PPIC | PUBLIC POLICY INSTITUTE OF CALIFORNIA

California's Political Geography 2020

Technical Appendices

CONTENTS

Eric McGhee
with research support from Jennifer Paluch

Appendix A. Data and Methods

Multilevel Regression and Post-Stratification

Our 46 "places" offer a detailed portrait of the state's political geography (see Figure A1). However, measuring public opinion at this level with a typical survey is challenging. The PPIC Statewide Survey interviews approximately 1700 adults for each survey, which is not enough to obtain precise estimates of opinion for all 46 places. For our analysis we always combine at least two surveys, but this still leaves the estimates for each place vulnerable to considerable sampling error.

Our solution to this problem is a method called multilevel regression and post-stratification (MRP) (Gelman and Hill 2007, Lax and Phillips 2009). This was a relatively novel method at the time of the first political geography report (McGhee 2013), but has since become an accepted part of the survey methodologist's toolkit.

The multilevel regression uses partial pooling to make the most efficient use of the data. The absence of pooling is just calculating a separate mean response for each place. This unpooled estimate treats each place as unique, and assumes that patterns across the rest of the state tell us nothing about it. At the other extreme is complete pooling, which uses the statewide average to describe all places. The statewide average uses many more respondents and so is a far more stable estimate of opinion. But if we imagine that opinion actually varies across the state, this completely pooled estimate could be far off the mark for any individual place.

The partial pooling of multilevel regression finds the optimal balance between these unpooled and completely pooled estimates. The model respects each place's estimate as its relative information increases. In the simplest model without any additional predictors, each place's multilevel estimate $\bar{y}_p^m$ is the approximate weighted average

$$\bar{y}_p^m \approx \frac{\frac{n_p}{\sigma_y^2}\bar{y}_p + \frac{1}{\sigma_\alpha^2}\bar{y}_{all}}{\frac{n_p}{\sigma_y^2} + \frac{1}{\sigma_\alpha^2}} \qquad [1]$$

where n_p is the number of respondents in place p, $\bar{y}_p$ is the average response in place p, $\bar{y}_{all}$ is the average response for the state as a whole, and σ_y^2 and σ_α^2 are the overall within-place and between-place variances, respectively. The amount of information in a given place increases as a direct function of n_p and an inverse function of σ_y^2. Put differently, we become more confident in a given unpooled estimate as its sample size increases or the responses in that place become more consistent. For example, we should have more faith in an estimate with 400 respondents than one with 50; likewise, we should have more confidence in an estimate where 9 in 10 respondents give the same answer compared to one where half give one answer and half the other.

σ_α^2 captures the degree to which the statewide average masks place-level variation. As place-level variance approaches zero, geographic variation disappears and the statewide average becomes an appropriate estimate of opinion for all places. As place-level variance increases the nuances of each geographic place become more relevant, at least as bounded by each place's sample size n_p and internal variance σ_y^2. The multilevel model therefore offers a logical compromise between the unpooled and completely pooled extremes.

The implementation of MRP in our case is more complex than this simple example. We run the following model using Bayesian Markov Chain Monte Carlo sampling in RStan, which provides a good approximation of the posterior parameter space and gives us a set of several thousand plausible parameter estimates:

Individual Level

$$\Pr(y_i = 1) = logit^{-1}(\boldsymbol{X_i\beta} + \alpha_{s[i]} + \alpha_{p[i]}) \quad [2]$$

Group Level

$$\alpha_s \sim N(\mu_s, \sigma_s^2) \quad [2a]$$

$$\alpha_p \sim N(\boldsymbol{Z_p\gamma}, \sigma_p^2) \quad [2b]$$

where *i* subscripts for individual respondents, *s* for surveys, and *p* for places. Every outcome variable in the analysis (e.g., support for Trump's border wall, self-identification as a liberal Republican, etc.) is coded as binary and modeled with a logistic regression. The individual responses are a function of a set of demographic variables, $\boldsymbol{X}$, and offsets for survey α_s and place α_p. The survey offsets are in turn modeled as normally distributed with a mean μ_s and a standard deviation σ_s^2 that are estimated from the data. [1] $\boldsymbol{X}$ includes dummies for citizenship, gender, age 35-44, age greater than 45, some college education but no degree, college graduate, non-Hispanic white, and cell-phone only.

The place offsets are also normally distributed with their own standard deviation σ_p^2, but with a mean that is itself a function of a set of one or more place-level covariates $\boldsymbol{Z}$. The exact covariates differ from one model to the next, and were chosen for their high independent correlation with the individual-level responses to that particular survey question. To avoid overfitting, if we had more than one plausible place-level covariate we quickly ran models with maximum likelihood estimation that tested all combinations of these covariates and chose the one with the lowest deviance. Since we have only 46 places, in most cases one covariate produced the best fit through this process. The quality of the predictive power for these place-level covariates is important for the accuracy of the MRP approach, because when the relative information in a place is limited the place-level predictors do significant work in determining the final estimate (Buttice and Highton 2013).

The second part of MRP is poststratification, or weighting to population parameters to account for nonresponse. In our case we use the set of parameters from the model to generate predicted probabilities in IPUMS 2017 ACS data, and then collapse the IPUMS data to the place level using the weights provided by IPUMS to extrapolate to population values. Through this process, the collapsed probabilities get weighted to Census values for the demographics that are included in the model. For models where the outcome variable is voter registration or a subset of registered voters, we omit the citizenship covariate and then assign all noncitizens a value of zero in this predict-and-collapse phase of the analysis. The ultimate MRP estimate thus combines the precision of partial pooling with the low bias of poststratification weighting.

Incorporating Cell Phones

As the share of survey respondents with only cell phones has grown, the Statewide Survey has gradually increased the share of its interviews conducted on cell phones, to the point where it is now 70 percent. This presents two extra challenges for geographic analysis. First, cell phone numbers are not reliable identifiers of location. Customers are allowed to keep their cell phone number when they move and even when they switch providers. Someone with a 213 area code (central Los Angeles) might have moved somewhere else in Los Angeles or even outside the LA area entirely since first signing up for cell phone service. In the original Political Geography report, geographic location was identified with a respondent's area code and exchange (the first six

[1] The survey offsets exist only to account for any time-dependent variance, since the data consist of surveys collected over the course of about 18 months. Since the estimates in this report are not reported separately by survey, there is no need to model the survey offsets to improve precision.

digits of their phone number). The surveys had far fewer of the cell phone interviews where this method might create problems—some of the surveys had no such interviews and in others the share was just 10 percent. The analysis was conducted with and without cell phone respondents to ensure that any error in locating those respondents did not affect the results. With so much of the sample now composed of cell phones, this approach is no longer feasible.

Second, cell phone and landline numbers are separate sampling frames, so the two independent samples must be combined in a way that matches the actual population mix of cell phone and landline customers. In a typical Statewide Survey, the weights for this purpose are calculated only at the statewide level using data from the National Health Interview Survey. No sub-state estimates are readily available, even though we can be fairly certain that cell phone usage varies across our 46 places.

To solve the first problem—identifying respondent location—we abandoned phone numbers and used zip codes instead. All respondents were asked their zip code at the end of the survey. Those interviewed on a cell phone were also asked if they wanted to receive a payment for participating, in which case their zip code was obtained as part of retrieving their address to mail them the check as well. Together these two methods produced a zip code for 95 percent of respondents. We then used these zip codes to situate respondents in one of our 46 places.

