RISE PROGRAMME IN INDONESIA

# Making public schools less selective: implications for equity and learning in Indonesia

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# Starting point

- How to allocate scarce resources, promote equity in a dynamic system?
- What are the impacts of a policy that expands access to selective schools on students across the learning distribution?

# Public junior secondary schools in Indonesia are oversubscribed and selective

**Public schools**

- Capacity for 50-60% of students in large districts
- Usually politically impossible to expand capacity
- Admissions based on 6th grade leaving exam (UASDA)
- Higher quality, eg value-added in Yogyakarta was ~0.3 SD higher in math, 0.4 SD higher in Indonesian

**Private schools**

- Less preferred
- Not free but subsidized (through vouchers) for qualifying students

# Yogyakarta has 16 public and 41 private schools

Public schools

Private schools

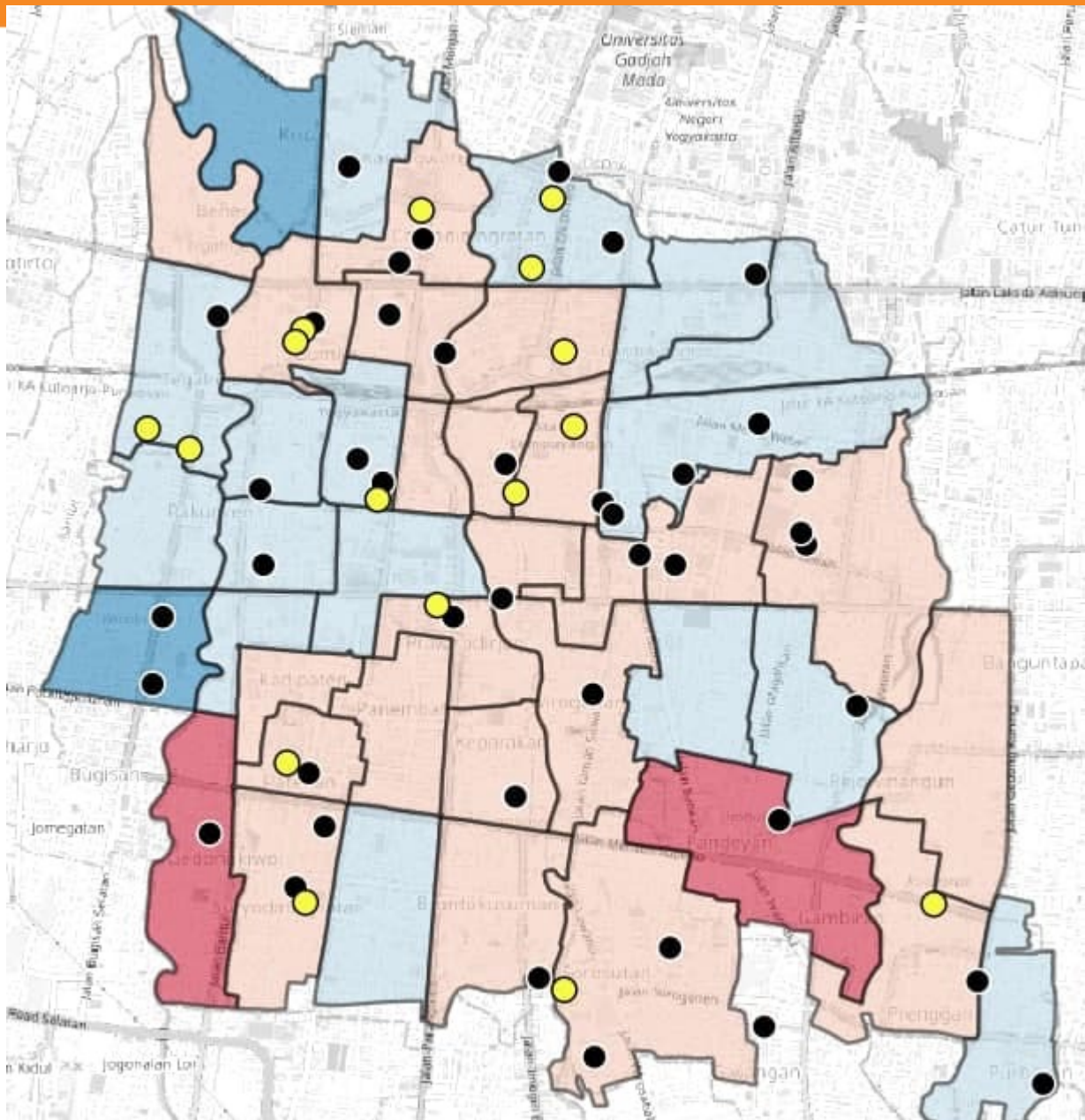
% of students with below median math UASDA

