

# *Redistricting Principles and Racial Representation: A Re-analysis*

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## **ABSTRACT**

This note examines two modeling alterations of Barabas and Jerit's (2004) analysis of the influence of redistricting principles on minority representation in congressional districts. The size of states and the fact that some states cannot have majority-minority or minority-influence districts is taken into account in these new analyses. Overall, even with these two important alterations, Barabas and Jerit's findings are largely replicated. However, two of their most prominently reported findings—that a compactness requirement for redistricting is associated with both fewer majority-minority and minority-influence districts—are not corroborated.

IN THEIR *State Politics and Policy Quarterly* article, "Redistricting Principles and Racial Representation," Jason Barabas and Jennifer Jerit (2004) examine the important issue of the state-level determinants of majority-minority and minority-influence districts in the United States House of Representatives; they focus on the impact of the influence of traditional and modern redistricting principles. Majority-minority districts are those with more than 50 percent racial or ethnic minorities, and minority-influence districts are districts with between 35 and 50 percent racial or ethnic minorities. Barabas and Jerit examine the determinants of the number of majority-minority and minority-influence districts in the 43 states with two or more House seats.

The debate over whether it is necessary or desirable to represent racial and ethnic minorities with members of their corresponding groups in legislatures has been extensive (see Barabas and Jerit 2004 for citations). Regardless of the normative merits of this debate, experience has shown that one way to elect more minority legislators is to create districts with large portions of minorities (Davidson 1992). However, the constitutionality of deliberately drawing majority-minority districts has been called into question by recent court

rulings (*Shaw v. Reno* 1993). Barabas and Jerit’s analysis considers whether traditional and modern redistricting standards might provide alternative ways to enhance the creation of minority districts.

RE-ANALYSIS

Barabas and Jerit’s Poisson regression analyses (their Table 2) of the number of majority-minority (minority-influence) districts are replicated to all the reported decimal places in Model 1 in Table 1 (Model 3 in Table 2).<sup>1</sup> Their most prominently discussed finding is that when state law requires House districts to be drawn as compactly as possible, fewer majority-minority and

*Table 1.* The Effects of Redistricting Principles and Demographic Factors on Majority-Minority Districts Following the 2000 Census: A Re-analysis

	Model 1: Barabas and Jerit (2004)	Model 2: Re-analysis
Compactness	-.796* (.361)	.030 (.021)
	-2.21	1.42
Voting Rights Act § 5	1.448* (.460)	.126* (.036)
	3.15	3.50
Political subdivisions	-.436 (.293)	-.104 (.024)
	-1.49	-4.43
Unified democratic control	.453 (.356)	.041 (.032)
	1.27	1.30
Minority population	6.413* (1.490)	.522* (.169)
	4.30	3.08
Racial segregation index	4.410* (1.610)	.171* (.083)
	2.74	2.06
Constant	-4.784* (1.297)	-.150* (.067)
	-3.69	-2.25
Log-likelihood	-44.700	
Standard error of the estimate		.057
R <sup>2</sup>		.769
N	43	33

*Note:* The dependent variable in Model 1 is the number of majority-minority districts; the dependent variable in Model 2 is the proportion of districts that are majority-minority. Poisson regression coefficients are displayed for Model 1; OLS regression coefficients are displayed for Model 2. The second entry in each cell is the robust standard error, and the third entry in each cell is the t-value.

\*p<.05 (two-tailed)

minority-influence districts are created. They also find that enforcement of Section 5 of the Voting Rights Act (VRA) increases majority-minority districts and that rules protecting political subdivisions in the redistricting process create more minority-influence districts.

A reasonable modeling strategy, in comparison to Barabas and Jerit's Poisson regression approach would be to take the size of the state into account when modeling the presence of majority-minority or minority-influence districts. They consider the number of such districts in a state, but using a proportion as the dependent variable takes state size into account. Barabas and Jerit (2004, endnote 16) say they do this in an additional analysis not reported in their article. Barabas and Jerit also do not take into account the certainty that no majority-minority (minority-influence) districts will be created if a state has a small enough percentage of racial and ethnic minorities and a small enough number of districts. Accordingly, I drop such states from my analysis. Both of these issues are discussed at length in an unpublished supplement to this article available at the SPPQ Data Resource ([www.ipsr.ku.edu/SPPQ/research.shtml](http://www.ipsr.ku.edu/SPPQ/research.shtml)). While space constraints prevent showing all my analyses with each incremental modeling change, interested readers can examine the unpublished supplement where 22 different models are presented.

