



Understanding the Impacts of School Capital Spending

What can we learn from existing research?

09/30/2025

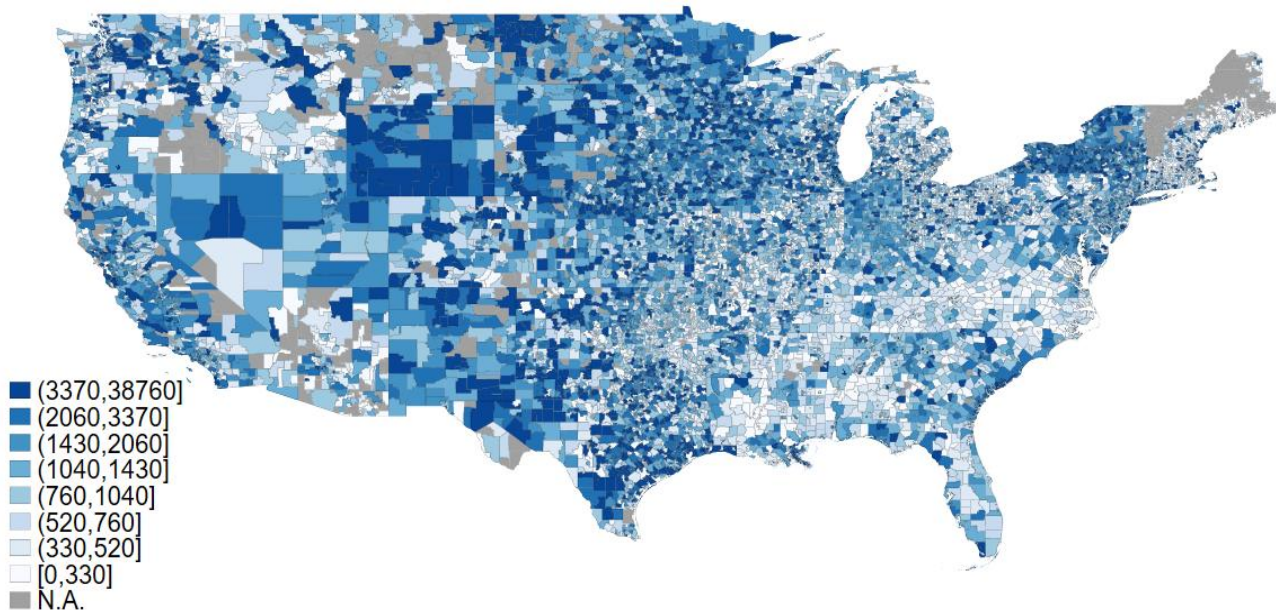
Julien Lafortune, Barbara Biasi, and David
Schönholzer

Research supported with funding from the Spencer
Foundation, Yale University, and the Broad Center at the Yale
School of Management

Quick facts on school facilities

- **\$80 billion per year** nationally on capital construction and renovation (10% of spending; ~\$1,800 per student)
- **Spending varies** substantially across and within states
- **Local revenues** provide most funding (~80%)
- **Conditions often substandard:** [GAO \(2020\)](#) estimates half of public schools require infrastructure improvements

Capital spending varies widely across the U.S.



Notes: 5-year average per student capital expenditure (2024\$). Excludes small districts (<100 students) and those with missing capital spending. 2018-19 NCES composite school district boundaries shown; map excludes supervisory districts in Vermont.

Higher-wealth districts spend more on facilities



Notes: 5-year moving average per student capital expenditure (2024\$), by within state quintile of 2000 mean district house values. Student enrollment weighted. Excludes small districts (<100 students) and those with missing capital spending.

What is the impact of these investments?

