

Gerrymandering Incumbency: Does Nonpartisan Redistricting Increase Electoral Competition?

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Many political advocacy groups, journalists, and scholars view redistricting as a major force to insulate legislative incumbents from electoral defeat. Motivated by this concern, reformers have proposed giving control over redistricting to “politically neutral” independent commissions. Freed from partisan and electoral pressure, independent redistrictors would be expected to draw districts without giving favor to parties or incumbents. We analyze two novel data sets of simulated and alternative redistricting plans to evaluate whether maps drawn by independent commissions are more electorally competitive than those produced by party-controlled legislatures. We find that redistrictors marginally help sustain the electoral security of incumbents. Yet counter to expectations, we find that independent redistrictors produce virtually the same degree of insulation as plans devised in legislatures or by politician commissions. Overall, our results suggest caution in overhauling state redistricting institutions as a mechanism to increase electoral competition; independent commissions may not be as politically neutral as theorized.

What can explain the electoral security of legislative incumbents in the United States? Popular accounts often point to the insulating effects of redistricting, with legislators drawing their own district boundaries to ensure reelection. Characteristic of this concern, a recent *New York Times* column argues that “political control of the map-drawing process . . . aided by sophisticated computer programs that can microtarget political affiliation . . . has stuffed Congress and state legislatures with increasingly safe seats, making lawmakers difficult to dislodge no matter what they do” (Hulse 2016). This view is not uncommon, including among scholars who worry that such insulation may allow polarized legislators to enact policies out of step with public opinion or to obstruct policy making (e.g., Carson et al. 2014). Given this concern, reformers are pushing to wrest control of redistricting away from partisan legislatures and to empower

nonpartisan commissions as a way to increase electoral competition and improve representation. And these efforts are gaining momentum, in part because of their broad public support.¹ Voters in Ohio and South Dakota recently considered ballot initiatives to create independent commissions, with Ohio passing its measure. Petitioners in Illinois collected nearly half a million signatures to initiate a ballot question and citizens in Colorado filed a similar proposal before both were rejected by state courts.

When redistricting is controlled by elected officials, political considerations can loom large. Legislatures with unified party control may gerrymander to increase the majority’s seat share, potentially insulating incumbents of their own party. Divided legislatures or bipartisan agencies may log roll maps to protect incumbents of both parties. In contrast, independent commissioners need not compete in elec-

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1. Polls in a number of states (e.g., North Carolina) show large majorities of voters support nonpartisan redistricting.

tions or for political appointments and thus promise a redistricting process divorced from political pressures and ambition. Consequently, commissions are expected to draw districts that more closely adhere to constitutional constraints (e.g., compactness, minority nondilution) and, in turn, expose incumbents to greater electoral risk (Edwards et al. 2017; Lindgren and Southwell 2013).

Yet empirical evidence about the consequences of adopting independent commissions is decidedly mixed. Some studies find that districts drawn by legislatures are less competitive than districts drawn by “politically neutral” commissions (Carson et al. 2014; Grainger 2010; Lindgren and Southwell 2013; McDonald 2006). Yet other work indicates that redistricting of institutions has little effect on electoral competition, neither decreasing incumbent win margins nor increasing challenger entry (Abramowitz et al. 2006; Forgette et al. 2009; Masket et al. 2012). Some scholars uncover countervailing trends; incumbents may be less likely to face strong challengers when legislatures redistrict but paradoxically get unseated at similar or higher rates (Cottrill 2012; Gelman and King 1994).

We offer new evidence on the link between redistricting and competition. Expanding on innovations by Chen and Rodden (2013) and Altman and McDonald (2015), we compare measures of district competitiveness between enacted redistricting plans and two sets of counterfactual maps that could have been but were not enacted during the 2010 cycle. Specifically, we observe whether independent commissions adopt maps that are as competitive as the plausible set of alternatives for the same state, comparing this to the distortion found in states where legislatures conduct redistricting. We first analyze maps built from randomized redistricting simulations that only incorporate equal population and contiguity requirements (Chen and Cottrell 2016). We augment this with an original collection of all alternative maps officially debated by state redistricting institutions (Altman and McDonald 2015). Together, these data provide the strongest evidence to date about whether independent agencies increase electoral competitiveness.

