Experimentability in the Public Sector

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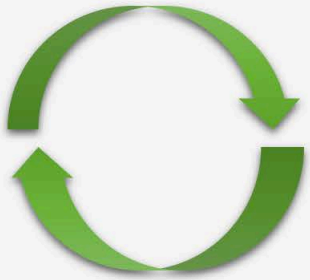
Experimentability

- A growing number of institutions in the public and private sector are partnering with researchers to analyze the impacts of their efforts



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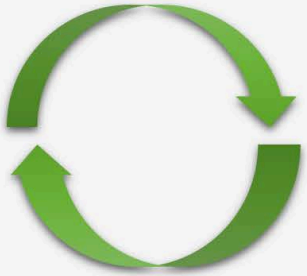
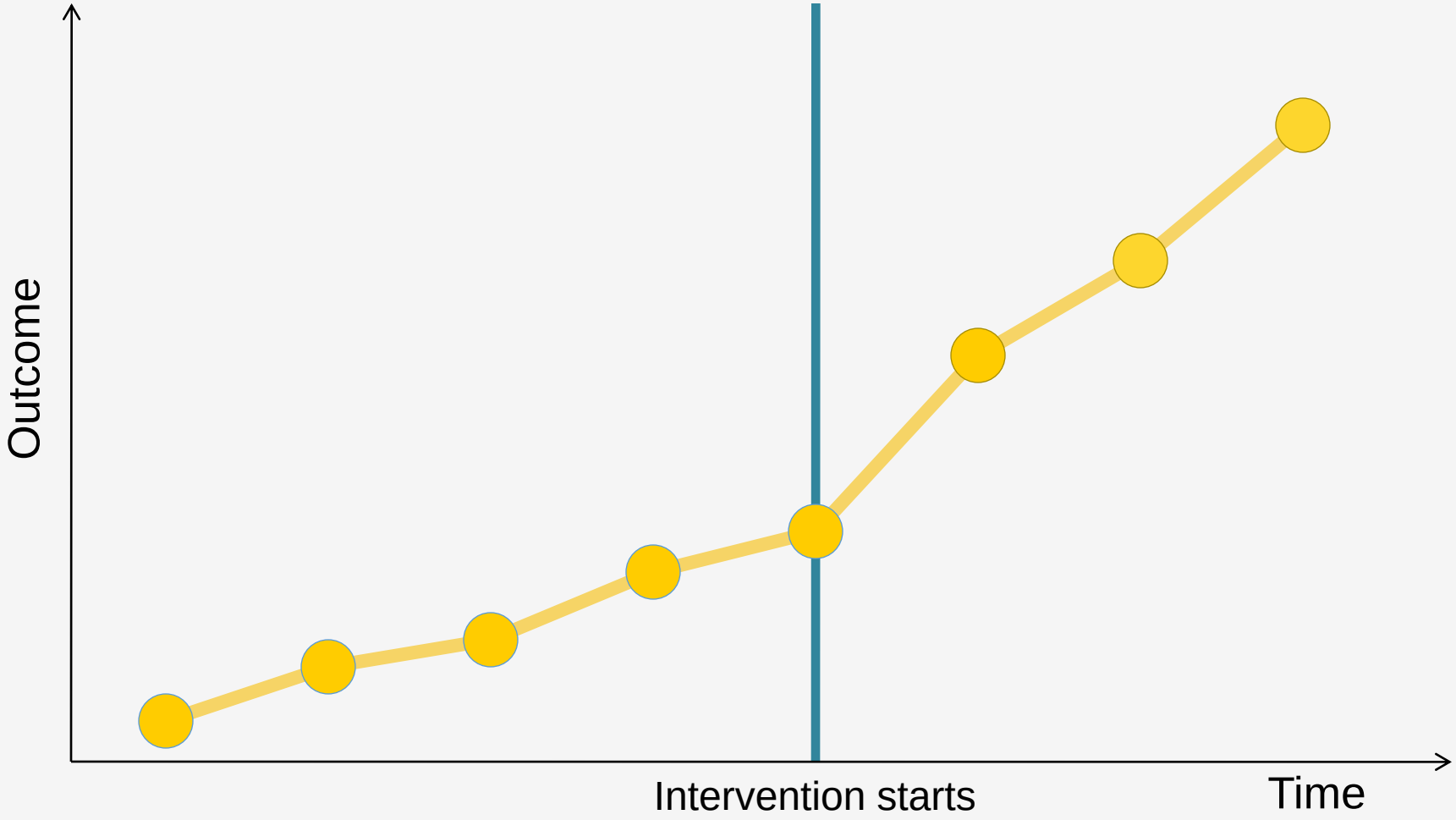


- Recent innovation in research designs and availability of more data makes these partnerships particularly fruitful
  - Combine expertise from “real world” with academic know-how
  - Create win-win situations

How do we measure impact?

- Tease out effects of a program or policy amid all the other things that might be changing at the same time