To address the second problem—sub-state weights for combining the landline and cell phone samples—we raked the NHIS estimates of the cell-phone only population by demographic group and state. We first generated a national IPUMS sample with population by age, education, residence in a metropolitan statistical area, home ownership, poverty, race/ethnicity, and state (Ruggles et al. 2019). We then collapsed this file separately by each demographic variable, and for each set of collapsed population totals used the NHIS estimates to break these totals into cell-phone only and all others (Blumberg et al. 2012, Blumberg and Luke 2019, Statistics 2019). Finally, we raked the original census data across all seven demographic categories using the "survey" package for R. This produced population estimates for the intersection of all of these demographics and cell phone only status. We then merged this new IPUMS file into a broader IPUMS file that included these variables plus gender and PUMA, merged in our place definitions using PUMA as a linking variable, and then collapsed this file to the intersection of place and all of our weighting dummies (gender, age 35-44, age 45 and older, some college, college graduate, cell phone only). This final merge and collapse allowed our raked estimates of population by demographic group to project into our places through the covariance between the two in the population estimates of the census file.

FIGURE A1

Key to counties, county groups, and county subdivisions

NOTE: In our analysis we have combined some sparsely populated counties into groups and split some heavily-populated counties into subdivisions (according to area codes). This map key identifies the 46 places we have analyzed initially created in the 2012 report, California's Political Geography, according to the names of the county, county group, or county subdivision.

Appendix B. Multilevel Model Results

This appendix contains the detailed multilevel model results for the MRP estimates that appear in the main text. Because our poststratification weighting always targets the entire population of adults, our models always use the entire PPIC Statewide Survey sample for estimation. In some cases, however, our outcome of interest is reported only for a subset of the population. For these cases, we run separate MRP models for the numerator and the denominator, and divide one by the other for the entire set of MRP model outcomes. For example, for conservatives as a share of all registered Democrats, we ran separate models for conservative Democrat and Democrat. For each of our 46 places and each of the samples from the posterior distribution we calculated the share of adults who were registered Democrats, and who were conservative registered Democrats. We then divided the share who were conservative registered Democrats into the share who were registered Democrats. We used a similar approach for liberal Republicans, for the balance of independent leaners, for the balance of unregistered Californians, and for the balance of Trump approval among registered Californians.

TABLE B1

Model results; outcome variable: registered voter

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	1.10	[-0.31, 2.55]	2515.81	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Female	0.19	[0.10, 0.29]	2935.42	1.00
Non-Hispanic white	0.08	[-0.03, 0.18]	2654.25	1.00
Age 35–44	0.22	[0.07, 0.38]	2536.86	1.00
Age 45 and older	0.79	[0.68, 0.90]	2382.37	1.00
Some college	0.85	[0.73, 0.98]	2802.96	1.00
College graduate	1.35	[1.23, 1.47]	2556.53	1.00
Cell phone only	-0.52	[-0.62, -0.42]	2839.81	1.00
HIERARCHICAL PARAMETERS				
Official place-level registration rate	0.28	[-0.38, 0.94]	2530.46	1.00
Place standard deviation	0.08	[0.01, 0.17]	1763.98	1.00
Survey standard deviation	0.15	[0.08, 0.25]	1768.92	1.00

SOURCES: PPIC Statewide Surveys (March, May, July, September, October, November, December 2018; January, March, May, July, September 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Question wording: "Some people are registered to vote and others are not. Are you ABSOLUTELY CERTAIN that you are registered to vote in California?"

TABLE B2

Model results; outcome variable: registered as Democrat

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	-2.24	[-3.59, -0.86]	2499.63	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Female	0.57	[0.52, 0.62]	2808.12	1.00
Non-Hispanic white	-0.31	[-0.37, -0.25]	2864.84	1.00
Age 35–44	0.01	[-0.09, 0.12]	2275.69	1.00
Age 45 and older	0.32	[0.24, 0.40]	2657.76	1.00
Some college	0.01	[-0.07, 0.08]	2619.58	1.00
College graduate	0.29	[0.22, 0.36]	2634.52	1.00
Cell phone only	0.06	[0.00, 0.12]	2637.00	1.00
HIERARCHICAL PARAMETERS				
Official Democratic registration rate	3.92	[3.32, 4.51]	1929.85	1.00
Place standard deviation	0.17	[0.13, 0.23]	1886.17	1.00
Survey standard deviation	0.05	[0.01, 0.10]	1698.72	1.00

SOURCES: PPIC Statewide Surveys (March, May, July, September, October, November, December 2018; January, March, May, July, September 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3.

TABLE B3

Model results; outcome variable: registered as Republican

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	-3.29	[-4.75, -1.91]	2442.41	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Female	-0.29	[-0.35, -0.23]	2247.58	1.00
Non-Hispanic white	0.90	[0.83, 0.97]	2586.53	1.00
Age 35–44	0.35	[0.21, 0.49]	2649.04	1.00
Age 45 and older	0.66	[0.55, 0.76]	2496.18	1.00
Some college	0.32	[0.23, 0.41]	2619.41	1.00
College graduate	0.01	[-0.08, 0.09]	2427.96	1.00
Cell phone only	-0.28	[-0.35, -0.21]	2803.03	1.00
HIERARCHICAL PARAMETERS				
Official Republican registration rate	5.86	[4.59, 7.14]	1624.74	1.00
Place standard deviation	0.33	[0.26, 0.41]	1542.82	1.00
Survey standard deviation	0.06	[0.01, 0.13]	1949.86	1.00

SOURCES: PPIC Statewide Surveys (March, May, July, September, October, November, December 2018; January, March, May, July, September 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3.

TABLE B4

Model results; outcome variable: self-identified conservative registered as Democrat

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	-2.85	[-4.23, -1.43]	2349.55	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Female	0.34	[0.23, 0.44]	2662.78	1.00
Non-Hispanic white	-1.11	[-1.22, -1.00]	2665.41	1.00
Age 35–44	0.16	[-0.04, 0.36]	2542.44	1.00
Age 45 and older	0.55	[0.41, 0.70]	2629.67	1.00
Some college	-0.48	[-0.61, -0.36]	2725.59	1.00
College graduate	-0.87	[-1.00, -0.74]	2573.83	1.00
Cell phone only	0.11	[0.00, 0.22]	2680.60	1.00
HIERARCHICAL PARAMETERS				
Sanchez vote 2016	1.30	[0.24, 2.37]	2313.45	1.00
Place standard deviation	0.24	[0.15, 0.34]	1623.35	1.00
Survey standard deviation	0.15	[0.07, 0.25]	1937.00	1.00

SOURCES: PPIC Statewide Surveys (March, May, July, September, October, November, December 2018; January, March, May, July, September 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Ideology question wording: "Would you consider yourself to be politically very liberal, somewhat liberal, middle-of-the-road, somewhat conservative, or very conservative?"

TABLE B5

Model results; outcome variable: self-identified liberal registered as Republican

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	-4.87	[-6.36, -3.40]	2742.00	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Female	-0.05	[-0.22, 0.12]	3059.05	1.00
Non-Hispanic white	0.22	[0.04, 0.41]	2762.80	1.00
Age 35–44	-0.16	[-0.50, 0.18]	2657.70	1.00
Age 45 and older	0.01	[-0.24, 0.25]	2760.38	1.00
Some college	-0.34	[-0.56, -0.11]	2657.58	1.00
College graduate	-0.60	[-0.81, -0.39]	2766.49	1.00
Cell phone only	0.00	[-0.19, 0.18]	2826.17	1.00
HIERARCHICAL PARAMETERS				
Sanchez vote 2016	3.24	[2.03, 4.50]	2874.87	1.00
Place standard deviation	0.07	[0.01, 0.17]	2314.23	1.00
Survey standard deviation	0.09	[0.01, 0.22]	2285.96	1.00

SOURCES: PPIC Statewide Surveys (March, May, July, September, October, November, December 2018; January, March, May, July, September 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Ideology question wording: "Would you consider yourself to be politically very liberal, somewhat liberal, middle-of-the-road, somewhat conservative, or very conservative?"

