

# Effects of Parcel Taxes on Fiscal Condition in the Post-Prop 13 Era in California: A Regression Discontinuity Approach

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Special Local  
School Funding  
Parcel Tax Election:  
June 4, 2019



# MEASURE EE

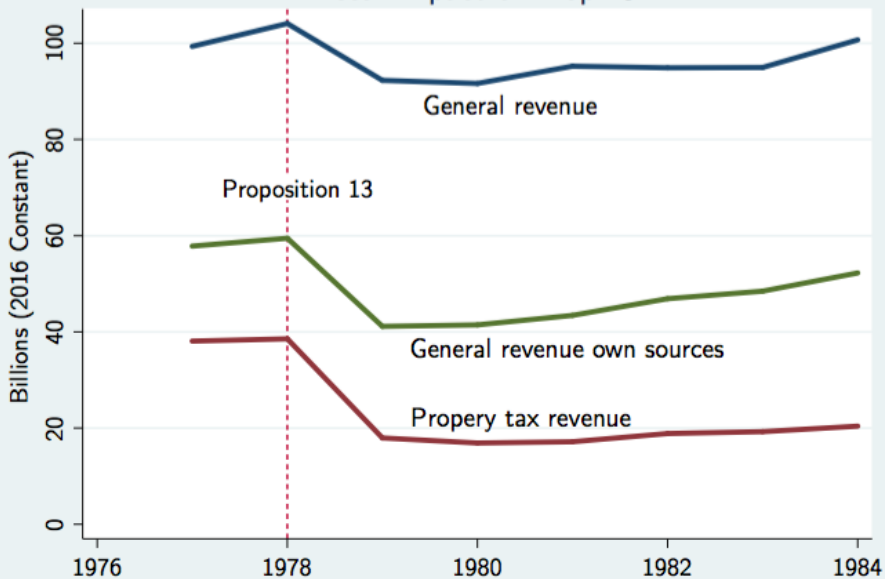
[www.MeasureEELAUSD.org](http://www.MeasureEELAUSD.org)

- 600,000 students + 30,000 teachers (K12)
- Nine full cities, 18 partial cities & unincorporated areas
- Total assessed value, \$644.5 billion (2018)
- 16-cent tax per square foot of real property

# Parcel Tax in California

- Parcel tax
  - Known as a non-ad-valorem real property tax.
  - Efficient (sort-of), regressive.
- Parcel tax ballot measures
  - Need 2/3 supermajority vote to approve.
  - Often have a sunset clause, senior exemptions.
  - Revenue kept in local.
  - Fund mostly operating expenses.
- A legacy of Proposition 13 in California
  - Ad-valorem property tax cap at a 1% statewide rate.
  - After Prop. 13, local revenue plummeted.

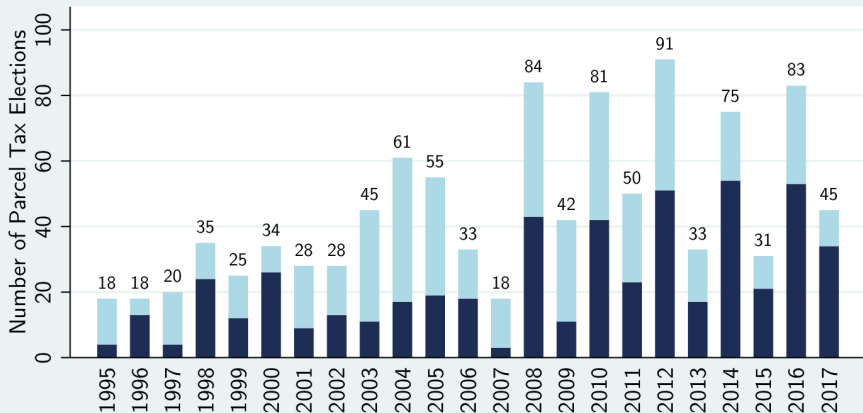
## Fiscal Impact of Prop.13.



## Circumventing Prop.13

- Local governments in search of more revenue sources.
- The state constitution allows local governments to raise taxes for a special purpose with 2/3 supermajority vote.
- Parcel tax: a way to extract revenue from real property while not violating Prop. 13.
- First parcel tax adopted in 1983. Since then, a significant increase in parcel tax elections, particularly after the 2001 and 2008 recessions.