We find that redistricting sustains the electoral security of incumbents in general. Maps that are eventually implemented show consistently larger incumbent vote advantages than would be expected given geographic and legal-political constraints. Most notably, we find that the incumbency bias persists regardless of whether politicians or citizens are in charge of redistricting. Independent redistrictors produce virtually the same degree of insulation as (bi)partisan plans devised in legislatures or by political appointees. Our findings suggest that replacing parties with independent redistrictors is unlikely to increase competition in legislative elec-

tions, offering little remedy to contemporary concerns about representation.

DATA AND EMPIRICAL STRATEGY

We draw on data collected by Levitt (2010), and our own analysis, to categorize each state’s actual redistricting procedure for each legislative body. Our analyses focus on five categories: Democratic plans (legislature with unified Democratic control), Republican plans (legislature with unified Republican control), bipartisan plans (legislature under divided government or a political commission), court plans, and independent commission plans. Although simplifying, this categorization captures the range of institutional devices of most interest to political actors, reformers, and scholars of redistricting (Carson et al. 2014; Chen and Cottrell 2016; Edwards et al. 2017; Gelman and King 1994; Levitt 2010).² In 2010, most US House maps were drawn by Republican-controlled state legislatures. While most state-level jurisdictions were drawn by bipartisan legislatures or politician commissions, many more were created by Republican- rather than Democratic-controlled legislatures. Independent commissions redistricted only a handful of states.

Rather than compare final maps across states with and without independent commissions (Edwards et al. 2017; Forgette et al. 2009), we adopt an approach similar to Altman and McDonald (2014, 2015), Chen and Cottrell (2016), and Chen and Rodden (2013) in their analyses of partisan gerrymandering.³ These authors make comparisons between the final maps adopted by redistricting agents and counterfactual sets of alternative maps that could have been adopted within the same state. Using 2000 cycle data, Chen and Rodden (2013) simulate randomly generated redistricting plans that use only equal apportionment and contiguity as criteria. Political motivations, like partisanship or incumbency, are never considered. In being randomly drawn, these maps should capture whatever baseline electoral security we would expect absent any “politics” in redistricting. For each simulated plan, Chen and Rodden (2013) analyze precinct-level vote data to determine which hypothetical US House and state senate and assembly districts would have received more Bush or Gore votes in the 2000 election. From this, the authors estimate the expected share of districts likely to elect Republicans for each simulation and compare this baseline to the

2. See table A1 in the appendix, available online, for a state-by-state breakdown of redistricting institutions. For more detail on how states conduct redistricting, see <http://redistricting.ils.edu>.

3. Cross-state comparisons are likely misleading. Independent redistricting is only found in western states, with lopsided majorities that naturally dampen district competitiveness.

number of Republican-won districts in the final enacted plans. Chen and Cottrell (2016) extend this analysis for House districts in the 2010 cycle using the 2008 presidential vote. Any surplus of party seats is interpreted as evidence of partisan gerrymandering.

We conduct a similar analysis of electoral competition. Initially, we analyze the simulated House maps produced by Chen and Cottrell (2016) for redistricting in 2010. Our main measure of competitiveness, expected margin of victory, is the absolute value of the party win margin in a district, or roughly, the surplus of votes that a winning incumbent might expect, on average, for a given plan. This measure incorporates the logic that incumbents with larger win margins would survive bigger electoral downturns year to year and deter strong challengers from contesting their seats.⁴ Following prior work, we use the 2008 two-party presidential vote (Chen and Cottrell 2016; Chen and Rodden 2013).⁵

Despite the usefulness of simulation approaches, we recognize their limitations. By design, simulations produce districts that adhere to minimalist constitutional requirements, approximated algorithmically. These exclude real legal and political constraints mapmakers face, including mandates to preserve majority-minority districts. A possible consequence is that simulations may overly concentrate Democrats in urban districts, thus overstating the baseline effect of geography on redistricting (Altman and McDonald 2014).⁶

Given these concerns, we introduce and examine a novel data source—the set of all alternative maps that redistrictors publicly considered during the apportionment process. In many states, regardless of the redistricting procedure in place, redistrictors solicit map proposals from the public, including legislators, researchers, citizens, and interest groups.⁷ In some states, these maps are made publicly available, alongside all of the proposals introduced as legislation or considered during the meetings of the redistricting commissioners. We follow a similar approach innovated by Altman and McDonald (2014,

2015) in their study of party gerrymandering in Florida, Ohio, and Virginia. We collected 1,627 maps across 15 states that meet equal population and contiguity constraints from the full set of data made publicly available by state legislatures or redistricting commissions. Importantly, the states in our sample vary in the way redistricting is conducted.⁸

To construct measures of 2008 district win margins for each alternative map, we use both block-to-precinct data made available by McDonald and Altman (2011) and voting district shapefile data collected by Ansolabehere et al. (2015). In contrast to simulations, these maps incorporate the fuller set of legal and political considerations, like minority vote protections, redistrictors must balance. These counterfactuals allow us to assess the real trade-offs that redistrictors made in selecting final maps from among the reasonable alternatives and especially how these choices differ depending on who is in charge of the process.

