

# Using RCTs to Identify the Optimal Design for Your Product

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# Innovations for Poverty Action (IPA)



**IPA was created in 2002 to discover and promote effective solutions to global poverty problems.**

**Innovate**

Work with partners  
to generate new  
ideas

**Evaluate**

Identify what  
works and what  
doesn't using  
randomized  
controlled trials  
(RCTs)

**Replicate**

Repeat experiments  
to take results from  
promising to  
proven

**Communicate**

Communicate policy  
results to help  
practitioners and  
policymakers pick  
the most effective  
products and  
programs

**Scale**

Help scale up  
effective programs

## **Financial Inclusion Program (FIP)**

- Team within IPA that focuses on issues of financial inclusion
- Supported primarily by Citi Foundation, Bill & Melinda Gates Foundation

# Example Case: A Large MNO



## Background on the Firm

- Large for-profit mobile network operator
- Has 1 million customers regionally
- Offers voice, data, and mobile money services
- Mobile money services include over-the-counter transactions and savings accounts

# Example Case: A Large MNO



## Market Research Reveals...

- There is market demand for an account designed for savings
- Current customers tend to use mobile money product to deposit, but tend to withdraw almost immediately
- For some reason, current product is not meeting savings need

# Example Case: A Large MNO



Why aren't customers using existing mobile savings accounts to save?

- They forget – they have a lot on their minds
- Want to, but they (or their family / friends) end up needing the money sooner
- Hard to save when it's not for something specific
- Don't know that they should
- Lack information about the product

# Example Case: A Large MNO



Some innovations (or “interventions”) have worked in the past...

Remind people to save with SMS messages

Restrict withdrawal from the savings account until a particular date

Label the savings account with the eventual purpose

Inform them about the importance of saving

Provide information about the product

# Example Case: A Large MNO



## How to proceed?

- Which innovation or combination of innovations will work best in this MNO's context?
- Implementing them all among all customers will be too expensive – what is the least resource-intensive option that still effectively allows customers to save?

**We can use an RCT to determine which product innovation works best.**

# Step 1: Narrow Options



## Step 1

Narrow down the intervention options by thinking about which is most likely to work in this context.

Collecting data helps!



# Step 1: Narrow Options



Decided to test the impact of adding a commitment device to the existing mobile savings product to help people save.

# Step 2: Determine Theoretical Viability



## Step 2

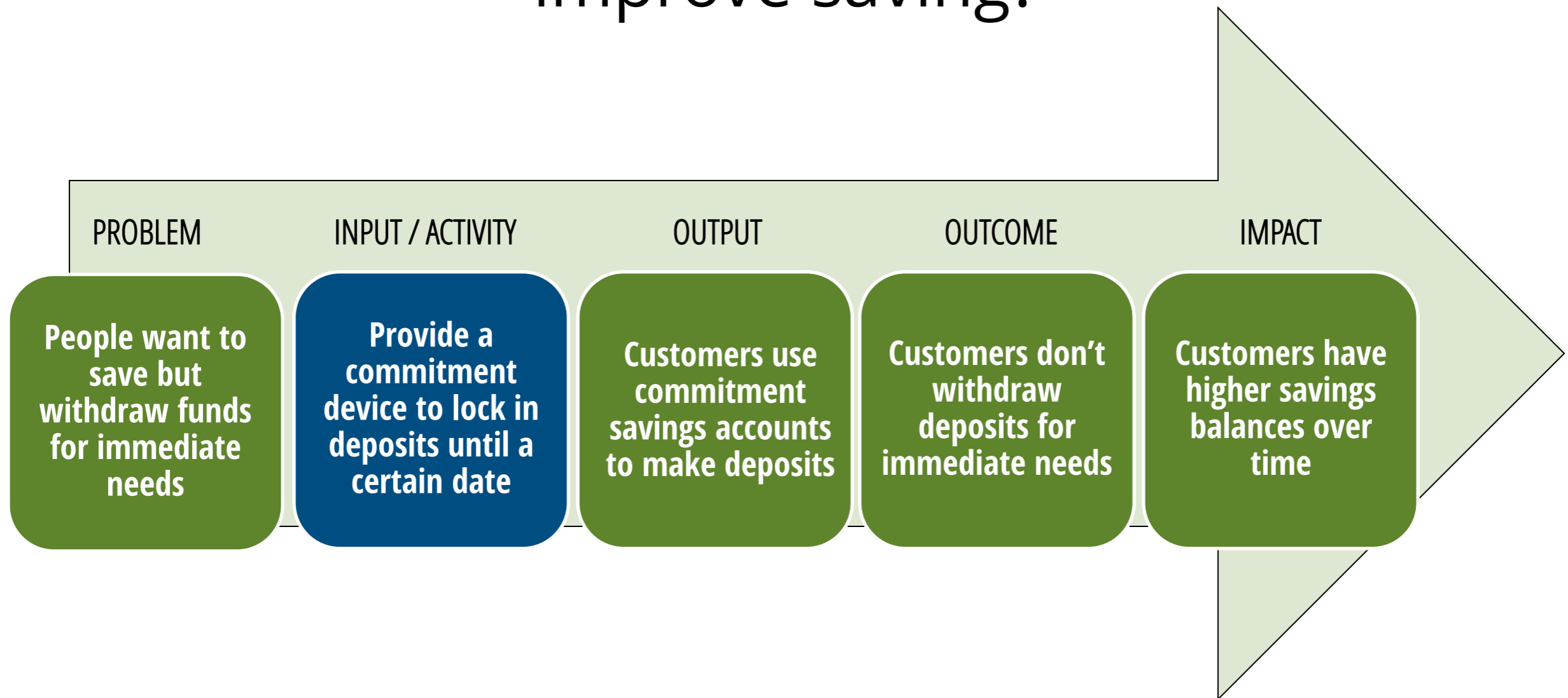
Determine whether the intervention options can work in theory: break them each down into the series of logical steps that must occur if the intervention is to be effective (the “theory of change”).