0-25%

26-50%

51-75%

76-100%




**High performing:** 13 of Yogyakarta public junior high schools were in the top 100-scoring schools on the gr9 leaving exam in Indonesia in 2019

# With the goal of expanding access, Yogyakarta changed its admissions policy for junior secondary schools

| Share of seats allocated based on: | PRE-ZONING | ZONING 1 | ZONING 2 |
|---|---|---|---|
| **UASDA score** (Yogyakarta residents) | 55 | 15 | 40 |
| **UASDA score** (non-Yogyakarta residents) | 20 | 5 | 5 |
| **Poverty status** (UASDA rank) | 25 | 0 | 10 |
| **Proximity to school** (Yogyakarta residents) | 0 | 75 | 30 |
| "**Special talents**" (UASDA rank) | 0 | 0 | 10 |
| **Relocation** (UASDA rank) | 0 | 5 | 5 |

**May 2018** **May 2019**

# We use testing data for 3 cohorts of students

| 18 months | UASDA (gr 6) | SLA (gr 7) | SLA (gr 8) |
|---|---|---|---|
| PRE-ZONING | 2017 | | 2019 |
| ZONING 1 | 2018 | 2019 | 2020 |
| ZONING 2 | 2019 | 2020 | 6 months |

**We tested students in**

- all 16 public schools
- 30 (out of 41) private schools (89% of all students)

**Administrative and survey data**

- Residence locations for ~2/3 of the sample
- Student, teacher, and principal questionnaires

# We estimate the effect for all students and by UASDA quintile

| Percent of students in public school by quintile | PRE-ZONING | ZONING 1 | DIFFERENCE |
|---|---|---|---|
| **Quintile 5** (highest) | 91 | 81 | -10 |
| **Quintile 4** | 86 | 73 | -13 |
| **Quintile 3** | 73 | 69 | -4 |
| **Quintile 2** | 49 | 66 | +17 |
| **Quintile 1** (lowest) | 17 | 65 | **+48** |

| | Public | | | Private | | |
|---|---|---|---|---|---|---|
| | PZ | Z1 | Diff | PZ | Z1 | Diff |
| Standardized UASDA | 0.49 | 0.09 | -0.40*** | -0.73 | -0.19 | 0.54*** |

# We predict SLA scores under constant SVA

We estimate model for student *i* in the pre-zoning cohort

$$Y_i^2 = \alpha_1 Y_i^1 + \alpha_2 X_i + \gamma_s + \varepsilon_i$$

$Y^2$ is the grade 8 or grade 7 math or Indonesian SLA score

$Y^1$ is the standardized UASDA score in the relevant subject

$X$ is a vector of control variables for gender, an asset index, an indicator for whether the mother completed tertiary education and neighborhood

$\gamma_s$ are school indicators that capture the average school value-added in the baseline cohort

Simulate grade 9 SLA scores for the zoning cohort, taking a draw from pre-zoning error distribution