TABLE B6

Model results; outcome variable: registered as independent, leans Democratic

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	-2.46	[-3.83, -1.04]	2552.10	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Female	-0.08	[-0.17, 0.00]	3053.90	1.00
Non-Hispanic white	-0.26	[-0.35, -0.18]	2863.83	1.00
Age 35–44	-0.22	[-0.36, -0.08]	2586.82	1.00
Age 45 and older	-0.51	[-0.61, -0.40]	2584.25	1.00
Some college	0.13	[0.01, 0.25]	2711.86	1.00
College graduate	0.27	[0.16, 0.37]	2518.96	1.00
Cell phone only	0.12	[0.02, 0.21]	2861.27	1.00
HIERARCHICAL PARAMETERS				
Presidential vote 2016	1.01	[0.63, 1.41]	2749.32	1.00
Place standard deviation	0.11	[0.04, 0.19]	1693.43	1.00
Survey standard deviation	0.07	[0.01, 0.15]	1850.79	1.00

SOURCES: PPIC Statewide Surveys (March, May, July, September, October, November, December 2018; January, March, May, July, September 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Leaning question wording: "Do you think of yourself as closer to the Republican Party or the Democratic Party?"

TABLE B7

Model results; outcome variable: registered as independent, leans Republican

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	-1.33	[-2.75, 0.09]	2590.63	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Female	-0.45	[-0.55, -0.36]	2991.29	1.00
Non-Hispanic white	0.07	[-0.02, 0.18]	2979.80	1.00
Age 35–44	0.15	[-0.03, 0.33]	2660.98	1.00
Age 45 and older	0.07	[-0.07, 0.21]	2555.16	1.00
Some college	0.07	[-0.07, 0.21]	2788.40	1.00
College graduate	-0.04	[-0.16, 0.09]	2393.85	1.00
Cell phone only	-0.04	[-0.14, 0.07]	2610.61	1.00
HIERARCHICAL PARAMETERS				
Presidential vote 2016	-1.66	[-2.06, -1.24]	2844.64	1.00
Place standard deviation	0.11	[0.02, 0.20]	1786.20	1.00
Survey standard deviation	0.09	[0.01, 0.17]	1657.72	1.00

SOURCES: PPIC Statewide Surveys (March, May, July, September, October, November, December 2018; January, March, May, July, September 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Leaning question wording: "Do you think of yourself as closer to the Republican Party or the Democratic Party?"

TABLE B8

Model results; outcome variable: unregistered, leans Democratic

	Coefficient Estimate	90% CI	Effective N	$\widehat{R}$
Intercept	-0.66	[-2.05, 0.75]	2445.99	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Citizen	-2.70	[-2.82, -2.57]	2592.70	1.00
Female	-0.13	[-0.24, -0.02]	2264.86	1.00
Non-Hispanic white	-0.18	[-0.33, -0.05]	2771.56	1.00
Age 35–44	-0.04	[-0.19, 0.12]	2518.35	1.00
Age 45 and older	-0.35	[-0.47, -0.22]	2518.19	1.00
Some college	-0.37	[-0.52, -0.22]	2577.29	1.00
College graduate	-0.47	[-0.60, -0.33]	2324.36	1.00
Cell phone only	0.47	[0.35, 0.59]	2584.80	1.00
HIERARCHICAL PARAMETERS				
Presidential vote 2016	0.61	[0.08, 1.13]	2452.98	1.00
Place standard deviation	0.18	[0.08, 0.27]	1703.01	1.00
Survey standard deviation	0.19	[0.10, 0.31]	1711.84	1.00

SOURCES: PPIC Statewide Surveys (March, May, July, September, October, November, December 2018; January, March, May, July, September 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Leaning question wording: "Do you think of yourself as closer to the Republican Party or the Democratic Party?"

TABLE B9

Model results; outcome variable: unregistered, leans Republican

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	-0.96	[-2.42, 0.45]	2446.37	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Citizen	-1.41	[-1.60, -1.22]	2717.96	1.00
Female	-0.36	[-0.51, -0.21]	2681.81	1.00
Non-Hispanic white	0.40	[0.22, 0.58]	2289.42	1.00
Age 35–44	-0.22	[-0.44, 0.00]	2673.32	1.00
Age 45 and older	-0.49	[-0.67, -0.32]	2526.75	1.00
Some college	-0.49	[-0.70, -0.30]	2622.59	1.00
College graduate	-1.09	[-1.29, -0.89]	2888.37	1.00
Cell phone only	0.42	[0.25, 0.59]	2690.67	1.00
HIERARCHICAL PARAMETERS				
Presidential vote 2016	-1.37	[-1.98, -0.80]	2872.08	1.00
Place standard deviation	0.12	[0.01, 0.25]	1712.02	1.00
Survey standard deviation	0.07	[0.01, 0.18]	2050.69	1.00

SOURCES: PPIC Statewide Surveys (March, May, July, September, October, November, December 2018; January, March, May, July, September 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Leaning question wording: "Do you think of yourself as closer to the Republican Party or the Democratic Party?"

TABLE B10

Model results; outcome variable: approves of Trump

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	0.28	[-1.10, 1.66]	2630.47	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Citizen	0.70	[0.58, 0.83]	2743.93	1.00
Female	-0.57	[-0.62, -0.51]	2568.13	1.00
Non-Hispanic white	0.57	[0.50, 0.63]	2415.70	1.00
Age 35–44	0.31	[0.20, 0.42]	2480.87	1.00
Age 45 and older	0.45	[0.36, 0.53]	2253.91	1.00
Some college	0.20	[0.12, 0.28]	2606.04	1.00
College graduate	-0.26	[-0.34, -0.19]	2473.08	1.00
Cell phone only	-0.16	[-0.23, -0.10]	2682.58	1.00
HIERARCHICAL PARAMETERS				
Presidential vote 2016	4.33	[1.08, 7.61]	2468.12	1.00
Place standard deviation	0.15	[0.10, 0.20]	2133.34	1.00
Survey standard deviation	0.07	[0.02, 0.13]	1866.84	1.00

SOURCES: PPIC Statewide Surveys (March, May, July, September, October, November, December 2018; January, March, May, July, September 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Question wording: "Overall, do you approve or disapprove of the way that Donald Trump is handling his job as president?"

TABLE B11

Model results; outcome variable: disapproves of Trump

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	-0.64	[-2.01, 0.72]	2454.89	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Citizen	-0.39	[-0.50, -0.29]	2663.57	1.00
Female	0.55	[0.49, 0.60]	2694.32	1.00
Non-Hispanic white	-0.48	[-0.54, -0.42]	2802.21	1.00
Age 35–44	-0.34	[-0.44, -0.24]	2617.71	1.00
Age 45 and older	-0.39	[-0.46, -0.31]	2642.76	1.00
Some college	-0.23	[-0.31, -0.16]	2683.73	1.00
College graduate	0.26	[0.19, 0.33]	2599.55	1.00
Cell phone only	0.14	[0.08, 0.20]	2827.32	1.00
HIERARCHICAL PARAMETERS				
Presidential vote 2016	2.74	[2.38, 3.09]	2111.53	1.00
Place standard deviation	0.17	[0.12, 0.22]	1822.68	1.00
Survey standard deviation	0.08	[0.04, 0.14]	1963.91	1.00

SOURCES: PPIC Statewide Surveys (March, May, July, September, October, November, December 2018; January, March, May, July, September 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Question wording: "Overall, do you approve or disapprove of the way that Donald Trump is handling his job as president?"

