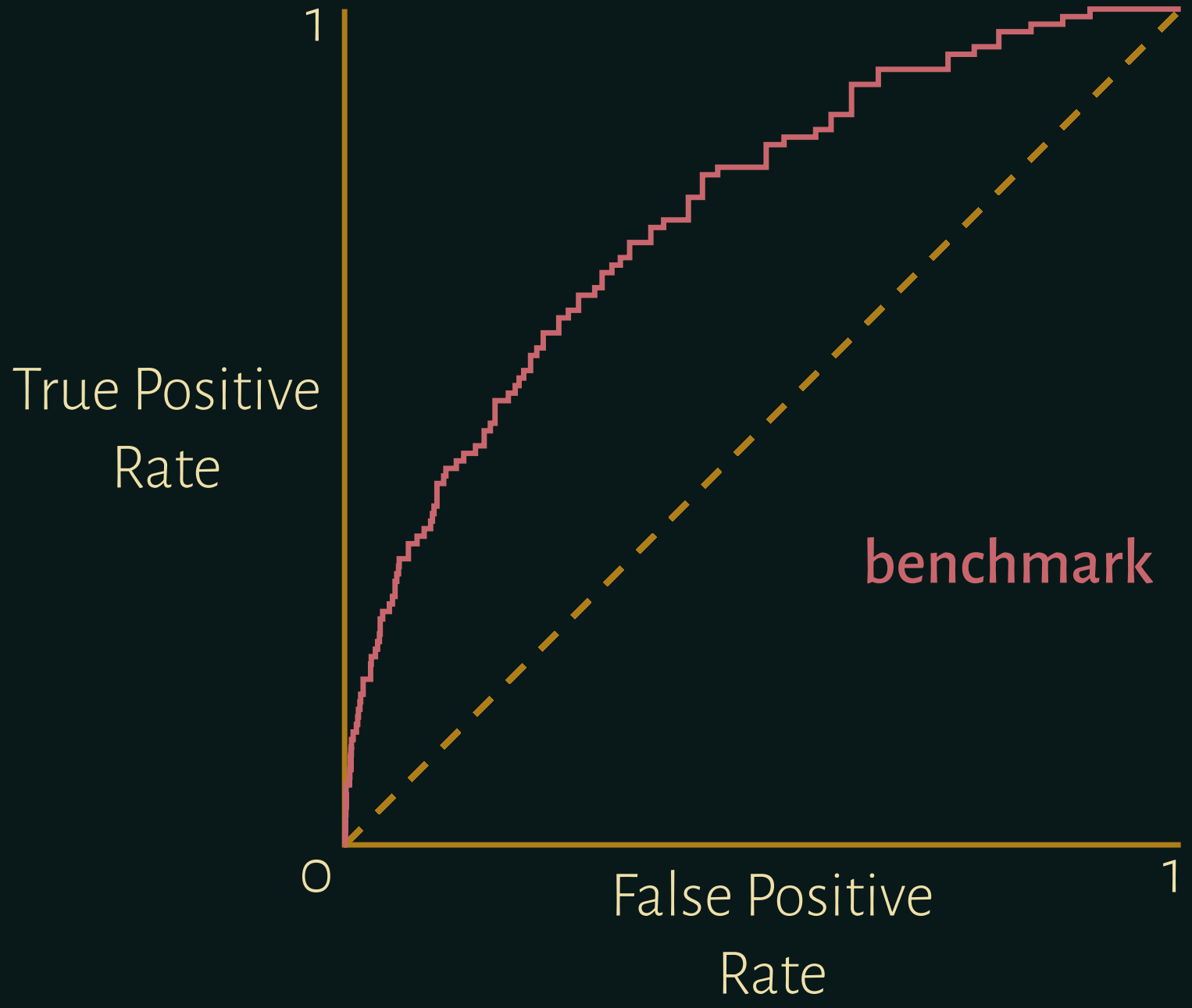
Moreover, we can use their specification as a benchmark.

To this benchmark, we add six variables:

Expected number of **entrants** for the rebels/govt;
Expected number of **neighbors** for the rebels/govt;
Expected number of **major powers** for the rebels/govt.

These six variables significantly improve fit.