Causality



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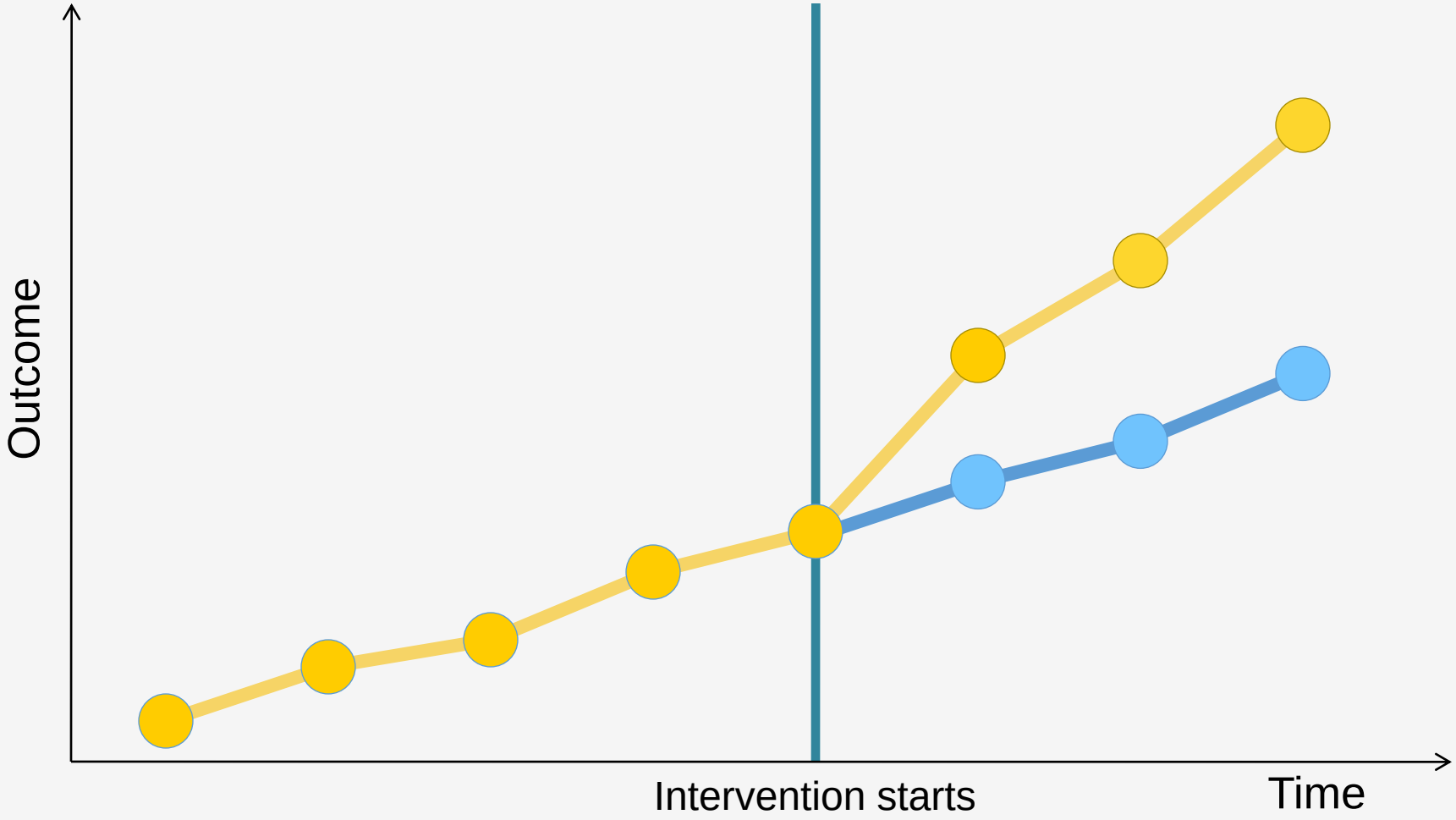

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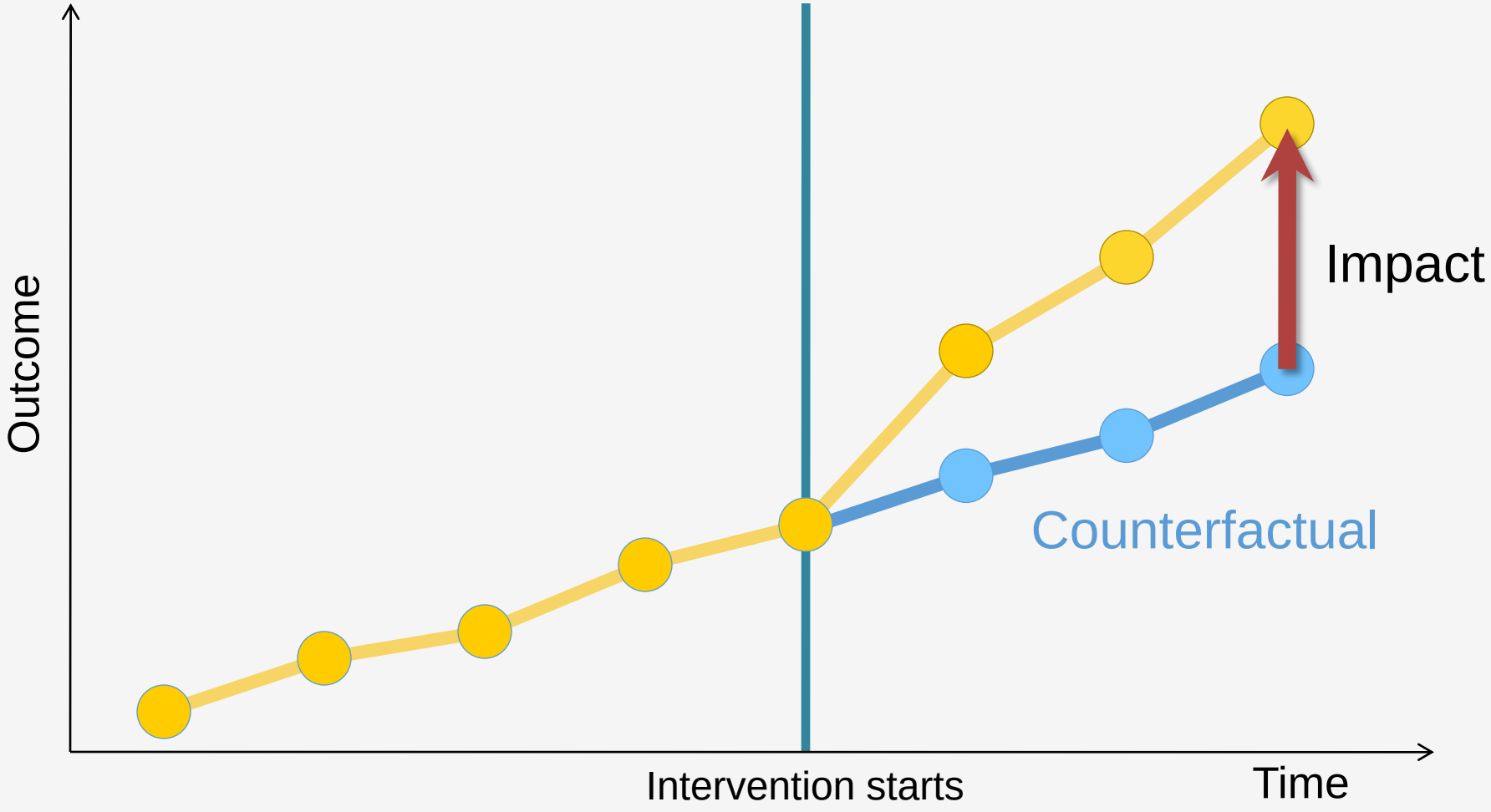