TABLE B12

Model results; outcome variable: registered voter, approves of Trump

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	0.71	[-0.68, 2.14]	2315.09	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Female	-0.52	[-0.58, -0.46]	2580.69	1.00
Non-Hispanic white	0.53	[0.47, 0.60]	2503.44	1.00
Age 35–44	0.41	[0.29, 0.53]	2876.23	1.00
Age 45 and older	0.60	[0.51, 0.69]	2802.40	1.00
Some college	0.32	[0.24, 0.41]	2555.41	1.00
College graduate	-0.11	[-0.19, -0.03]	2685.75	1.00
Cell phone only	-0.21	[-0.28, -0.15]	2661.35	1.00
HIERARCHICAL PARAMETERS				
Presidential vote 2016	-3.13	[-3.53, -2.72]	1880.95	1.00
Place standard deviation	0.20	[0.14, 0.26]	2068.49	1.00
Survey standard deviation	0.08	[0.03, 0.15]	2002.42	1.00

SOURCES: PPIC Statewide Surveys (March, May, July, September, October, November, December 2018; January, March, May, July, September 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Approval question wording: "Overall, do you approve or disapprove of the way that Donald Trump is handling his job as president?"

TABLE B13

Model results; outcome variable: registered voter, disapproves of Trump

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	-1.71	[-3.09, -0.32]	2427.36	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Female	0.51	[0.46, 0.57]	2690.35	1.00
Non-Hispanic white	-0.41	[-0.47, -0.35]	2610.06	1.00
Age 35–44	-0.22	[-0.33, -0.11]	2768.50	1.00
Age 45 and older	-0.18	[-0.26, -0.10]	2553.84	1.00
Some college	0.05	[-0.03, 0.13]	2677.66	1.00
College graduate	0.59	[0.51, 0.66]	2763.24	1.00
Cell phone only	0.04	[-0.03, 0.10]	2684.62	1.00
HIERARCHICAL PARAMETERS				
Presidential vote 2016	2.83	[2.45, 3.18]	2013.95	1.00
Place standard deviation	0.16	[0.11, 0.22]	1902.86	1.00
Survey standard deviation	0.09	[0.04, 0.16]	1952.06	1.00

SOURCES: PPIC Statewide Surveys (March, May, July, September, October, November, December 2018; January, March, May, July, September 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Approval question wording: "Overall, do you approve or disapprove of the way that Donald Trump is handling his job as president?"

TABLE B14

Model results; outcome variable: supports stricter gun control laws

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	-0.65	[-2.21, 1.01]	2339.49	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Citizen	-1.45	[-1.72, -1.17]	2754.49	1.00
Female	0.86	[0.75, 0.98]	3066.95	1.00
Non-Hispanic white	-0.23	[-0.34, -0.11]	2735.19	1.00
Age 35–44	0.10	[-0.09, 0.29]	2578.52	1.00
Age 45 and older	0.28	[0.13, 0.43]	2836.59	1.00
Some college	-0.40	[-0.55, -0.25]	2773.32	1.00
College graduate	0.07	[-0.07, 0.22]	2846.01	1.00
Cell phone only	0.08	[-0.04, 0.21]	3168.28	1.00
HIERARCHICAL PARAMETERS				
Proposition 63 vote 2016	3.72	[3.22, 4.22]	2769.02	1.00
Place standard deviation	0.09	[0.01, 0.20]	1818.49	1.00
Survey standard deviation	0.66	[0.17, 1.93]	1795.99	1.00

SOURCES: PPIC Statewide Surveys(March, October 2018; September 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Question wording: "In general, do you think laws covering the sale of guns should be more strict, less strict, or kept as they are now?"

TABLE B15

Model results; outcome variable: believes pay more than should in taxes

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	0.28	[-1.56, 2.15]	2628.30	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Citizen	0.61	[0.38, 0.84]	2811.36	1.00
Female	-0.04	[-0.16, 0.08]	2936.45	1.00
Non-Hispanic white	-0.18	[-0.31, -0.05]	2973.01	1.00
Age 35–44	0.41	[0.19, 0.64]	2800.03	1.00
Age 45 and older	0.25	[0.08, 0.42]	2667.44	1.00
Some college	0.18	[0.00, 0.36]	2566.89	1.00
College graduate	0.11	[-0.04, 0.27]	2150.64	1.00
Cell phone only	-0.08	[-0.21, 0.06]	2714.68	1.00
HIERARCHICAL PARAMETERS				
Proposition 6 vote 2018	-1.07	[-1.74, -0.42]	2537.94	1.00
Place standard deviation	0.13	[0.02, 0.25]	1819.36	1.00
Survey standard deviation	0.84	[0.07, 2.51]	2196.38	1.00

SOURCES: PPIC Statewide Surveys(March 2018; March 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Question wording: "When you combine all of the taxes you pay to state and local governments, do you feel that you pay much more than you should, somewhat more than you should, about the right amount, or less than you should?"

TABLE B16

Model results; outcome variable: believes state budget situation is a big problem

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	-0.20	[-2.05, 1.65]	2415.33	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Citizen	1.13	[0.86, 1.39]	2466.13	1.00
Female	-0.18	[-0.30, -0.06]	2792.37	1.00
Non-Hispanic white	-0.01	[-0.15, 0.12]	2345.17	1.00
Age 35–44	0.50	[0.26, 0.73]	2752.87	1.00
Age 45 and older	0.49	[0.33, 0.67]	2859.48	1.00
Some college	0.05	[-0.13, 0.21]	2302.50	1.00
College graduate	-0.42	[-0.58, -0.27]	2734.47	1.00
Cell phone only	-0.06	[-0.20, 0.07]	2792.11	1.00
HIERARCHICAL PARAMETERS				
Proposition 6 vote 2018	-2.11	[-2.82, -1.42]	2648.49	1.00
Place standard deviation	0.16	[0.06, 0.27]	1733.31	1.00
Survey standard deviation	0.83	[0.06, 2.52]	1981.95	1.00

SOURCES: PPIC Statewide Surveys(January, May 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Question wording: "Do you think the state budget situation in California—that is, the balance between government spending and revenues—is a big problem, somewhat of a problem, or not a problem for the people of California today?"

TABLE B17

Model results; outcome variable: immigrants are a benefit

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	-1.52	[-3.31, 0.25]	2557.70	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Citizen	-1.28	[-1.56, -1.00]	2892.53	1.00
Female	0.28	[0.17, 0.39]	2908.03	1.00
Non-Hispanic white	-0.53	[-0.66, -0.40]	3311.59	1.00
Age 35–44	-0.20	[-0.43, 0.04]	2827.34	1.00
Age 45 and older	-0.58	[-0.75, -0.42]	2628.31	1.00
Some college	-0.13	[-0.29, 0.02]	2803.80	1.00
College graduate	0.37	[0.22, 0.51]	2655.31	1.00
Cell phone only	0.32	[0.19, 0.44]	2982.33	1.00
HIERARCHICAL PARAMETERS				
Proposition 58 vote 2016	5.38	[3.93, 6.94]	2389.03	1.00
Place standard deviation	0.27	[0.17, 0.37]	1822.40	1.00
Survey standard deviation	0.25	[0.01, 0.94]	1556.03	1.00

SOURCES: PPIC Statewide Surveys(May, December 2018; September 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Question wording: "Please indicate which statement comes closest to your own view, even if neither is exactly right. [ROTATE] [1] Immigrants today are a benefit to California [OR] [2] Immigrants today are a burden to California?"

TABLE B18

Model results; outcome variable: favors state action to protect rights of undocumented

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	-2.51	[-4.14, -0.85]	2505.56	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Citizen	-0.86	[-1.08, -0.63]	2715.13	1.00
Female	0.43	[0.32, 0.54]	2606.05	1.00
Non-Hispanic white	-0.27	[-0.38, -0.15]	2750.27	1.00
Age 35–44	-0.61	[-0.81, -0.41]	2590.55	1.00
Age 45 and older	-0.76	[-0.92, -0.60]	2729.87	1.00
Some college	-0.20	[-0.36, -0.05]	2407.98	1.00
College graduate	0.08	[-0.06, 0.22]	2469.44	1.00
Cell phone only	0.18	[0.06, 0.29]	2832.47	1.00
HIERARCHICAL PARAMETERS				
Proposition 58 vote 2016	5.40	[4.28, 6.57]	2683.83	1.00
Place standard deviation	0.15	[0.04, 0.24]	1613.53	1.00
Survey standard deviation	0.23	[0.01, 0.92]	1717.02	1.00

SOURCES: PPIC Statewide Surveys(March, October 2018; March 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Question wording: "Do you favor or oppose the California state and local governments making their own policies and taking actions, separate from the federal government, to protect the legal rights of undocumented immigrants?"