# We produce simulated and actual impact estimates

$$Y_i^2 = \beta_0 + \beta_1 Z_i + \beta_2 Y_i^1 + \beta_3 X_i + \varepsilon_i$$

$Y_i^2$ **is actual grade 8 test score or predicted score**

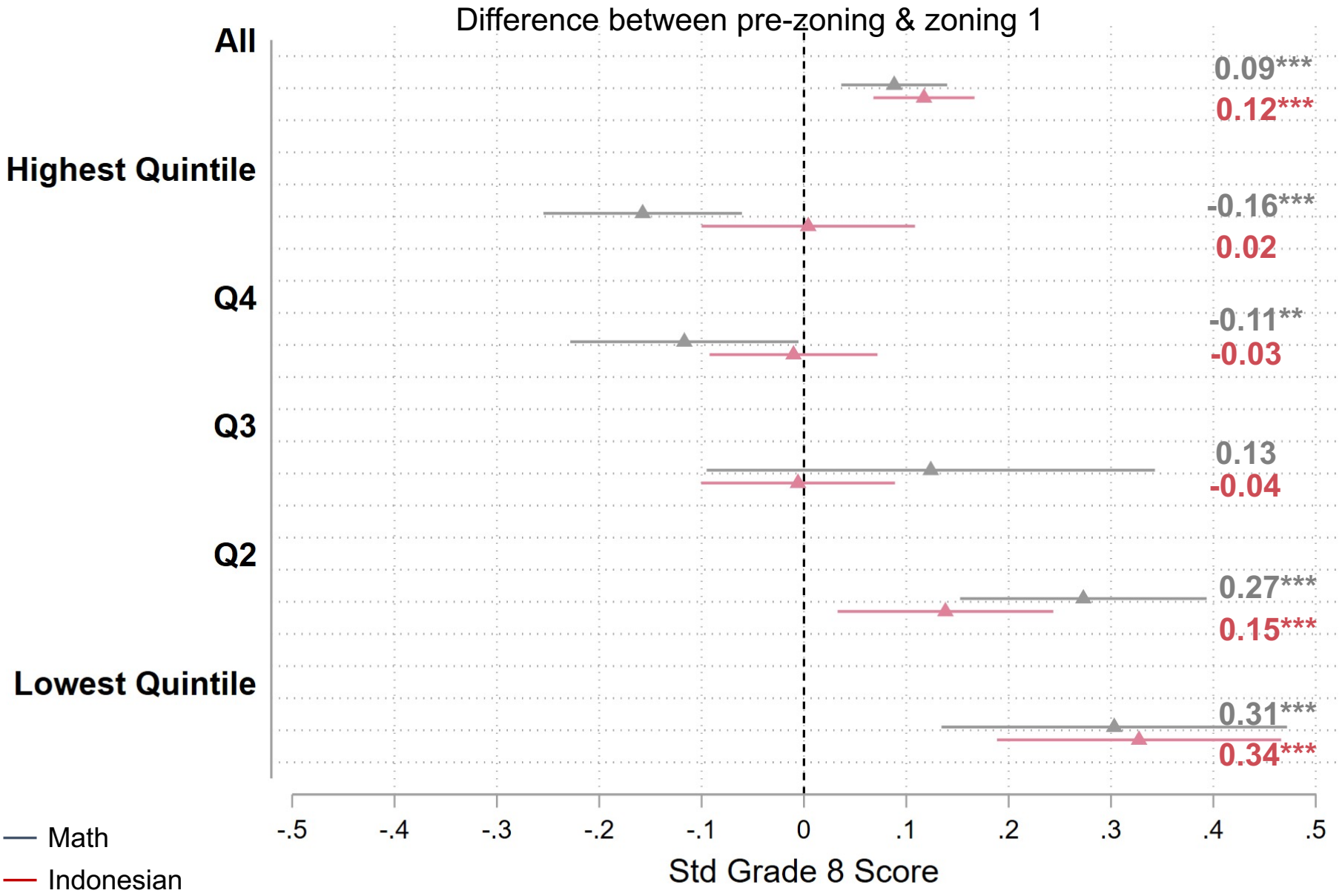
$Z$ is a dummy variable indicating the first zoning cohort

$\beta_1$ is the difference in learning levels between two cohorts for students in the same neighborhood and baseline score