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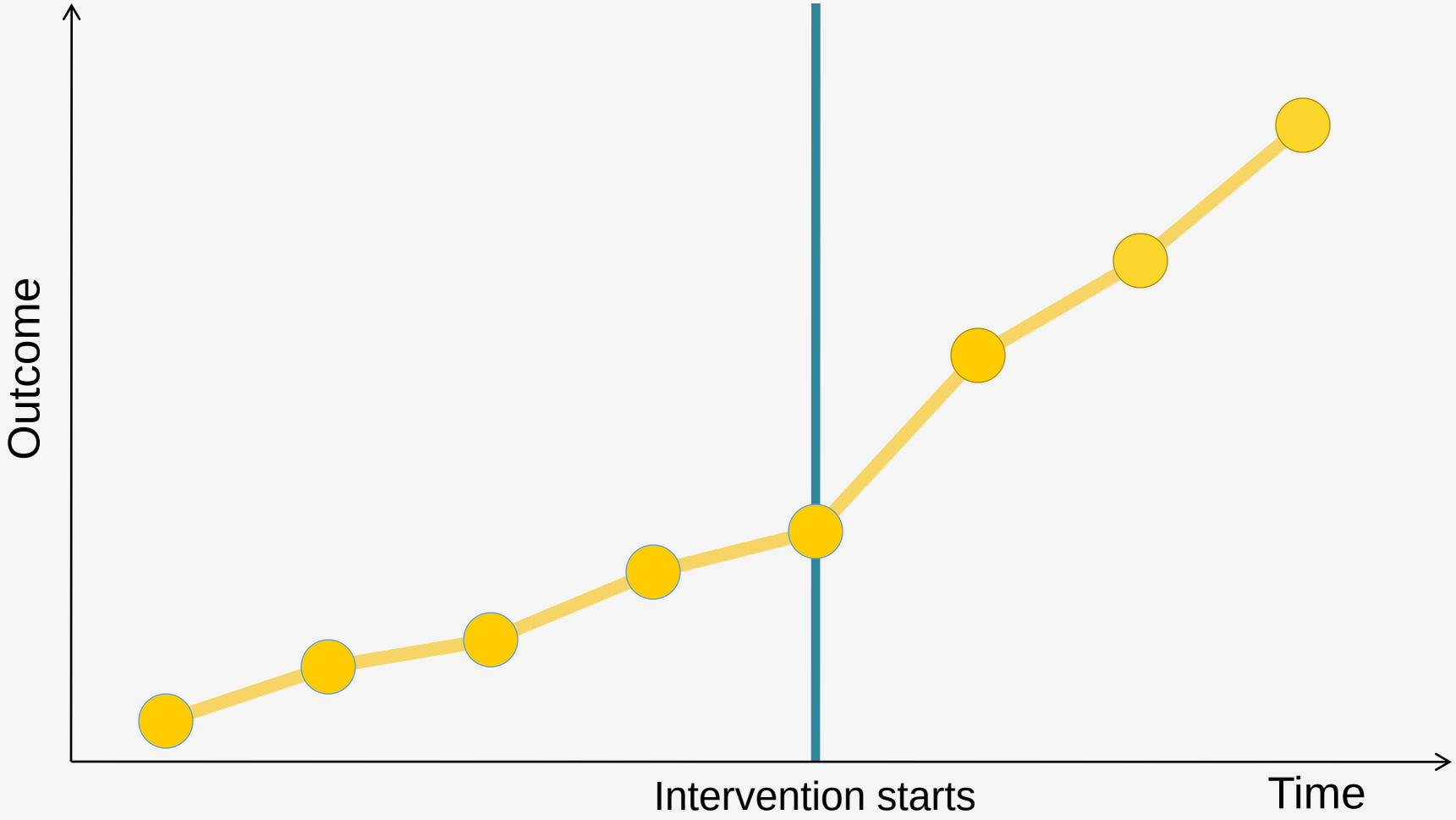