If something won't work even in theory, we need to rethink our choices.

# Step 2: Determine Theoretical Viability



In theory, how might a commitment device improve saving?



# Step 3: Design the RCT



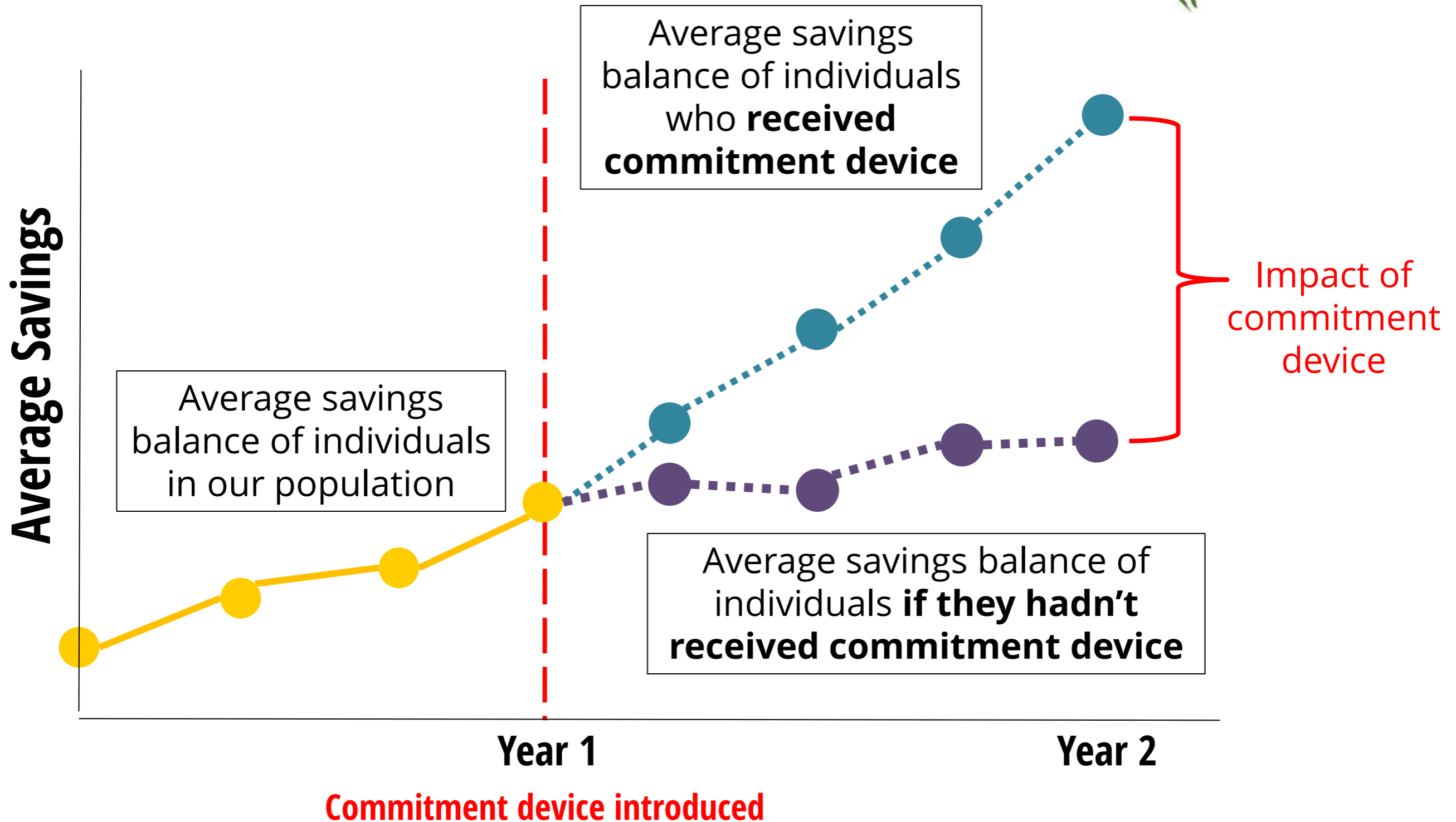
## Step 3

Design your RCT.

