

Subject: California Redistricting Comment

From: Sundeep Iyer <[REDACTED]>

Date: Sat, 13 Aug 2011 18:27:07 -0400

To: [REDACTED]

Dear Citizens Commission,

Please find attached, in PDF form, a comment on the Commission's preliminary final maps, on behalf of the Statistical Reform in Redistricting Project. Please contact me if the Commission has any questions or concerns.

Regards,
Sundeep Iyer
Director, SRR Project

Citizens Commission Comment SRRProject.pdf

Partisan Fairness and Congressional Redistricting: California's Preliminary Final Maps

Sundeeep Iyer*

August 13, 2011

Executive Summary

This comment assesses the partisan effects of the California Citizens Redistricting Commission's preliminary final maps released on July 29, 2011. The U.S. Supreme Court in *Bandemer v. Davis* ruled that partisan gerrymandering claims are justiciable. Though the Court has yet to strike down any challenged redistricting plans on partisan grounds, a majority of the justices on the Court suggested in 2006 in *LULAC v. Perry* that any future legal test for partisan gerrymandering will probably include partisan symmetry analysis. This comment begins with a brief overview of the Supreme Court's jurisprudence on partisan gerrymandering claims and a discussion of partisan symmetry. Then, applying partisan symmetry analysis to the Citizens Commission's Congressional preliminary final maps, I find that the proposed maps dramatically reduce partisan bias when compared with the Congressional map California adopted in the 2001 redistricting round. While the 2001 maps showed a heavy Democratic bias, the newly proposed maps might actually show a slight Republican bias. The analysis concludes by suggesting that relative to California's 2001 maps, the Commission's preliminary final maps make California's election outcomes much more responsive to changes in voter support.

*Director, Statistical Reform in Redistricting Project, New York, NY. Contact via e-mail at sundeeep.██████████ Comment submitted to California Citizens Redistricting Commission on Preliminary Final Congressional Map released July 29, 2011. SRR Project is a national advocacy initiative dedicated to encouraging the use of better statistical methods in assessing racial bloc voting, partisan gerrymandering and geographic compactness during the 2010 redistricting cycle.

1 The Courts and Partisan Gerrymandering Claims

In *Davis v. Bandemer*, the U.S. Supreme Court asserted that partisan gerrymandering claims were justiciable, but the Court did not provide a standard for assessing those claims.¹ In 2004, five justices in *Vieth v. Jubilerer* agreed that partisan gerrymandering claims were justiciable, but again, the justices could not agree on how to measure the severity of a partisan gerrymander or determine what level of severity would trigger a constitutional violation.² As Justice Souter later noted, there was “no majority [in *Vieth*] for any single criterion of impermissible gerrymander.”³

It was only in *LULAC v. Perry*, decided by the Court in 2006, that there began to emerge some level of agreement on a possible legal test for partisan gerrymandering.⁴ Once again, there was no majority supporting any one proposed legal test. But as Professors Gary King and Bernard Grofman note, the case constituted a “potential sea change in how the Supreme Court adjudicates partisan gerrymandering claims” because “a criterion for detecting a measuring gerrymandering - known as *partisan symmetry* - attracted considerable positive attention by the Justices.”⁵ In *LULAC*, a majority of the justices seemed to suggest that partisan symmetry analysis ought to constitute at least part of a broader test used to resolve partisan gerrymandering claims.

For instance, Justice Stevens said that the “symmetry standard...is undoubtedly ‘a reliable standard’ for measuring a ‘burden...on the complainants’ representative rights.”⁶ Justices Stevens and Breyer see partisan symmetry analysis as “a helpful (though certainly not talismanic) tool.”⁷ Meanwhile, Justices Souter and Ginsburg say that they “do not rule out

¹*Davis v. Bandemer*, 478 U.S. 109 (1986).

²*Vieth v. Jubilerer*, 541 U.S. 267 (2004).

³*LULAC v. Perry*, 126 S. Ct. (2006) at 2647 (opn. of Souter, J.).

⁴*LULAC*, 126 S. Ct. 2594 (2006).

⁵Bernard Grofman and Gary King, *The Future of Partisan Symmetry as a Judicial Test for Partisan Gerrymandering after LULAC v. Perry*, 6 Election Law Journal 2-35 (2007), 4.

⁶*LULAC*, 126 S. Ct. at 2637 (opn. of Stevens, J.), with internal quotes citing to opinion of Kennedy, J.