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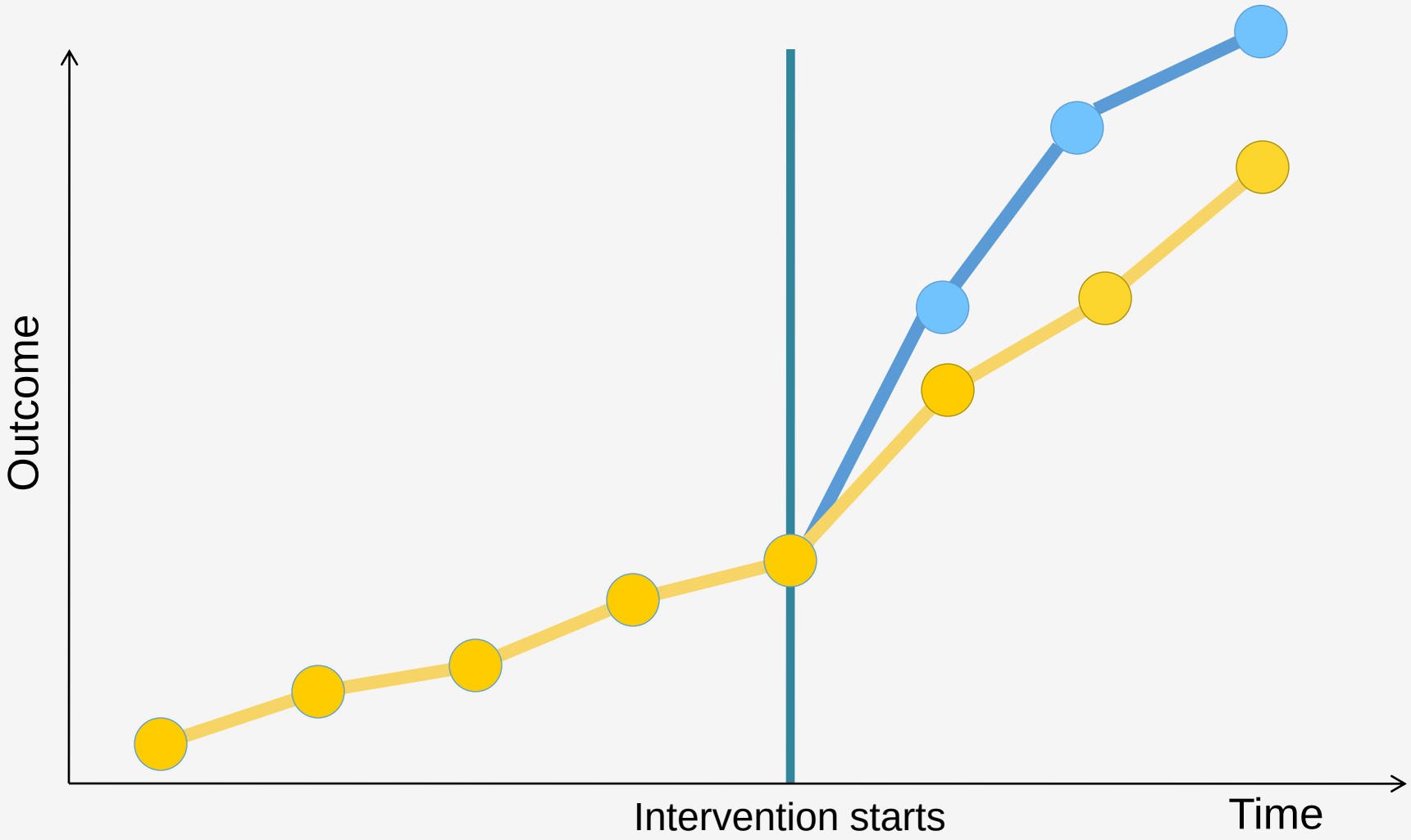

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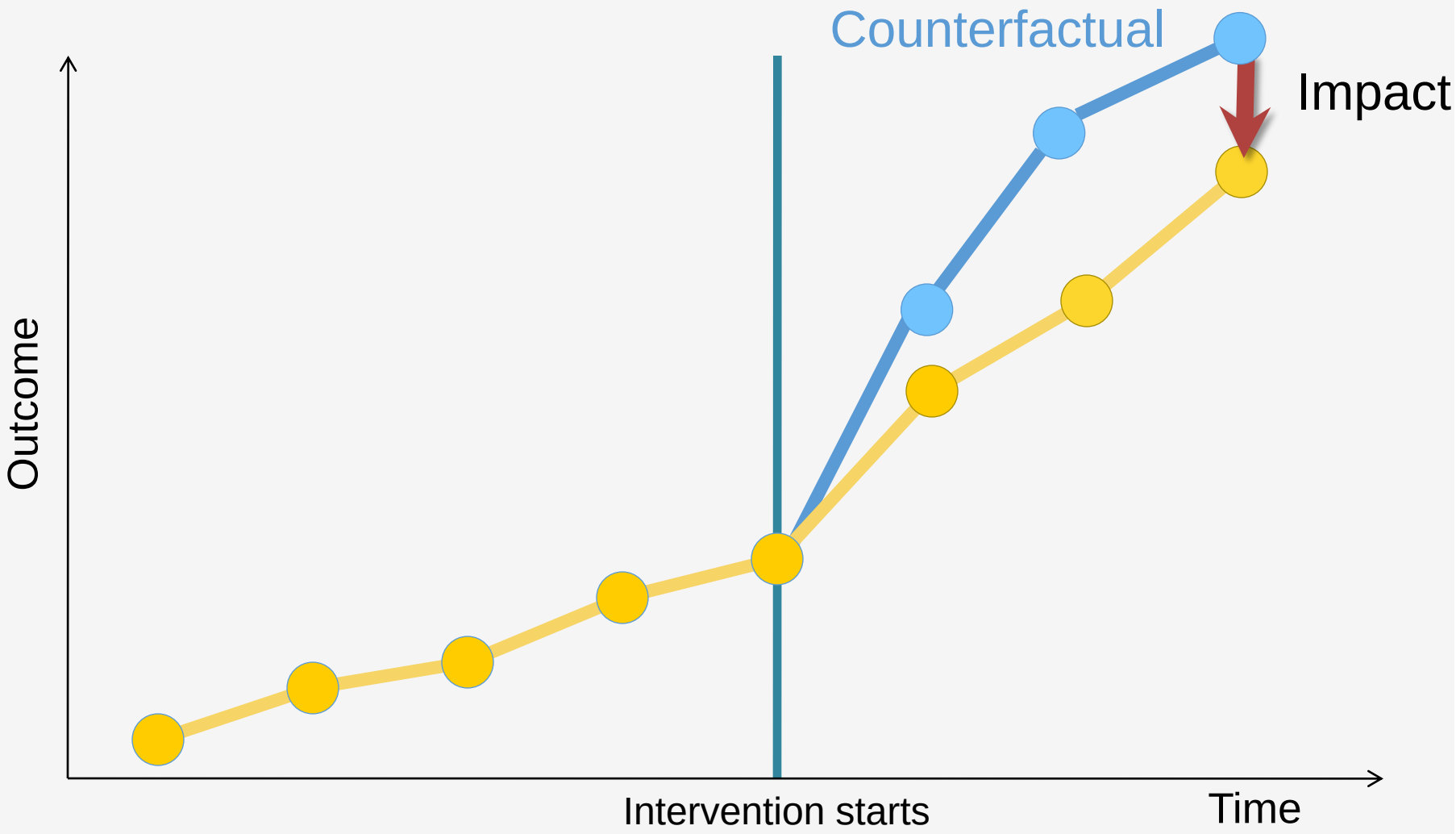
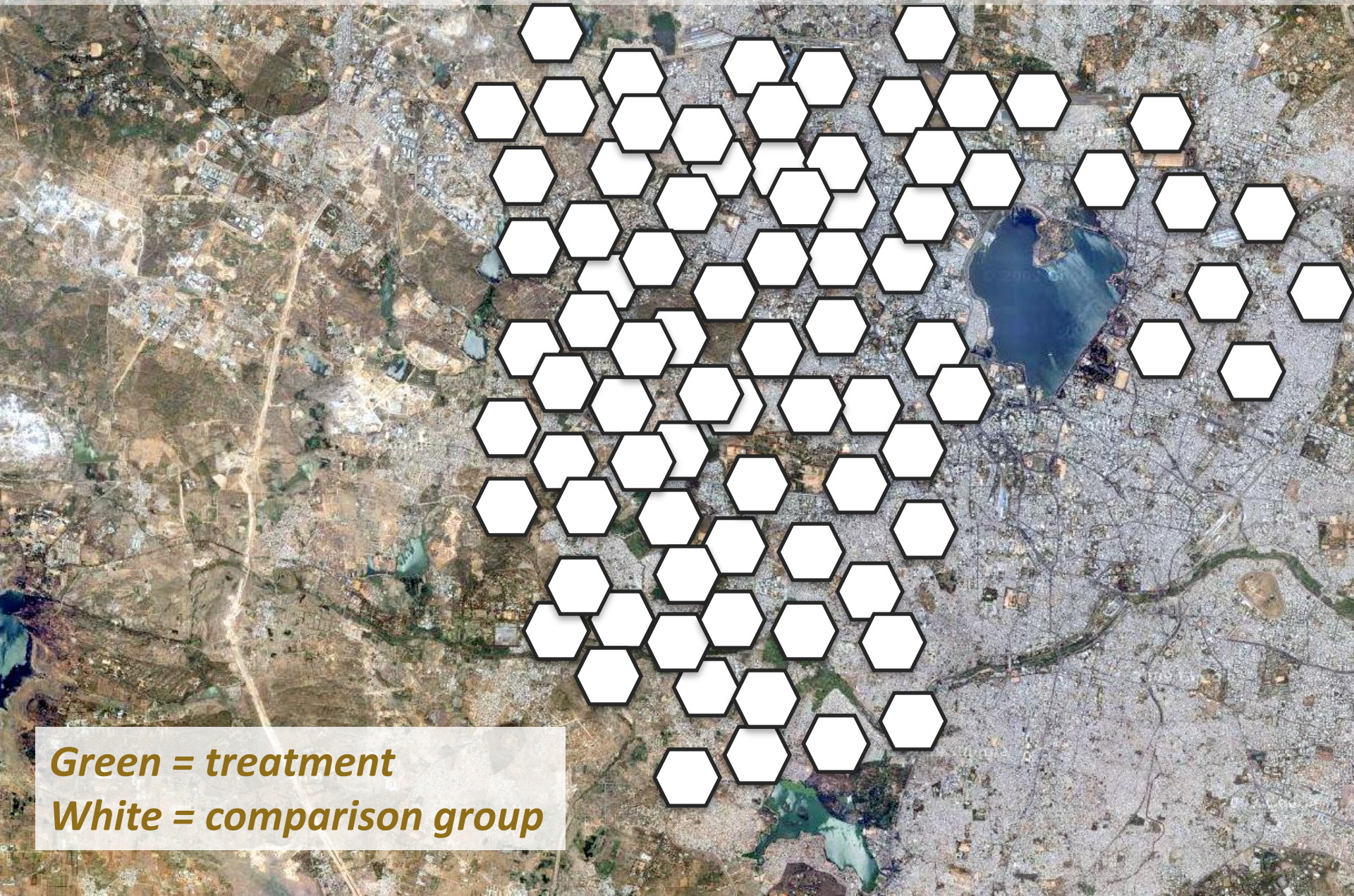


