Teacher Quality & Learning Outcomes

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Introduction and Context

This project uses the Brazilian School Panel to study how teacher quality shapes student learning and school progression.

My goal is to distinguish two channels: standardized test performance (**extensive margin**) and grade progression outcomes (**intensive margin**).

Extensive Margin: Teacher Quality $\rightarrow$ Test Scores

$$Y_{smt}^{score} = \beta_0 + \beta_1 TQ_{smt} + \beta_2 INFRA_{smt} + \gamma X_{smt} + \mu_m + \lambda_t + \varepsilon_{smt}$$

Teachers Quality is measured as number of students per class *or* as teachers education. Identification relies on municipal FE, state FE and year FE. This strategy isolates the effect of teacher quality on students test scores.

Intensive Margin: Teacher Quality → Failure / Approval

$$Y_{smt}^{failure} = \beta_0 + \beta_1 TQ_{smt} + \beta_2 INFRA_{smt} + \gamma' X_{smt} + \mu_m + \lambda_t + \varepsilon_{smt}$$

Teachers Quality is measured as number of students per class *or* as teachers education. Identification relies on municipal FE, state FE and year FE. This strategy isolates the effect of teacher quality on rate of test failures.

Main Hypotheses

Hp1: Teacher quality $\Uparrow \Rightarrow$ *median student performance* $\Uparrow$

Hp2: Teacher quality $\Uparrow \Rightarrow$ *worst students performance* $\Uparrow$

Comparing extensive and intensive margin helps determine which mechanisms affect the test score.

Potential Confounders

Teacher quality and outcomes may be influenced by school type, urban *vs* rural context, infrastructure, school size, local socioeconomic conditions, or previous performance.

Identification Strategy

I plan to use an RDD to identify the causal effect.

Thank you!