Model 2 of Table 1 examines the consequence of implementing my two changes in modeling strategy for the majority-minority districts model.<sup>2</sup> This model includes 10 fewer states (since these have too few minorities and too few districts), uses the proportion of districts that are minority-majority (rather than the number), and uses the ordinary least squares (OLS) to estimate the coefficients (rather than Poisson). Model 1 simply replicates Barabas and Jerit's analysis. Overall, the conclusions drawn from these models are fairly similar, although the estimated coefficient for the compactness variable goes from being negative and statistically significant (Model 1 of Table 1) to being positive and having a t-value of 1.42 (Model 2 of Table 1).<sup>3</sup> The Voting Rights Act § 5 and political subdivisions variables perform fairly similarly across these models.

Model 2 of Table 2 displays the results of making my two modeling changes for minority-influence districts.<sup>4</sup> Again, the most notable change is that the compactness variable loses its statistical significance, with its t-value going from -2.66 ( $p < .01$ ) in the original Barabas and Jerit analysis (Model 1 of Table 2) to -.82 ( $p < .42$ ). The unpublished supplement explains why not much should be made of the fact that the estimated coefficient for the Voting Rights Act § 5 variable becomes statistically significant in the minority-influence model. The political subdivisions variable also performs similarly between the two models.

*Table 2.* The Effects of Redistricting Principles and Demographic Factors on Minority-Influence Districts Following the 2000 Census: A Re-Analysis

	Model 3: Barabas and Jerit (2004)	Model 4: Re-analysis
Compactness	-1.508* (.566)	-.042 (.052)
Voting Rights Act § 5	-2.66 .064 (.472)	-0.82 -.211* (.101)
Political subdivisions	0.14 1.270* (.388)	-2.08 .198* (.065)
Unified democratic control	3.27 .136 (.353)	3.02 -.092 (.075)
Minority population	0.39 12.539* (1.694)	-1.23 1.538* (.536)
Racial segregation index	7.40 2.352 (1.515)	2.87 -.031 (.148)
Constant	1.55 -5.630* (1.417)	-0.21 -.207 (.134)
	-3.97	-1.55
Log-likelihood	-31.545	
Standard error of the estimate		.131
R <sup>2</sup>		.610
N	43	34

*Note:* The dependent variable in Model 1 is the number of minority-influence districts; the dependent variable in Model 2 is the proportion of districts that are minority-influence. Poisson regression coefficients are displayed for Model 1; OLS regression coefficients are displayed for Model 2. The second entry in each cell is the robust standard error, and the third entry in each cell is the t-value.  
\*p<.05 (two-tailed)

## CONCLUSION

Barabas and Jerit (2004) provide a valuable service to the discipline by drawing attention to a host of factors that plausibly influence the drawing of majority-minority and minority-influence districts. The importance of the subject matter they examine makes a reanalysis of their models especially worthwhile. I find that Barabas and Jerit’s conclusions are largely robust to the major modifications to which I put their models. They conclude that the compactness rule leads to fewer majority-minority and minority-influence districts; while I find no evidence of this, both they and I find that VRA enforcement is consistently related to more majority-minority districts and

that laws protecting political subdivisions in the redistricting process are associated with more minority-influence districts.

#### ENDNOTES

1. Barabas and Jerit provided me with their data and the relevant STATA commands, facilitating the replication.

2. This is also Model 7 of Table 2 in the unpublished supplement.

3. The change in the magnitude of the estimated coefficients cannot be interpreted directly since these are Poisson and OLS coefficients.

4. This is also Model 18 of Table 4 in the unpublished supplement.

#### REFERENCES

Barabas, Jason, and Jennifer Jerit. 2004. "Redistricting Principles and Racial Representation." *State Politics and Policy Quarterly* 4:415–35.