⁷*LULAC*, 126 S. Ct. at 2638 (n.9) (opn. of Stevens, J., joined by Breyer, J.)

the utility of a criterion of symmetry as a test.”⁸ Meanwhile, the swing vote on the Court, Justice Kennedy, said that the symmetry standard ought not to be ruled out, though he did note that “asymmetry alone is not a reliable measure of unconstitutional partisanship.”⁹ Even though the Court’s four most conservative justices did not endorse the partisan symmetry standard, it is becoming increasingly clear that any legal test for assessing partisan gerrymandering claims will involve partisan symmetry analysis.

2 Partisan Symmetry: Definition and Measurement

Partisan symmetry is defined as the requirement that “the electoral system treat similarly-situated parties equally, so that each receives the same fraction of legislative seats for a particular vote percentage as the other party would receive if it had received the same percentage” of the vote.¹⁰ For example, partisan symmetry would require that if Democrats win 60% of the vote in California and get 70% of the state’s Congressional seats, then Republicans must also be able to get 70% of the state’s Congressional seats if they won 60% of the vote. As this example makes clear, partisan symmetry is *not* a requirement for proportionality - that is, a party is not required to receive a fraction of the seats equivalent to its fraction of the vote. Rather, it simply requires that similarly situated parties be treated equally. Partisan symmetry is the embodiment of the notion, expressed by the Court in *Davis*, that “each political group in a State [should have]...the same chance to elect representatives of its choice as any other political group.”¹¹

Partisan bias measures how much a given redistricting plan deviates from partisan symmetry. To calculate bias, we determine the percentage of the state’s Congressional seats that

⁸*LULAC*, 126 S. Ct. at 2647 (opn. of Souter, J.).

⁹*LULAC*, 126 S. Ct. at 2611 (opn. of Kennedy, J. joined by Souter, J. and Ginsburg, J.).

¹⁰Amicus Brief in *Jackson v. Perry* Submitted on Behalf of Neither Party by Gary King, Bernard Grofman, Andrew Gelman and Jonathan Katz in the U.S. Supreme Court (No. 05-276), henceforth King et al. (2005).

¹¹*Davis v. Bandemer*, 478 U.S. at 162 (Powell J., concurring in part and dissenting in part).

Democrats would receive if they got X% of the vote. We then calculate the percentage of the seats that Republicans would win if they got the same X% of the vote. The difference between the percentages, which represents the difference between Democratic and Republican control of the state's Congressional seats if both parties received X% of the vote, is equal to the partisan bias of the redistricting plan. Professors Gary King and Robert Browning demonstrate that for the vast majority of redistricting plans, bias falls between 0 and 5%; it is only in exceptional cases that bias exceeds 10%.¹² It is worth noting that the justices on the Court have not yet agreed on a particular numerical standard for partisan bias that would trigger constitutional invalidation of a redistricting plan.¹³ Nonetheless, because of the importance that the Court has assigned to partisan bias measurements in evaluating partisan gerrymander claims, it is useful (and advisable) to determine the level of partisan bias when evaluating a proposed redistricting plan.

Responsiveness measures the extent to which the seat distribution changes as the vote proportion received by both parties changes. For example, if the electoral responsiveness is 1, then for every one percent gain in vote share above (but close to) 50%, a party would on average receive an additional 1% of the total number of seats. In California, because there are 53 Congressional districts, an electoral responsiveness of 2 would indicate that for every one percent gain in vote share above 50%, a party should expect to get about one additional Congressional seat. As King and Grofman note, “electoral responsiveness is often regarded as a normatively good feature of elections.” If the seat distribution does not respond at all to the vote distribution, then the election would not be democratic. It is from this vantage point that many scholars “regard electoral systems with higher levels of electoral responsiveness as better.” Low levels of responsiveness are often the result of high incumbency advantage and

¹²Gary King & Robert X. Browning, *Democratic Representation and Partisan Bias in Congressional Elections*, 81 *American Political Science Review*, 1262 (1987).

¹³For a complete list and discussion of possible proposals, see King & Grofman, *The Future of Partisan Symmetry*, 6 *Election Law Journal* at 25 (note 99).

uncontested elections; high levels of responsiveness often indicate competitiveness and low incumbency advantage.¹⁴

In order to calculate partisan bias and responsiveness for a particular redistricting plan, it is crucial to determine how the level of statewide support for Democrats and Republicans translates into the expected fraction of the state's Congressional seats that each party will receive. This is known as the seats-votes curve, which is calculated using a linear regression model applied to historical election data. This statistical approach to calculating the seats-votes curve has widely accepted since the early 1990s.¹⁵ The regression method controls for factors that are known to affect election results, such as incumbency status and the level of minority presence in the district. Once the seats-votes curve is estimated, it is easy to determine how vote fractions translate into seat fractions for both Democrats and Republicans, which makes it easy to calculate partisan bias and electoral responsiveness.