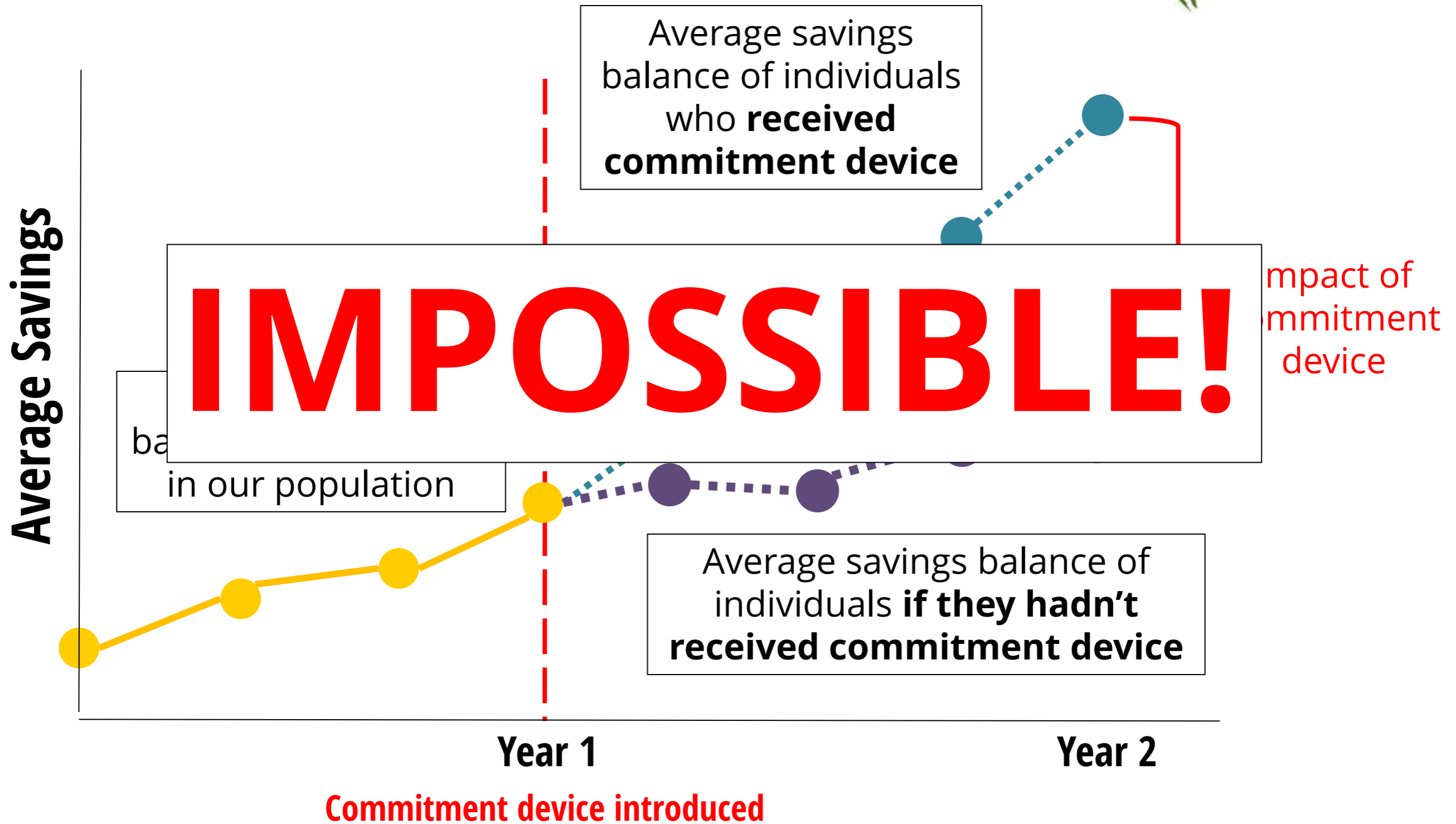
The randomized controlled trial is the gold standard of impact evaluation because it will give you the least biased results.