One Method to Measure Causal Effects: Randomized Experiments

- Similar to medical trials: Instead of evaluating pills, we evaluate projects/programs/policies
- Also called randomized controlled trials (RCTs) or A/B testing
- E.g. effect of a training

Randomized assignment allows to draw causal conclusions



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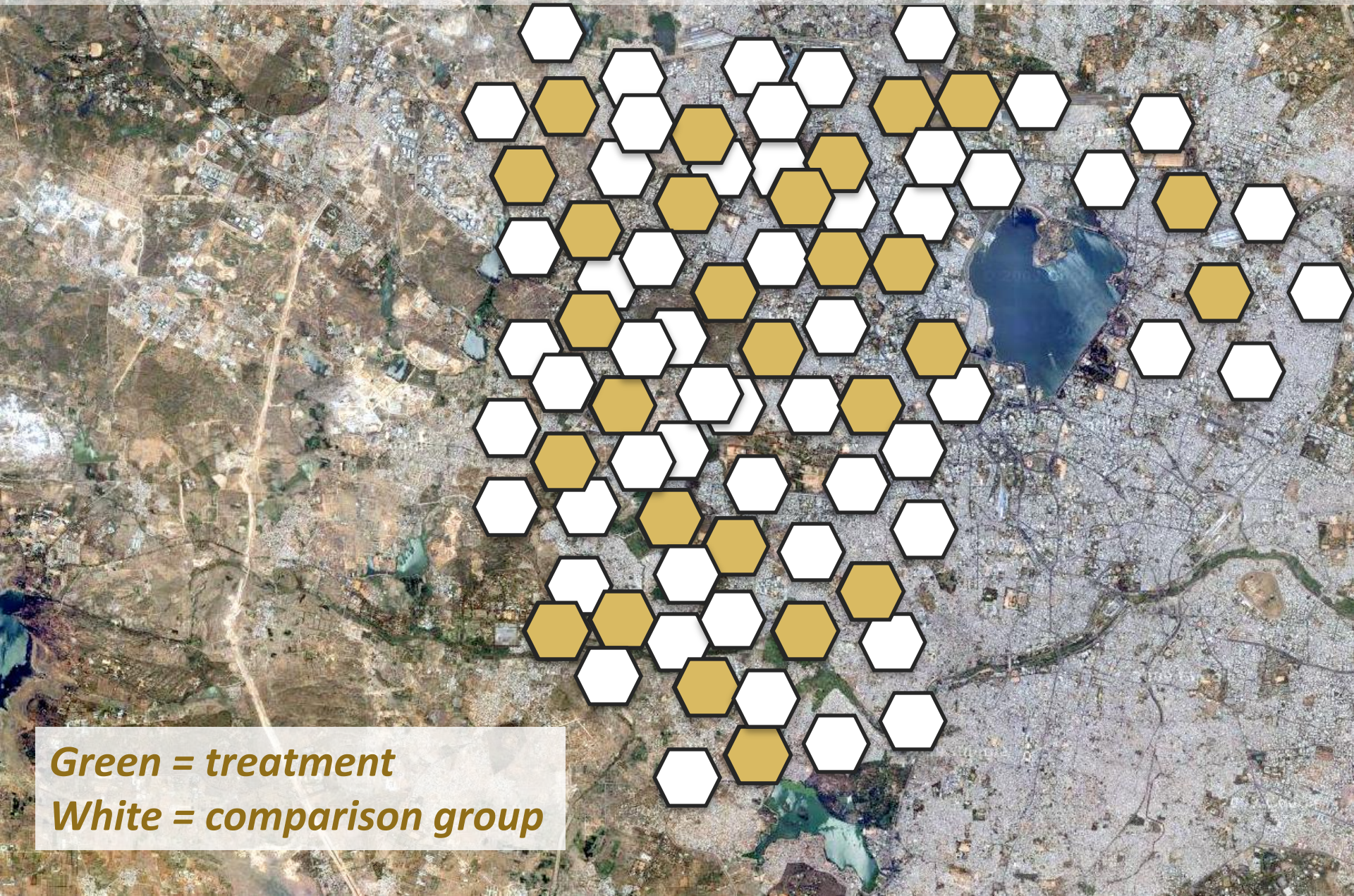