In the analyses that follow, I estimate the seats-votes curve using California's Congressional election results from 2002-2010. In estimating the seats-votes curve, I control for incumbency, uncontestedness, the previous vote in the district's Congressional elections, the proportion of African-Americans of voting age in the district, and the proportion of Hispanics of voting age in the district.¹⁶ First, I estimate a seats-votes curve for the 2002-2010 Congressional elections using the district maps adopted during the 2001 redistricting cycle in California; this enables the calculation of partisan bias and responsiveness for the 2001

¹⁴King & Grofman, *The Future of Partisan Symmetry*, 6 Election Law Journal at 9.

¹⁵Complete details of the method are available in King & Browning, *Democratic Representation*, 81 American Political Science Review; Andrew Gelman & Gary King, *A Unified Method of Evaluating Electoral Systems and Redistricting Plans*, 38 American Journal of Political Science, 514-54 (1994); Andrew Gelman & Gary King, *Estimating the Electoral Consequences of Legislative Redistricting*, 85 Journal of the American Statistical Association, 274-282 (1990).

¹⁶These are the canonical control variables in partisan symmetry analysis. See Gelman and King, *A Unified Method*, 38 American Journal of Political Science at 547. One important feature of this method of estimating the seats-vote curve is that results are largely invariant to the specification of the regression model. See Grofman and King, *The Future of Partisan Symmetry*, 6 Election Law Journal at 16-17. For all subsequent reported results, I tested alternate specifications of the model used to estimate the seats-votes curve. In all of these alternate specifications, I obtained results substantively similar to those reported here.

cycle redistricting plan. I then estimate a different seats-votes curve for the 2002-2010 Congressional elections using the preliminary final Congressional map proposed by the California Citizens Redistricting Commission, reaggregating all electoral results and control variables into the districts that the Commission proposes.¹⁷ This enables the calculation of partisan bias and responsiveness for the Commission's preliminary final redistricting proposal.

Obviously, because there have not yet been any elections conducted under the Commission's proposal, all estimates for the preliminary final plan operate under the assumption that the 2002-2010 Congressional elections were conducted under the Commission's preliminary final map, and not under the district map California adopted in 2001. Additionally, for all subsequent analyses, positive values of partisan bias indicate a bias in favor of Democrats, and negative values of partisan bias indicate a bias in favor of Republicans. Partisan bias estimates are calculated based on the assumption that each party receives 50% of the vote. Responsiveness estimates are calculated based on the assumption that each party receives the same level of support that it actually received in the election being considered.

3 New Proposal Dramatically Reduces Partisan Bias

Figure 1 below displays the partisan bias estimates for California's 2001 redistricting plan and for the Citizens Redistricting Commission's proposed preliminary final map. The figure indicates clearly that the proposed map has a much smaller partisan bias than California's 2001 plan. For instance, under the 2001 redistricting plan, partisan bias was 0.228 in favor of Democrats in the 2008 Congressional election.¹⁸ Democratic control of the state's Congressional seats would have been 22.8% greater than Republican control if both parties had

¹⁷I determine incumbency status for these reaggregated districts by approximating the district each incumbent would fall into under the new districting plan. This is not an exact science. Therefore, I also ran the seats-votes curve regression for the new redistricting plan without including the incumbency variable; I obtained nearly identical results to those reported here.

¹⁸The 95% confidence interval for this estimate is from 0.202 to 0.252. This translates to a difference of between 11 and 13 Congressional seats between Democrats and Republicans.

received 50% of the vote. In other words, even if the Democrats and Republicans had received the same vote share in 2008, Democrats would have won approximately 12 more seats than Republicans would have. California’s 2001 redistricting plan was hardly the model of partisan fairness.

