Co-Sponsorship Networks of Minority-Supported Legislation in the House*

David Epstein  
Department of Political Science  
Columbia University

James Fowler  
Department of Political Science  
University of California, San Diego

Sharyn O’Halloran  
Department of Political Science and SIPA  
Columbia University

August 21, 2006

Abstract

Works that measure the substantive representation of minority interests based solely on roll call data have been criticized for ignoring more behind-the-scenes activities that legislators might perform on behalf of their constituents. We thus focus in this paper on cosponsorship as a proxy for the degree to which members maneuver to create coalitions that will advance the substantive policy goals of the minority community. We find, consistent with previous work, that minority legislators tend to provide more of these types of activities than do other types of legislators, but maximizing cosponsorship benefits for bills that pass Congress involves creating districts of about 45% black voting age population.

1. Introduction

Substantive representation comprises the variety of actions that elected officials undertake on their constituents’ behalf. These include easily measurable activities, such as voting for or against a given policy. Elected officials also undertake many less easily observed activities, such as setting agendas, working against less-favored legislation, constituency service, trading favors, and generally forming bonds with fellow legislators to move policy in the desired direction.

These informal components of substantive representation become particularly important when we think of the position of minorities in a democratic system. The defining feature of being a minority under majority rule is that to enact policies the group must perforce build coalitions. Therefore the many informal ways in which policy is made come into play, through building alliances, helping to further a group’s agenda, and horse trading to achieve the best possible results.

The first wave of scholarly studies on race and substantive representation focused on legislative voting behavior; that is, the extent to which a member votes in favor of minority-preferred policy positions (Cameron, Epstein and O’Halloran 1996; Whitby 1997; Lublin 1997). Using roll call voting as an exclusive measure of substantive representation, though, has been criticized for not incorporating the many other important actions that legislators undertake on their constituents’ behalf (Young 1990; Hall 1996; Williams 1998; Mansbridge 1999; Grofman 2006). Indeed, other authors posit that minority legislators provide benefits outside of the work done to pass legislation: bill introduction and cosponsorship (Canon 1999; Sinclair-Chapman 2003), constituency service (Fenno 2003), general voter satisfaction with their performance (Tate 2003), and agency oversight (Minta 2006). Therefore it is argued that measures focusing solely on final policy passage may underestimate the impact of electing minorities to offices as opposed to electing a legislative body that is, on average, supportive of minority goals.

We tackle this problem by investigating another means by which legislators can help further minorities’ policy goals: cosponsoring legislation, a topic which has received increased attention in the legislative literature (Mayhew 1974; Campbell 1982; Fowler 2006a). For our purposes, the key question is whether cosponsorship activity is a reasonable proxy for the extent to which legislators work behind the scenes on their constituents’ behalf. On this question, a key article is Kessler and
Krehbiel (1996), which examines the dynamics of cosponsorship and concludes that the decision to cosponsor can best be thought of as a signal to fellow legislators, rather than as an indication of a representative’s position on the bill itself. Recent work by Goodliffe, Rothenberg and Sanders (2004), though, casts doubt on these conclusions, arguing that cosponsorship is actually a type of position taking, meant to please constituents. In this paper we explicitly endorse this latter view, similar to the stance taken by previous analysts of cosponsorship and race.

Our project has a normative as well as positive purpose. Many of the works cited above, including previous studies of race and cosponsorship, find a significant correlation between the race of a representative and degree of substantive representation they afford their constituents, and take this as a strong argument for the retention of majority-minority districts designed to elect a candidate of choice of the minority community. We take issue with these interpretations on two accounts. First, a number of these works, including Tate (2003), do not take into account the racial composition of a district. The finding that constituents living in majority-black districts are generally more satisfied with the quality of their representation may thus simply reflect that fact that any representative from such a district, black or white, would have to pay a good deal of attention to the policy preferences of the district’s black population.

Second, it is not enough to say that since minority representatives provide more of substantive representation activity X, minority constituents are best served by electing more minorities to office. These districts come at a cost; namely, the removal of minority voters from surrounding districts. The question, then, should not be whether one type of representative provides more of X than another, but at which point the gains in X from adding more minority voters to one district just balance the losses of X in surrounding districts. Thus, similar to our previous work in this area (Cameron, Epstein and O’Halloran 1996; Epstein and O’Halloran 2006), we calculate the districting patterns that maximize the provision of cosponsorship benefits.

