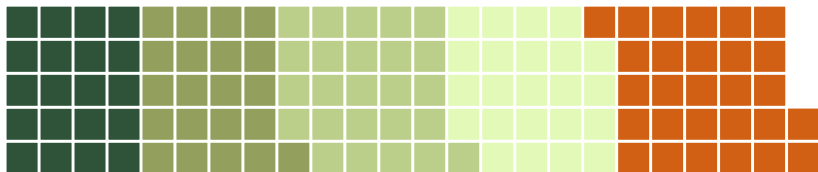


Assessing the Effects of a Switch to By-District Elections in California

Zachary L. Hertz

October 02, 2021

Visualizing the Gradual Franchise

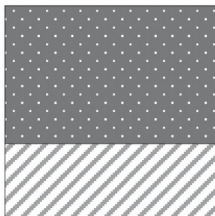


- Only property-owning white men could vote
- Franchise extended to all white men
- Fifteenth Amendment extends voting to Black men
- Nineteenth Amendment extends voting to women
- Voting Rights Act passed

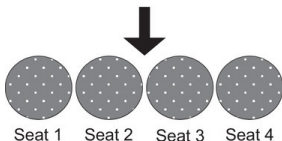


At-Large Voting

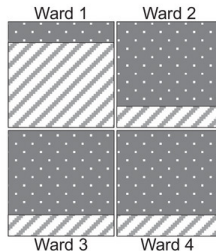
(I) At-Large



Overall: **13/20 A**, 7/20 B



(II) Ward, Segregated

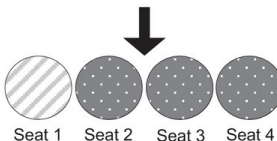


Ward 1: 1/5 A, **4/5 B**

Ward 2: **4/5 A**, 1/5 B

Ward 3: **4/5 A**, 1/5 B

Ward 4: **4/5 A**, 1/5 B



(Abott and Magazinnik, 2020)

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- ▶ Includes a “safe harbor” period

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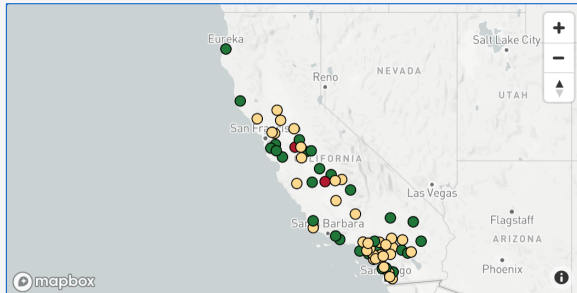
- ▶ lowers the threshold for success and costs to plaintiffs
- ▶ encourages a **preemptive switch to by-district elections** to avoid legal battles

Visualizing Policy Shifts Under the CVRA

Cities' Transitions to District Elections Bring Little to No Gains for People of Color

Since 2016, 79 California cities have held elections with newly drawn districts*. Proponents of district elections argue that the system increases minority representation and political participation. However, new data on city council elections from a bipartisan public affairs consulting firm which tracks minorities' involvement in local government shows that transitioning to a district election system added one or, at most, two elected officials of color to city councils or there was no demographic shift at all. In three cities — Chula Vista, Lemoore and Patterson — minority seats were actually lost.

● Minority seat gains ● Minority seat losses ● No change to minority seats



(*LAist.com*, 2019 article)

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Measuring Minority Electoral Empowerment

Descriptive representation can:

- ▶ increase minority groups' trust in government (Gay 2002; Heideman 2020)
- ▶ lead to higher quality legislative support for constituent minority groups (Brown and Banks 2013; Brown 2014)
- ▶ provide other substantive benefits (Dovi 2002; Hero and Preuhs 2013; Mansbridge 1999; Phillips 1995)

Do By-District Elections Increase Minority Representation?

Many find that by-district elections lead to better Black and Latino legislative representation (Bledsoe 1986; Davidson and Grofman 1994; Martinez-Ebers and Meier 2004; Marschall, Ruhil and Shah 2010; Meier et al. 2005; Molina and Meier 2016).

Others find mixed or even zero effects between minority representation and district elections (Bullock and MacManus 1993; Cole 1974; Fraga and Elis 2009; Fraga 2015; MacManus 1978; Trounstine and Valdini 2008; Welch 1990).

Still others find a negative relationship (Meier and Rutherford 2016; Welch and Karnig 1978).

How can we make sense of these seemingly contradictory findings?

Reconciling the Literature

Trounstein and Valdin (2008) find that by-district elections increase representative diversity only when a minority group is highly concentrated and is a relatively large share of the population.

Fraga (2016) argues that much of the research focused on descriptive representation fails to disentangle the effects of candidate race/ethnicity from the effects of racial/ethnic composition in a given jurisdiction.

Collingwood and Long (2019) find that by-district elections lead to a 10 percent increase overall, and a 20 percent increase in cities with large Latino populations.