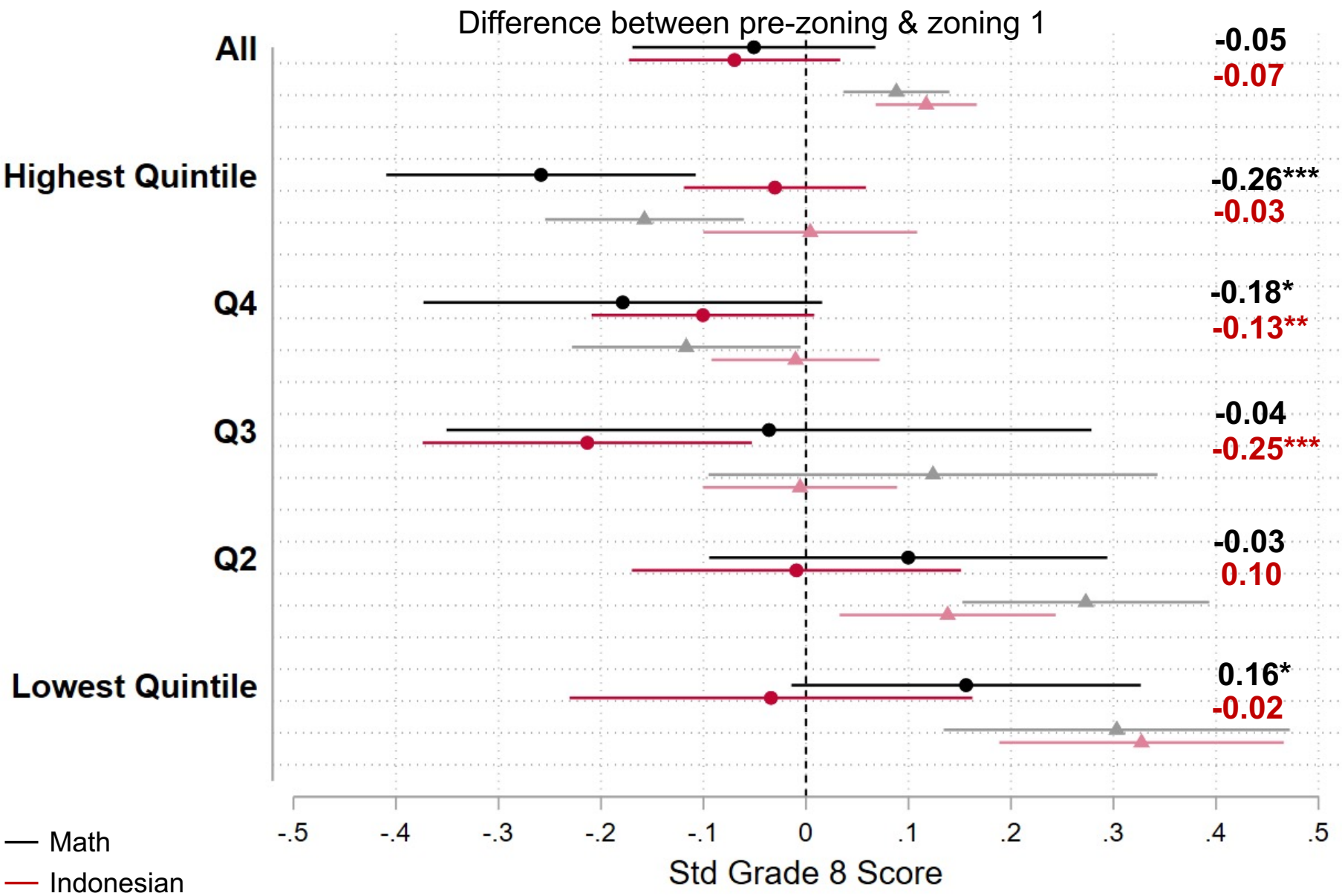
**We compare the predicted and actual impact**

- Benchmark estimates for $\beta_1$
- What happens when lowest quintile students move into public schools with much higher pre-zoning SVA? How do these schools respond?