Benefits of Randomized Experiments

Clear causal effect

→ Reduces risk of

- Self-selection
  - E.g. people who see advertisment are interested in product
- Ex-post subjective impression of improvement

Randomized Experiments & Big Data

- Randomized experiments combine well with big data

- When many information is available, we can use existing data
    - to select the people included in the experiment
    - to measure the impacts.

→ Experiments become easier and cheaper

A Few Examples from My Work

1) "Digital Peer Groups" to Help People Save

Context:

- Poverty is often characterized by
  - highly variable income and expenditures → lots of risk
  - lack of insurance services

→ We studied in Chile how people can use savings to self insure against economic fluctuations

→ We found that when people meet in peer groups to motivate each other to save, they save twice as much

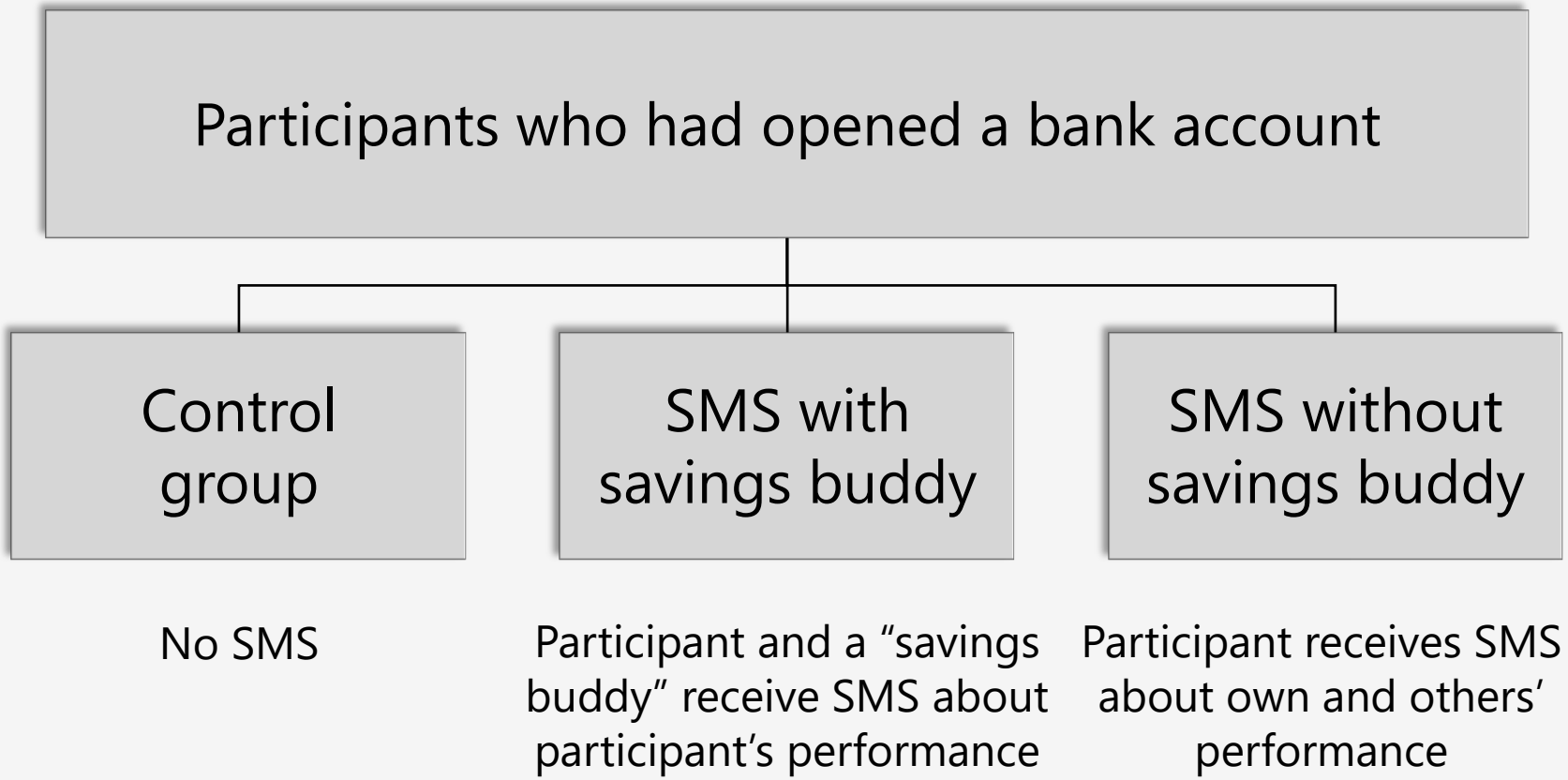
Self-help Peer Groups for Savings

- Option to publicly announce savings goal
- In each meeting verify whether goal was reached
- Symbolic recognition for those who meet the goals