1
True Positive Rate
0
1
False Positive Rate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benchmark
0
1
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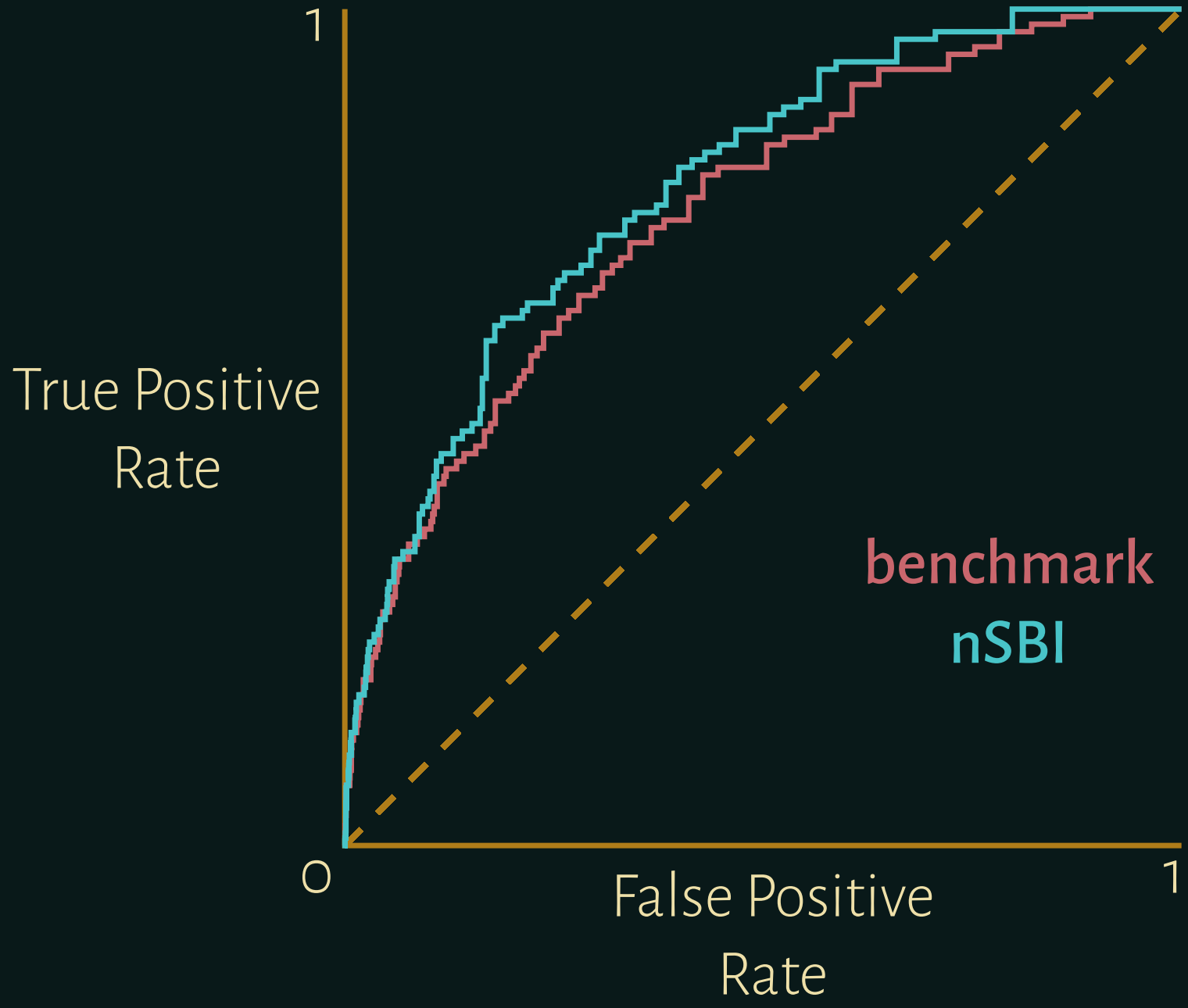
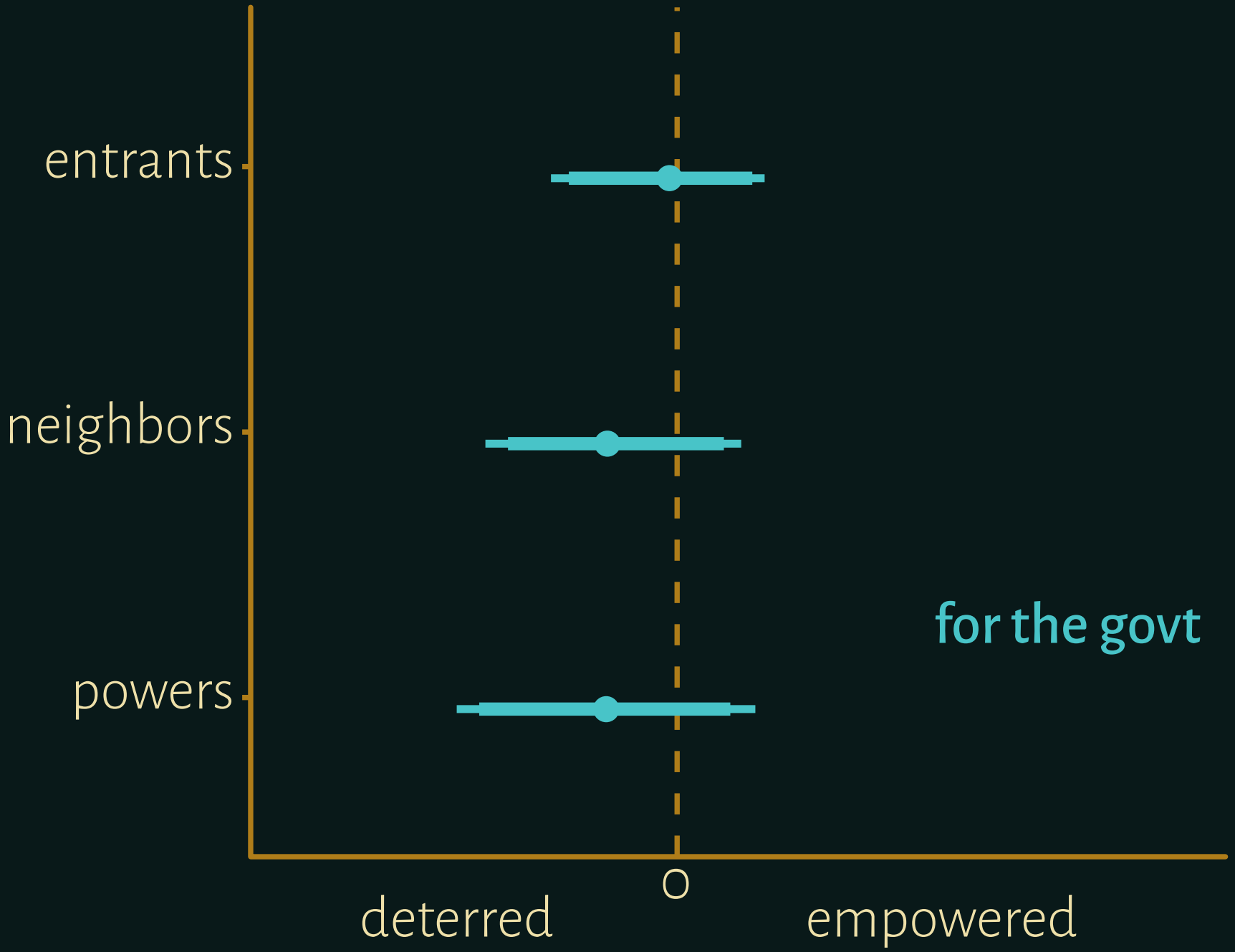

1
True Positive Rate
benchmark
nSBI
0
1
False Positive Rate

Punchline One

the shadow of intervention looms large

but **how**?