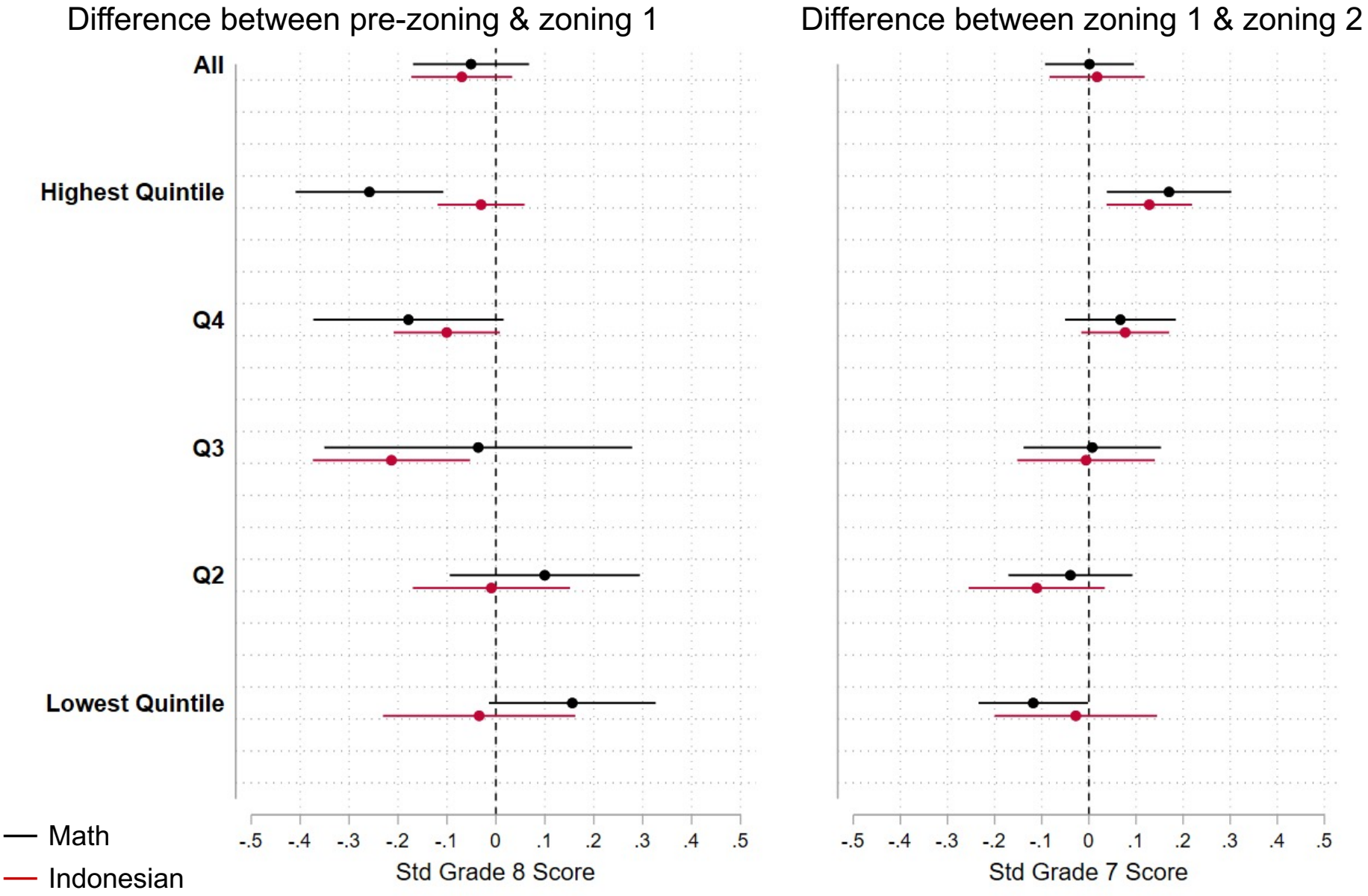
# Under constant school value-added, we would expect larger positive changes in lower quintiles (1st policy change)