RESULTS FROM 2010 US HOUSE REDISTRICTING

From our analysis of 2010 congressional maps, figure 1A plots the distribution of simulated House plans for the 42 states analyzed by Chen and Cottrell (2016), and figure 1B plots both simulated and alternative proposals for 12 (of 15) states that publicized alternative House plans. Triangles represent the average district expected margin of victory for all House seats in a state under one simulated plan. Filled circles indicate the average seat expected margin of victory for each alternative plan. Open circles indicate the mean margin of victory under the final adopted map, with circumferences proportional to the standardized distance from the average of the distribution of simulated or alternative maps (interpretable as a *z*-score).

In figure 1A, we find that redistrictors typically adopt US House maps in 2010 that are consistently less competitive than simulated plans. Across the states, the adopted plans yield vote margins that are 2.4 percentage points safer than the average simulated map. Furthermore, 43% of states have final maps that are less competitive than every single simulation, with the median plan being less competitive than 99% of simulations.

4. We find identical results examining median win margins, counts of competitive seats at empirically derived thresholds, and seat flip probabilities. See the appendix for details.

5. We use 2008 elections because these are not conditional on the redistricting process, while elections in 2012 and after would be “post-treatment” to enacted plans. Many things could change across precincts in being assigned to a particular district and map, and we cannot observe precinct voting under any alternatives redistrictors did not implement. We use 2008 party registration for Florida and Nevada, as precinct presidential vote data were not available for those states.

6. However, such an effect would likely understate the degree to which redistrictors adopt plans that insulate incumbents above what would emerge as a product of population or geography.

7. In North Carolina, community meetings were held across the state to collect public input. Citizens were encouraged to propose maps online and comment on official proposals.

8. We collected virtually every map publicly considered in Alaska, Arizona, California, Colorado, Florida, Idaho, Montana, Nevada, New Mexico, North Carolina, Ohio, South Carolina, Texas, Virginia, and Washington. Any maps restricted from the public would be excluded. Our convenience sample includes every nonpartisan state but no Democratic legislative plans and only a handful of Republican, court, and bipartisan maps. This may limit the generalizability of our findings if we expect that Democratic legislatures redistrict in ways fundamentally different from how Republicans redistrict. We have no *ex ante* reason to suspect this, as other research suggests that Democrats (e.g., Maryland) and Republicans (e.g., Texas) both gerrymander when possible. Future research should examine this and other generalizability concerns.