TABLE B19

Model results; outcome variable: favors building Mexican border wall

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	-1.07	[-2.54, 0.42]	2484.60	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Citizen	1.55	[1.24, 1.88]	2603.83	1.00
Female	-0.48	[-0.59, -0.37]	2521.50	1.00
Non-Hispanic white	0.38	[0.26, 0.50]	2435.68	1.00
Age 35–44	0.56	[0.32, 0.78]	2425.54	1.00
Age 45 and older	0.77	[0.60, 0.95]	2585.04	1.00
Some college	0.26	[0.09, 0.42]	2764.06	1.00
College graduate	-0.12	[-0.27, 0.02]	2712.84	1.00
Cell phone only	-0.21	[-0.34, -0.09]	2396.70	1.00
HIERARCHICAL PARAMETERS				
Presidential vote 2016	-2.80	[-3.35, -2.27]	2628.34	1.00
Place standard deviation	0.18	[0.10, 0.28]	1796.68	1.00
Survey standard deviation	0.18	[0.01, 0.72]	1477.72	1.00

SOURCES: PPIC Statewide Surveys(March, October 2018; January 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Question wording: "All in all, would you favor or oppose building a wall along the entire border with Mexico?"

TABLE B20

Model results; outcome variable: supports the Affordable Care Act

	Coefficient Estimate	90% CI	Effective N	$\widehat{R}$
Intercept	-0.86	[-2.27, 0.59]	2691.46	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Citizen	-0.43	[-0.58, -0.27]	2875.51	1.00
Female	0.23	[0.14, 0.32]	3290.19	1.00
Non-Hispanic white	-0.27	[-0.37, -0.18]	2920.18	1.00
Age 35–44	-0.20	[-0.36, -0.04]	2663.73	1.00
Age 45 and older	-0.22	[-0.35, -0.10]	2688.11	1.00
Some college	-0.07	[-0.20, 0.05]	2725.48	1.00
College graduate	0.31	[0.20, 0.42]	2588.07	1.00
Cell phone only	0.10	[0.01, 0.19]	2785.17	1.00
HIERARCHICAL PARAMETERS				
Presidential vote 2016	2.19	[1.83, 2.57]	2464.53	1.00
Place standard deviation	0.09	[0.02, 0.17]	1737.28	1.00
Survey standard deviation	0.34	[0.11, 0.90]	1916.10	1.00

SOURCES: PPIC Statewide Surveys(May, October 2018; March, September 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Question wording: "A health reform bill was signed into law in 2010, known commonly as the Affordable Care Act or Obamacare. Given what you know about the health reform law, do you have a generally favorable or unfavorable opinion of it?"

TABLE B21

Model results; outcome variable: believes housing affordability is a big problem in their area

	Coefficient Estimate	90% CI	Effective N	$\hat{R}$
Intercept	-3.37	[-5.24, -1.46]	2694.91	1.00
INDIVIDUAL-LEVEL PARAMETERS				
Citizen	0.70	[0.48, 0.94]	2768.82	1.00
Female	0.37	[0.23, 0.50]	2734.24	1.00
Non-Hispanic white	-0.17	[-0.31, -0.01]	2861.05	1.00
Age 35–44	0.29	[0.05, 0.54]	2715.77	1.00
Age 45 and older	0.23	[0.04, 0.41]	2524.64	1.00
Some college	-0.01	[-0.20, 0.19]	2646.78	1.00
College graduate	0.07	[-0.10, 0.25]	2811.04	1.00
Cell phone only	0.27	[0.12, 0.42]	2367.87	1.00
HIERARCHICAL PARAMETERS				
Proposition 10 vote 2018	3.38	[2.28, 4.53]	2259.11	1.00
Median home price ($100,000s)	0.23	[0.18, 0.29]	2543.36	1.00
Place standard deviation	0.21	[0.06, 0.36]	1478.62	1.00
Survey standard deviation	0.73	[0.03, 2.35]	2122.14	1.00

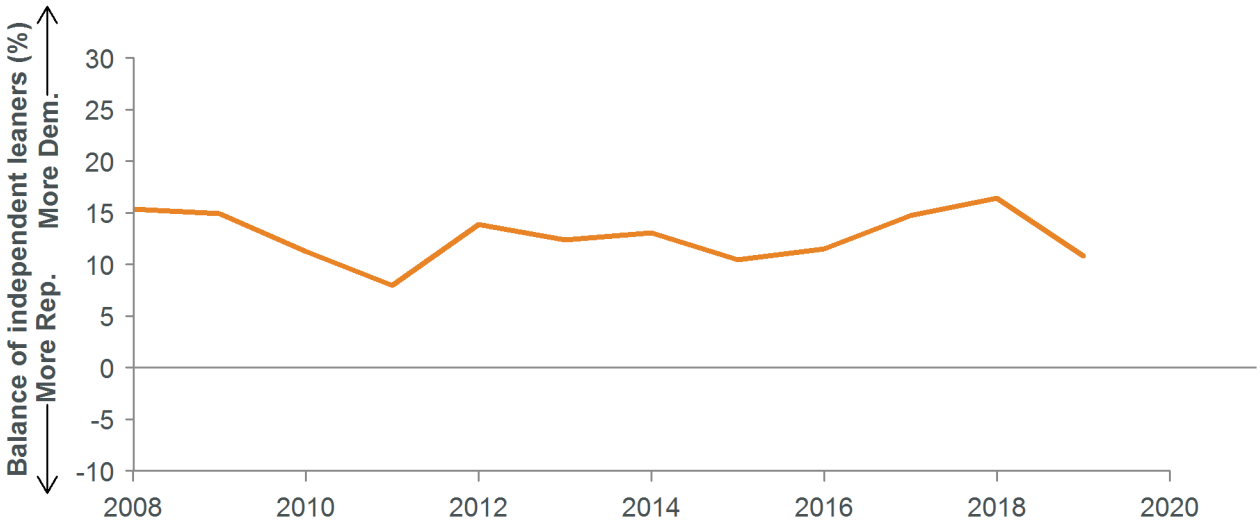
SOURCES: PPIC Statewide Surveys(October 2018; March 2019); Statewide Database (official place-level registration rates); Integrated Public Use Microdata Series 1% sample of 2017 American Community Survey (Ruggles et al. 2019) (Census estimates for weighting; median home price)

NOTES: Cell entries are Bayesian multilevel logit coefficients. Models were estimated in RStan, with 4 chains and a total of 4000 iterations in each, with a burn-in of 2000 iterations. To facilitate convergence, the model is non-centered for the place and survey means and standard deviations. The means for each were also constrained to fall between -1 and 1, and the standard deviations were constrained to fall between 0 and 3. Question wording: "How much of a problem is housing affordability in your part of California? Is it a big problem, somewhat of a problem, or not a problem?"