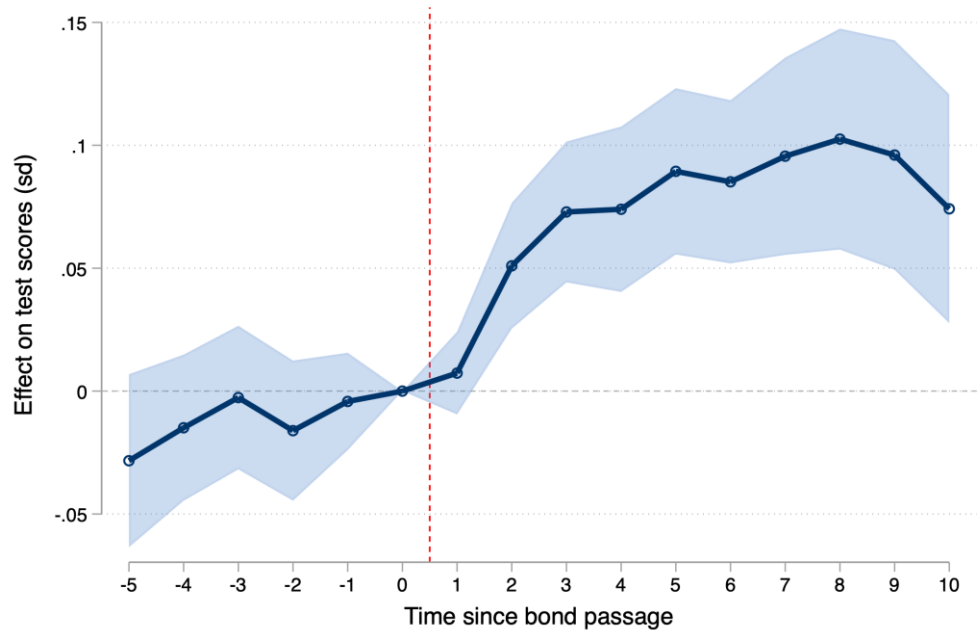
- ***Difficult to study***: infrequent expenditures, and not random!
 - Correlated with local wealth, income, politics
- How do we quantify ***causal*** impacts? Two common approaches:
 1. Studies of large-scale programs—in large districts
 - Positive effects on test scores, attendance, house prices (e.g., [LAUSD](#))
 2. Leverage close bond elections
 - Idea: compare districts that just barely pass vs fail
 - Districtwide outcomes (vs student/school-specific) → need lots of data

National evidence on capital spending impacts

[Biasi, Lafortune, and Schönholzer, 2025:](#)

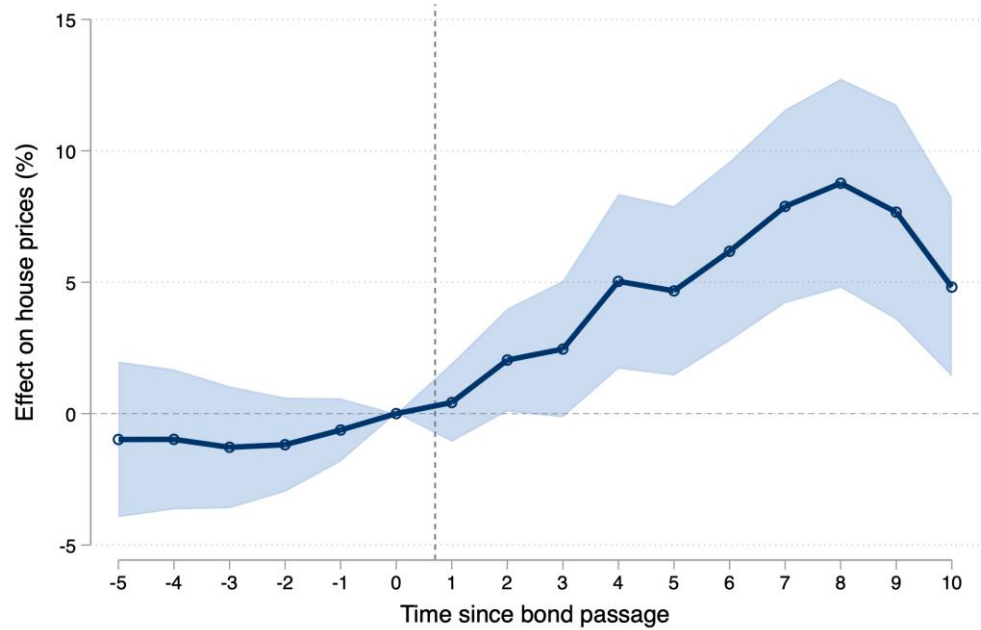
- We gather information on over 17K bonds across 29 states
 - Data on bond expenditure categories
- Outcomes:
 - District spending, demographics
 - Test scores: Grades 3-8, math & reading/ELA
 - House prices
- Approach:
 - Compare districts with close bond elections, that pass or fail in the same year. Follow outcomes over subsequent years