We also take advantage of the fact that cosponsorship activity can tell us much about the policy networks that form within Congress. Which sets of legislators, that is, tend to work closely together via mutual cosponsorship, and where do clear divisions appear? Are minority legislators cohesive in their cosponsorship activity? Are they well connected to other Democrats and/or members
from across the aisle? Which members are more likely to cosponsor bills proposed by minority legislators, and how does the accrual of cosponsors affect a bill’s probability of success? We answer these questions through the application of modern network analysis techniques to the cosponsor data, with some intriguing results.

The next section describes our data set and the network-based techniques we use to analyze it. We then look at the position of black democrats within the various networks of bill cosponsors over time. The next section looks at the districting schemes that maximize various network-based measures of substantive representation, while the final section concludes.

2. Data Definitions

Data for the legislative cosponsorships is available in the Library of Congress Thomas legislative database (see Fowler 2006a, 2006b for detailed descriptions of this data). For the purposes of this study we include each cosponsorship tie from the cosponsor to the sponsor for all 113,223 House non-private bills and amendments that were introduced from the 96th to the 108th Congress. Black members of Congress were sponsors on 5,096 of these bills (we will generically refer to both bills and amendments as bills). In addition, we focus on the 14,091 bills that passed in a floor vote in the House, 661 of which were sponsored by Black legislators.

Figure 1 illustrates some basic trends in bill sponsorship. Black Democrats have gradually increased the total number of bills they sponsor, primarily as their numbers in the Congress have risen over time. White Democrats sponsored more bills when they held the majority, but they were overtaken by Republicans with the change in majority control in the 104th. Overall, Black Democrats introduced an average of 325.5 pieces of legislation per congress under Democratic control, as opposed to 414.4 under Republican control. Thus, even when they were both a partisan and ethnic minority, they continued to sponsor a significant amount of legislation.

These totals are strongly related to the number of white and black Democrats and Republicans in each Congress. However, as we can see when we examine the average bills sponsored per legislator, partisan control of the Congress appears to correlate with individual sponsorship activity as well. The average black Democrat sponsored nearly twice as many bills in the 99th Congress under
Figure 1: Sponsorship trends. Note: White circle = white dem, black circle = black dem, black triangle = republican.
Democratic control than in the 104th under Republican control. White Democrats also became less active than Republicans after the 104th.

The chance that these bills pass the floor of the house appears to be affected by partisan control. Bills sponsored by white and black Democrats were about twice as likely to pass prior to the 104th Congress, when the rate of passage of Republican-sponsored bills skyrocketed to 28% and the rate for Democrats fell to 12%. However, the change for Black Democrats was less dramatic. Under Democratic control 13.7% of bills proposed ultimately passed, as opposed to 11.2% under the Republicans.

One can measure cosponsorship activity in a number of ways. The most basic distinction is between “inward cosponsorship” — measuring the degree to which other members cosponsor legislation that you sponsor — and “outward cosponsorship” — the degree to which you cosponsor others’ legislation. One can also measure activity in terms of unique cosponsors, meaning the number of the 434 other members of the House that engage in cosponsoring activity relative to a given member, or total cosponsors. If a member sponsors 10 bills in a given congress, then, the maximum number of unique cosponsors is 434, while the maximum total cosponsors is 4,340. We also distinguish between cosponsor activity with respect to the black members in a given congress as opposed to the non-black members.\footnote{When constructing these measures, we count only black democrats, as black republicans usually act like other republicans in their voting and cosponsorship behavior. We also use the term “white” to refer to all non-black members of congress, although this category can obviously contain hispanics and members of other nationalities as well.} Finally, weighted measures scale each cosponsoring relation by the total number of cosponsors, as explained in the following section. A list of different cosponsor measures is provided in Table 1.

3. The Network of Cosponsorship

We first examine the structure of cosponsorship networks in the House, and the evolution of the position of blacks within these networks over time. The three network representations in Figure 2 are for the 103rd, 104th, and 108th Congresses, respectively, corresponding to Clinton’s first Congress with unified democratic control, his second Congress, where the republicans took control of the House and Senate, and finally unified republican control under Bush.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>sponsored</td>
<td>number of bills sponsored</td>
</tr>
<tr>
<td>inu</td>
<td>unique inward cosponsors</td>
</tr>
<tr>
<td>inub</td>
<td>unique inward black cosponsors</td>
</tr>
<tr>
<td>inuw</td>
<td>unique inward white cosponsors</td>
</tr>
<tr>
<td>outu</td>
<td>unique outward cosponsored</td>
</tr>
<tr>
<td>outub</td>
<td>unique outward blacks cosponsored</td>
</tr>
<tr>
<td>outuw</td>
<td>unique outward whites cosponsored</td>
</tr>
<tr>
<td>inb</td>
<td>total inward cosponsor signatures</td>
</tr>
<tr>
<td>inbb</td>
<td>total inward black cosponsor signatures</td>
</tr>
<tr>
<td>inbw</td>
<td>total inward white cosponsor signatures</td>
</tr>
<tr>
<td>outb</td>
<td>total outward cosponsor signatures</td>
</tr>
<tr>
<td>outbb</td>
<td>total outward black cosponsor signatures</td>
</tr>
<tr>
<td>outbw</td>
<td>total outward white cosponsor signatures</td>
</tr>
<tr>
<td>inw</td>
<td>total weighted inward cosponsor signatures</td>
</tr>
<tr>
<td>inwb</td>
<td>total weighted inward black cosponsor signatures</td>
</tr>
<tr>
<td>inww</td>
<td>total weighted inward white cosponsor signatures</td>
</tr>
<tr>
<td>outw</td>
<td>total weighted outward cosponsor signatures</td>
</tr>
<tr>
<td>outwb</td>
<td>total weighted black outward cosponsor signatures</td>
</tr>
<tr>
<td>outww</td>
<td>total weighted white outward cosponsor signatures</td>
</tr>
</tbody>
</table>