Appendix C. Additional Maps and Figures

FIGURE C1

Independents have leaned Democratic consistently over the last decade

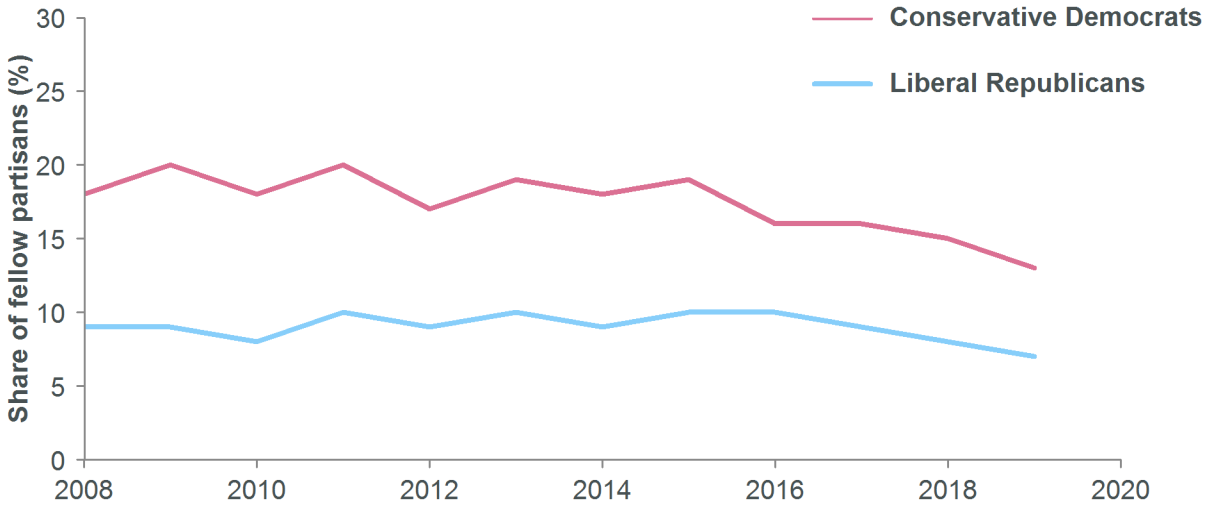


SOURCE: PPIC Statewide Surveys (2008-2019).

NOTE: Trend line represents the share of independents who lean Democratic minus the share who lean Republican.

FIGURE C2

Conservative Democrats have become somewhat less common, but otherwise change has been modest

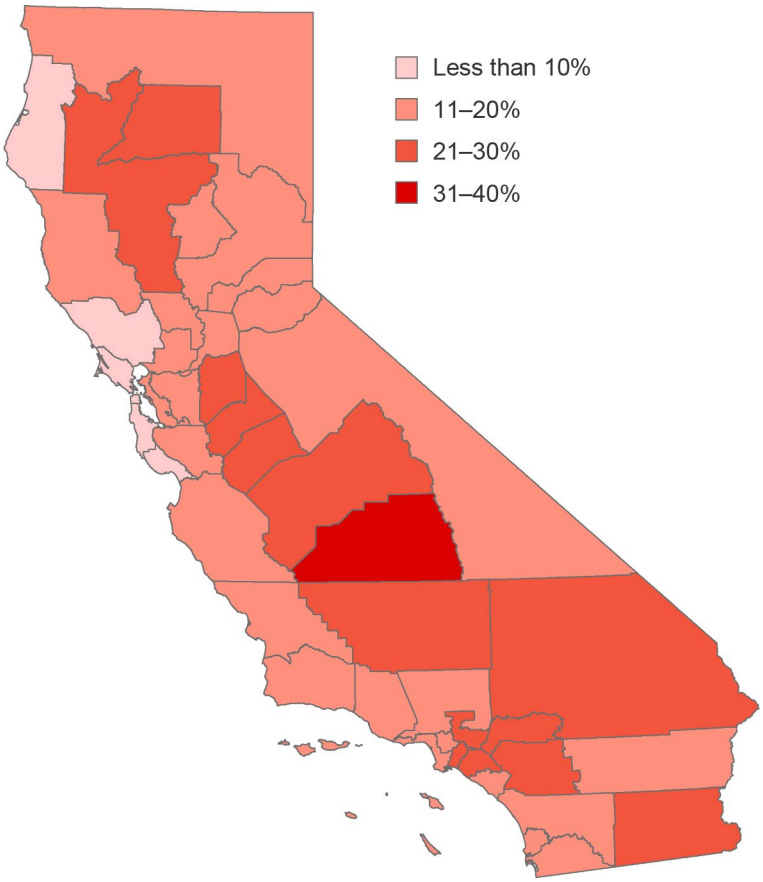


SOURCE: PPIC Statewide Survey (2008-2019).

NOTE: The light red trend line is the share of Democratic registrants and Democratic-leaning independents who self-identify as conservative. The light blue trend line is the share of Republican registrants and Republican-leaning independents who self-identify as liberal.

FIGURE C3

Conservative Democrats vary statewide and are concentrated in the Central Valley

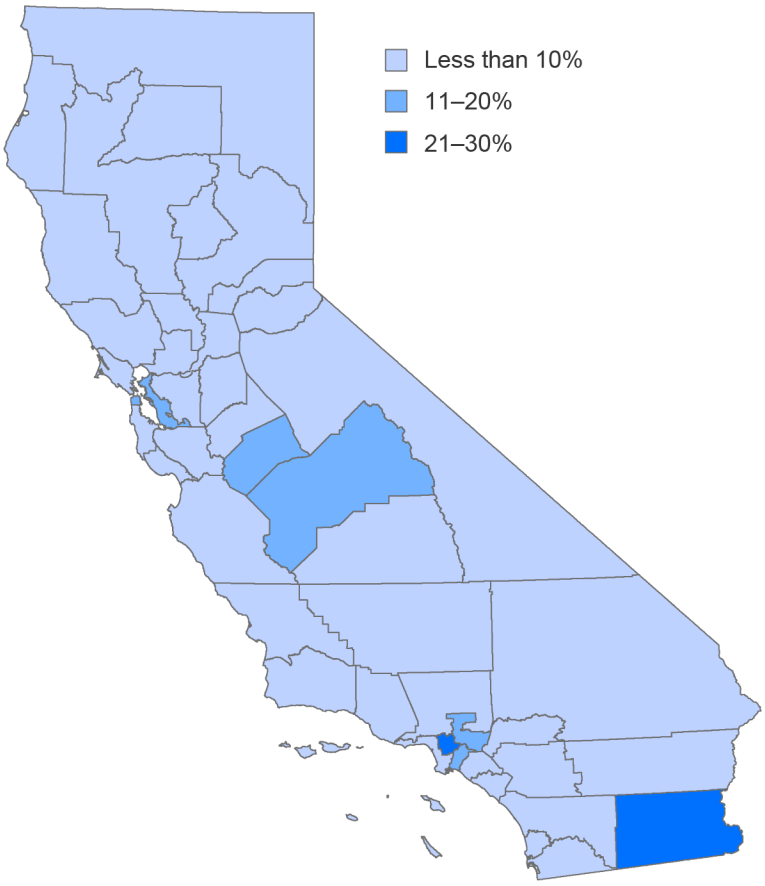


SOURCE: PPIC Statewide Surveys (March, May, July, September, October, November, December 2018; January, March, May, July, September 2019) (public opinion data); Statewide Database (elections data for modeling); National Health Insurance Survey (cell phone data for weighting); IPUMS American Community Survey 2017 (Census data for weighting).

NOTE: Shading represents the share of Democratic registrants and Democratic-leaning independents who self-identify as conservative. Estimates come from multilevel regression and poststratification models as described in Appendix A. Full model results can be found in Appendix B.