Test scores improve in districts following successful bond election



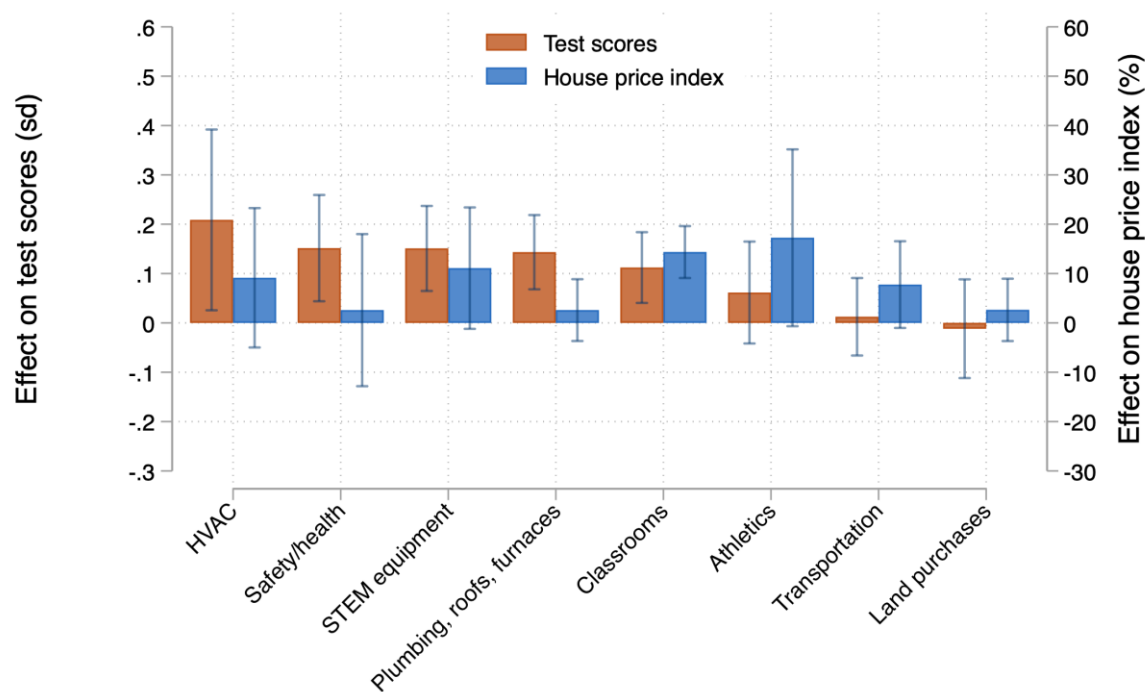
Notes: See Figure 3a in Biasi, Lafortune, Schönholzer 2025.

House prices increase in districts following successful bond election



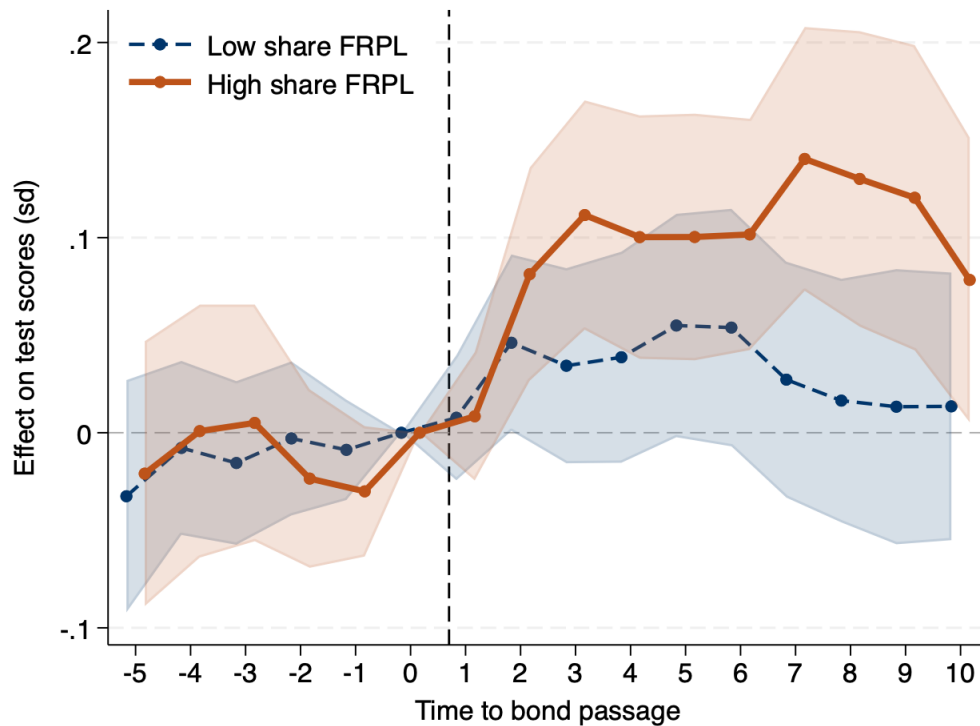
Notes: See Figure 3b in Biasi, Lafortune, Schönholzer 2025.