“Digitalized Peer Groups” via Text Messages

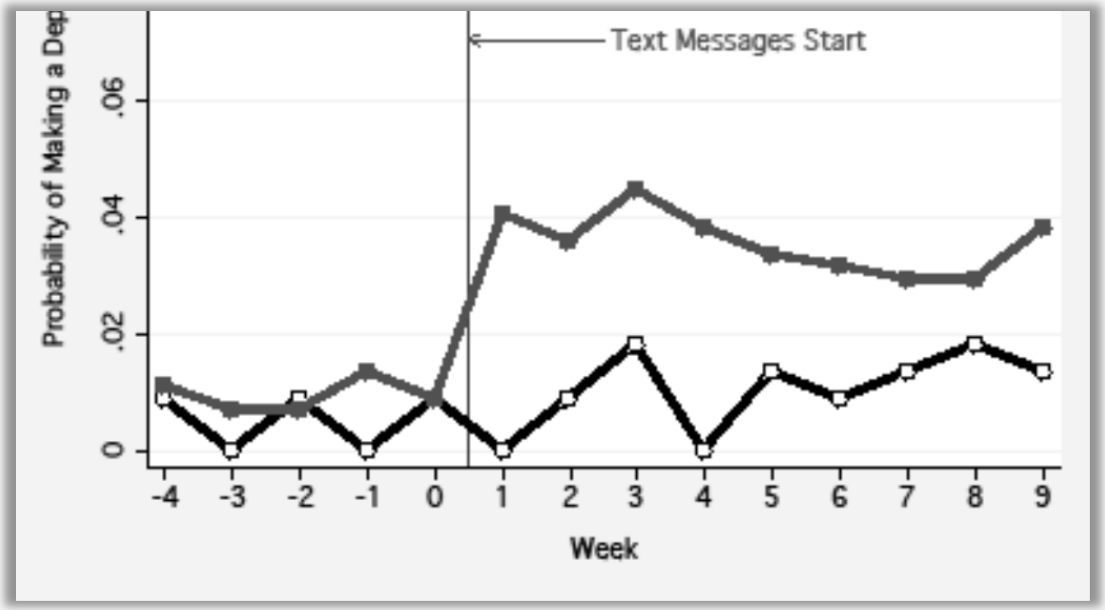
- Given the strong impact of self-help peer groups on savings
  - Can we find a more scalable delivery service of this mechanism?
  - Can we find out whether peer pressure is needed to help people save, or whether regular follow-up is sufficient?

Text Message Study: Weekly SMS



Results

- SMS had almost as strong an impact as peer group meetings



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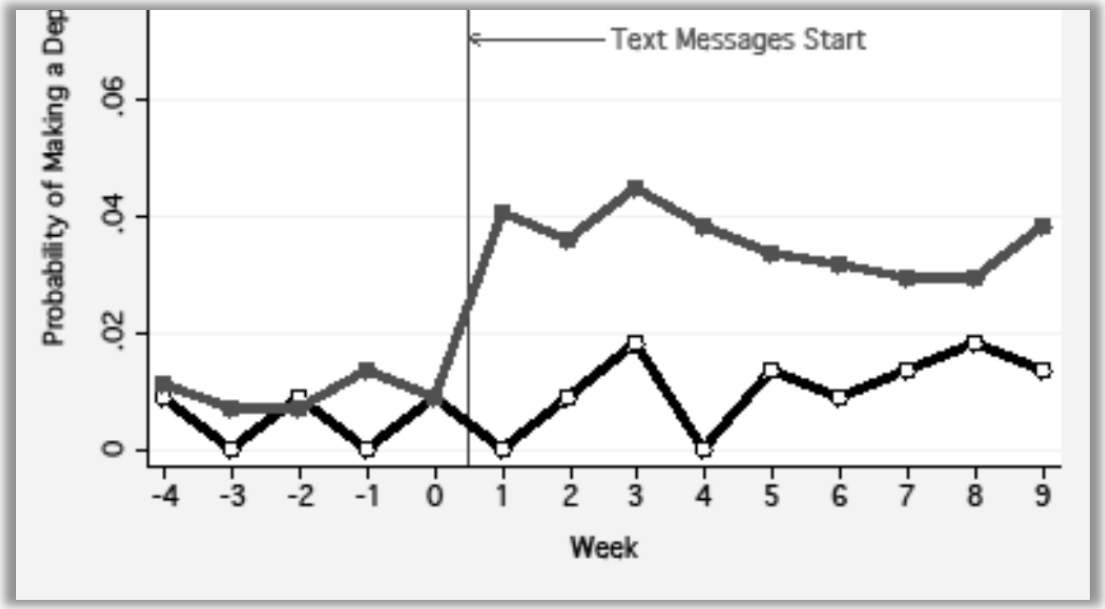

- Message with savings buddy had no larger effect
  - → Neither physical meetings nor peer pressure needed
  - → Regular follow up seems key

Topic 2: Taxation

Taxation: Who Cares?

- Amid all the pressing needs related to poverty, urgency in undernourishment, education, healthcare or safety, why worry about taxes?