FIGURE C4

Liberal Republicans are rare everywhere

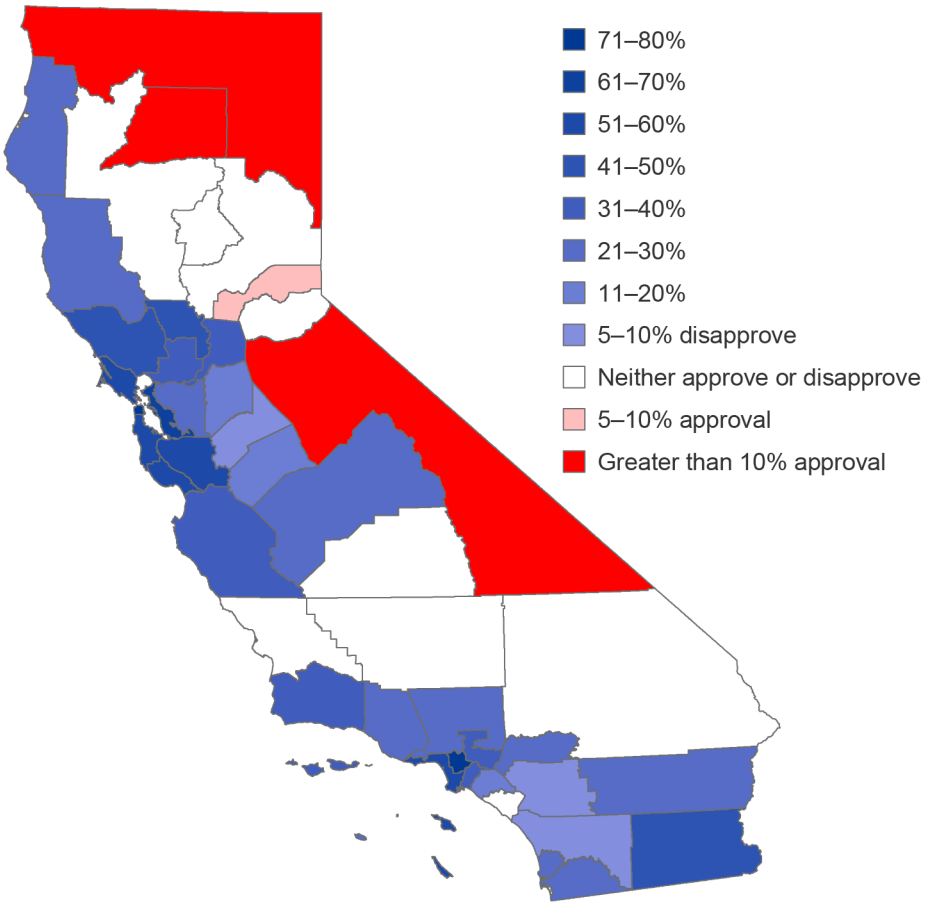


SOURCE: PPIC Statewide Surveys (March, May, July, September, October, November, December 2018; January, March, May, July, September 2019) (public opinion data); Statewide Database (elections data for modeling); National Health Insurance Survey (cell phone data for weighting); IPUMS American Community Survey 2017 (Census data for weighting).

NOTE: Shading represents the share of Republican registrants and Republican-leaning independents who self-identify as liberal. Estimates come from multilevel regression and poststratification models as described in Appendix A. Full model results can be found in Appendix B.

FIGURE C5

Trump approval minus disapproval: Registered voters only

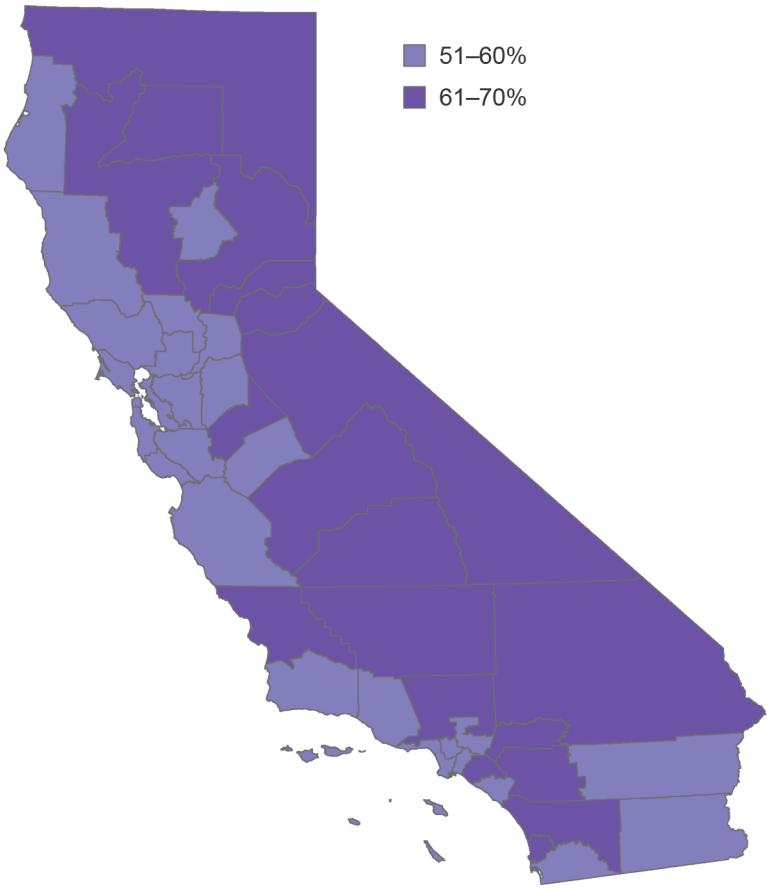


SOURCE: PPIC Statewide Surveys (March, May, July, September, October, November, December 2018; January, March, May, July, September 2019) (public opinion data); Statewide Database (elections data for modeling); National Health Insurance Survey (cell phone data for weighting); IPUMS American Community Survey 2017 (Census data for weighting).

NOTE: Shading represents the share of Californians who approve of Trump minus the share who disapprove. Estimates come from multilevel regression and poststratification models as described in Appendix A. Full model results can be found in Appendix B.

FIGURE C6

Majorities across the state consistently believe they pay too much in taxes

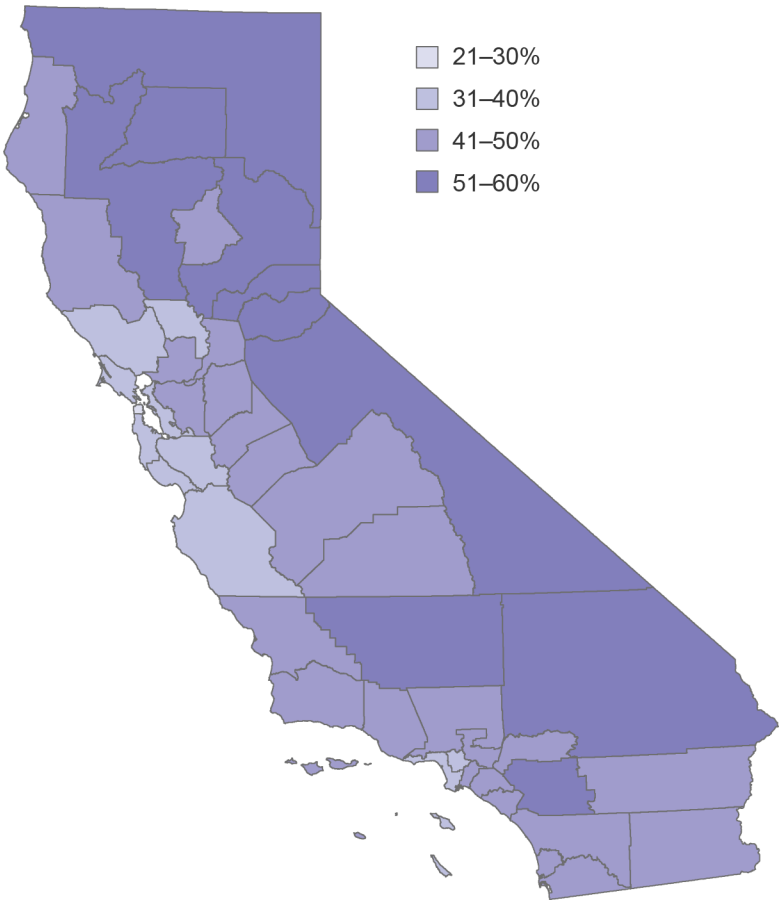


SOURCE: PPIC Statewide Surveys (March 2018; March 2019) (public opinion data); Statewide Database (elections data for modeling); National Health Insurance Survey (cell phone data for weighting); IPUMS American Community Survey 2017 (Census data for weighting).

