

# Replicating Triyana (2016)

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Step 0: choosing a topic

Step 1: defining the question  
Experiment

Step 2: data

Step 3: OLS

Step 4: IV

## Section 1

Step 0: choosing a topic

Step 0: ?

## Section 2

Step 1: defining the question

## Step 1

We've chosen a (vague) topic: effect of conditional cash transfers on health outcomes and healthcare supply. What should we do before we look at any data or even gather data?

- ▶ Conditional cash transfer = receive cash if you do something (in this case obtain a certain level of pre and post natal healthcare)

## Step 1

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- ▶ Conditional cash transfer = receive cash if you do something (in this case obtain a certain level of pre and post natal healthcare)

Most important: clearly state the research question.

# Define the question

- ▶ Question(s):
  1. What is the effect of conditional cash transfers on infant health?
  2. What is the effect of conditional cash transfers on health care supply?



## Define the question

- ▶ Question(s):
  1. What is the effect of conditional cash transfers on infant health?
  2. What is the effect of conditional cash transfers on health care supply?
- ▶ 1 original intention of experiment, evaluated in Alatas et al. (2011), “Program Keluarga Harapan : impact evaluation of Indonesia’s Pilot Household Conditional Cash Transfer Program”
- ▶ 2 focus of Triyana (2016) “Do Health Care Providers Respond to Demand-Side Incentives? Evidence from Indonesia”
- ▶ We will start with 1, maybe get to 2 if we have time

## Experimental design

- ▶ Conditional cash transfer: receive cash if
    - ▶ Expectant women: 4 prenatal visits, iron supplement, delivery by doctor or midwife, 2 postnatal visits
    - ▶ Children under 5: weighed monthly, vaccinated, vitamin A
- Quarterly transfer of 600,000-2,200,000 rupiah (\$60 - \$220) depending on household composition (15-20% of quarterly consumption)

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  - ▶ District
- ▶ Randomized at subdistrict level : want to capture supply side effects that would occur if policy implemented everywhere

## Section 3

Step 2: data

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What data do we need?

## Data summary

- ▶ Household survey:
  - ▶ 3 waves, wave 1 before experiment in 2007
  - ▶ Baseline household characteristics: edu, age, spending per capita, land ownership, home ownership
  - ▶ Infant health outcomes : death, birthweight
  - ▶ Health care utilization : whether birth attended by doctor, midwife, or traditional ; delivery fees ; natal health care quality index (bid\_pkh1)
  - ▶ Treatment status : whether assigned to control or treatment group (control\_pkh), whether received CCT (pkh\_ever), whether subdistrict was eligible for CCT (pkh\_kec\_ever)
  - ▶ Baseline, subdistrict averages of variables (end with \_base or \_kec)
- ▶ Midwife survey, village and subdistrict health center survey for information about health care supply

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Which if any of these tables and figures should we include in our table and/or presentation?

## Section 4

### Step 3: OLS

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Let's use OLS to examine the relationship between infant health and conditional cash transfers. How should we specify the regression(s)? What is the dependent variable(s)? What is the regressor of interest? What controls should we include? Should we use the log of any of the variables?

## Step 3: OLS - interpretation

How can we interpret the OLS estimates? Does the coefficient of interest have the expected sign? Is it small or large?

Do we think OLS answers our question? What variables might be omitted? What is the likely sign of the bias?

## Step 3: OLS - inference

How should we calculate standard errors? What hypothesis(es) should we test?

Section 5

Step 4: IV

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We have a randomized experiment. Is there any need for an instrument?

- ▶ Yes, if we want to estimate the effect of someone receiving the conditional cash transfer
- ▶ No, if we want to estimate the effect of offering the conditional cash transfer

## Step 4: 2SLS - specification

How should we specify the 2SLS estimator? What is the dependent variable(s)? What is the endogenous regressor of interest? What is the instrument? What controls should we include?

What is the first stage? What is the reduced form? What should we check in these regressions?

## Step 4: 2SLS - interpretation and inference

How can we interpret the estimates? Does the coefficient of interest have the expected sign? Is it small or large?

How should we calculate standard errors? What hypothesis(es) should we test?

## Step 4: 2SLS - threats to validity

Why might being offered the conditional cash transfer be a valid instrument? Is there anything we can check to reassure us that the instrument is exogenous?

## Step 5: further results

Assuming we have correctly estimated the effect of conditional cash transfers on infant health, what could we do with our estimate? What is a relevant policy question? What else do we need to know to answer that question?

# Code

- ▶ Code

## References

- Alatas, Vivi, Nur Cahyadi, Elisabeth Ekasari, Sarah Harmoun, Budi Hidayat, Edgar Janz, Jon Jellema, H Tuhiman, and M Wai-Poi. 2011. "Main findings from the impact evaluation of indonesia's pilot household conditional cash transfer program." Tech. rep., World Bank. URL <http://documents.worldbank.org/curated/en/589171468266179965/Program-Keluarga-Harapan-impact-evaluation-of-Indonesias>
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