**What makes it the gold standard?**

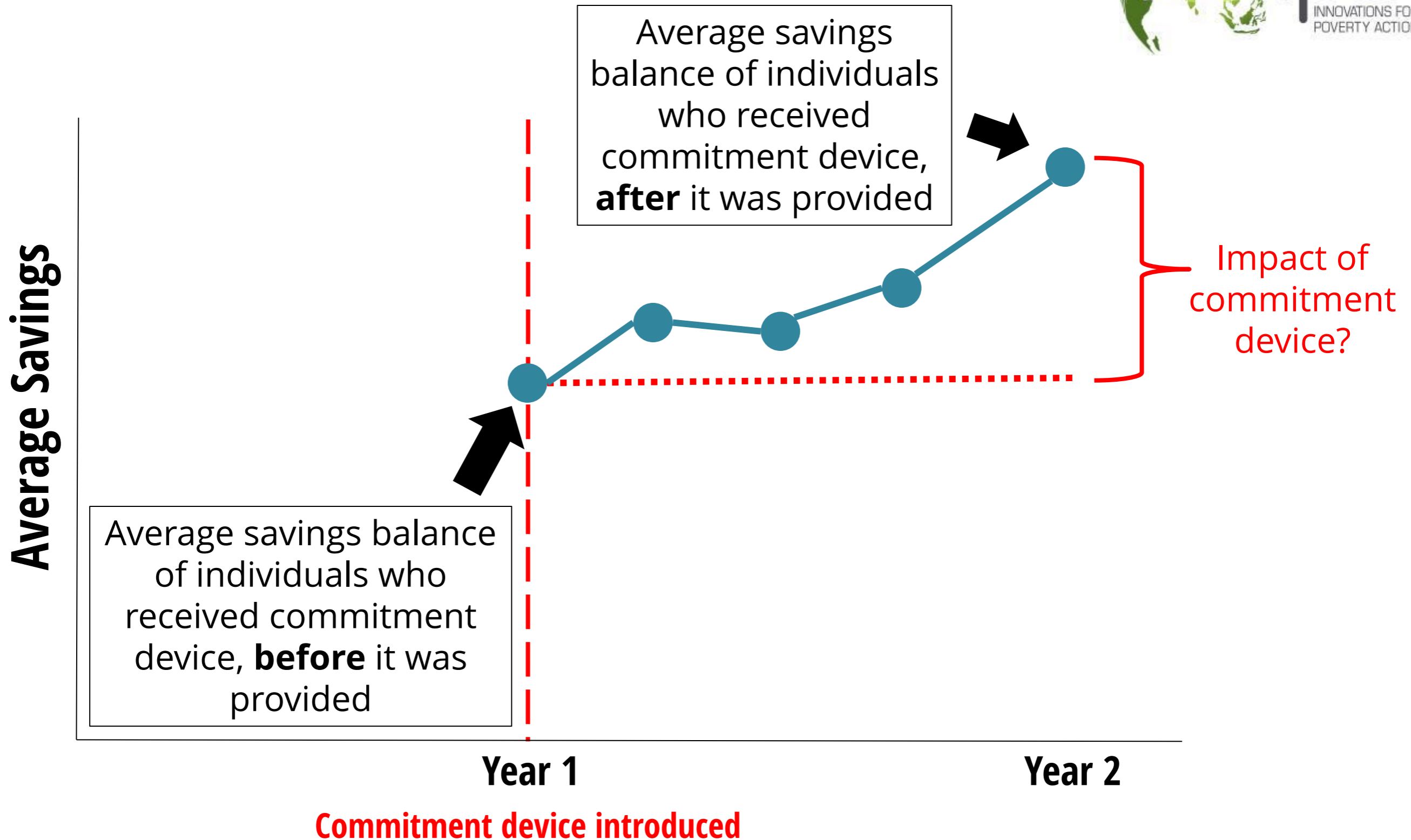