Taken together, these findings underscore an important shortcoming of descriptive representation as a measure through which to evaluate the CVRA:

because observable changes in a minority group's descriptive representation are mediated by the minority group's geographic concentration and relative population size, **a switch to by-district elections may not affect minority empowerment in a way easily measured through descriptive representation.**

Turnout as a Measure of Minority Empowerment

A robust body of work suggests that minority empowerment is a critical determinant of minority voter turnout.

- ▶ Bobo and Gilliam (1990) posit that minority voters respond to their electoral context and empowerment influences participation, findings supported by later research (Barreto 2010; Fraga 2016, 2018; Gay 2001; Leighley 2001; Tate 2003).

The Turnout Gap (Fraga 2018)

In an analysis of congressional districts, Fraga (2018) finds that minority turnout is higher when a given minority group is a substantial portion of the potential electorate.

Crucially, Fraga finds a causal relationship between assignment to a jurisdiction where a given minority group is a majority of the potential electorate and an increase in turnout and a subsequent reduction of the turnout gap.

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- ▶ Turnout disparities affect minority turnout and distribution of resources, especially at the local level (Hajnal 2009).
- ▶ As a measure, it reduces potential erroneous effects in the data and reduces the influence of nonracial factors.
- ▶ There is a normative imperative to end historical disparity in electoral participation.

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My Contributions

- ▶ I extend Fraga's work on federal elections to an analysis of local elections.
- ▶ Conclusions from previous work may be confounded by selection effects. My difference-in-differences approach finds further evidence to support the findings of previous work that suggests policies like the CVRA can improve descriptive representation while addressing potential selection effects and endogeneity.
- ▶ In doing so, I make the first attempt to delineate a causal relationship between CVRA-induced redistricting and minority turnout. I find that a switch from at-large to by-district elections led to a decrease in the Hispanic-White and Asian-White turnout gaps.

Hypotheses

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- ▶ H_{iii} : In California cities that switched from at-large to by-district elections, these effects **will be stronger** in cities where a minority group is a higher than average share of the total population.

Data: Treatment and Control Groups

- ▶ My treatment universe is defined as any California city that has fully completed a switch to by-district elections as a result of an actual or potential CVRA lawsuit (30 cities at the time of writing).

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- ▶ I use the nearest neighbor matches defined by Collingwood and Long (2019) to define my control group.

Data: Determining Turnout

Turnout for an electoral unit is determined with the following calculation:

$$\text{Turnout} = \frac{\text{Total Voters}}{\text{Citizen Voting Age Population}}$$

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- ▶ The American Community Survey (ACS) provides Citizen Voting Age Population (CVAP) data at the city level.
- ▶ I obtained CVAP data at the district level for 23 of the 30 treatment cities from the National Demographics Corporation.
- ▶ Still, this data faces a problem: **without racial data at the individual-level, how do we construct racial turnout rates?**

Ecological Inference

We can turn to ecological inference as a solution. I use the ecological inference technique developed by King (2003) to compute and maximize a likelihood distribution based on the data, then estimate the unit-level turnout based on the possible values, or “bounds”, for each electoral unit and the overall likelihood distribution of racial turnout rates.

Per Fraga (2018), I use the results to calculate minority turnout gaps:

$$\text{Turnout Gap} = \text{Minority Turnout} - \text{non-Hispanic White Turnout}$$

For more on ecological inference, see [the *ei* package documentation](#) or [this introduction to ecological inference](#) by King, Rosen, and Tanner (2004).

Difference-in-Differences (DID)

Difference-in-differences is a quasi-experimental econometrics method that evaluates the difference in outcomes over time between a population that adopts a policy (the treatment group) and a population that does not (the control group).

Most critically, it allows for causal inference about policy adaptation, where randomization is impossible, and addresses concerns about external influences on the outcome of interest, selection bias, and other unobservable endogenous factors.

To use a difference-in-differences approach, I stack the data into a panel where there is a pre-treatment and post-treatment observation for each electoral unit in the treatment and control groups.

Applying DID to the CVRA and Turnout

Following the model outlined in Bertrand, Duflo and Mullainathan (2004), I estimate the following equation for the Hispanic-White, Black-White, and Asian-White turnout gaps, clustering standard errors by city and controlling for election year and city effects.

To test H_i , that the turnout gap between minority groups and non-Hispanic whites **will be smaller** in California cities that switched from at-large to by-district elections than in demographically similar cities, I use the following equation:

$$Y = A_s + B_t + cX_{ist} + \beta \times I_{st} + \epsilon_{ist}$$

Applying DID to the CVRA and Turnout

To test H_{ii} , that if a minority group is a relatively larger share of the electorate following the switch from at-large to by-district elections, **their relative rate of participation will increase** in comparison to non-Hispanic whites and **the turnout gap will decrease** compared to jurisdictions where minority groups did not increase as a relative share of the electorate, I use the following equation:

$$Y = A_s + B_t + cX_{ist} + \beta_0 \times I_{st} + \beta_1 \times G + \epsilon_{ist}$$

Applying DID to the CVRA and Turnout

I then test H_{iii} , which states that in California cities that switched from at-large to by-district elections where a minority group is a higher than average share of the total population, the turnout gap between minority groups and non-Hispanic whites will be **smaller on average** than in demographically similar cities.