entrants
neighbors
powers
0
deterred
empowered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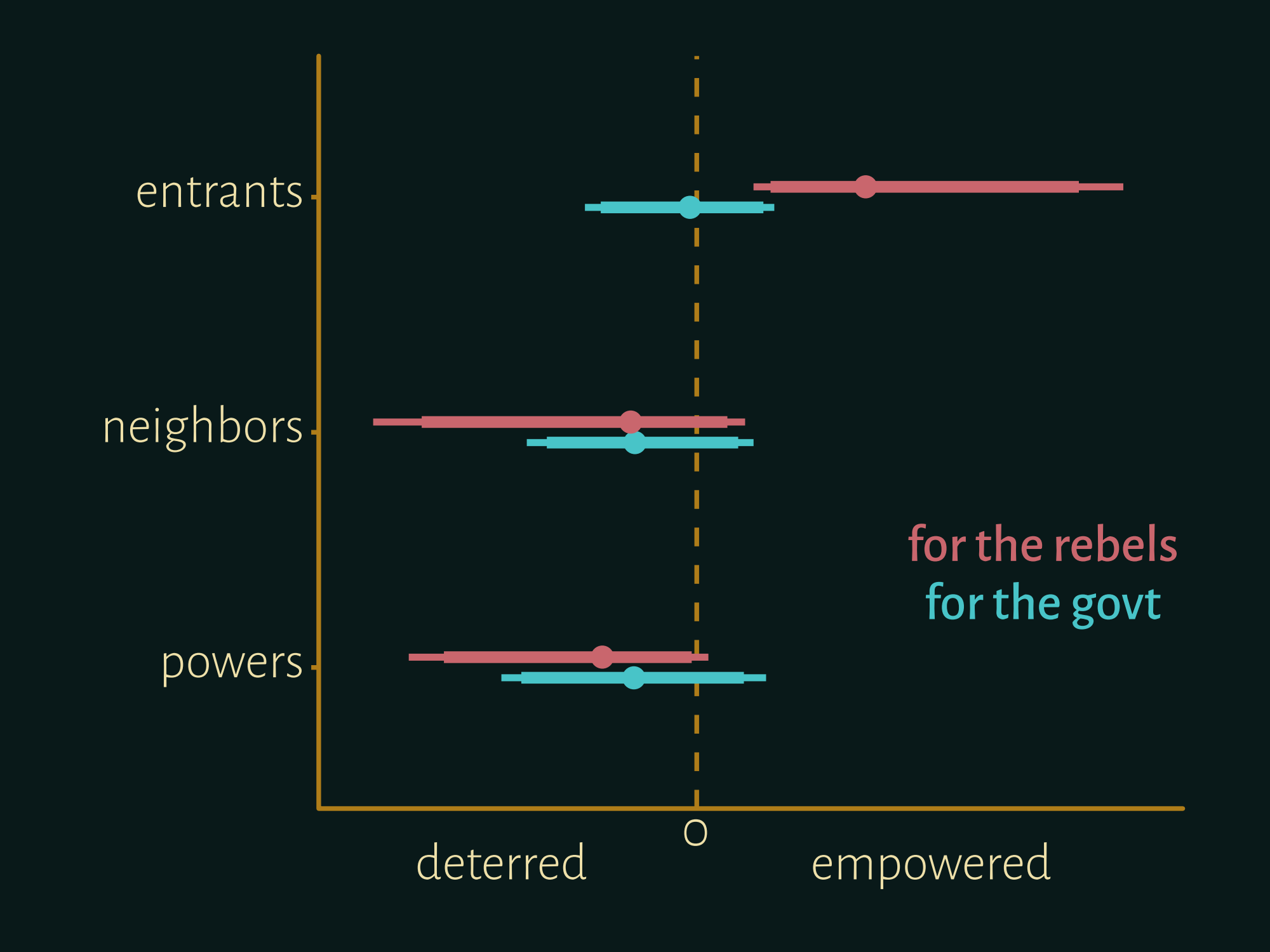
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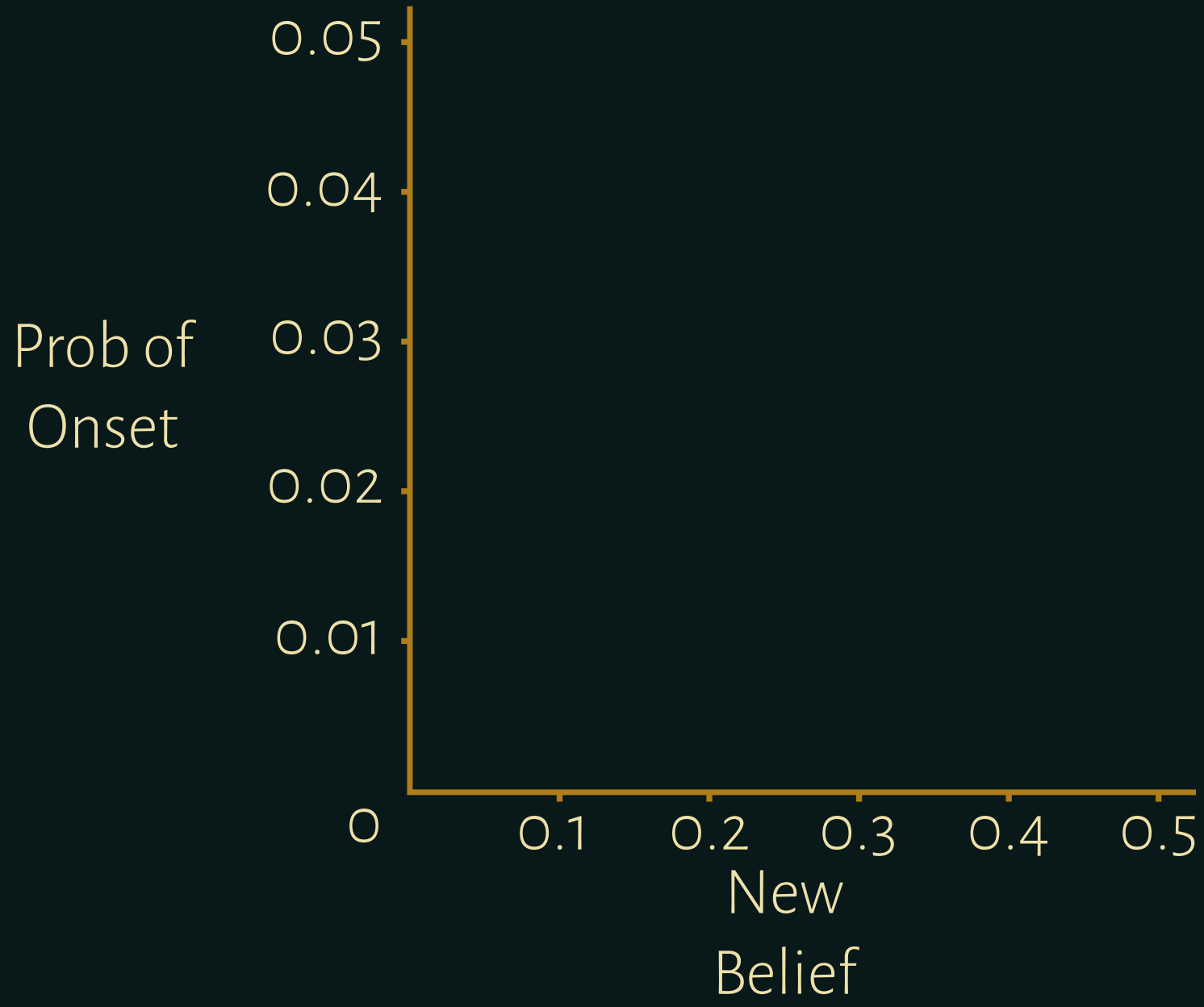
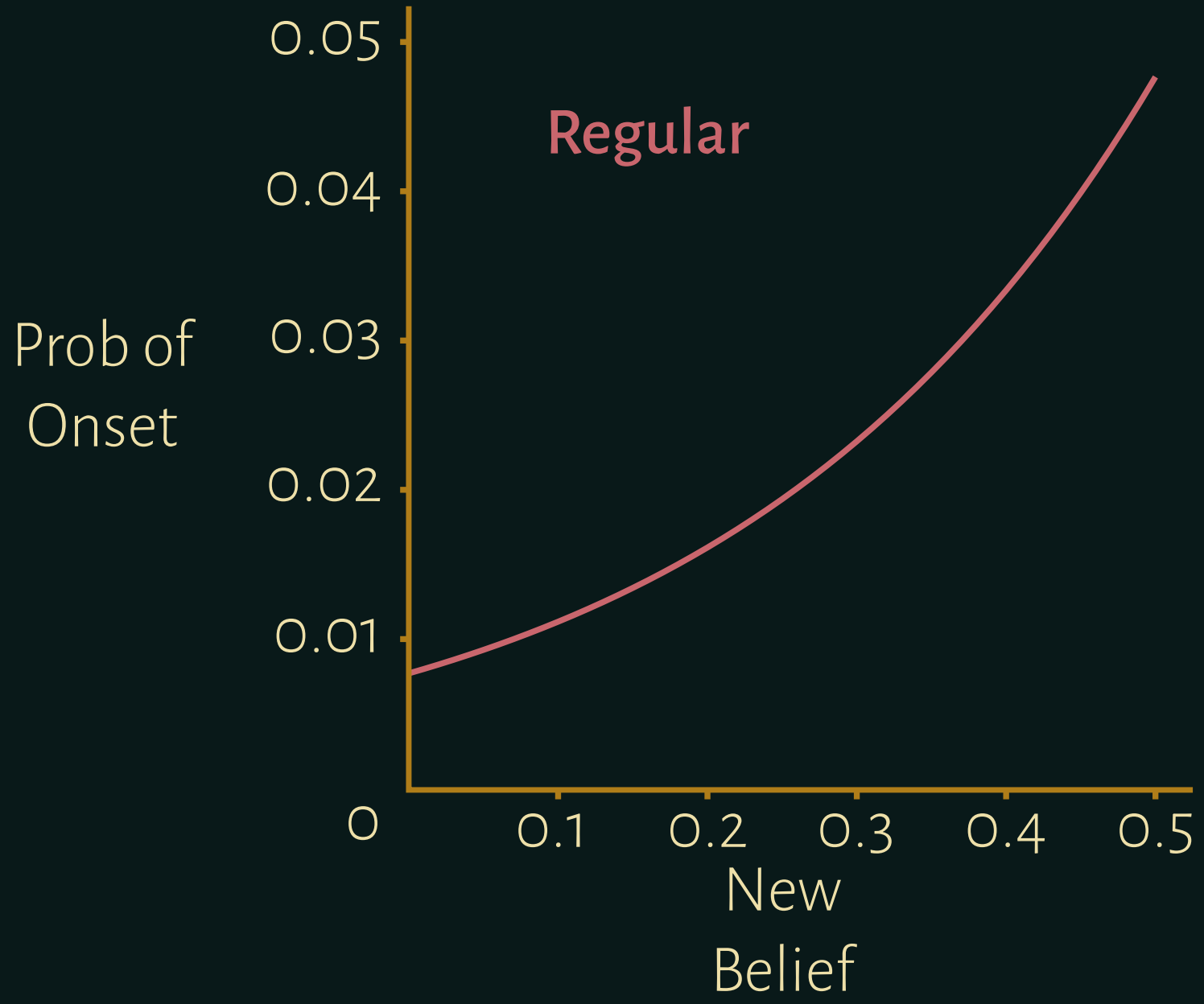

