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Voter Turnout in Primary Elections

Technical Appendices

Contents

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with research support from Daniel Krimm

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Appendix A: Primary Election Data

To calculate the impact of competition and initiative campaigns on turnout, we first collected data on primary turnout in all 50 states between 1980 and 2012. Caucuses were omitted. In those states with a runoff election to decide the final nominees, we included only the first-stage primary for better comparison to states without such a runoff contest. The special case of Louisiana, where the "primary" occurs on general election day and runoffs occur in December, was omitted from the analysis. Where states reported official turnout statistics for the primary election, we used those numbers. For those states that do not report official numbers, we followed standard practice and used the total votes from either the presidential, U.S. Senate, or gubernatorial race, whichever had at least one candidate running from each party and had the most votes cast. In cases where none of these was available, we were sometimes able to use votes for other statewide offices (e.g., Attorney General, Lieutenant Governor) or for statewide ballot measures. Cases where none of these sources was available were treated as missing data and dropped from the analysis. We then divided this raw turnout number by the total number of eligible voters, as calculated by the United States Elections Project (http://elections.gmu.edu/). In any state that does not permit independents in party primaries, this eligible voter number exaggerates the number who can actually participate. We conduct some analysis of open primaries in the main text to examine this issue.

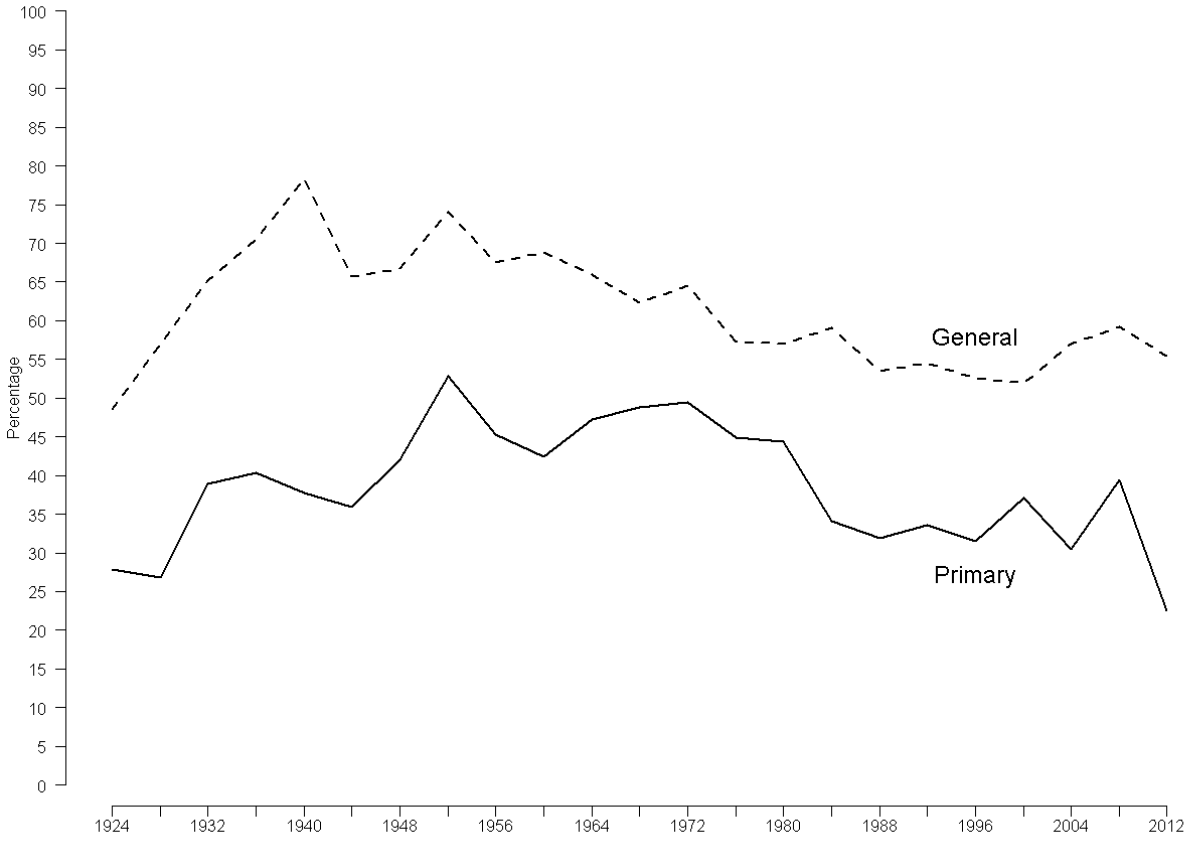
We measured competition by first calculating the raw vote difference between the top two candidates separately for each major party. This necessarily assumed that the main competitive issue was between candidates within each party, even in the small number of states with primary systems that allowed voters to cross party lines race by race. (During the period covered by this analysis, the list of such states at times included Alaska, California, Louisiana, and Washington.) If a primary race was uncontested, the sole candidate's total raw vote was treated as the margin of victory. In cases where only one party ran candidates but an official measure of total turnout for the entire state was available, we subtracted the total vote in the party that did run candidates from the total statewide turnout, and treated that as the margin of victory for that party. This had the effect of pretending as if the party that ran no candidates had an uncontested race, since the effects of an uncontested race are likely to be similar to the effects of no contest at all. We also calculated similar measures for ballot measure competition and incorporated any measure put to a popular vote for the entire state, including those measures placed on the ballot by the legislature.