Taxation? We Should Care

- To execute its various roles, the state needs to collect taxes
  → No state can exist in the long run without effective taxation

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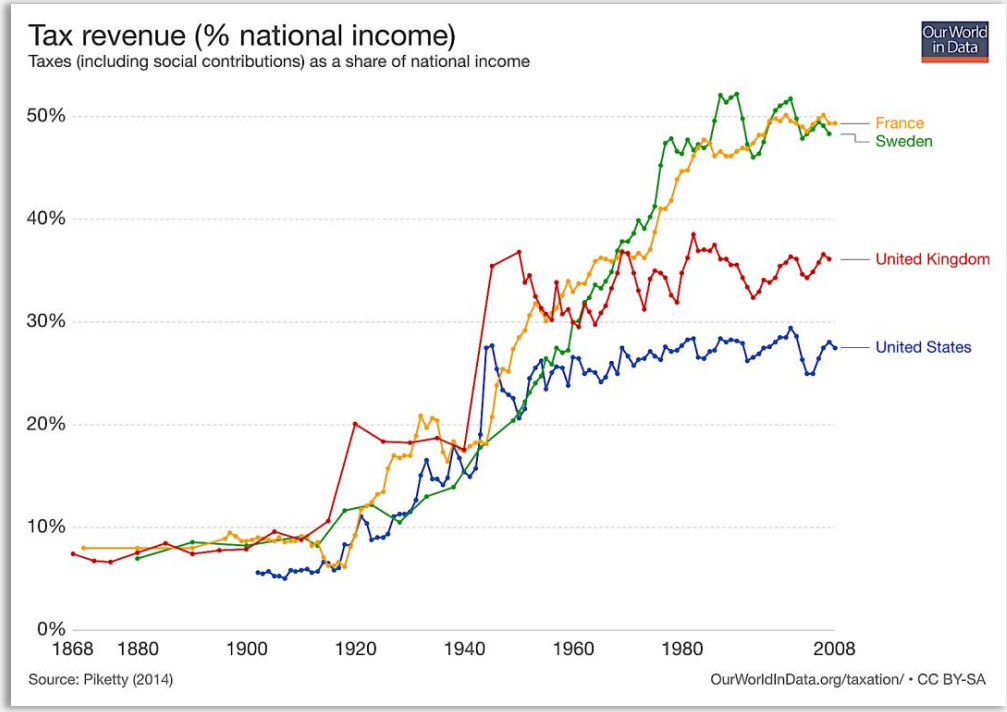
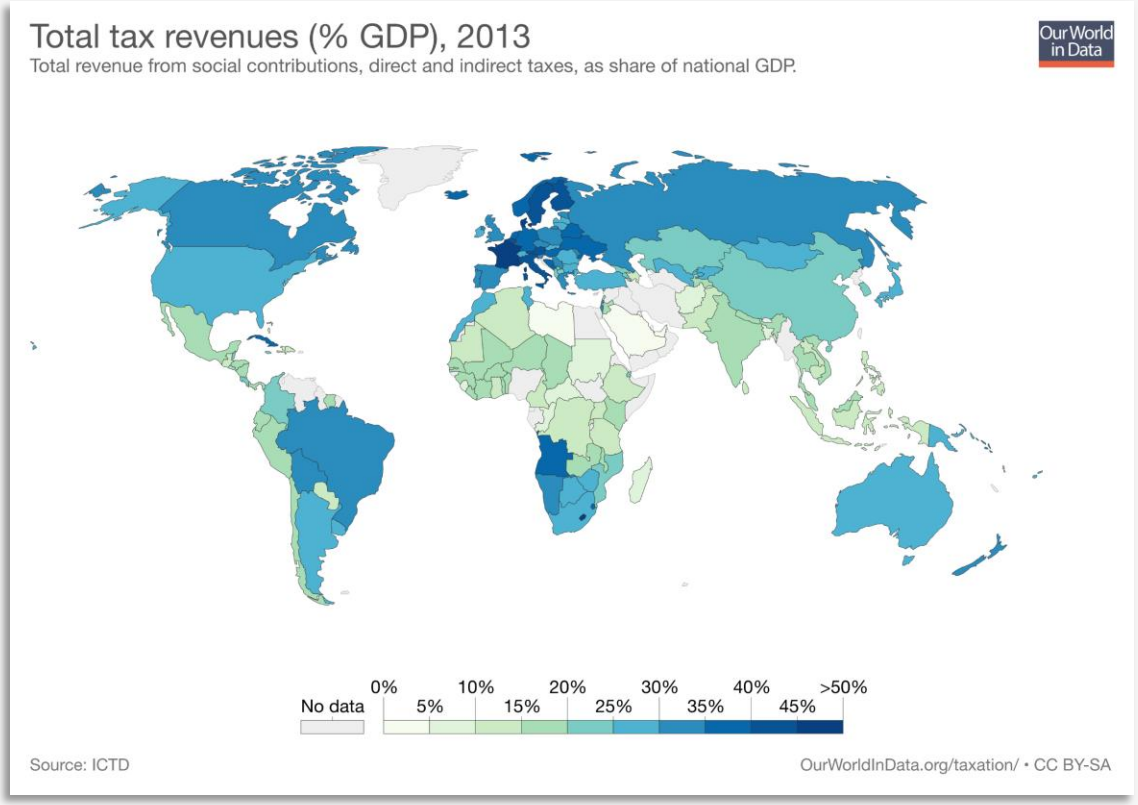
- Today's rich countries acquired this capacity over the last century



Low-income countries tend to collect less tax

- Many countries strive to increase tax collection
- Harder in lower income countries, where large share of activities is informal without a paper trail



Experiments with Tax Authorities

- Ongoing collaborations with tax authorities in Chile, Ecuador, Kenya

- Example from Chile
  - Letters with different messages (deterrence, motivation, audits)
    - to over 100,000 firms randomly selected firms

Learnings

- The experimental designs allowed the government to learn
  - what type of letter messages was most impactful
  - what type of tax payers respond most
  - whether the Value Added Tax facilitates tax collection
  - how enforcement multiplies from one firm to another
  - where to best target their audits

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- More general learning: forms of taxation that leave a stronger paper trail have advantage over other forms of taxation
  - E.g. VAT vs sales tax
  - E.g. digitalization

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- Experiments play a growing role in both private corporations and public entities
  - Allow learning detailed lessons about what works and why in the organization
- Complementary with machine learning and big data
  - Machine learning most effective to make predictions & detailed descriptions
    - E.g. what type of client is most likely to default on loans
  - Experiments most effective to understand impacts
    - E.g. what program can help clients not to default
- Exciting new developments for both practitioners and academics!

Thank you!