# What is impact?



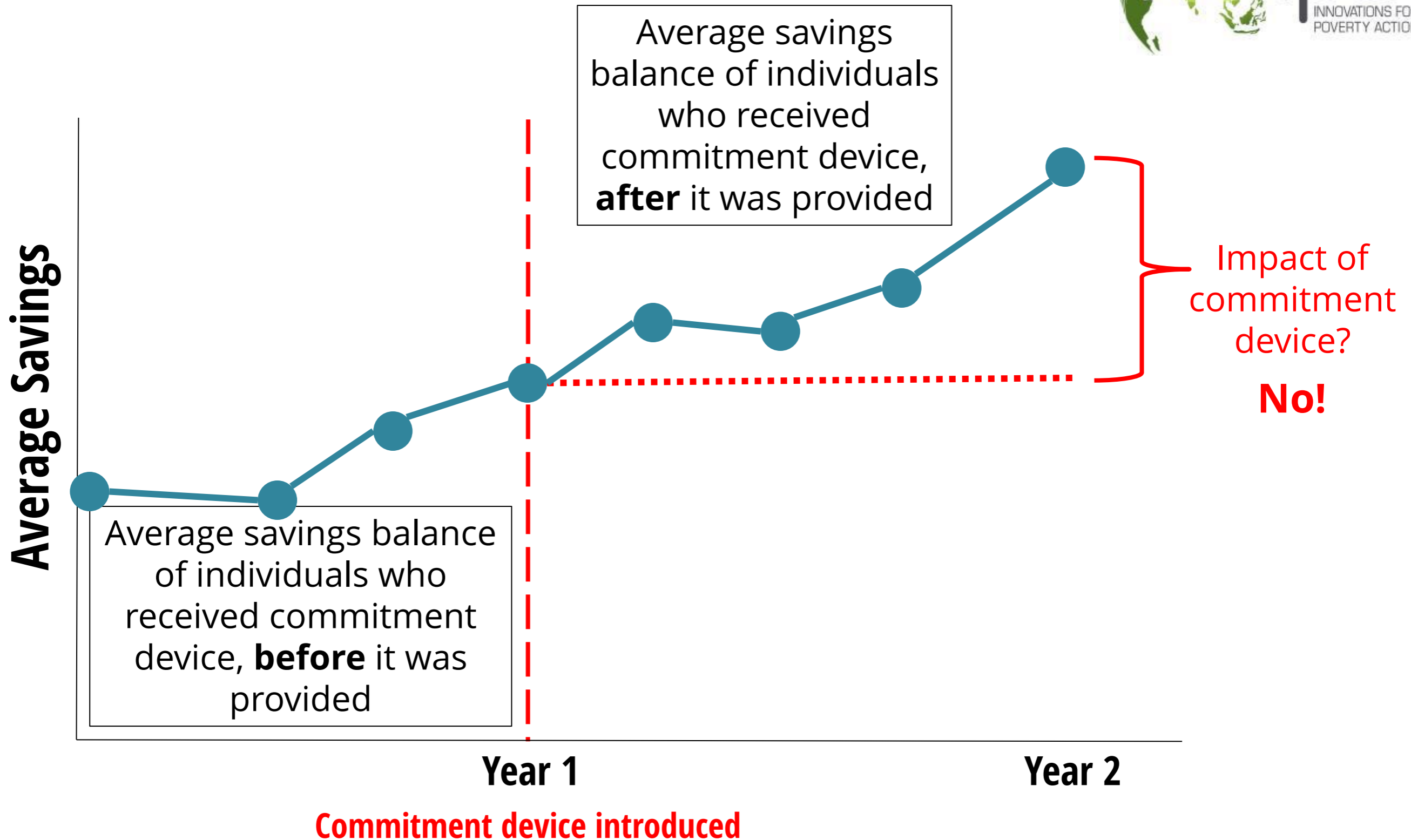
# What is impact?