Once we had calculated these raw vote margins, we then divided them by the total raw turnout to create a percentage margin that was weighted by the number of voters casting ballots in each party. Cases where there was no such contest on the ballot (e.g., the presidency in a midterm election) were assigned a margin of 100 percent. This left us with a variable that ranged from 0 for a tied result to 100 for an uncontested race or no race at all.

To gauge the effect of competition on turnout, we regressed our measure of turnout on the measures of competition for president, U.S. Senate, governor, and ballot measures. If there were multiple ballot measures in a given election, we used the one with the closest outcome. We also included dummies indicating whether a particular type of contest was on the ballot in the first place. These measured the effect of simply holding such a contest, and they also controlled for the coding of the competition variables (since these variables were arbitrarily assigned a value of 100 when no race was present).

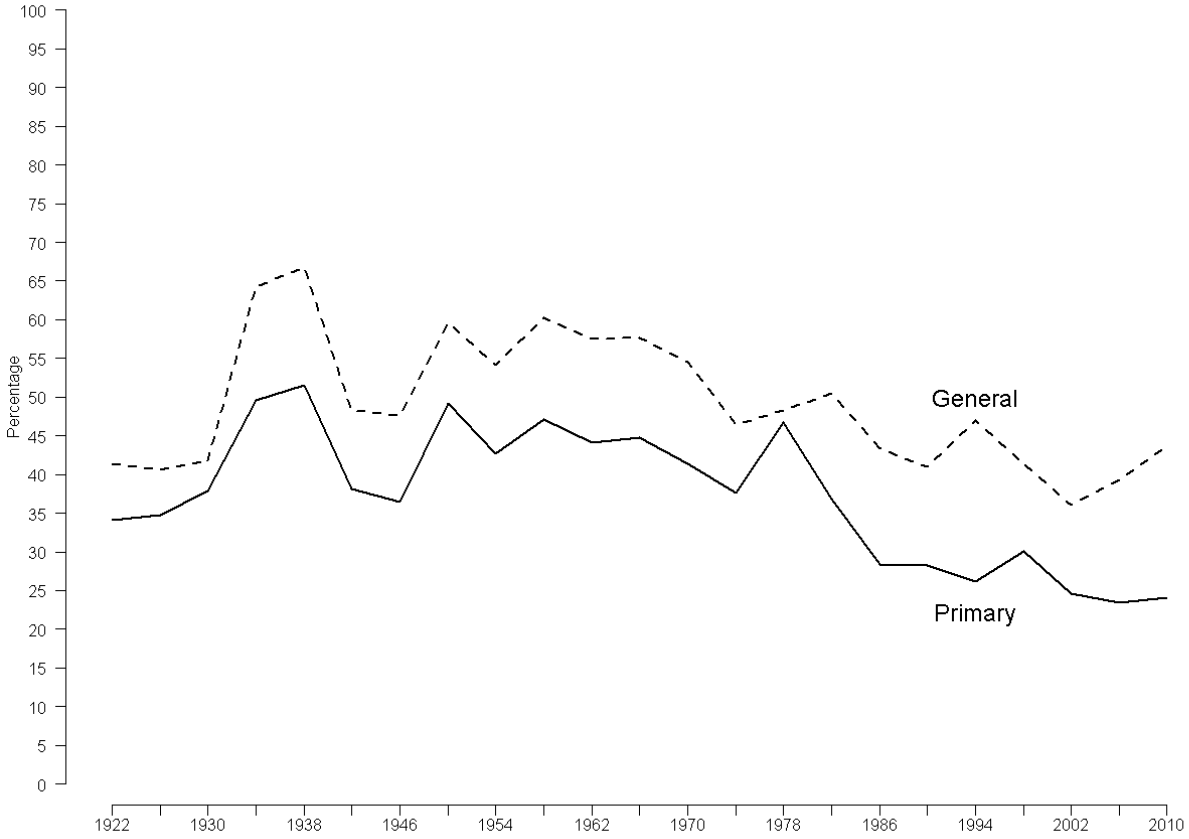
Appendix B: Detailed Model Results and Alternate Measures