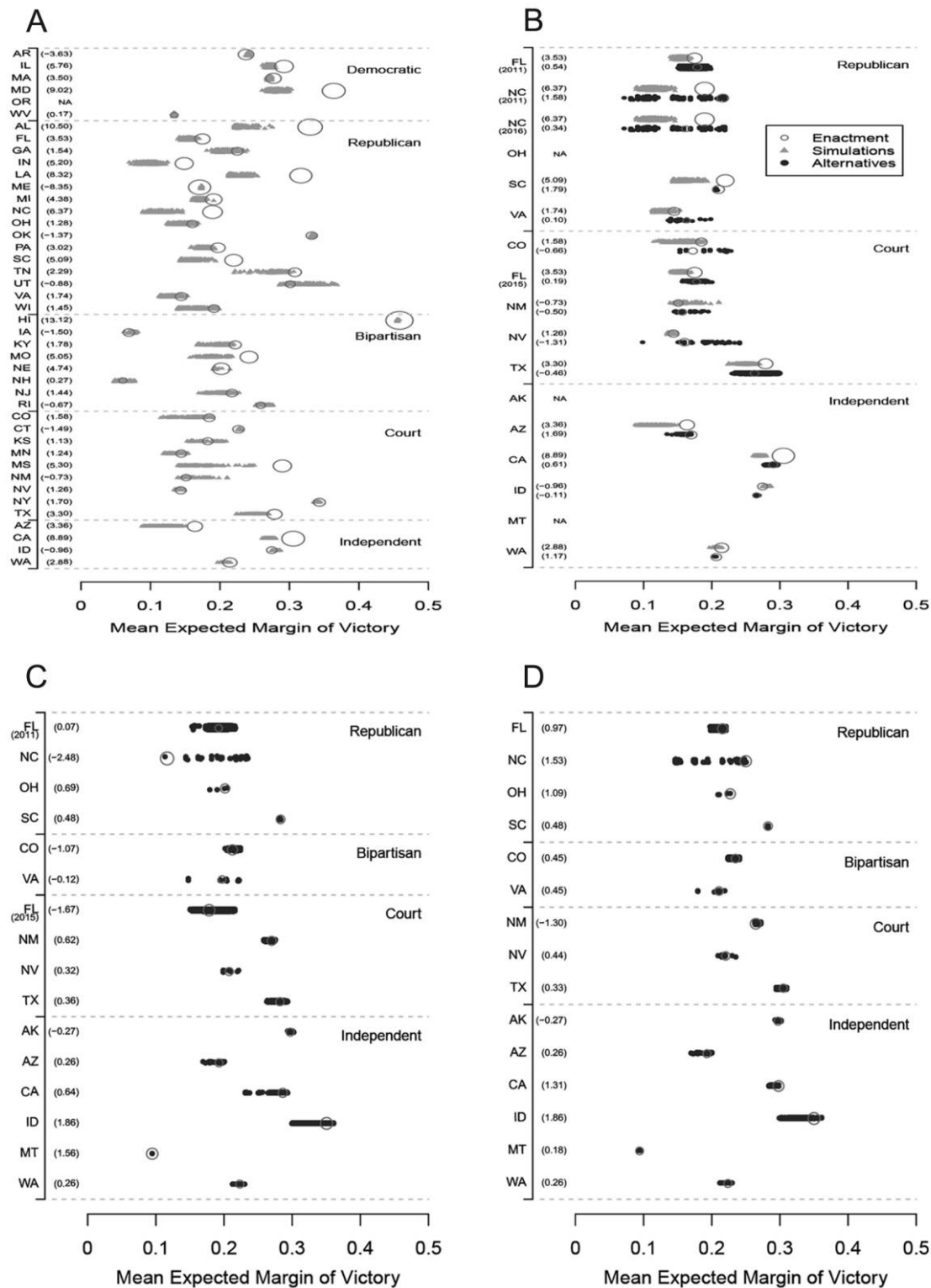


Figure 1. Competitiveness of US House and state senate and assembly districts for enacted, simulated, and alternative plans in 2010. Expected incumbent win margins are displayed for each enacted plan (open circles), simulation (triangles), and publicized alternative (filled circles) in the 2010 cycle, by redistricting mode. Shown are US House simulations for 42 states (A) and simulations and publicized plans for 12 states (B), with publicized maps for 15 states for the state senate (C) and assembly (D). Open circles are proportional to standardized distances between enactments and average alternatives.

Turning to figure 1B, we see again that redistrictors enact plans that are much less competitive than the alternatives debated during the mapmaking process. Of the noncourt plans (i.e., by legislature or commission), expected win margins under the final maps were 1.2 percentage points less competitive than the alternative proposals, with 33% of these House plans being safer than nearly all the maps proposed to redistrictors. Perhaps most striking, the median final (noncourt) House plan is more insulated than 76% of the remaining unimplemented proposals. This distortion amounts to roughly 8,529–17,058 additional votes for each incumbent and, while modest, substantiates the general concern that the redistricting process may dampen electoral competitiveness in Congress.

Examining both simulated and proposed maps, we find this distortion persists regardless of whether redistricting is done by incumbents or independent commissioners. For instance, highly contested, Republican-drawn plans in Florida, North Carolina, and South Carolina produced districts with expected win margins that were 2.1, 7.5, and 6.3 percentage points greater, respectively, than the average district under each state's simulated alternatives. A similar distortion is found (0.4, 7.0, and 0.4) when comparing enacted plans to those considered by the legislatures. Yet in Arizona, California, and Washington (states with independent redistricting commissions designed to be insulated from political considerations), we see relatively little improvement. Incumbent vote margins under the final plans enacted in Arizona, California, and Washington were 4.7, 3.5, and 0.7 points less competitive, respectively, than those recovered in the average simulated districts, and even 1.0, 0.3, and 0.2 points safer than the alternative plans considered by commissioners.