0.05
0.04
0.03
0.02
0.01
0
Prob of Onset
0.1
0.2
0.3
0.4
0.5
New Belief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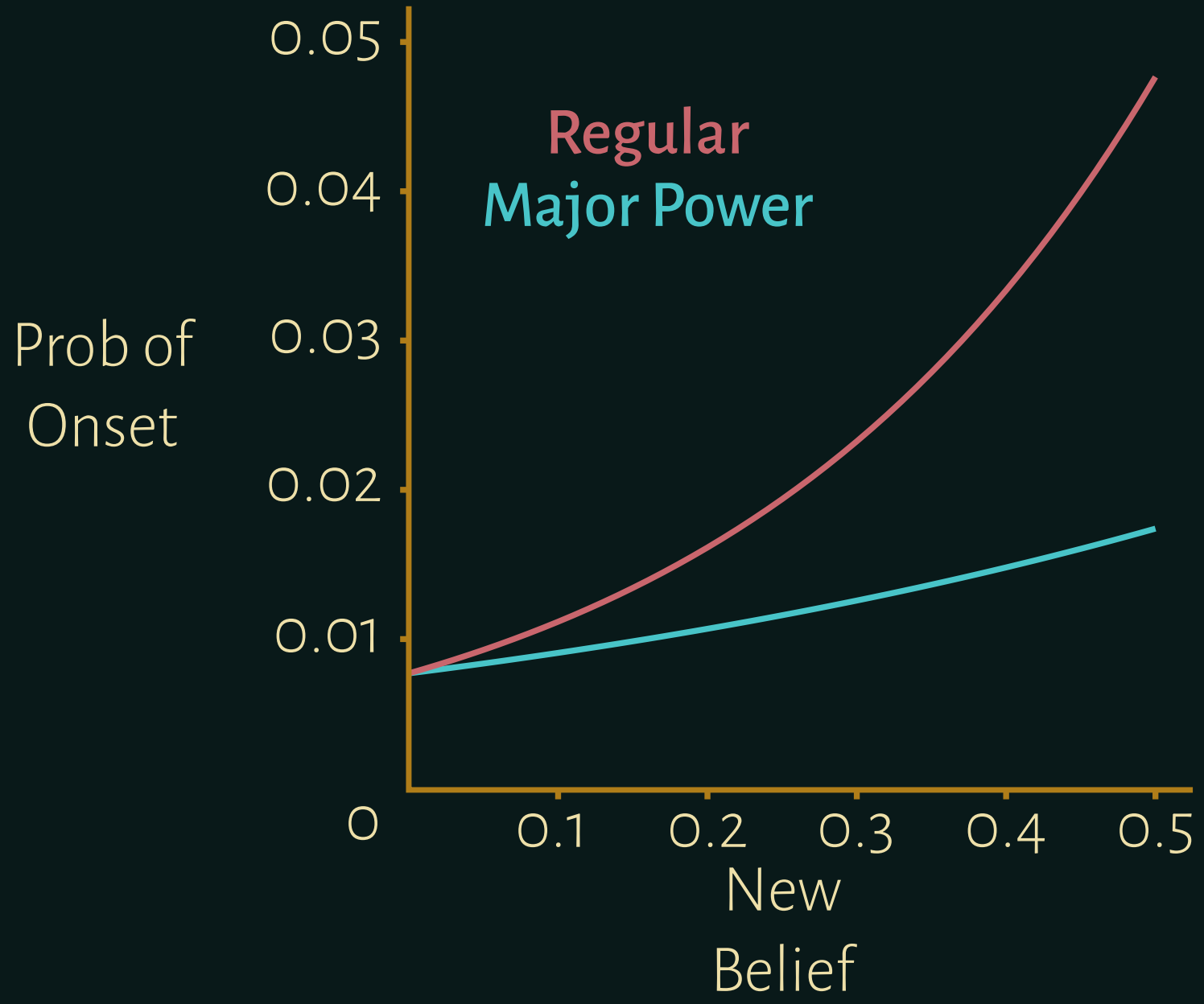
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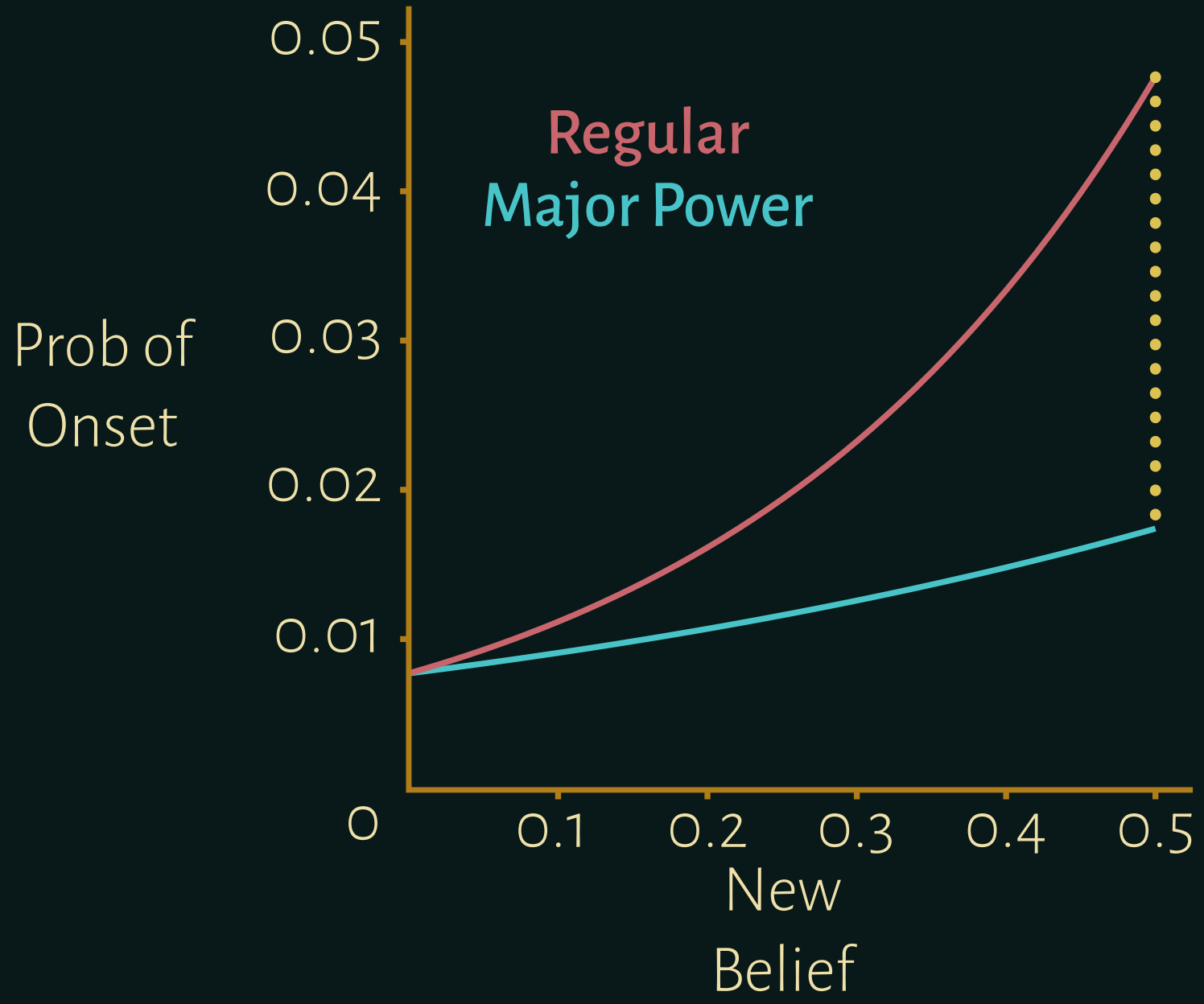
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New Belief