# Before vs. After?

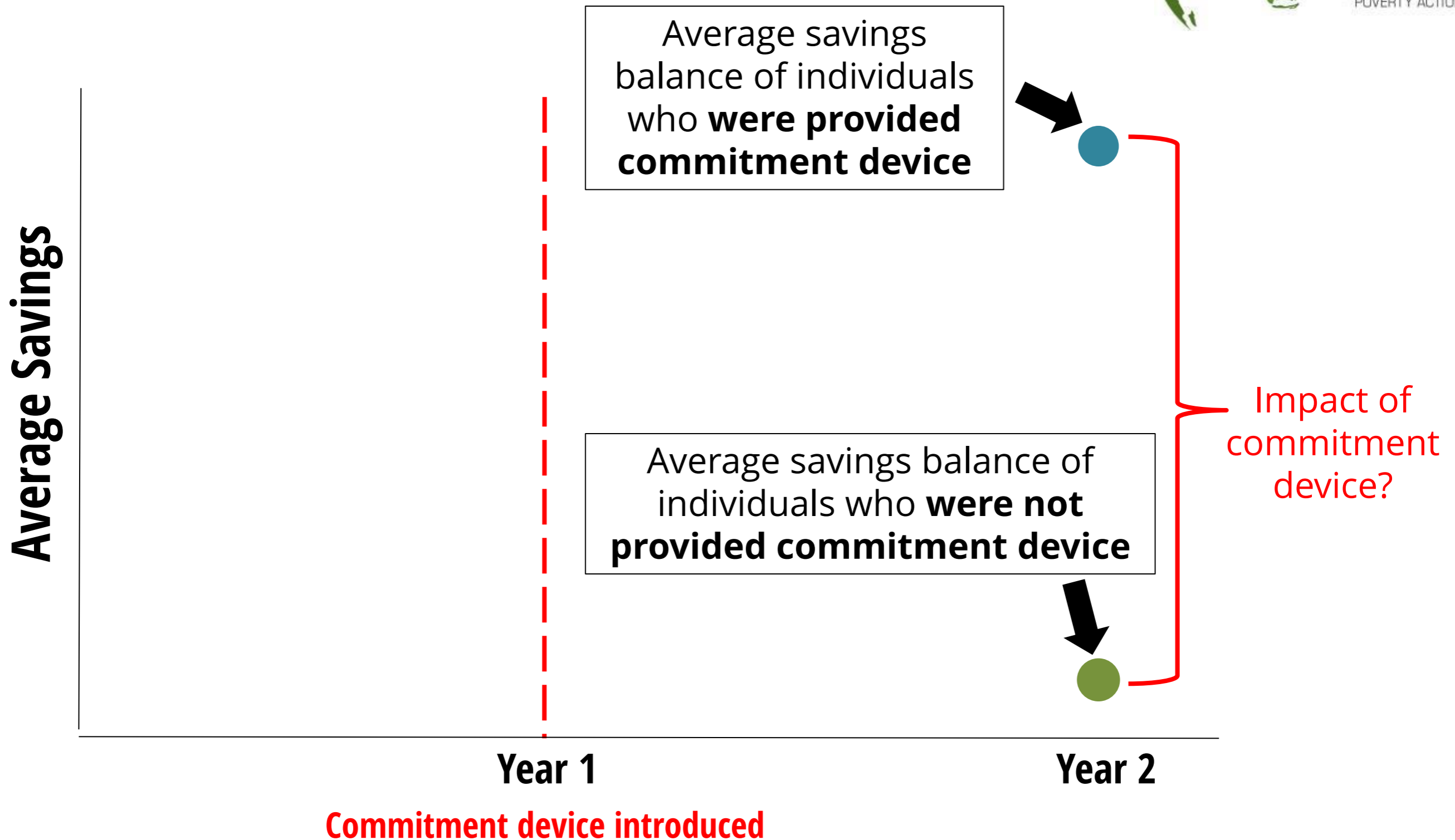


# Before vs. After?

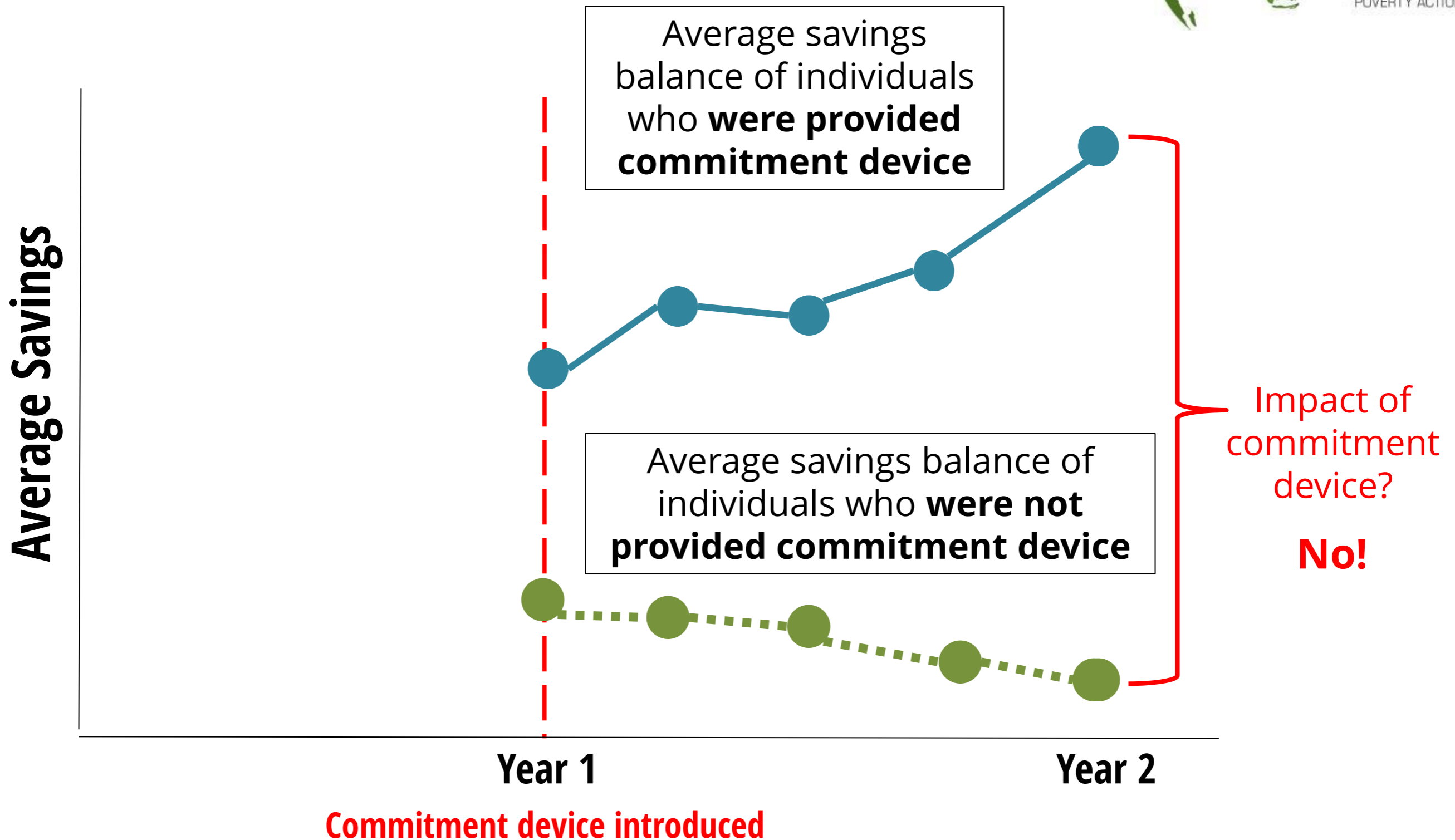




# Participants vs. Non-Participants?



# Participants vs. Non-Participants?



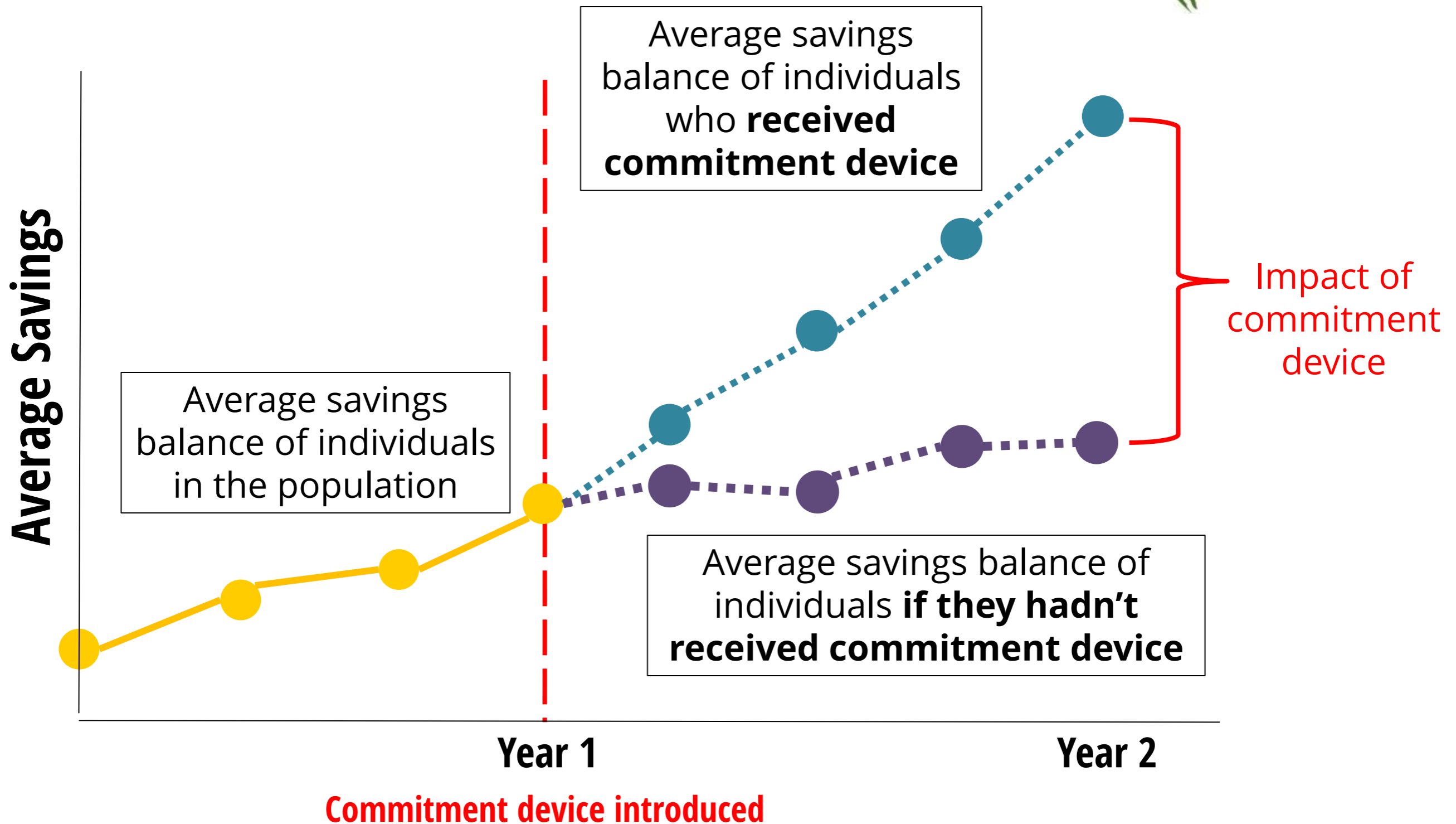
# The Answer: Randomization



- **Randomly** assign people to receive the intervention (**TREATMENT**) and not receive intervention (**CONTROL**)
- In large enough sample, **TREATMENT** and **CONTROL** are **statistically identical** before program starts
- Difference between **TREATMENT** and **CONTROL** after program is implemented gives us the **impact** of program