Table 1: Definition of Cosponsorship Variables. Note: “unique” means number of individuals who cosponsored or were cosponsored at least once. Signatures are the sum of all cosponsors on all bills sponsored.)
Figure 2: Strength of social ties via cosponsor networks. Separated by legislator type: Republicans (squares), White Democrats (light circles), and Black Democrats (dark circles).
These graphs utilize the “connectedness” measure introduced by Fowler (2006a, 2006b) to indicate the degree to which one legislator supports another. Unlike traditional social tie measures, connectedness takes advantage of two pieces of information that are helpful for determining the strength of social relationships in the cosponsorship network. First, as the total number of cosponsors on a bill increases, it becomes more likely that the cosponsor is recruited by an intermediary other than the sponsor, increasing the possibility that there is no direct connection at all. Thus, bills with fewer total cosponsors probably provide more reliable information about the real social connections between two legislators than bills with many cosponsors. Fowler posited that the strength of the connection between \(i\) and \(j\) on a given bill \(b\) with total cosponsors \(c_b\) is \(1/c_b\).

Second, legislators who frequently cosponsor bills by the same sponsor are more likely to have a real social relationship with that sponsor than those who cosponsor only a few times. To incorporate this information with the assumption about the effect of the number of cosponsors into a measure of connectedness, let \(a_{ijb}\) be a binary indicator that takes the value 1 if legislator \(i\) cosponsors a given bill \(b\) sponsored by legislator \(j\) and is otherwise 0. The weighted quantity of bills cosponsored is then given by the sum

\[
\sum_b a_{ijb} c_b.
\]

Applying the connectedness measure to all the legislators in the network, Fowler found that legislators with high connectedness scores tend to sponsor more legislation and acquire more cosponsors, but some manage to score highly by being connected to other legislators who are themselves well-connected. Moreover, connectedness appears to outperform other network measures in predicting the number of successful amendments proposed by each legislator and the likelihood other legislators will vote for their bills in final roll calls.

To generate the graphs in Figure 2, we used the universe of bills that passed the floor of the House to calculate the connectedness of each pair of legislators in each congress and then used the Kamada-Kawai algorithm to place each legislator in the network. This algorithm attempts to keep each legislator at a fixed distance away from all other legislators that is inversely proportional to the strength of the ties between them. Legislators at the center of the network are likely to have
strong connections with other influential legislators.

Note that the black democrats were central figures in the 103rd Congress, but they became significantly more marginalized in the following two, along with the other democrats. This is not too surprising; democrats of all types would be expected to become less pivotal in the passage of legislation under a republican-controlled congress. Notice also that blacks became more dispersed, suggesting that mutual support on important legislation declined.

Figure 3 tells a similar story using dendrograms from a divisive hierarchical clustering procedure (“diana”–see Kaufman and Rousseeuw 1990, ch. 6) to identify social cliques. This procedure assumes a connection exists between $i$ and $j$ if $i$ cosponsored any of $j$’s bills (that passed) or vice versa. For clarity of exposition, only the black representatives are named in the dendrograms. Notice, again, how much more diffuse blacks are in the 108th Congress than in the 103rd or 104th. This suggests either that the interests of black legislators are becoming less uniform or they have been decreasingly able to coordinate their policy actions as a minority.

To explore further the evolution of coalitions in Congress, Figures 4 and 5 present network graphs that omit some information to increase clarity. In these figures we assume that tie strength is equal to the sum of bills sponsored by $i$ and cosponsored by $j$ (whether they passed or not) and vice versa. Tie darkness is proportional to the number of bills mutually cosponsored.