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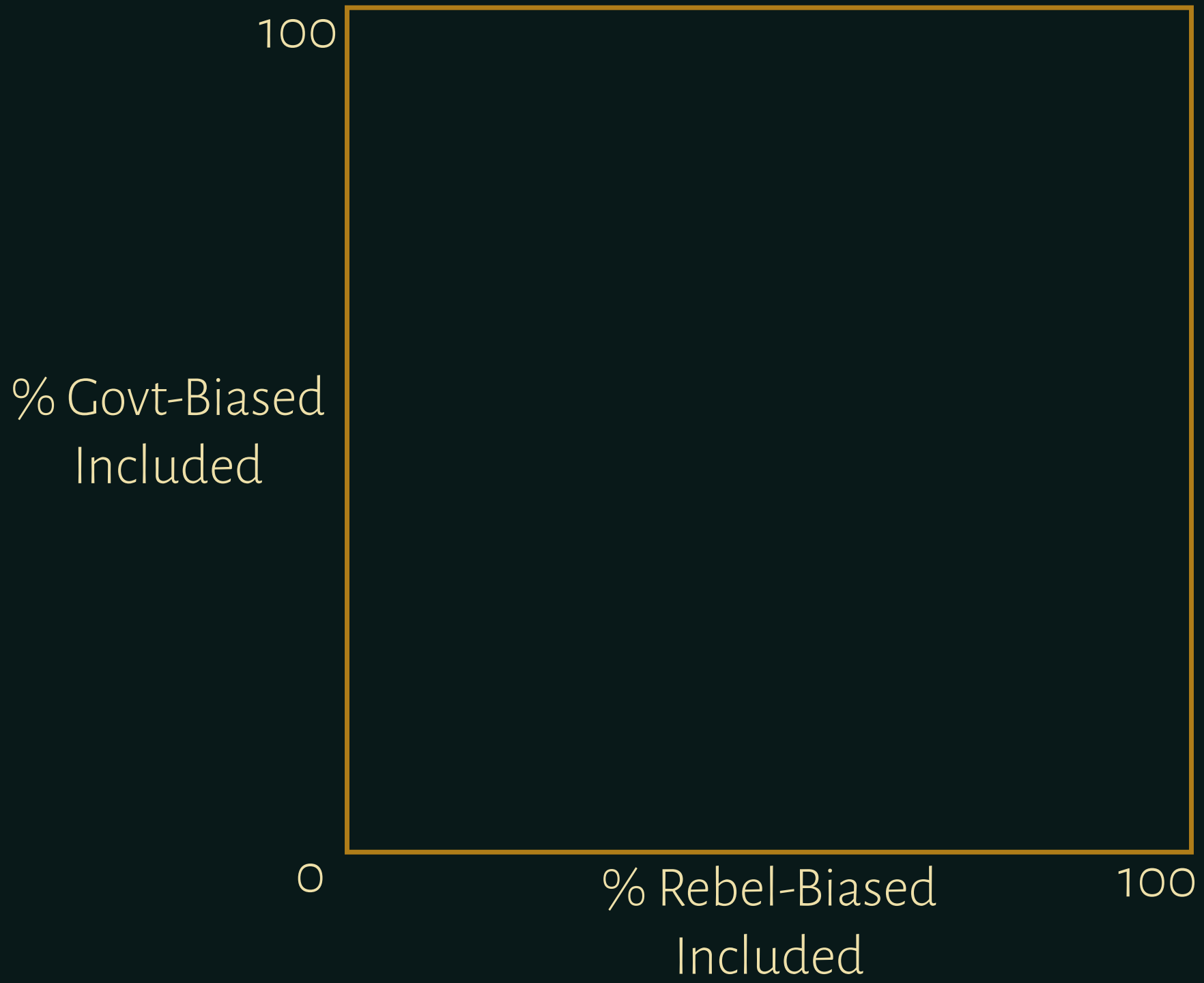
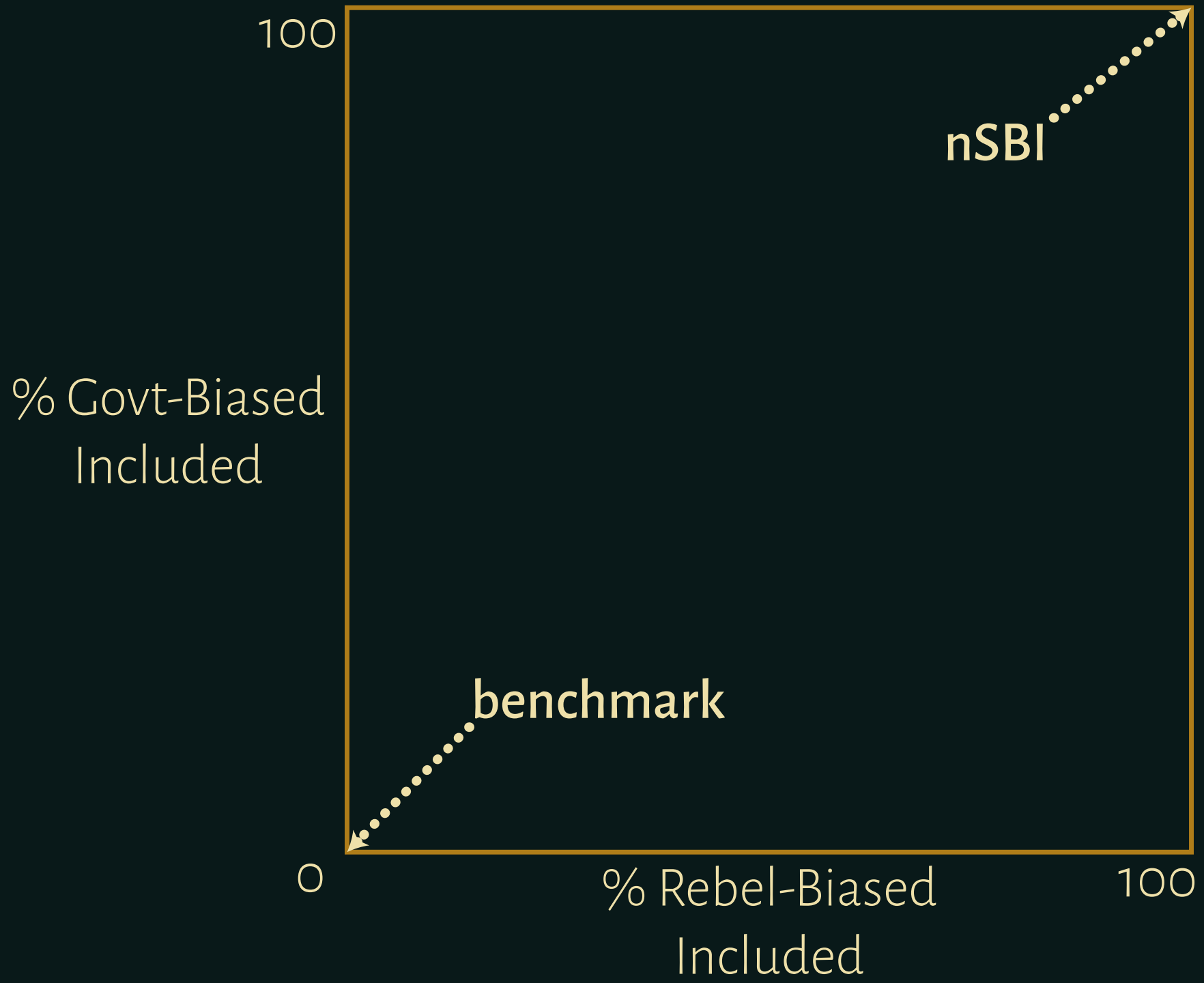
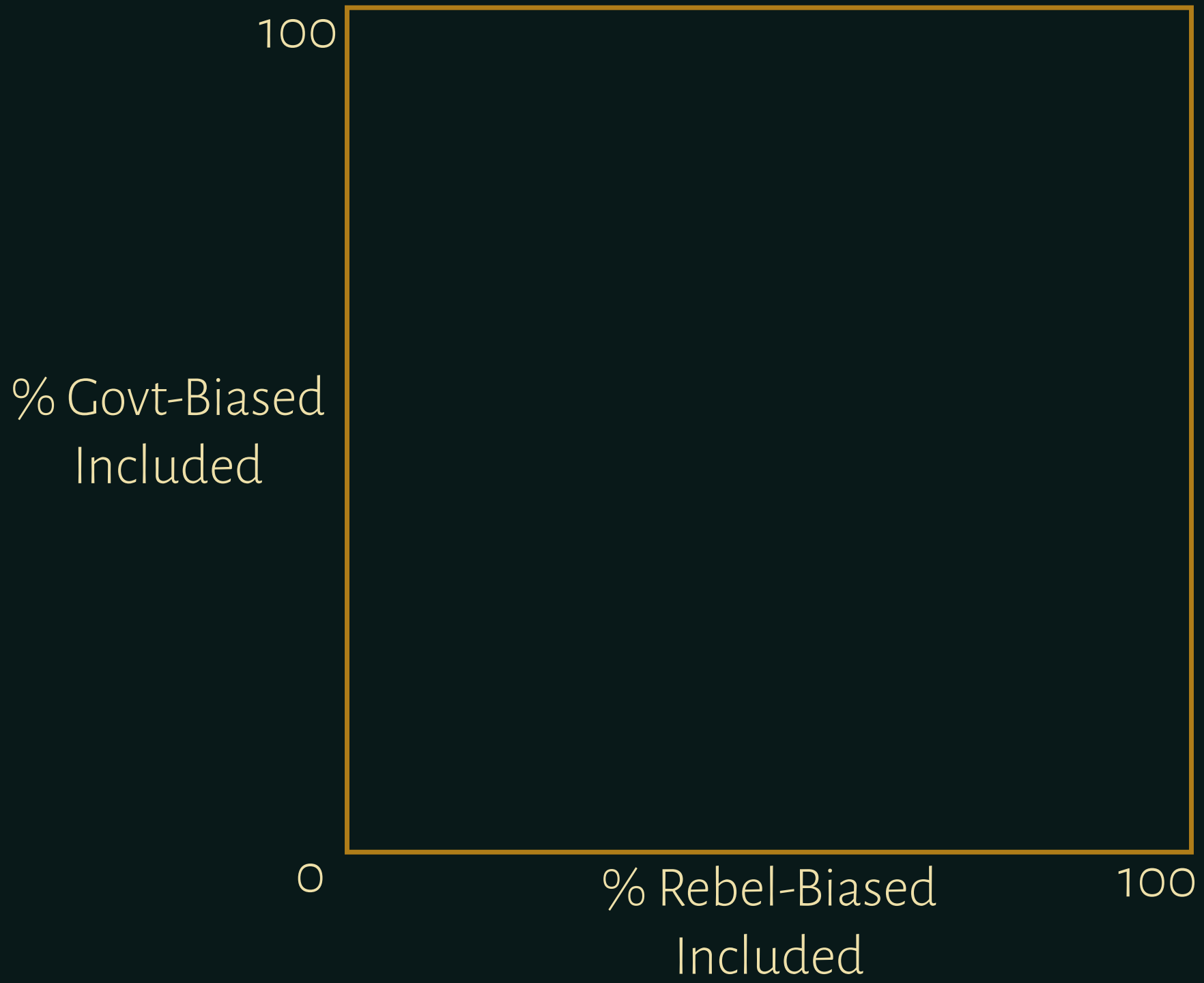
Punchline Two