We next compare differences in the level of competitiveness found between each state's adopted and counterfactual plans, across the different redistricting institutions. Here we compute the proportion of comparison plans that are less competitive than the adopted map overall, using the average of each plan's expected margin of victory. We consider whether states with independent commissions adopt maps with relatively competitive districts compared to states where politicians conduct redistricting, using difference-in-means *t*-tests. Initially, we find that politicians produce maps that are safer than 77.1% of the simulated alternatives for their states, in terms of average win margins. Yet this insulation is virtually identical to that uncovered for states with independent commissions, with 74.9% of simulations ($p = .935$) being more competitive than adopted plans. An analysis of the publicized alternative maps indicates again that independent commissions choose maps that are as uncompetitive as those enacted by politicians. Legislative plans are less competitive than 77.3% of the alternative map submissions overall,

compared to 76.2% ($p = .949$) for nonpolitician maps. In sum, independent commissions do not draw House maps that encourage any greater electoral competition than partisan legislatures.

RESULTS FROM 2010 STATE ASSEMBLY AND SENATE REDISTRICTING

We restrict analysis of state assembly and senate redistricting to the alternative proposals considered but not enacted in 2010. Figures 1C and 1D compare expected competitiveness of final plans to the alternatives publicly considered for the senate and assembly, respectively. Results mirror the findings for the US House. With few exceptions, competition in adopted plans is lower than that produced under the plausible alternatives redistrictors considered. Moreover, we find no systematic improvement in competition from nonpartisan redistricting. Independent commissions enact senate plans that are considerably less competitive relative to alternatives (0.659) than those of (bi)partisan legislatures (0.328; $p = .058$), although this somewhat weakly reverses for assembly maps (0.559–0.785; $p = .111$). Counter to expectations, our results again confirm that independent commissions do not consistently increase electoral competition at the statehouse.

DISCUSSION AND CONCLUSION

Redistricting is an oft-cited source of American political dysfunction. Reformers posit that most incumbents, in facing minimal electoral competition, have leeway to discount constituent demands, encouraging polarization and poor representation. We show that simply changing how legislative districts are drawn, even in a process ostensibly divorced of political ambition, may not bring about competitive elections, at either the federal or state level. Redistricting marginally dampens electoral competitiveness as a whole, but these effects are similar regardless of whether maps are drawn by (bi)partisan legislatures or independent commissions. Independent redistricting may foster competition in other complex ways (e.g., incumbent retirement). Importantly, our data and design can only assess how redistrictors systematically put their thumb on the scale prior to adoption and not what downstream consequences different choices may have in equilibrium.

Our work introduces novel data to the study of redistricting, the set of alternative maps considered by redistrictors. We believe these are representative of the set of maps that could have been adopted but were not. Of course, it is possible that mapmakers (un)intentionally censor their deliberations over plans, such that our data overweight especially compet-

itive maps relative to all feasible alternatives. If so, we would also overestimate the dampening effect of redistricting on election competition overall. We doubt that redistrictors censor maps strategically and think it particularly unlikely that they publicize only those that make the final enacted plans look “worse” than most available alternatives. Still, we suggest caution in concluding that redistrictors systematically insulate incumbents, as this requires an untestable assumption that our simulated and collected maps approximate all feasible alternatives. Our study relies on a weaker parallel trends assumption to interpret the marginal impact of redistricting modes: roughly that any bias in collecting or simulating counterfactual maps is uncorrelated with how states conduct redistricting. We strongly doubt that nonpartisan redistrictors censor the least competitive alternatives they consider, while legislatures obscure the most competitive ones. Simulations guard against this concern by using fixed constraints and geographies that ignore politics by construction.⁹ Future research should assess this concern more extensively, however, with particular focus on how mapmakers determine which plans to consider or implement.

In closing, we suggest that the apparent differences in district competition across states with and without independent redistricting may be an artifact of natural or demographic variation, rather than any politics in the process. Or it may be that partisan and political forces play a larger role in citizen redistricting than anticipated by scholars or reformers (Pierce and Larson 2011). Notably, we also find that when courts intervene, they produce very competitive maps, suggesting politics and not geography is to blame. Further research is needed to uncover precisely why independent redistricting falls short of expectations, especially as reform efforts gain momentum across the country. Greater understanding of the politics of nonpartisan redistricting can help improve the match between institutional design and the intended effects of political reform. Nevertheless, our findings caution against replacing state legislatures with non-politician commissions wholesale, at least solely on the basis of increasing electoral competition.