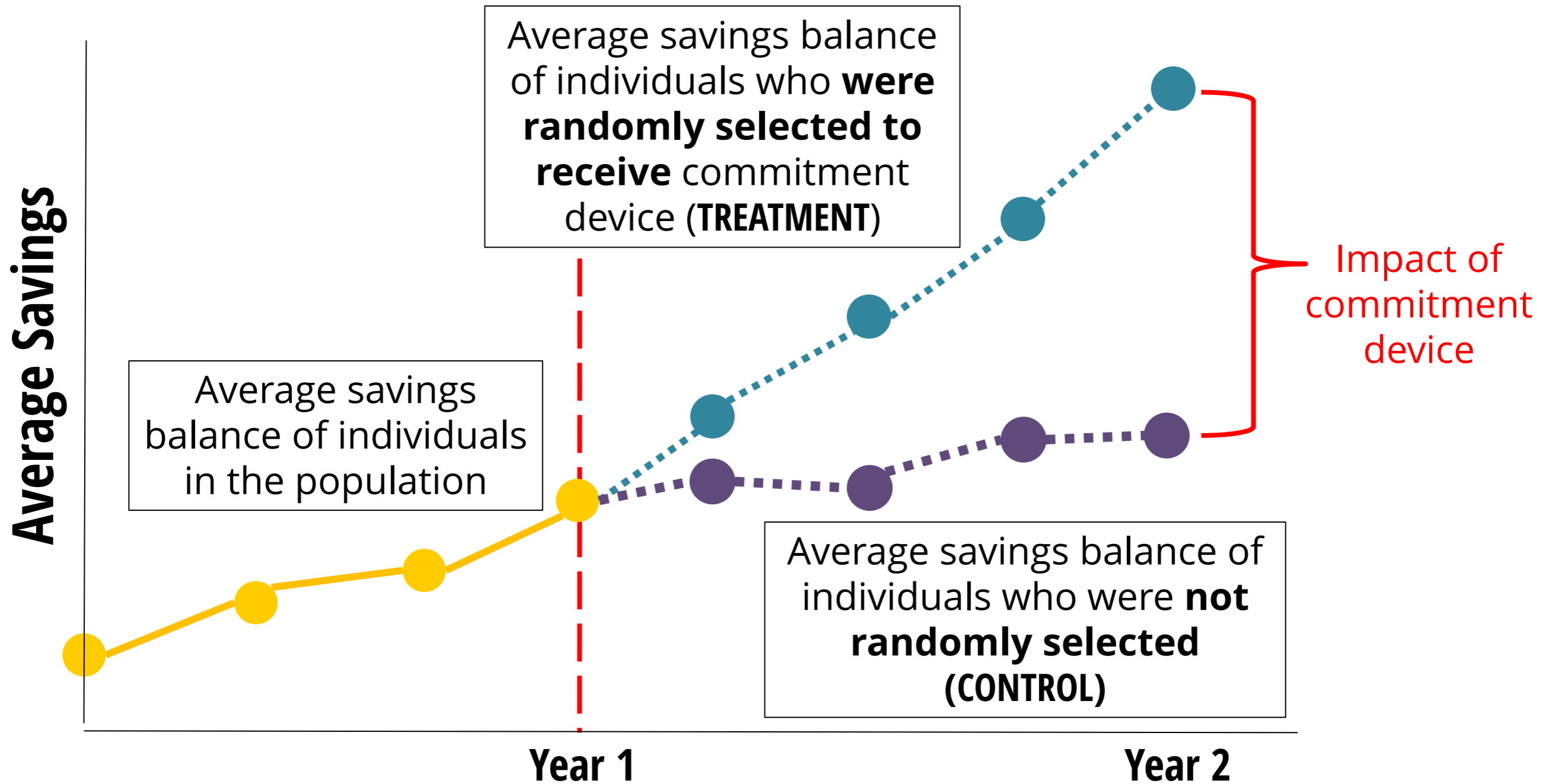


# Recall the Ideal World



# Randomized Evaluation

or a Randomized Controlled Trial (RCT)



Commitment device introduced to randomly-selected individuals

# Back to our MNO...



Let's see how this technique allows our MNO to determine the impact of the intervention on savings balances.

# Step 3: Design the RCT



## Decided to:

- Test the commitment device added to current mobile savings account
- Use administrative data to measure changes in savings behavior
  - Savings balances
  - Frequency of withdrawals / deposits

# RCT Design



MNO Customers

Existing mobile savings account

**CONTROL**

Existing mobile savings account with commitment device added

**TREATMENT**



# Activity: Designing an RCT



- 1) Introduce yourself and your organization.
- 2) As a group, focus on one problem that is facing one of your organizations.
- 3) Identify 1-2 changes you could make to an existing product that might solve the problem.
- 4) What is the impact you hope to achieve with the change(s)?
- 5) BONUS: What data should you collect to measure the impact?

# RCT Design in Actuality



## MNO Customers

Existing mobile savings account

Existing mobile savings account with commitment device added

No account

SMS reminders

No SMS reminders

SMS reminders

No SMS reminders

SMS reminders

No SMS reminders

# Results



Check our website next month!

<http://www.poverty-action.org/study/high-hopes-saving-high-school-with-mobile-money-lock-box>

# Key Takeaways



- Existing evidence from previous randomized evaluations can help you design your intervention.
- When measuring impact of an intervention, a randomized evaluation is the gold standard.
- An RCT can allow you to test variations of your product to determine which design is best.
- Administrative data can be a low-cost way to conduct an RCT.
- RCTs aren't appropriate for use in every situation, but they are a useful tool to have in your evaluation toolkit.

# Is an RCT right for me?



- Is it an appropriate time (not too soon in product development and not too late in rollout) for me to test my intervention?
- Am I willing to leave the intervention unchanged over the timeline of the study?
- Will the intervention differ significantly from how it will be when fully rolled out?
- Can I commit my time or my staff's time to running the evaluation, or to working with an evaluation firm?
- Am I willing to share administrative data, or have data collected about the people I serve?
- Does my organization have the capacity to serve enough people to produce a large enough sample for the study?

# Questions?

# Helpful Resources on RCTs



- IPA's Website: [www.poverty-action.org](http://www.poverty-action.org)
- Two upcoming webinars on November 5<sup>th</sup>  
(<http://www.poverty-action.org/program-area/financial-inclusion/events>)
  - Better Decision-Making with Randomized Controlled Trials
  - Evidence Showcase on Innovations in Financial Inclusion
- Further reading on randomized evaluations by J-PAL (IPA's sister organization):  
<http://www.povertyactionlab.org/methodology>
- Evaluating Social Programs edX course (JPAL101x) by J-PAL:  
<https://www.edx.org>
- Work with us: [financialinclusion@poverty-action.org](mailto:financialinclusion@poverty-action.org)