

# The Costs and Benefits of Test-Based Promotion

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# 3 Limitations of the literature on test-based promotion policies

- 1) The literature often fails to consider effect within gateway grade
  - 2) All prior estimates of treatment effect are limited to those who scored “just” above or below the policy threshold
  - 3) Prior authors substantially overstate the cost of the treatment for both taxpayers and students
- I address each of these limitations within the context of studying Florida’s test-based promotion policy for third grade students

# Effect of Policy on Performance in Gateway Grade

- I look for whether there was a gain in the third grade in the first treated year that was not apparent in other grades within the school that were not affected by the policy
- Analyses statewide and specifically for Broward County and Hillsborough County
  - The districts also gave a 2<sup>nd</sup> grade reading test, which allows me to look at effect by prior student reading proficiency
- Find that the threat of retention produced a significant increase in math and reading scores within the third grade
  - About 0.06 standard deviations
- Robust positive effect for students who entered with reading proficiency at the 25<sup>th</sup>-90<sup>th</sup> percentile
  - In Hillsborough policy had largest positive impact on those who entered with lowest reading proficiency
  - In Broward, policy had largest positive impact on those who entered with highest reading proficiency

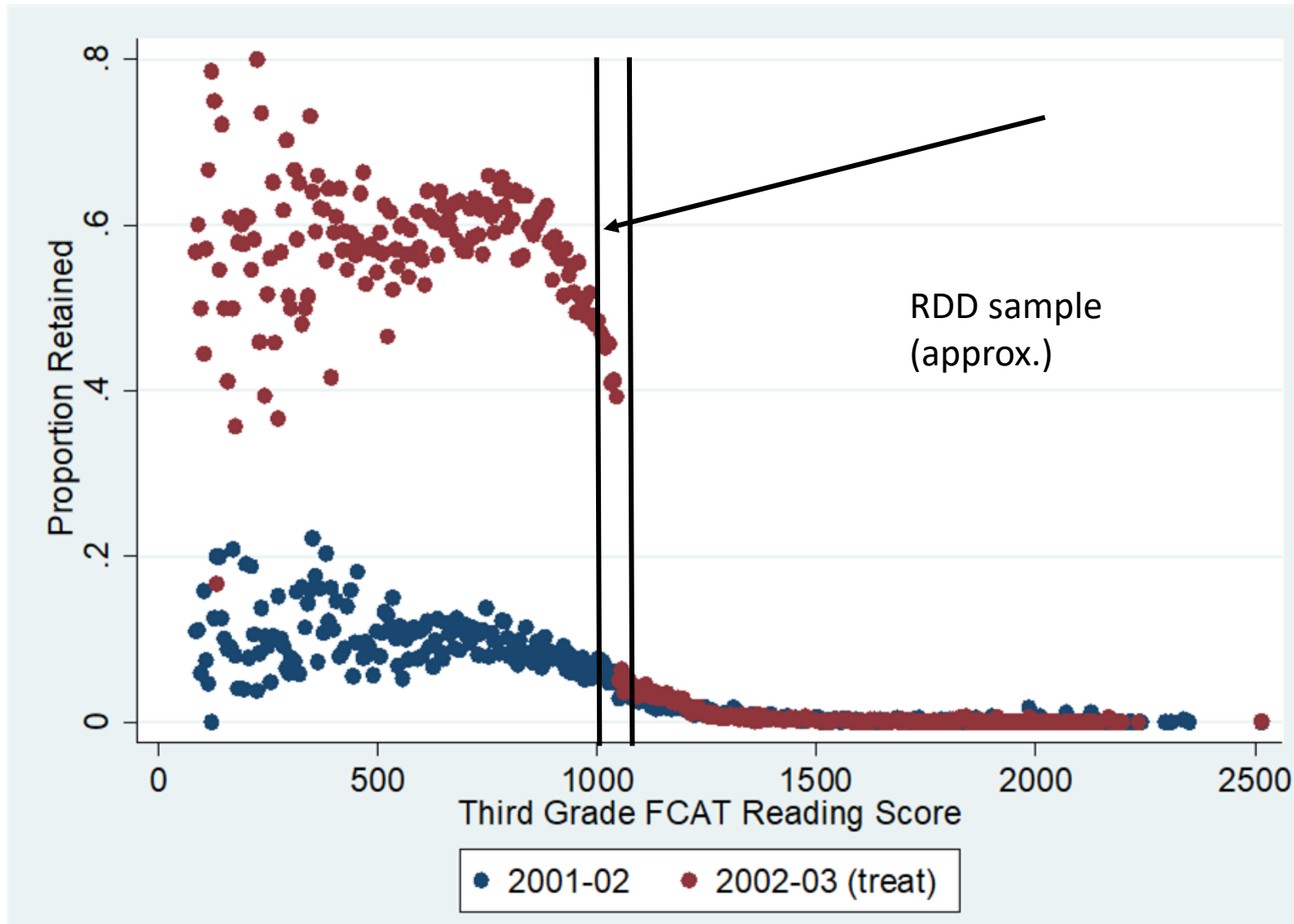
# Effect of retention/remediation treatment on later student outcomes