rebels like help…just not from major powers

but why include **all** potential interveners?


100
% Govt-Biased Included
0
% Rebel-Biased Included
100


100
nSBI
% Govt-Biased
Included
benchmark
0
% Rebel-Biased
Included
100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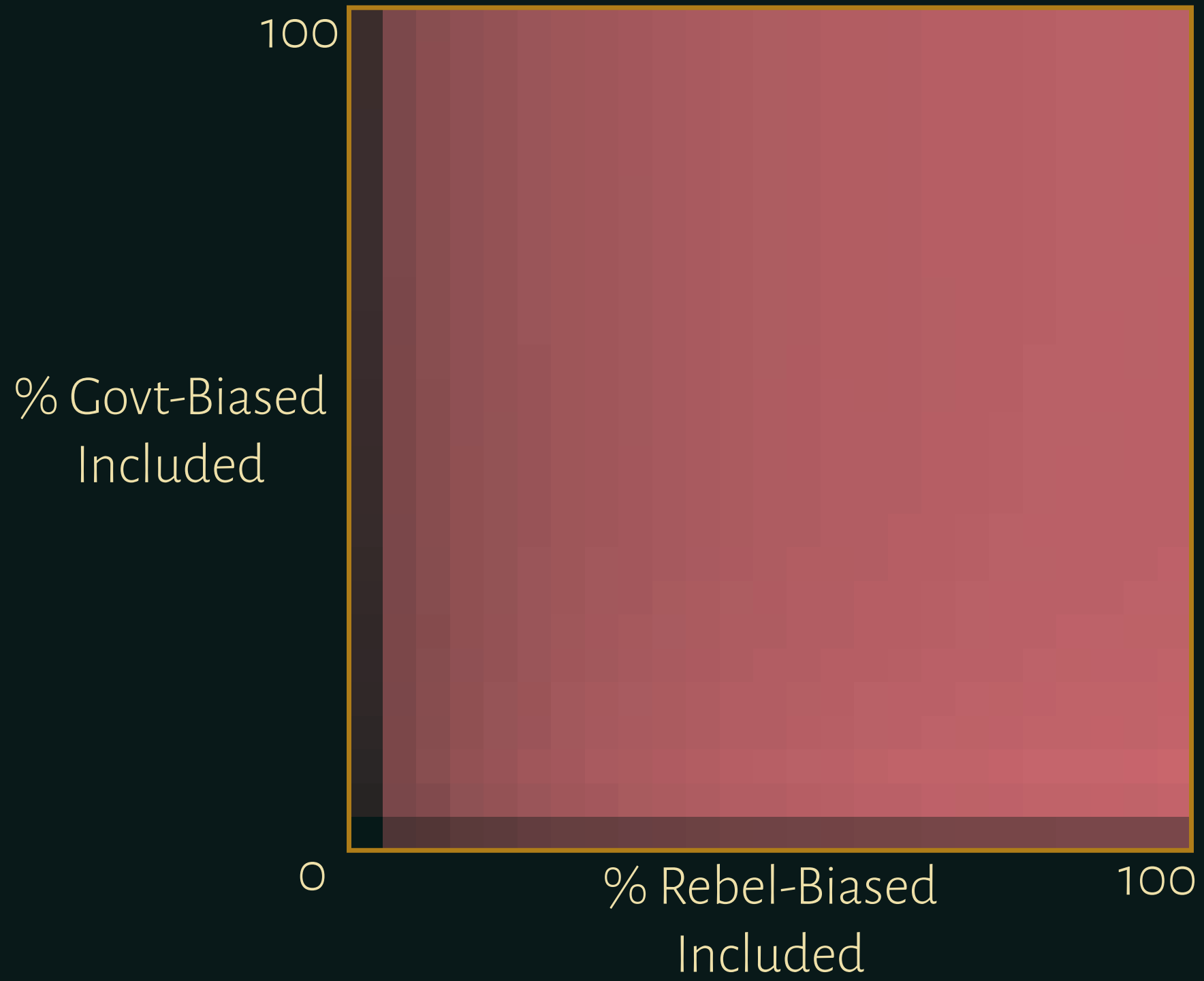
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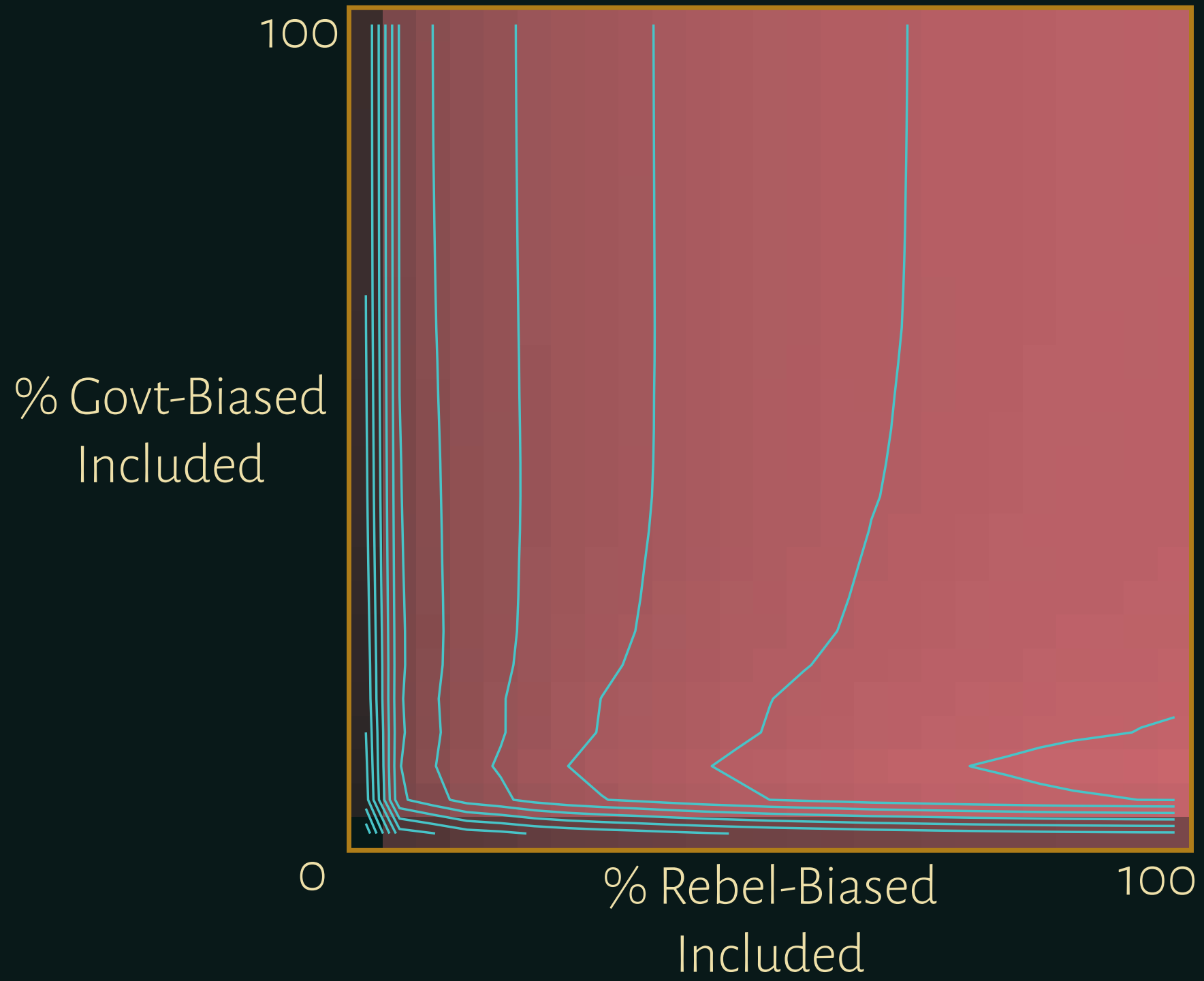