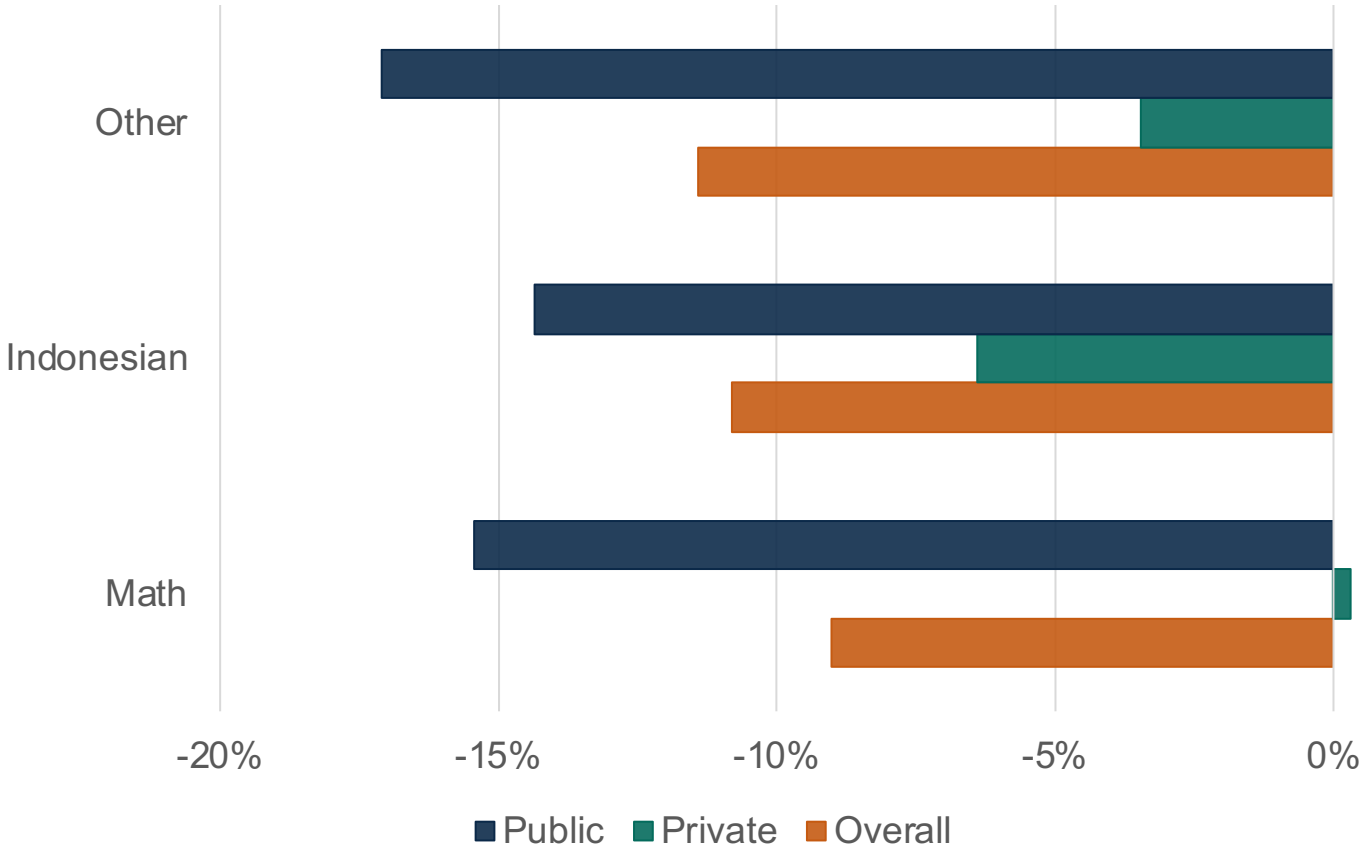
# Overall results are worse than predicted. Slight, non-significant decline overall but larger changes by quintiles



# Slight bounce back effect (more similar to pre-zoning) after the second policy



# Why don’t we see more positive results? Decline in student-reported tutoring?




| | Public | | | Private | | |
|---|---|---|---|---|---|---|
| | PZ | Z1 | Diff | PZ | Z1 | Diff |
| Tutoring outside teaching hrs (%) | 70 | 35 | -35*** | 63 | 49 | -14 |
| Tutoring in minutes per week | 99 | 48 | -51** | 65 | 44 | -21 |

# Did this policy improve equity? Implications for considering large policy changes in a dynamic system

- Grade 8 SLA difference between Q1 and Q5 1.9 SD → 1.5 SD. Mostly at the expense of Q5.
- Limited effect Q1 students for whom access 17% → 65%. Compared to alternative private, learning only goes up a bit for Q1.
- College-going aspirations ↓ 5pp overall from base ~80% (↓ 8pp Q1)
- Effects are short-term (18 months of schooling)
- When implementing a policy that redistributes students, not safe to assume schools will maintain learning levels with new student composition

# Thank You

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