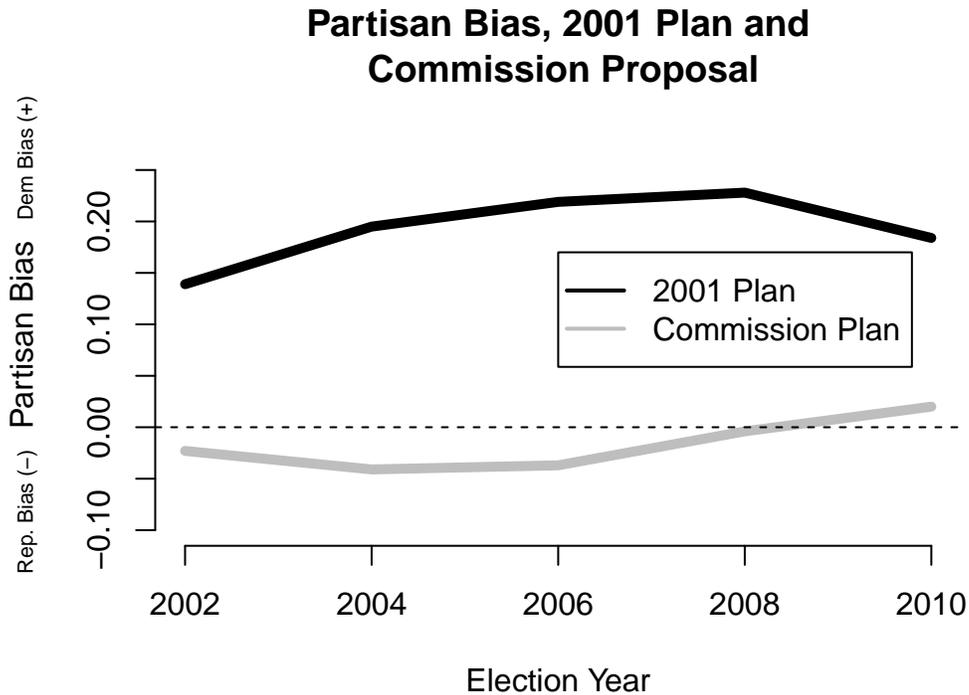


Figure 1: The figure shows the level of partisan bias for California’s 2001 redistricting plan (black) and for the Citizens Redistricting Commission’s proposed preliminary final map (gray). The partisan bias estimates assume that each party receives 50% of the vote; positive values indicate a bias in favor of Democrats, and negative values indicate a bias in favor of Republicans. The figure shows that the Commission’s proposal dramatically reduces the level of Democratic bias that was present in the 2001 redistricting plan. It also suggests that there might be a slight Republican bias in the new plan, as estimates for partisan bias in four of the five elections considered were negative.

Compare these estimates with the level of partisan bias under the Commission’s preliminary final maps. In 2008, the estimate of partisan bias using the new proposal is 0.004 in

favor of Republicans.¹⁹ If Democrats and Republicans had both received 50% of the vote, Republican control of the state's Congressional seats would not have differed from the level of Democratic control. This is the very definition of partisan symmetry. Indeed, as Figure 1 suggests, partisan bias is consistently much lower under the Citizens Commission's new redistricting plan than under the plan California adopted in 2001.

Does the New Proposal Have a Slight Republican Bias?

Figure 1 also suggests that the preliminary final map proposed by the Citizens Redistricting Commission might actually have a slight Republican bias. In four of the five elections considered (with 2010 being the lone exception), the preliminary final map actually yields a partisan bias estimate below zero, which corresponds to Republican bias. The problem is particularly apparent in 2004, when the estimated bias is 0.041 for the Republicans, and 2006, when the estimated bias is 0.037 for the Republicans.²⁰ In both 2004 and 2006, then, if Democrats and Republicans had both received 50% of the vote, Republicans would have won about 2 seats more than Democrats. While the size of this partisan bias is mild compared to the partisan bias under the 2001 California redistricting plan, it is still practically and politically important. It could even matter legally, as one proposed (and plausible) partisan fairness test for evaluating partisan gerrymandering claims would invalidate any redistricting plan that deviates from symmetry by at least one seat.²¹

There may be several reasons, however, to doubt the practical or legal importance of this slight Republican bias. First, strictly speaking, the Republican bias does not meet

¹⁹The 95% confidence interval for this estimate is between -0.06 and 0.05. If Democrats and Republicans had received 50% of the vote in 2008, Republicans might have had up to a three seat advantage over Democrats, or Democrats might have had up to a two seat advantage over Republicans. In other words, the level and direction of partisan bias is small and not statistically significant.

²⁰The 95% confidence interval for the former estimate ranges from -0.098 to 0.01, and the 95% confidence interval for the latter estimate ranges from -0.084 to 0.01. Because both confidence intervals include a partisan bias of 0, these estimates technically are not statistically significant at the 5% level, but they do raise some preliminary cause for concern.