To test H_{iii} I define “High Hispanic” cities as those where the Hispanic population is above the mean for the treatment universe (38.2 percent) and use the same equation as in H_{ii} :

$$\mathbf{Y} = \mathbf{A}_s + \mathbf{B}_t + \mathbf{cX}_{ist} + \beta_0 \times \mathbf{I}_{st} + \beta_1 \times \mathbf{G} + \epsilon_{ist}$$

Results: Testing H_i

Table 1: Difference-in-Differences Regression Estimating Causal Relationship Between Cities Switching to By-District Elections Under the CVRA (Treatment) and the Turnout Gap by Race.

	Hispanic turnout gap	Black turnout gap	Asian turnout gap
	(1)	(2)	(3)
Treatment	0.056** (0.026)	-0.007 (0.018)	0.257*** (0.051)
N	190	179	186
R ²	0.715	0.773	0.835
Adjusted R ²	0.591	0.674	0.765
Residual Std. Error	0.067 (df = 132)	0.042 (df = 124)	0.103 (df = 130)

*p < .1; **p < .05; ***p < .01

Note: Robust clustered standard errors.

Differences in n due to jurisdictions with extremely low minority group populations.

Results: Testing H_{ij}

Table 2: Difference-in-Differences Regression Estimating Causal Relationship Between Cities Switching to By-District Elections Under the CVRA (Treatment) and the Turnout Gap by Race, Controlling for an Increase in Relative Group Size.

	Hispanic turnout gap	Black turnout gap	Asian turnout gap
	(1)	(2)	(3)
Treatment	0.077*** (0.027)	-0.004 (0.018)	0.262*** (0.050)
Increased relative group size	-0.044*** (0.014)		
Increased relative group size		-0.011 (0.009)	
Increased relative group size			-0.012 (0.015)
N	190	179	186
R ²	0.738	0.775	0.835
Adjusted R ²	0.622	0.675	0.764
Residual Std. Error	0.064 (df = 131)	0.041 (df = 123)	0.104 (df = 129)

*p < .1; **p < .05; ***p < .01

Note: Robust clustered standard errors.

Differences in n due to jurisdictions with near-zero minority group populations.

Results: Testing H_{iii}

Table 3: Difference-in-Differences Regression Estimating Causal Relationship Between Cities Switching to By-District Elections Under the CVRA (Treatment) and the Hispanic-White Turnout Gap for Cities with Above and Below Mean Hispanic Populations.

	Hispanic turnout gap	
	High percent Hispanic	Low percent Hispanic
	(1)	(2)
Treatment	0.001 (0.033)	0.092** (0.036)
N	63	127
R ²	0.606	0.731
Adjusted R ²	0.373	0.601
Residual Std. Error	0.061 (df = 39)	0.070 (df = 85)

*p < .1; **p < .05; ***p < .01

Note: Robust clustered standard errors.

Results: Testing H_{iii}

Table 4: Difference-in-Differences Regression Estimating Causal Relationship Between Cities Switching to By-District Elections Under the CVRA (Treatment) and the Hispanic-White Turnout Gap for Cities with Above and Below Mean Hispanic Populations, Controlling for an Increase in Relative Group Size.

	Hispanic turnout gap	
	High percent Hispanic	Low percent Hispanic
	(1)	(2)
Treatment	0.014 (0.034)	0.114*** (0.035)
Increased share of CVAP	-0.023 (0.013)	-0.056** (0.021)
N	63	127
R ²	0.618	0.761
Adjusted R ²	0.376	0.642
Residual Std. Error	0.061 (df = 38)	0.067 (df = 84)

*p < .1; **p < .05; ***p < .01

Note: Robust clustered standard errors.

Discussion: Does a switch to by-district elections under the CVRA increase minority turnout?

I find initial evidence suggesting a causal link exists between a CVRA-induced change in electoral institution and a reduction in the turnout gap.

I do not find evidence to support my hypothesis that an increase in relative group size leads to a decrease in the turnout gap.

I also do not find evidence to support my hypothesis that the effects of a switch to by-district elections on the turnout gap are more pronounced in cities where a minority group is a higher than average share of the total population.

Instead, I find evidence that the treatment effects are more pronounced in cities where Hispanics are a lower than average share of the total population.

Limitations and Room for Future Research

- ▶ Group size *in combination with geographic concentration* moderates the effect of district elections on turnout
- ▶ Include measure for candidate ethnicity
- ▶ Potential nonrandom treatment could overstate average treatment effect, but the treatment universe will dramatically expand in the next several election cycles
- ▶ Examine a larger post-treatment time period

Thanks and Acknowledgements

- ▶ **Doug Johnson** (National Demographics Corporation) for data access
- ▶ **Kyle Monahan** (Tufts Data Lab) for troubleshooting using *ei* package
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