## Parcel Tax Elections California 1995-2017, Total=1,033



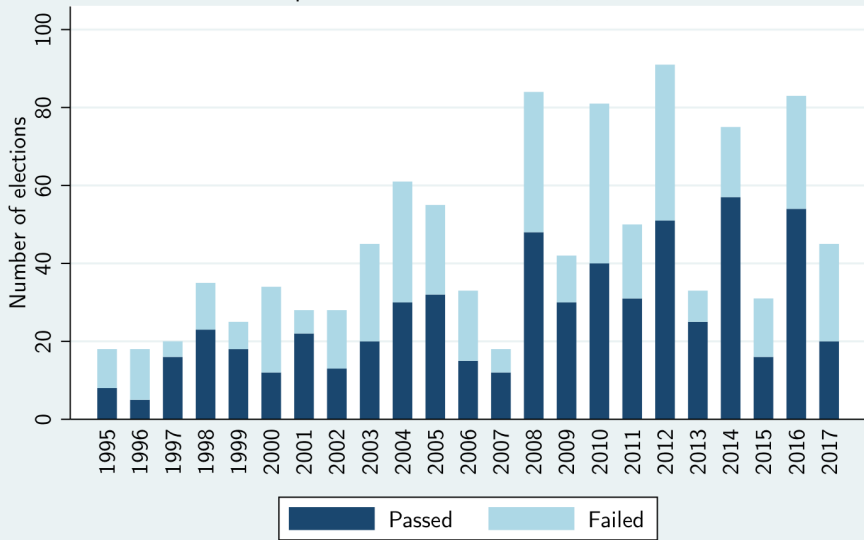
Counties, cities, and special districts, n=522

School districts, n=511

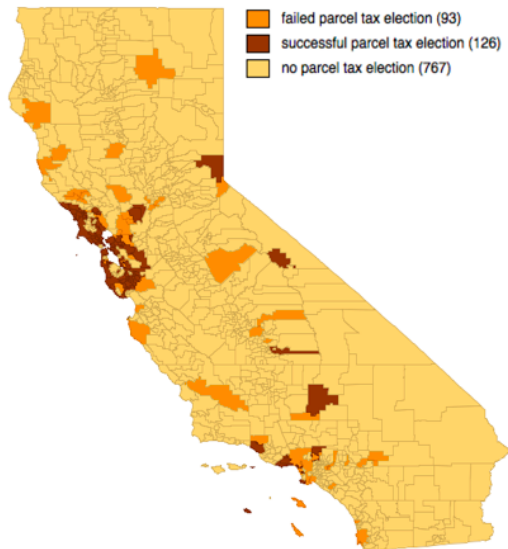
Source: California Secretary of State.

# Parcel Tax Election Results

All parcel taxes in California, 1995-2017

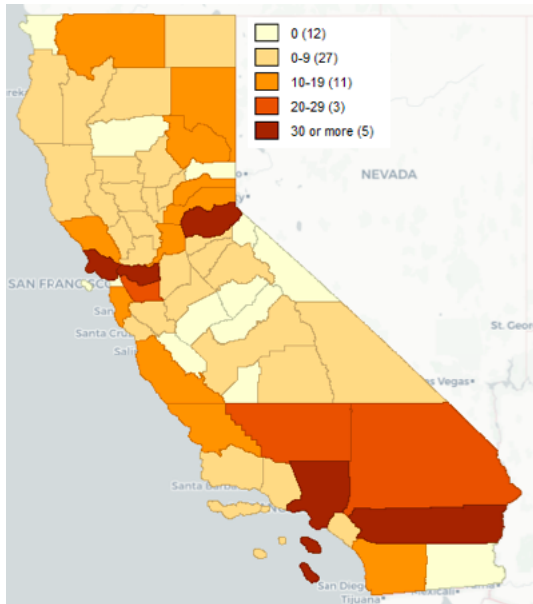


# Parcel Tax Elections in School Districts, 1995-2017





# Parcel Tax Elections in other Districts, 1995-2017



- Parcel tax literature
  - Non-prevalence of school parcel tax (Brunner 2001).
  - Determinants of school parcel tax adoption (Lang and Sonstelie 2015; Lee and Sun 2018; Lee 2019)
  - Parcel tax as a viable local revenue source (Sonstelie 2015; Lee 2018).
- Local tax referendum
  - Consequences of having a local referendum option (Nguyen-Hoang 2012; Funk and Gathmann 2005; Promo 2010).
  - Consequences of an electoral outcome in Ohio school district referenda (Kogan et al. 2017).