Effects vary by spending category



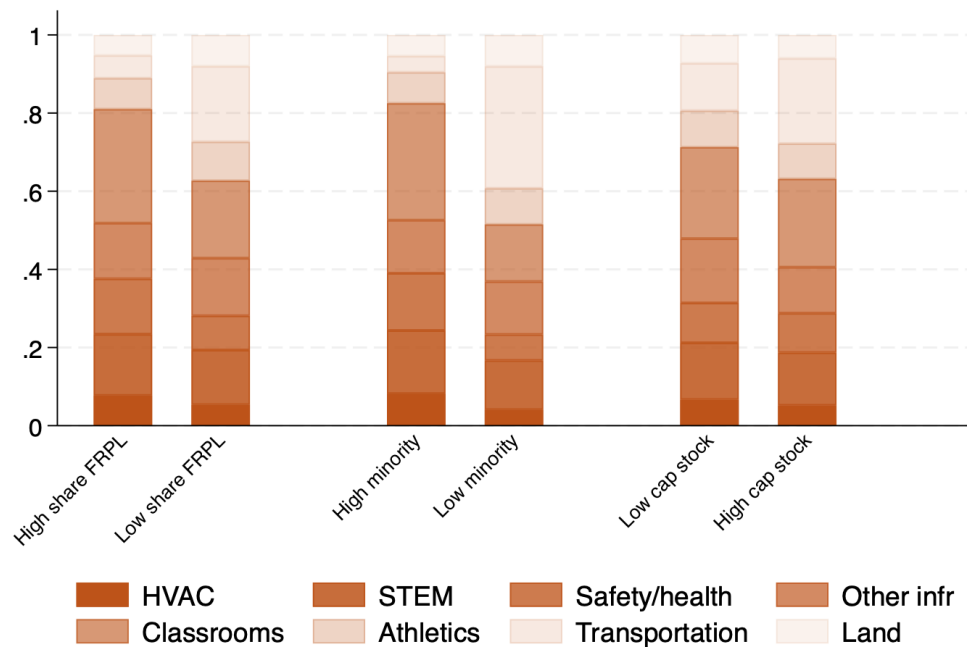
Notes: See Figure 4a in Biasi, Lafortune, Schönholzer 2025.

Effects larger in lower-income districts



Notes: See Figure 6a in Biasi, Lafortune, Schönholzer 2025.

Lower-income districts spend more on high-impact categories



Notes: See Figure 6a in Biasi, Lafortune, Schönholzer 2025.

Key takeaways

- Spending improves outcomes and is valued by residents.
 - Per-dollar, effects modest
- Category matters: larger academic effects for basic infrastructure (HVAC, health) even though not valued by housing market
- Larger effects for low-income, high-minority, and low prior spending districts
 - Differences by income, race partially but not fully explained by prior spending and type of investments

Taking a step back – what can we learn from the (quantitative) research?

- Spending improves outcomes *on average*...
 - ... but it depends how and where you spend
 - **Missing piece in data**: facility needs/quality
- How to build project buy-in?
 - **Empirical**: mismatch between voters and districts? Projects with biggest academic impacts may not have highest voter support
 - **Anecdotal**: reputational concerns. Accountability mechanisms, past performance important
- State policy: local wealth drives spending gaps
 - State funding can ameliorate—or worsen (e.g., [California](#))

Looking forward: other considerations (and complications)

- Student health, well-being (moving beyond test scores)
 - Little quantitative evidence; role for qualitative research
- Changing environmental conditions (heat, air, disaster risk)
- Teacher and staff satisfaction
- Declining enrollment
 - Funding modernization and renovation vs expansion

Notes on the use of these slides

These slides were created to accompany a presentation. They do not include full documentation of sources, data samples, methods, and interpretations. To avoid misinterpretations, please contact:

Julien Lafortune, lafortune@ppic.org

Thank you for your interest in this work.