FIGURE B1
Turnout in California's presidential primaries



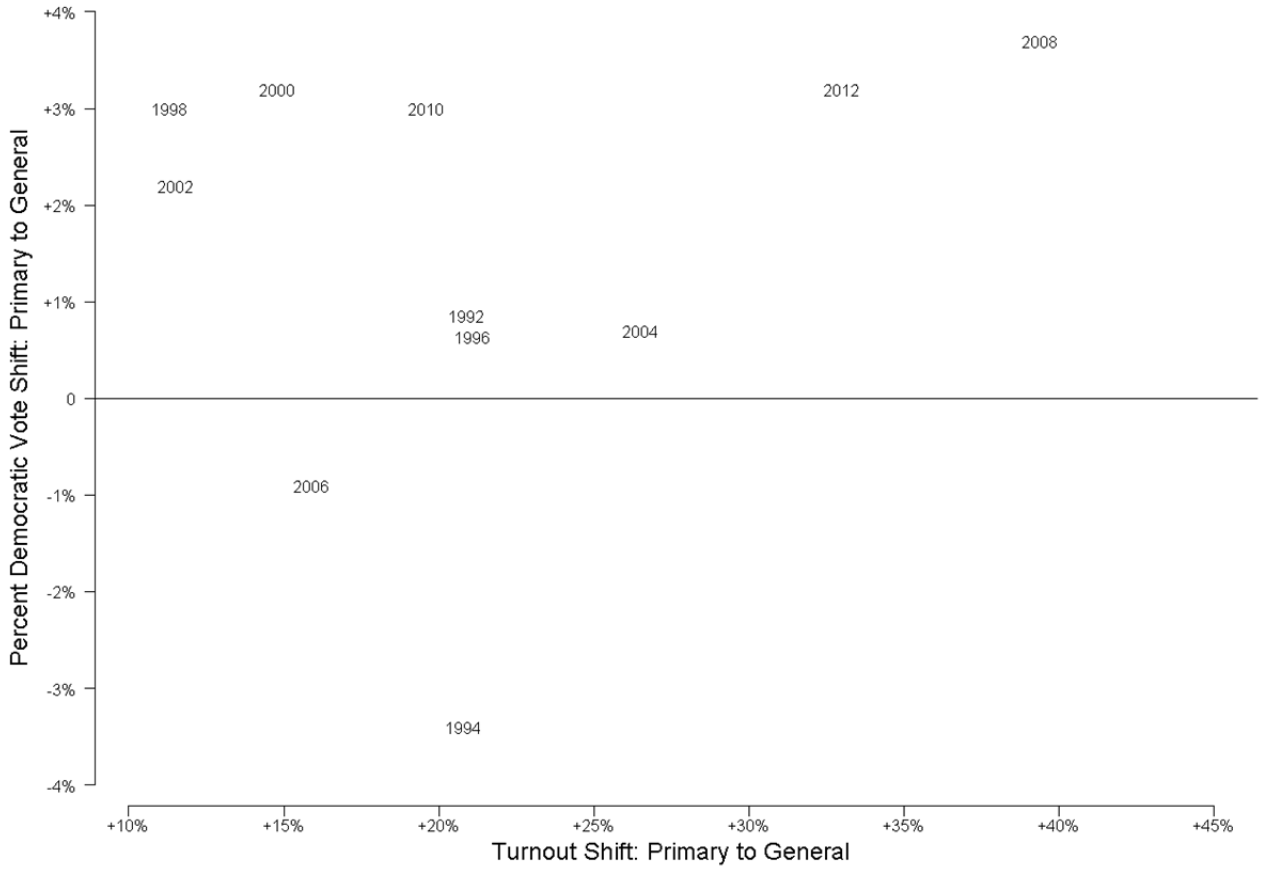
SOURCE: California Secretary of State.