## Method: Regression Discontinuity Design

- Comparing fiscal outcomes in districts that barely approved a parcel tax and in districts that barely failed one.

$$y_{it} = f(X_{it}, \tau_{it}) \quad (1)$$

- Fiscal outcome  $y$  in district  $i$  at time  $t$
- With district characteristics  $X$  and a parcel tax  $\tau$
- $\tau$  is determined by the percentage of votes in favor,  $v$
- Key identifying assumption:  $E(X_{it}|y)$  is continuous at  $v=2/3$ .

## Parcel tax elections between 2003 and 2016

- School districts
  - 376 elections in 169 districts.
  - Separate estimates for only new elections and for new and renewal elections
  - Outcome variables: 1- and 3-year growth of total revenue, local revenue, total expenditure, current expenditure, and capital expenditure.
  - Data from California Department of Education and Lee (2019).
- Special districts for public safety
  - 120 elections for public safety.
  - Outcome variables: 1- and 3-year revenue and expenditure growth
  - Data from the State Controller's Office and Lee (2018)

# 1. RDD Estimates in School Districts: 1-year Growth

Local polynomial specifications	New elections only			Including renewal elections		
	Linear (1)	Cubic (2)	Quadratic (3)	Linear (4)	Cubic (5)	Quadratic (6)
Total revenue	.105 (.096)	.024 (.081)	-.083 (.742)	.080* (.037)	.148 (.128)	.148 (.132)
Local revenue	.169 (.073)	.031 (.184)	.026 (.195)	.140* (.070)	.152 (.211)	.172 (.208)
Total expenditure	.018 (.110)	.023 (.147)	.022 (.208)	.026 (.075)	.058 (.125)	.063 (.149)
Current expenditure	.056 (.038)	.025 (.077)	-.070 (.118)	.060* (.026)	.040 (.044)	.036 (.057)
Capital expenditure	.361 (.074)	.223 (1.488)	2.869 (1.835)	.254 (.728)	.910 (.936)	.570 (1.385)

## 2. RDD Estimates in School Districts: 3-year Growth

Local polynomial specifications	New elections only			Including renewal elections		
	Linear	Cubic	Quadratic	Linear	Cubic	Quadratic
	(7)	(8)	(9)	(10)	(11)	(12)
Total revenue	.035 (.087)	-.133 (.118)	-.124 (.108)	.0675 (.0495)	.054 (.089)	.008 (.089)
Local revenue	.056 (.116)	-.027 (.163)	-.038 (.271)	.208* (.072)	-.006 (.123)	.015 (.131)
Total expenditure	-.009 (.176)	-.095 (.277)	-.161 (.350)	.058 (.105)	.029 (.19016)	.019 (.218)
Current expenditure	-.010 (.075)	.002 (.120)	-.301* (.164)	.009 (.063)	.053 (.089)	.023 (.088)
Capital expenditure	-.723 (5.146)	-5.7212 (8.399)	-10.041 (11.826)	.505 (3.607)	1.568 (4.937)	-3.581 (7.633)

### 3. RDD Estimates in Special Districts for Public Safety

Local polynomial specifications	Linear	Cubic	Quadratic
	(1)	(2)	(3)
Total revenue, 1-year growth	-.159 (.354)	-.302 (.384)	-.380 (.358)
Total revenue, 3-year growth	.648 (.759)	-.403 (1.791)	-1.752 (1.959)
Total expenditure, 1-year growth	.425 (.339)	.194 (.361)	-.268 (.752)
Total expenditure, 3-year growth	.339 (.589)	.662 (.919)	-.934 (1.827)

# Summary of Findings

- School districts
  - ↑ 8 percent point in 1-year growth of total revenue.
  - ↑ 14 percent point in 1-year growth of local revenue.
  - ↑ 6 percent point in 1-year growth of current expenditure.
  - No changes in total expenditure.
  - No changes in capital expenditure.
  - Results sensitive to alternative polynomial specifications, exclusion and inclusion of the renewal elections, and the three-year growth of dependent variables.
- Special districts for public safety: No evidence for changes in fiscal outcomes after parcel tax adoption.



- Data limitation may have driven the results.
- Alternatively, results may indicate changes in local government's fiscal behavior: districts that failed adoption may aggressively pursue other revenue sources such as donations in school districts or federal and state grants. So, overall effect of parcel tax adoption may not be present.

- Further breakdown of government expenditure. E.g. substitution between parcel tax revenues and voluntary donations.
- Further investigation on non-school districts for all other purposes.
- Expand the research to other local behavioral responses such as business activities, household mobility, and student enrollment in school districts.

# Thank you.

Questions and comments to:  
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