NOTE: Question wording is "When you combine all of the taxes you pay to state and local governments, do you feel that you pay much more than you should, somewhat more than you should, about the right amount, or less than you should?" Shading represents the share of Californians who say they pay somewhat more or much more in taxes than they should. Estimates come from a multilevel regression and poststratification model as described in Appendix A. Full model results can be found in Appendix B.

FIGURE C7

Concern about the state budget is modest and similar in many places around the state

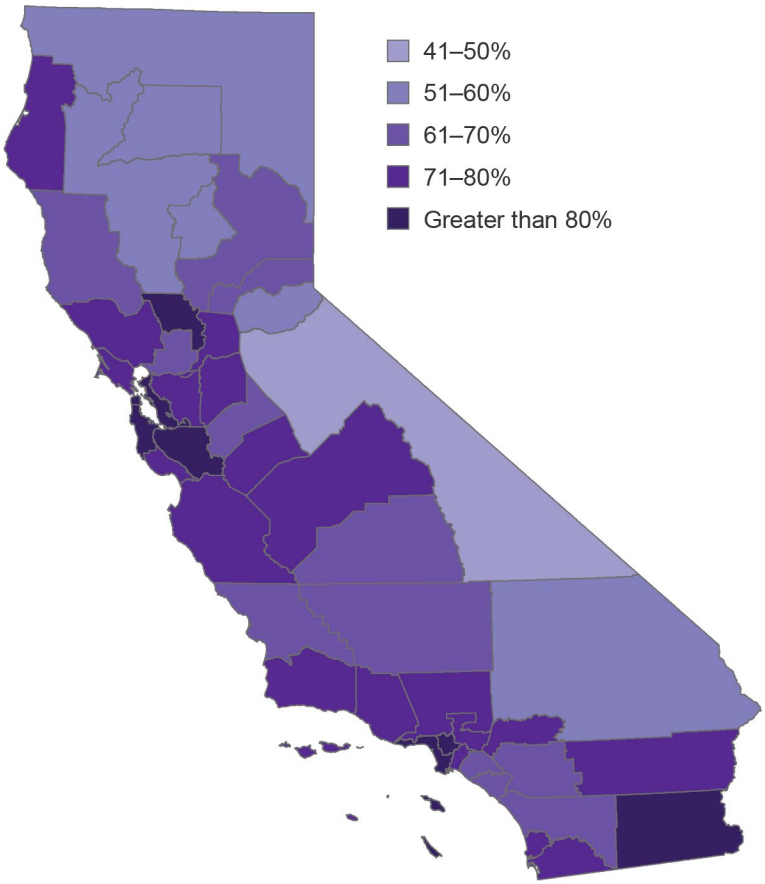


SOURCE: PPIC Statewide Surveys (January, May 2019) (public opinion data); Statewide Database (elections data for modeling); National Health Insurance Survey (cell phone data for weighting); IPUMS American Community Survey 2017 (Census data for weighting).

NOTE: Question wording is "Do you think the state budget situation in California—that is, the balance between government spending and revenues—is a big problem, somewhat of a problem, or not a problem for the people of California today?" Shading represents the share of Californians who say it is a big problem. Estimates come from a multilevel regression and poststratification model as described in Appendix A. Full model results can be found in Appendix B.

FIGURE C8

Majorities believe immigrants are a benefit in virtually every part of the state

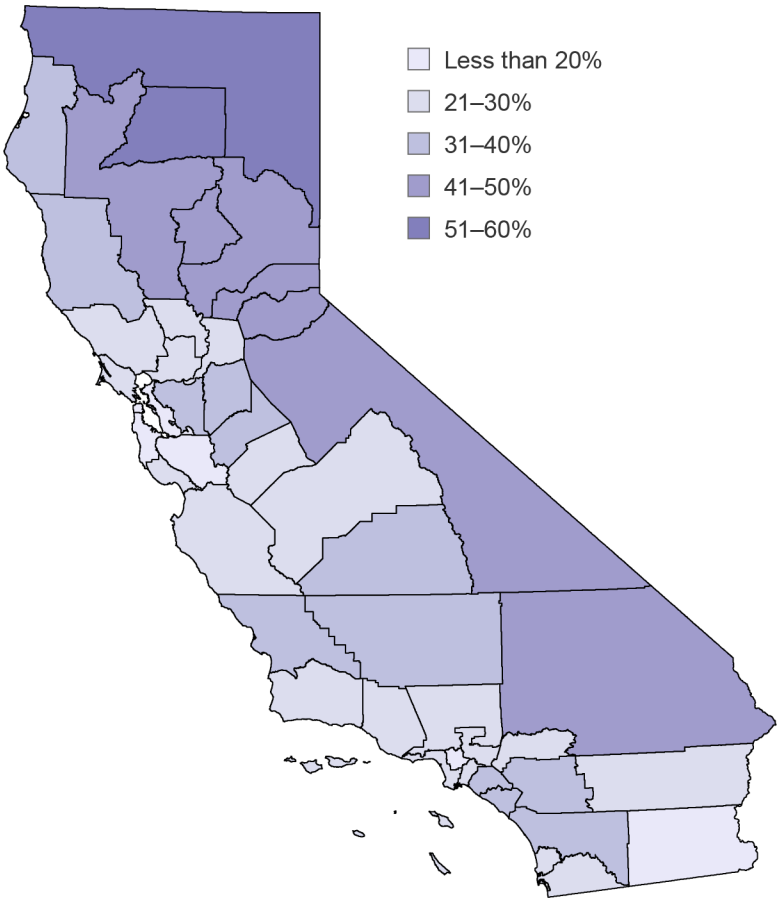


SOURCE: PPIC Statewide Surveys (May, December 2018; September 2019) (public opinion data); Statewide Database (elections data for modeling); National Health Insurance Survey (cell phone data for weighting); IPUMS American Community Survey 2017 (Census data for weighting).

NOTE: Question wording is "Please indicate which statement comes closest to your own view, even if neither is exactly right. [ROTATE] 1) immigrants today are a benefit to California [OR] 2) immigrants today are a burden to California." Shading represents the share of Californians who say that immigrants are a benefit. Estimates come from a multilevel regression and poststratification model as described in Appendix A. Full model results can be found in Appendix B.

FIGURE C9

Few places support Trump's proposed border wall with Mexico



SOURCE: PPIC Statewide Surveys (March, October 2018; January 2019) (public opinion data); Statewide Database (elections data for modeling); National Health Insurance Survey (cell phone data for weighting); IPUMS American Community Survey 2017 (Census data for weighting).

NOTE: Question wording is "All in all, would you favor or oppose building a wall along the entire border with Mexico?" Shading represents the share of Californians who say they favor building the wall. Estimates come from a multilevel regression and poststratification model as described in Appendix A. Full model results can be found in Appendix B.

PPIC

PUBLIC POLICY
INSTITUTE OF CALIFORNIA

The Public Policy Institute of California is dedicated to informing and improving public policy in California through independent, objective, nonpartisan research.

Public Policy Institute of California
500 Washington Street, Suite 600
San Francisco, CA 94111
T: 415.291.4400
F: 415.291.4401
PPIC.ORG

PPIC Sacramento Center
Senator Office Building
1121 L Street, Suite 801
Sacramento, CA 95814
T: 916.440.1120
F: 916.440.1121