- In a recent paper, my co-authors and I used RDD to study the impact of treatment under Florida's policy

Schwerdt, G., M. R. West, and M. A. Winters (2017). The Effects of Test-based Retention on Student Outcomes over Time: Regression Discontinuity Evidence from Florida. *Journal of Public Economics*, 152, pp: 154-169.

- But from a policy perspective a major limitation of that and other prior research on these policies is that the result only strictly holds for those with scores “near” the policy threshold

**Figure 2:** Relationship between Third Grade FCAT Reading Score and Probability of Retention  
by Cohort



# Effect of Treatment on Later Student Outcomes

- Student level data for the entering 3<sup>rd</sup> grade cohorts of (spring) 2001, 2002, and 2003
- Use combination of being in the third grade in 0203 and scoring Level 1 on FCAT reading test as instrument for retention
  - This procedure allows me to include all entering third grade students
  - When applied only to treated students included in the prior RDD analysis this comparison produces statistically indistinguishable results on the impact of the policy on test scores
- Find that treatment leads to increased test scores in 8<sup>th</sup> grade
  - 0.15 and 0.23 standard deviations in reading and math, respectively
  - Benefit found for all Level 1 students, except the lowest performing 10% of them
    - This has potential implications for considering the optimal placement of the policy threshold
- Find that treatment increased probability of graduating high school
- Find that treatment leads to only about ½ an additional year of schooling, on average
  - More additional years of schooling for eventual graduates than dropouts

# Costs of Test-Based Promotion

- There is considerable concern that test-based promotion is a very expensive policy
- Imposes costs to taxpayers:
  - ~~• Additional year of schooling at average per-pupil expenditure~~
- Imposes costs to treated students
  - ~~• A year of forgone labor market earnings~~
  - ~~• A year less experience in each employed year~~

# Prior cost estimates are overstated

- A retained student does not represent an additional cost to taxpayers for several years after the treatment is given
  - A retained student is not simultaneously enrolled in the third and fourth grades
  - Need to discount the future expenditure back to the treatment year
    - 10 years for a treated student who graduates on time
- Treatment is associated with less than a full year of additional schooling
- Accounting for these two factors, the present value cost to the taxpayer of treating a student under Florida's policy in 2002-03 was only 42 percent what prior researchers would have calculated the cost to be
  - This calculation includes additional money for services in the retention year
- The cost to the retained student differs according to whether the student eventually drops out or graduates from high school; but in both cases the cost is far below the conventional estimate and outweighed by the projected increase in the present value of lifetime earnings due to the treatment effects
- When include the projected increase in the present value of lifetime earnings due to the THREAT of retention in the third grade, the magnitude of the benefit dwarfs the cost to the taxpayer
  - A smaller benefit is multiplied over a much larger pool of students in the cohort



# Summary

- Florida's third grade test-based promotion policy led to:
  - Increased performance within the third grade
  - Higher test scores as late as the eighth grade
    - Average effect similar to what we found with RDD; But see differential effect by third grade reading performance
  - Higher probability of graduating with a regular diploma
- The cost of the treatment is substantial, but much less than suggested in prior research
- Overall, the expected net increase in later earnings due to the policy far outweigh the cost of the program to both treated students and taxpayers