FIGURE B2
Turnout in California's non-presidential primaries



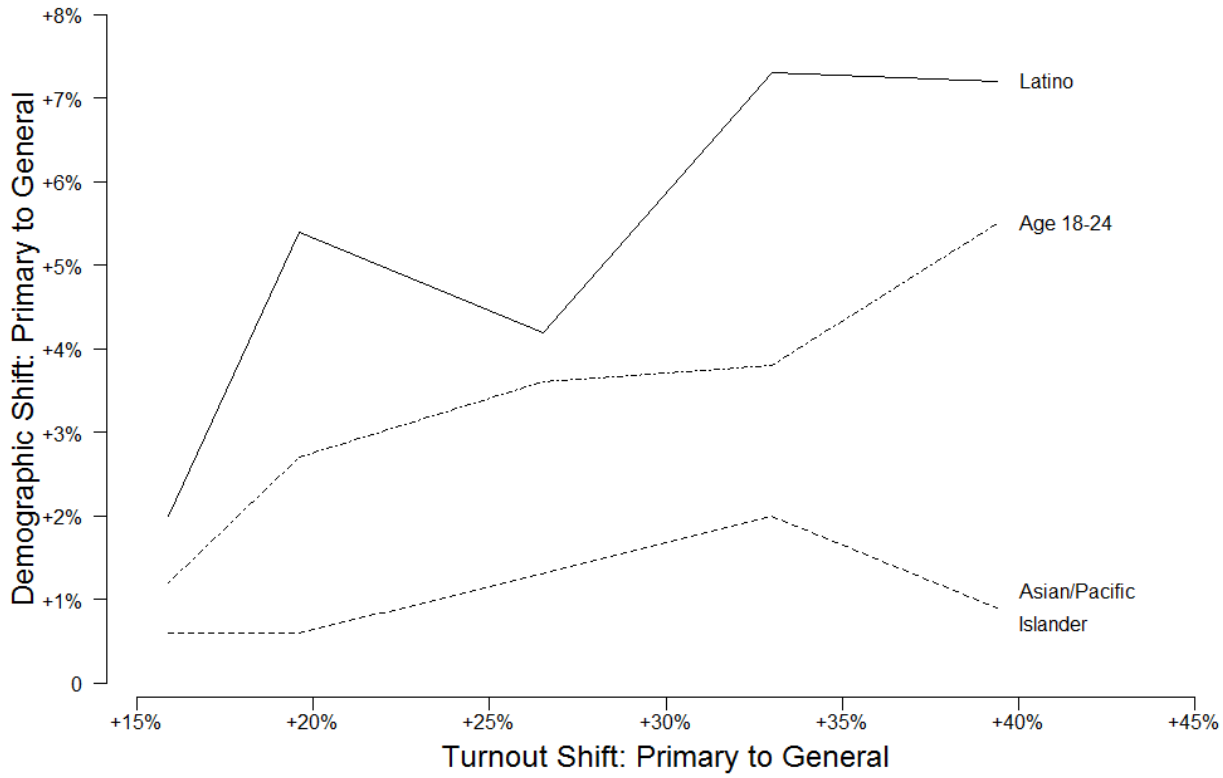
SOURCE: California Secretary of State.

FIGURE B3
The partisan shift from primary to general elections, against the turnout shift



SOURCE: California Secretary of State.

