## Getting the Vote: Do School Bond Issuances and Outcomes Depend on Ballot Disclosures?

**13th Annual Municipal Finance Conference** July 17, 2024

Nicole Boyson and Weiling Liu

Northeastern

D'Amore-McKim School of Business

#### 1. Research motivation

- 2. Summary of findings
- 3. Data
- 4. Empirics
- 5. Conclusion



### Education infrastructure funding

• School districts issued \$1.1 trillion outstanding to fund education infrastructure...

... yet 54% of districts need to update or replace multiple systems like heating, ventilation, and air conditioning (HVAC) or plumbing (General Accounting Office, 2020)

- Most funding come from local school district municipal bonds
  - in CA since 2014, just 5% of funding from the state with *no new state funding in sight*



### Education municipal bonds

- Bonds issued by individual districts & repayment funded by local property taxes.
- In all but 11 states, voters must approve bond issuance via public vote.
- Once approved, the authorized amount can be spent over several bond issues over time.



### **Research questions**

- Looking at the bond election process...
  - How are voter demographics related to the likelihood of bond approval?
  - How are official bond ballot disclosures, including expected costs, reported bond uses, and other "soft" information, related to likelihood of bond approval?
- Looking at district outcomes...
  - What components of bond ballot disclosures best predict future increases in school district home values?



1. Research motivation

### 2. Summary of findings

- 3. Data
- 4. Empirics
- 5. Conclusion



# Key Findings 1

- How do voter **demographics** relate to voter turnout and the likelihood of bond approval?
  - Districts with more Democrats and with a lower proportion of <25 and >66 voters tend to have higher bond approval.
- How is bond approval impacted by disclosures of voters' expected personal cost, type of project, and soft information?
  - The promise of "no new taxes" increases approval, especially among young voters, as does the reminder of statewide budget cuts
  - HVAC projects have higher approval rates; technology projects boost young voter approvals but reduce approval by older voters.
  - Use of needy adjectives boosts yes votes, as does longer ballot lengths



# Key Findings 2

- What components of **bond disclosure** predict greater increase in home values for the issuing school district?
  - HVAC projects do not significantly predict increased values, but playgrounds and safety improvements do.
  - Longer ballots and use of needy adjectives have no predictive power.
  - The promise of "no new taxes" predicts significantly *lower* home values, perhaps due to the deferred high borrowing costs.
- Overall, it seems like (esp young) voters are drawn to components of bond disclosure that may not be informative.



- 1. Research motivation
- 2. Summary of findings

### 3. Data

- 4. Empirics
- 5. Conclusion



- 1. Municipal bond issuance data (Issuance documents)
- Municipal bond election data (Hand collected) (Including ballot texts)
- 3. Test score data (State of California)
  - API (Academic Performance Index)
- 4. School district characteristics (State of California)
- 5. Home price index (Zillow)



# **Election Summary Statistics**

Election data* (N = 1,256)	Mean	Median	Standard Deviation
Authorized amount in US \$ million	111	40	356
Total votes	22,324	8,333	60,007
Percent of "yes" votes	0.68	0.68	0.07
Indicator: Requires 2/3 vote to pass	0.23	NA	NA
Indicator: Requires 55% vote to pass*	0.77	NA	NA
Number of days between election date and bond issuance	762	512	855

\*This covers 730 unique school districts.



- 1. Research motivation
- 2. Summary of findings
- 3. Data

### 4. Empirics

- Predicting Yes Votes
- Predicting Future Home Prices
- 5. Conclusion





- First, we predict percent of yes votes using voter demographics such as age and political affiliation (controlling for county, ballot, district fixed effects, and year fixed effects)
- Next, we predict percent of yes votes using the elements of the bond ballot text:
  - Hard information: expected tax cost and specific bond uses
  - Soft information: length of ballot and use of needy descr.



### Predicting yes votes on ballots with voter demographics

% participation (registered/eligible)	0.107***					Move from 25 <sup>th</sup> to 75 <sup>th</sup> percentile increases yes votes by 1.7%
	(0.052)					
% Democrat		0.100			-0.034	
		(0.110)			(0.050)	
% Republican		-0.221***			-0.139	Move from 25 <sup>th</sup> to 75 <sup>th</sup> percentile decreases yes votes by 3.4%
		(0.093)			(0.099)	
% youngest voters (<25)				-0.444***	-0.135	
				(0.111)	(0.112)	
% oldest voters (>66)				-0.887***	-0.485***	Move from 25 <sup>th</sup>
				(0.169)	(0.187)	decreases yes votes
Log total registered in county	-0.004	-0.007	-0.001	-0.000	-0.007	by 4.070
	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	
Includes all other controls	Yes	Yes	Yes	Yes	Yes	LVX VERITAS

## Next, how do ballot texts affect voting behavior?

• Bond ballots disclose a limited amount of information about projects, but often, they are all that the voter knows.

#### **Ballot question**

The ballot question was as follows:<sup>[1]</sup>

#### (1) Purpose of bond



# Summary of Analyses on Hard Information

#### Part One. Estimated costs

- Includes \$ estimate of tax costs: \$ % of yes votes by 3.4%.
- "NO NEW TAXES": **†** % of yes votes increases by 3%.

#### Part Two. Expected benefits

- Mentions HVAC: **†** % of yes votes by 1.6%.
  - Not for Older voters: as percent of older voters goes from 19.2% to 29.2%, HVAC + yes votes by 2.9%
- Mentions technology improvement: depends on age.
  - As percent of young voters goes from 7.3% to 13.7%, tech 1 yes votes by 4.2%
  - As percent of older voters goes from 19.2% to 29.2%, HVAC mention 4 yes votes by 4.0%

# Summary of Analysis on Soft Information

#### Part One: Use of needy words

- Controlling for specific funding uses (eg leaky roofs, new construction, safety improvements, technology), does use of needy adjectives like "dilapidated" and "deteriorating" affect voter behavior?
- Yes, each additional word **†** yes votes by 1.5%.

### • Part Two: Length (# words) of ballot text

- 1 s.d. increase in length **†** yes votes by 8.4%
- Esp for older voters: as percent of older voters goes from 19.8% to 29.2%, 1 sd increase in length 1 yes votes by 17%



- 1. Research motivation
- 2. Summary of findings
- 3. Data

### 4. Empirics

- Predicting Yes Votes
- Predicting Future Home Prices
- 5. Conclusion



## Hard Information Significantly Predict Values

#### Part One. Estimated costs

"NO NEW TAXES": based on avg home price of \$490,587, this home values by \$88,928 in six years

#### Part Two. Expected benefits

- Mention of playgrounds avg home value by \$133,071 in six years
- Mention removal of mold avg home value by \$236,177 in six years
- HVAC and technology have no significant predictive power.





Soft Information Insignificantly Predict Home Values

• In summary, neither length of the ballot nor use of needy adjectives (controlling for bond uses) predict increase in home values 1-6 years into the future.



- 1. Research motivation
- 2. Summary of findings
- 3. Data
- 4. Empirics
- 5. Conclusion



# Conclusion

- Both hard and soft information disclosed on the ballot text significantly impact voters' approval of school bonds. This effect varies with voter demographics, such as age.
- Interestingly, the information that voters care about most either insignificantly (eg HVAC, length, needy language) or negatively (no tax increase) predict future home values
- Our findings suggest that policymakers and municipals should take a closer look at what information is highlighted in the limited ballot text.