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REFERENCES

- Abramowitz, Alan, Brad Alexander, and Matthew Gunning. 2006. “Incumbency, Redistricting, and the Decline of Competition in US House Elections.” *Journal of Politics* 68 (1): 75–88.
- Altman, Micah, and Michael McDonald. 2014. “Paradoxes of Political Reform: Congressional Redistricting in Florida.” In Seth McKee, ed., *Jigsaw Puzzle Politics in the Sunshine State*. Gainesville: University Press of Florida, 163–84.
- Altman, Micah, and Michael McDonald. 2015. “Redistricting and Polarization.” In James A. Thurber and Antoine Yoshinaka, eds., *American Gridlock: The Sources, Character, and Impact of Political Polarization*. Cambridge: Cambridge University Press, 45–67.
- Ansolabehere, Stephen, Maxwell Palmer, and Amanda Lee. 2015. “Precinct-Level Election Data, 2002–2012.” Harvard Dataverse. <https://dataverse.harvard.edu/dataset.xhtml?persistentId=hdl:1902.1/21919>.
- Carson, Jamie, Michael Crespin, and Ryan Williamson. 2014. “Reevaluating the Effects of Redistricting on Electoral Competition, 1972–2012.” *State Politics and Policy Quarterly* 14 (2): 165–77.
- Chen, Jowei, and David Cottrell. 2016. “Evaluating Partisan Gains from Congressional Gerrymandering: Using Computer Simulations to Estimate the Effect of Gerrymandering in the US House.” *Electoral Studies* 44 (2): 329–40.
- Chen, Jowei, and Jonathan Rodden. 2013. “Unintentional Gerrymandering: Political Geography and Electoral Bias in Legislatures.” *Quarterly Journal of Political Science* 8 (3): 239–69.
- Cottrell, James. 2012. “The Effects of Non-legislative Approaches to Redistricting on Competition in Congressional Elections.” *Polity* 44 (1): 32–50.
- Edwards, Barry, Michael Crespin, Ryan Williamson, and Maxwell Palmer. 2017. “Institutional Control of Redistricting and the Geography of Representation.” *Journal of Politics* 79 (2): 1–5.
- Forgette, Richard, Andrew Garner, and John Winkle. 2009. “Do Redistricting Principles and Practices Affect US State Legislative Electoral Competition?” *State Politics and Policy Quarterly* 9 (2): 151–75.
- Gelman, Andrew, and Gary King. 1994. “Enhancing Democracy through Legislative Redistricting.” *American Political Science Review* 88 (3): 541–59.
- Grainger, Corbett. 2010. “Redistricting and Polarization: Who Draws the Lines in California?” *Journal of Law and Economics* 53 (3): 545–67.
- Hulse, Carl. 2016. “Seeking to End Gerrymandering’s Enduring Legacy.” *New York Times*, January 25. <https://www.nytimes.com/2016/01/26/us/politics/seeking-to-end-gerrymanderings-enduring-legacy.html>.
- Levitt, Justin. 2010. *A Citizen’s Guide to Redistricting*. New York: Brennan Center.
- Lindgren, Eric, and Priscilla Southwell. 2013. “The Effect of Redistricting Commissions on Electoral Competitiveness in US House Elections, 2002–2010.” *Journal of Politics and Law* 6 (2): 13–18.
- Masket, Seth, Jonathan Winburn, and Gerald Wright. 2012. “The Gerrymanders Are Coming! Legislative Redistricting Won’t Affect Competition or Polarization Much, No Matter Who Does It.” *PS: Political Science and Politics* 45 (1): 39–43.
- McDonald, Michael. 2006. “Drawing the Line on District Competition.” *PS: Political Science and Politics* 39 (1): 91–94.
- McDonald, Michael, and Micah Altman. 2011. “Public Mapping Project.” <http://www.publicmapping.org/resources/data>.
- Pierce, Olga, and Jeff Larson. 2011. “How Democrats Fooled California’s Redistricting Commission.” *ProPublica*, December 11. <https://www.propublica.org/article/how-democrats-fooled-californias-redistricting-commission>.

9. California bolsters this interpretation, switching from partisan to independent redistricting without any appreciable change in relative competitiveness of enacted maps.