FIGURE B4
The demographic shift from primary to general elections, against the turnout shift



SOURCES: California Secretary of State (total turnout shift); Statewide Database (Demographic turnout, 2004 primary through 2012 primary; Political Data Incorporated (demographic turnout, 2012 general)

TABLE B1
Models of turnout in primary elections

	(1) Fixed effects only	(2) (1) + ballot measure competition	(3) (2) + candidate competition
Intercept	27.81***	26.54***	34.14***
	(1.75)	(1.90)	(2.06)
California's fixed effect	10.11***	5.56*	4.25*
	(2.15)	(2.35)	(2.13)
Ballot measure election	--	4.78***	5.13***
		(1.00)	(0.90)
Presidential election	--	--	3.26***
			(0.62)
U.S. Senate election	--	--	0.89*
			(0.44)
Gubernatorial election	--	--	3.10***
			(0.52)
Ballot measure margin	--	0.04	0.03
		(0.03)	(0.03)
Presidential margin	--	--	-0.12***
			(0.02)
U.S. Senate margin	--	--	-0.06***
			(0.01)
Gubernatorial margin	--	--	-0.11***
			(0.01)
Year fixed effects?	Yes	Yes	Yes
State fixed effects besides California?	Yes	Yes	Yes
Adjusted R^2	0.48	0.50	0.59
Root MSE	6.44	6.34	5.71
N	846	846	846

SOURCES: United States Elections Project (eligible voters and turnout, 1980–2012); National Conference of State Legislatures (ballot measure outcomes); Meinke et al., 2006 (Presidential primary types, 1980-2000); Stanley and Niemi, 2011 (Presidential primary types, 1980–2008); The Green Papers, www.thegreenpapers.com/ (Presidential primary types, 2000–2012); Congressional Quarterly Voting and Elections Collection (election outcomes); various Secretaries of State for primary types in races for non-presidential statewide offices, as well as remaining outcomes data.

TABLE B2
Models of turnout in general elections, for comparison to Table B1

	(1) Fixed effects only	(2) (1) + ballot measure competition	(3) (2) + candidate competition
Intercept	53.25***	52.70***	41.77***
	(1.36)	(1.43)	1.41
California's fixed effect	2.64#	2.64#	2.27
	(1.55)	(1.55)	(1.44)
Ballot measure election	--	0.61	0.69
		(0.47)	(0.44)
Presidential election	--	--	13.40***
			(0.79)
U.S. Senate election	--	--	1.24***
			(0.28)
Gubernatorial election	--	--	1.48***
			(0.33)
Ballot measure margin	--	-0.03*	-0.03*
		(0.01)	(0.01)
Presidential margin	--	--	-0.10***
			(0.02)
U.S. Senate margin	--	--	-0.04***
			(0.01)
Gubernatorial margin	--	--	-0.08***
			(0.01)
Year fixed effects?	Yes	Yes	Yes
State fixed effects besides California?	Yes	Yes	Yes
Adjusted R^2	0.86	0.86	0.88
Root MSE	4.00	3.99	3.71
N	801	801	801

SOURCES: United States Elections Project (eligible voters and turnout, 1980–2012); National Conference of State Legislatures (ballot measure outcomes); Meinke et al., 2006 (Presidential primary types, 1980–2000); Stanley and Niemi, 2011 (Presidential primary types, 1980–2008); The Green Papers, www.thegreenpapers.com/ (Presidential primary types, 2000-2012); Congressional Quarterly Voting and Elections Collection (election outcomes); various Secretaries of State for primary types in races for non-presidential statewide offices, as well as remaining outcomes data.

TABLE B3
Primary turnout in open and closed primary states, 1980–2012

	Open Primaries		Closed Primaries	
	Null model	Full model	Null model	Full model
Intercept	28.51***	35.91***	37.91***	38.46***
	(2.23)	(2.60)	(5.60)	(5.75)
Ballot measure election	--	5.01***	--	5.65***
		(1.17)		(1.46)
Presidential election	--	4.45***	--	1.43
		(0.75)		(1.18)
U.S. Senate election	--	0.99#	--	0.66
		(0.51)		(0.83)
Gubernatorial election	--	3.97***	--	0.97
		(0.58)		(1.25)
Ballot measure margin	--	0.06	--	0.00
		(0.04)		(0.04)
Presidential margin	--	-0.19***	--	-0.05
		(0.02)		(0.03)
U.S. Senate margin	--	-0.07***	--	-0.05*
		(0.01)		(0.02)
Gubernatorial margin	--	-0.12***	--	-0.10***
		(0.02)		(0.03)
Year fixed effects?	Yes	Yes	Yes	Yes
State fixed effects?	Yes	Yes	Yes	Yes
Adjusted R^2	0.45	0.62	0.59	0.64
Root MSE	6.69	5.62	5.60	5.23
N	586	586	260	260