²¹Grofman & King, *The Future of Partisan Symmetry*, 6 Election Law Journal at 21.

the standard criteria for statistical significance in any of the five elections considered here. This doesn't necessarily mean that a Republican bias doesn't exist; after all, the statistical uncertainty estimates discussed briefly in footnote 20 suggest hypothetically that if we were to run each election again 100 times, then in at least 90 there would be some appreciable level of Republican bias. But the courts are unlikely to take very seriously any evidence of partisan bias that does not meet the standard statistical significance threshold. Second, the size of the Republican bias declines over time. By 2010, the bias slightly favors the Democrats, though the size of that 2010 Democratic bias is not close to statistical or practical significance. This might suggest that if electoral dynamics at the district level for the next 10 years are similar to the dynamics in 2010, there might not be a Republican bias in the Commission's preliminary final maps. Forecasting whether the dynamics of future elections will be closer to 2002 and 2004 or to 2010 lies outside the scope of this comment, as does an assessment of the possibility that partisan bias under the Commission's proposal might increasingly trend in favor of the Democrats. This comment should make clear, though, that advocates and policymakers on both sides of the isle must pay close attention to how partisan bias evolves as elections are conducted under the Commission's plan. After all, as Justice Kennedy's opinion in *LULAC* suggests, it may very well be true that partisan gerrymandering litigation might be "better delayed until levels of partisan bias could be observed directly from one or more elections under a given plan."²²

Proposal Increases Electoral Responsiveness

I conclude by assessing the level of electoral responsiveness of both Commission's preliminary final map and the map California adopted in the 2001 redistricting round. Table 1 provides estimates of electoral responsiveness by year. Electoral responsiveness is much higher under the Commission's redistricting proposal than it was under the plan California adopted in

²²Grofman & King, *The Future of Partisan Symmetry*, 6 Election Law Journal at 14.

	2001 Plan	Commission Proposal
2002 Election	0.38 (0.15,0.56)	4.64 (3.81,5.41)
2004 Election	0.17 (0.05,0.29)	3.54 (2.89,4.22)
2006 Election	0.37 (0.17,0.56)	2.62 (2.01,3.30)
2008 Election	0.86 (0.54,1.19)	2.72 (2.12, 3.25)
2010 Election	0.56 (0.32,0.92)	2.79 (2.26,3.37)

Table 1: Estimates of Electoral Responsiveness, for 2001 California map and Commission’s preliminary final map. Numbers in parentheses provide estimates of the lower bounds and upper bounds of the 95% confidence interval for each estimate. All estimates are calculated based on the level of electoral support observed in each election. The table shows that the Commission’s redistricting proposal dramatically increases electoral responsiveness.

the 2001 redistricting round. In 2010, under the 2001 redistricting map, a 1% increase in vote share corresponded with a 0.56% increase in seat share, on average; in other words, it took approximately a 3.5% increase in vote share in order to achieve a one-seat increase in a party’s Congressional representation. If the 2010 election had taken place under the Commission’s redistricting proposal, then it would take just a 0.7% increase in vote share on average in order to achieve a one-seat increase in Congressional representation. In other words, the distribution of seats is far more responsive to swings in voter preference under the Commission’s proposal than under California’s 2001 redistricting plan. The difference in electoral responsiveness between the 2001 plan and the Commission proposal is even more dramatic in the 2002 and 2004 elections, where the new proposal is almost ten times more responsive than the 2001 plan was. Indeed, the finding of high electoral responsiveness under the Commission’s maps provides some quantitative grounding for the anecdotal speculation in the media that the maps make California’s Congressional elections more competitive and reduce incumbency advantage.

Subject: districting

From: "George O." <[REDACTED]>

Date: Sat, 13 Aug 2011 11:37:43 -0700

To: <[REDACTED]>

Dears Sirs,

I want to let you know that I strongly opposed to the gerrymandering and want a district with commonality.

Signed,

George J Olmos

Subject: Public Comment: General Comment

From: Paul Rosso <[REDACTED]>

Date: Sat, 13 Aug 2011 23:09:02 +0000

To: [REDACTED]

From: Paul Rosso <[REDACTED]>

Subject: Poor Audio

Message Body:

Even turning up audio to max it was not understandable for today's meeting Aug 13th. Went back to to last recorded video(July 29th) played it and it was perfectly clear. This was to verify that it was your audio not mine. Please fix for next meeting. Thanks.

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This mail is sent via contact form on Citizens Redistricting Commission

Subject: your decision to gerrymander

From: <[REDACTED]>

Date: Sat, 13 Aug 2011 11:01:16 -0700

To: <[REDACTED]>

Why did you ignore the will of the people to remain in districts with our neighbors and instead gerrymandered to an extreme for so obviously political reasons?

The consequence of your service to politics instead of to the people is that many communities are left with no representation as the persons representing our districts are straddled thinly across extensive and completely unrelated areas.