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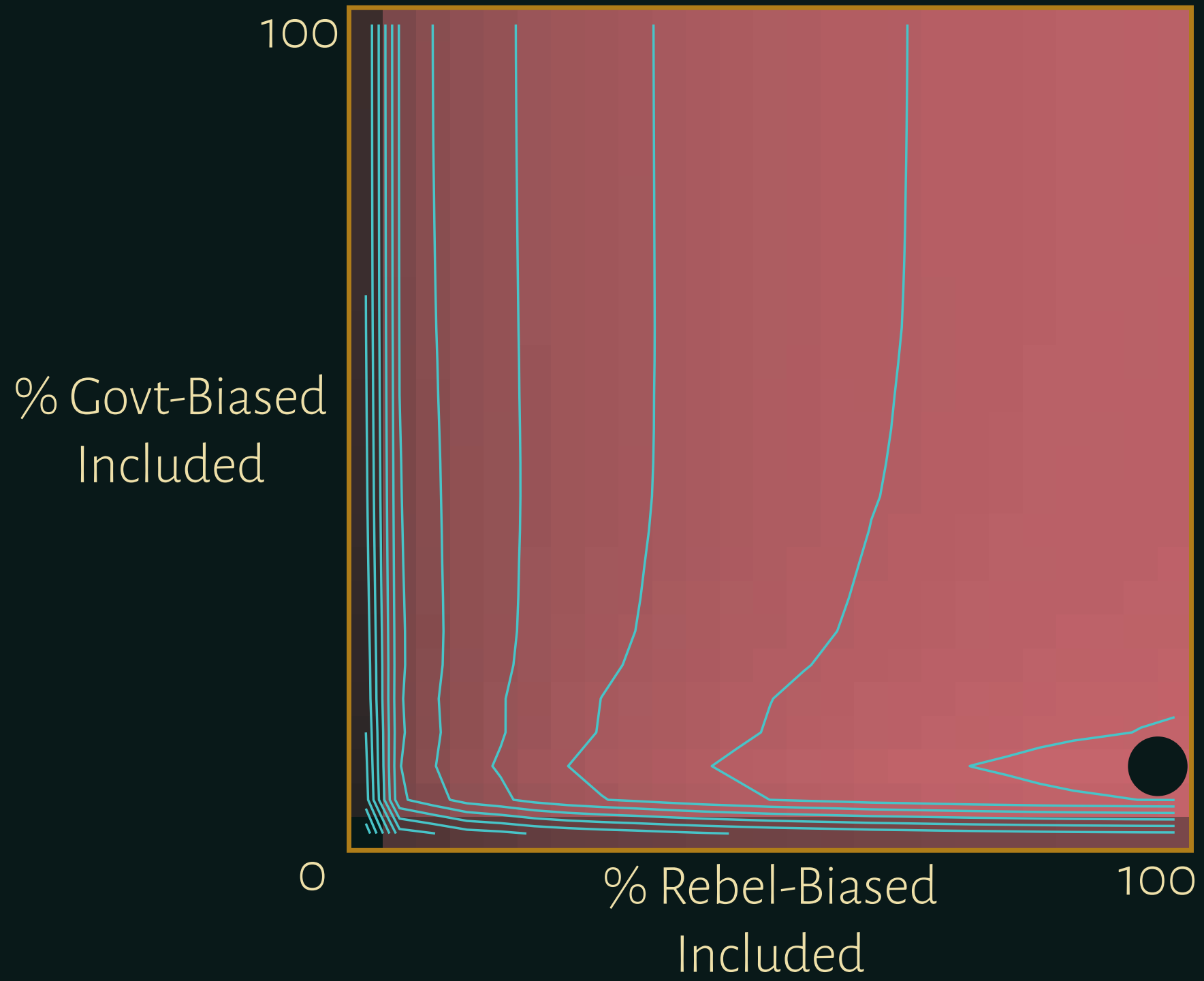
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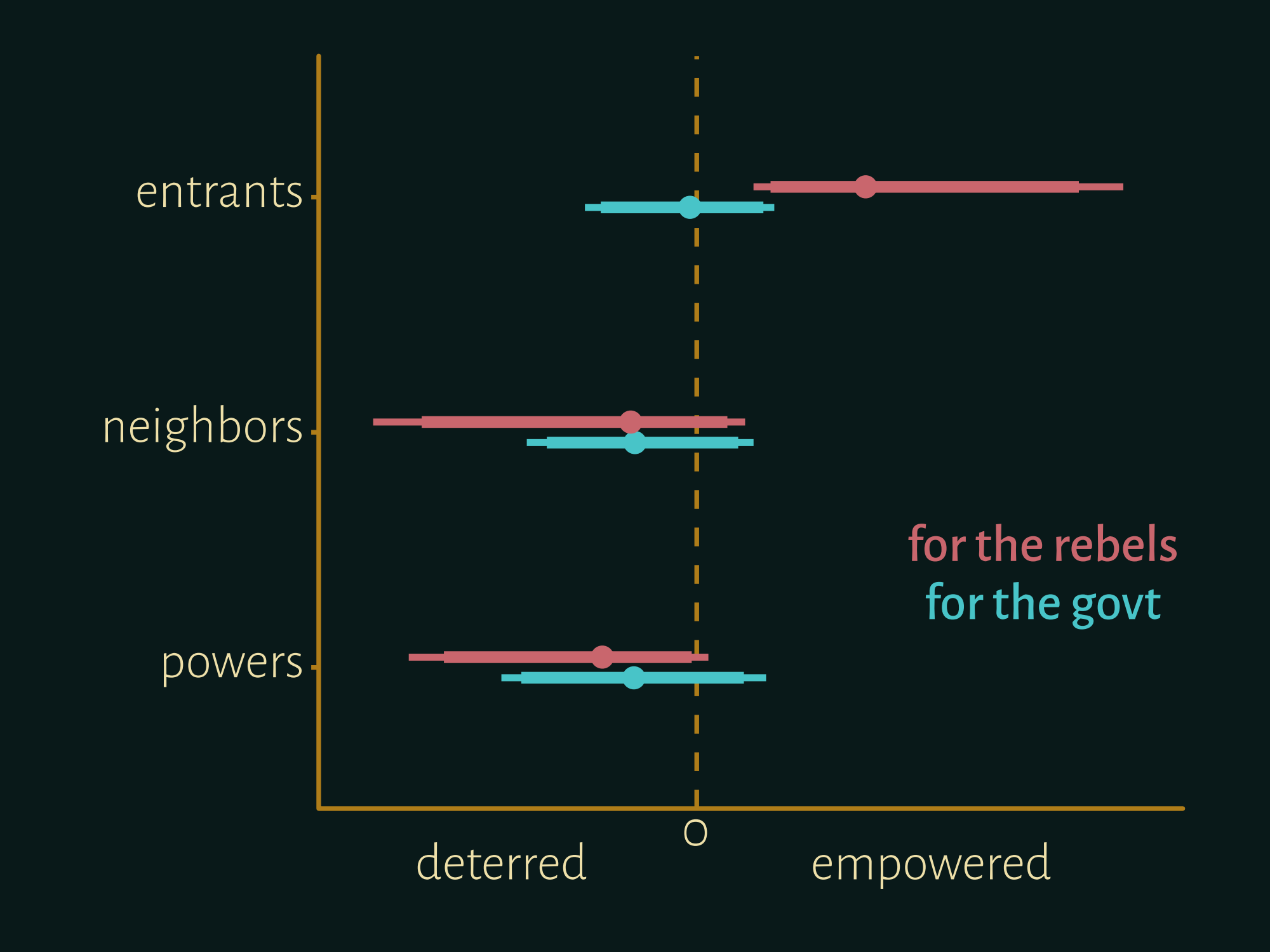
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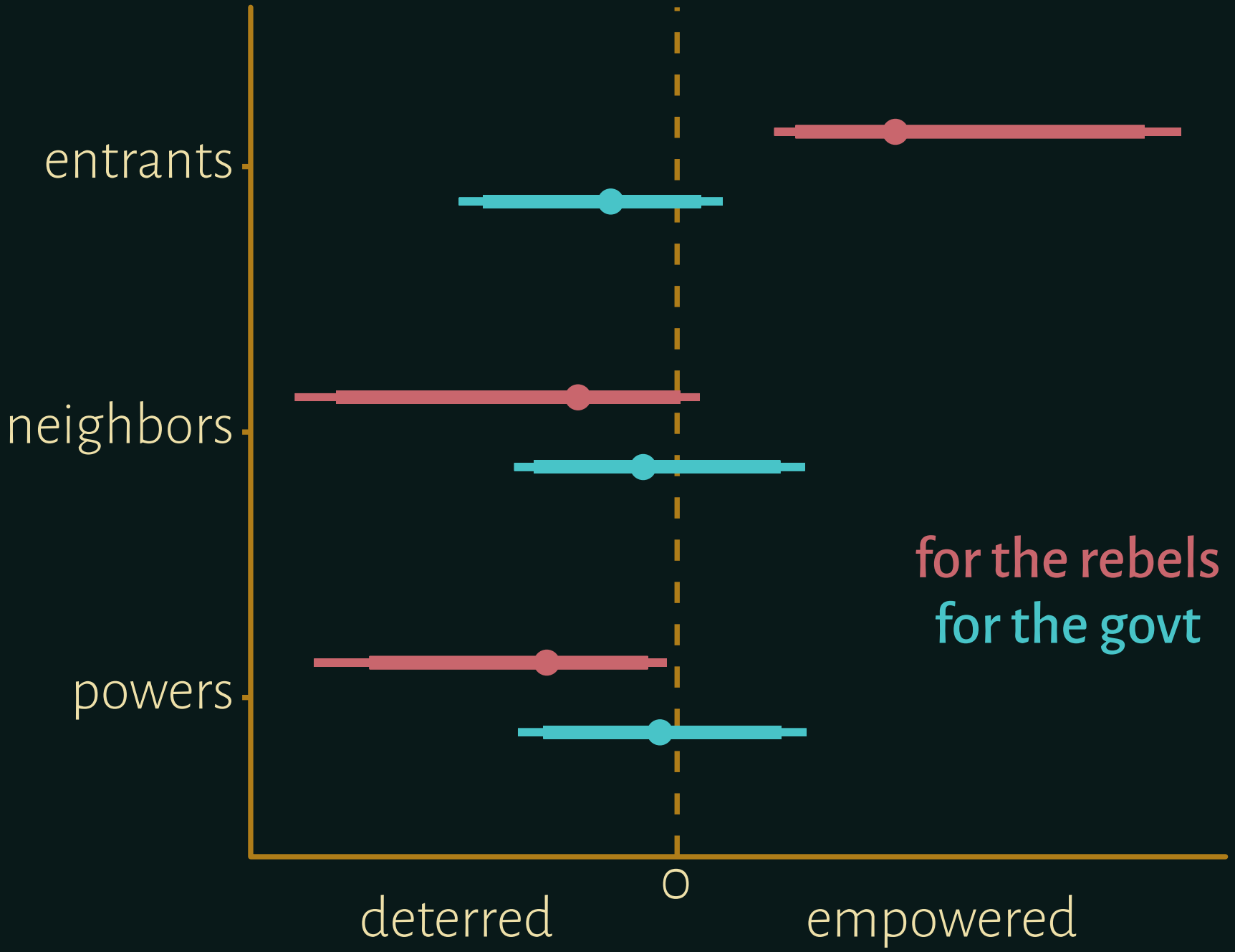
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Punchline One

the shadow of intervention looms large

Punchline Two

rebels like help…just not from major powers

Punchline Three

rebels take help into account more than opposition

4. Wrap-up

thoughts

The findings are interesting and warrant more attention.

nSBI model can be applied to other cases where we think many agents' responses affect a single decision.

It's a happy circumstance to generalize rare events and spatial autologistic model as well.

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Punchline Two

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thanks for listening

rcarrol3@nd.edu