SOURCES: United States Elections Project (eligible voters, 1980–2012); National Conference of State Legislatures (ballot measure outcomes); Meinke et al., 2006 (Presidential primary types, 1980-2000); Stanley and Niemi, 2011 (Presidential primary types, 1980–2008); The Green Papers, www.thegreenpapers.com/ (Presidential primary types, 2000–2012); Congressional Quarterly Voting and Elections Collection (election outcomes); various Secretaries of State for primary types in races for non-presidential statewide offices, as well as remaining outcomes data.

NOTE: State primaries were defined as "open" if independents were allowed to participate in any of the statewide offices in that election.

TABLE B4
General election turnout in open and closed primary states, 1980-2012 (placebo test for comparison with Table B3)

	Open Primaries		Closed Primaries	
	Null model	Full model	Null model	Full model
Intercept	54.78***	62.52***	60.68***	67.61***
	(1.61)	(4.19)	(1.26)	(4.14)
Ballot measure election	--	-0.85	--	-1.24
		(1.25)		(1.35)
Presidential election	--	6.19*	--	7.94***
		(2.77)		(2.33)
U.S. Senate election	--	-2.45*	--	-1.63
		(1.21)		(1.10)
Gubernatorial election	--	-5.33***	--	-5.64**
		(1.56)		(1.79)
Ballot measure margin	--	-0.02	--	-0.03#
		(0.02)		(0.02)
Presidential margin	--	-0.11***	--	-0.06*
		(0.03)		(0.02)
U.S. Senate margin	--	-0.05***	--	-0.02#
		(0.01)		(0.01)
Gubernatorial margin	--	-0.07***	--	-0.10***
		(0.02)		(0.02)
Year fixed effects?	Yes	Yes	Yes	Yes
State fixed effects?	Yes	Yes	Yes	Yes
Adjusted R^2	0.86	0.88	0.90	0.91
Root MSE	3.98	3.67	3.34	3.13
N	442	442	359	260

SOURCES: United States Elections Project (eligible voters and turnout, 1980–2012); National Conference of State Legislatures (ballot measure outcomes); Meinke et al., 2006 (Presidential primary types, 1980–2000); Stanley and Niemi, 2011 (Presidential primary types, 1980–2008); The Green Papers, www.thegreenpapers.com/ (Presidential primary types, 2000–2012); Congressional Quarterly Voting and Elections Collection (election outcomes); various Secretaries of State for primary types in races for non-presidential statewide offices, as well as remaining outcomes data.

TABLE B5
The effect of same-party races: regression discontinuity tests

Dependent variable	Treatment effect	p-value	Confidence interval
Votes cast as share of registered	-0.08	<0.01	[-0.12, -0.03]
Placebo tests			
Margin of victory	-0.23	0.02	[-0.42, -0.04]
Ballots cast as share of registered	0.00	0.88	[-0.04, 0.05]
Competitiveness of district (registration)	-0.07	0.30	[-0.22, 0.08]

SOURCES: California Secretary of State (primary votes cast); Political Data, Inc (primary ballots cast).

NOTES: Estimation was conducted on races that either became or failed to become same-party by fewer than five percentage points, and used the randomization inference method described in Cattaneo et al. (2013) to calculate margins of error. The decision to cast a ballot could be influenced by any race, while the decision to make a choice given that one has decided to cast a ballot is likely the product of dynamics in each particular race. Thus, we calculated the votes cast, margin of victory, and district competitiveness using districts as the unit of analysis. For ballots cast, by contrast, our unit of analysis was geographic territories within which all voters faced the same set of candidates. For this calculation, we defined the regression discontinuity bandwidth according to the race with the smallest margin of victory.

TABLE B6
Party registration of California's primary and general election voters over time

	Democratic registration margin among:		
	Primary voters	General election voters	Difference (General – Primary)
2004	5.9%	7.5%	+1.4% D
2006	9.8	7.5	+2.3% R
2008	8.4	13.3	+4.9% D
2010	2.2	10.0	+7.8% D
2012	5.6	14.0	+8.4% D

SOURCES: Statewide Database (2004–2010 general and primary, 2012 primary); Political Data Incorporated (2012 general).

TABLE B7
Model for simulation of primary-general turnout effect in 2012 (DV = Democratic share of primary vote)

	β	SE
Intercept	0.74***	0.12
Democratic share of primary turnout	0.42**	0.16
Republican share of primary turnout	1.00***	0.14
Adjusted R^2	0.92	
Root MSE	0.05	
N	128	

SOURCES: California Secretary of State (primary results); Political Data Incorporated (primary turnout by party registration).

NOTES: "Democratic share of primary turnout" and "Republican share of primary turnout" refer to the share of voters who cast ballots in the primary who were registered with each party. Only races with at least one candidate from each major party in the primary election have been included. Cell entries are ordinary least squares regression coefficients.
** $p < 0.001$, *** $p < 0.001$

TABLE B8
Explaining fall 2012 outcome with predicted values from the primary, as adjusted for turnout differences (DV = Democratic share of actual general election vote)

	β	SE
Intercept	-0.13***	0.02
Predicted fall vote	1.09***	0.03
Adjusted R^2	0.91	
Root MSE	0.05	
N	112	

SOURCES: California Secretary of State (primary results); Political Data Incorporated (primary turnout by party registration).

NOTES: "Predicted fall vote" refers to the predicted vote in each district as generated through the equation in Table B7 using turnout statistics from the fall election. Only races with at least one candidate from each major party in both the primary and the general election have been included. Cell entries are ordinary least squares regression coefficients.
*** $p < 0.001$

TABLE B9
Election reform and primary election turnout

	Election-day registration	Online registration
Intercept	34.38***	34.17***
	(2.12)	(2.06)
Election-day registration state	-2.23	
	(1.36)	
Closing date	-0.02	
	(0.05)	
Online registration state		1.80
		(1.41)
Ballot measure election	5.13***	5.13***
	(0.91)	(0.90)
Presidential election	3.19***	3.25***
	(0.62)	(0.62)
U.S. Senate election	0.91*	0.90*
	(0.44)	(0.44)
Gubernatorial election	3.07***	3.15***
	(0.52)	(0.52)
Ballot measure margin	0.03	0.03
	(0.03)	(0.03)
Presidential margin	-0.12***	-0.12***
	(0.02)	(0.02)
U.S. Senate margin	-0.06***	-0.06***
	(0.01)	(0.01)
Gubernatorial margin	-0.11***	-0.11***
	(0.01)	(0.01)
Year fixed effects?	Yes	Yes
State fixed effects?	Yes	Yes
Adjusted R^2	0.59	0.59
Root MSE	5.71	5.71
N	846	846

SOURCES: United States Elections Project (eligible voters and turnout, 1980–2012); National Conference of State Legislatures (ballot measure outcomes); Meinke et al., 2006 (Presidential primary types, 1980–2000); Stanley and Niemi, 2011 (Presidential primary types, 1980–2008); The Green Papers, www.thegreenpapers.com/ (Presidential primary types, 2000–2012); Congressional Quarterly Voting and Elections Collection (election outcomes); various Secretaries of State for primary types in races for non-presidential statewide offices, as well as remaining outcomes data.

References

Cattaneo, Matias D., Brigham Frandsen, and Rocio Titiunik. 2013. "Randomization Inference in the Regression Discontinuity Design: An Application to Party Advantages in the U.S. Senate." University of Michigan.

Meinke, Scott R., Jeffrey K. Staton, and Steven T. Wuhs. 2006. "State Delegate Selection Rules for Presidential Nominations, 1972–2000." *The Journal of Politics* 68(1): 180–193.

Stanley, Harold W., and Richard G. Niemi, eds. 2011. *Vital Statistics on American Politics 2011-2012.* Washington, D.C.: CQ Press.

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