In Figure 4 we omit all ties in which legislators mutually cosponsored one another less than five times, and then use the Kamada-Kawai algorithm to represent the network. Notice that although there are cohesive partisan groups in the 103rd Congress, there are still many Democrats (a few of them black) that maintain cosponsor relationships within the Republican coalition, and a few Republicans within the Democrat coalition. This mixing begins to decline in the 104th and by the 108th is almost completely gone. Democrats and Republicans become sharply polarized and a strongly connected group of blacks lies at the core of the Democratic coalition. In the 103rd and 104th many black Democrats existed at the margins, but by the 108th the vast majority were strongly connected to the center of the party.

In Figure 5 we do not omit any ties, but we do omit all bills sponsored by whites so we can

---

2When other measures were used as the basis of the dendrograms, the resulting figures displayed a much larger number of levels, making interpretation difficult.
Figure 3: Dendrograms of consponsorship networks.
Figure 4: Networks of cosponsorship support: all legislator pairs with at least five mutual cosponsorships. Separated by legislator type: Republicans (squares), White Democrats (light circles), and Black Democrats (dark circles).
observe the network of black-sponsored legislation. Here notice that the 103rd congress shows a core of mutual support for black Democrats surrounded by a layer of white Democrats. Some Republicans are placed near the core of this group, but many lie at the extremes and a large group focuses its support on a couple of black Democrats and a lone black Republican. In the 104th, the difference in groups that support black Democrats and black Republicans becomes even more pronounced, and the coalition of white Democrat support weakens as many distance themselves from the core group of black Democrats. By the 108th these differences have mostly disappeared again, primarily because no black Republicans remain in office. Distance from black sponsors becomes strongly aligned with partisanship. Ideology also plays a role — the white Republican near the core (Chris Shays) is from liberal Connecticut and the extreme topmost white Republican (Tom Delay) is one of the architects of the neo-conservative revolution.

From this analysis we draw two conclusions. First, the republican takeover of the House in the 104th Congress marginalized black democrats — literally and figuratively — in the policymaking process. They have gone from central members of the ruling democratic coalition to fringe players, loosely connected to the major figures in the republican power structure. Second, partisan divisions have intensified since the early 1990’s, meaning that there are fewer liberal republicans or conservative democrats, at least with respect to cosponsoring minority-supported legislation. For our analysis below, these trends reinforce the negative impact on minority substantive representation that results from republicans controlling the key policy levers in Congress.

4. Optimizing Cosponsorship Measures

We now turn to the relationship among district composition, representative type, and substantive representation via cosponsorship activities. We begin by examining “triangle” plots of cosponsorship and bill passage, as shown in Figure 6. To generate the plots, for each bill sponsored by a black democrat, the proportion of the cosponsoring coalition that was republican, white democrat, and black democrat was calculated. In each of the three figures, the black democrat proportion of the cosponsoring coalition for each bill is shown on the left-hand side, white democrats are on the right hand side, and republicans run along the bottom. The relative proportion of each type for
Figure 5: Networks of cosponsorship support: black sponsored bills. Separated by legislator type: Republicans (squares), White Democrats (light circles), and Black Democrats (dark circles).
every proposed bill appears as a circle on the graph; bills that passed are shaded. The solid lines divide the triangle into three regions: in the top region the biggest proportion of cosponsorships come from black democrats; in the lower right the plurality comes from white democrats, and in the bottom left, from republicans.

What patterns in these coalitions should we expect to see under changing partisan control of government? Assume that legislators’ ideal points fall in a simple one-dimensional space, and that minority legislators all have ideal points far to the left (liberal), relative to the median voter. Consider for a moment which patterns of cosponsorship one would expect for both legislation that passes, and legislation that fails to pass. In the latter case, assuming full information, the sponsor might as well propose her ideal point, and in doing so she will gain the support of her fellow minority legislators and perhaps moderate white democrats, but not the median voter. In terms of the triangle plots, we would expect such bills to fall on the right side of the graph, where few or no republicans are in the cosponsoring coalition.

If the legislation is meant to pass, though, there are three possibilities. First, if the status quo is even further to the left than are the black democratic legislators, then the proposal will receive universal support, no matter who controls the House. In the more likely scenario where the status quo is to the right of the median voter, the proposal will be set strategically to gain the support of the median voter and all legislators to his left, meaning that the bill will need to have some republicans cosponsors if the republicans control the House. Or if the status quo is far to the right, then the cosponsoring coalition will contain more republicans as well as white democrats. And if Republicans control the White House too, then a proposal that passes will usually have to be moved even further to the right to get the president’s signature, meaning that more House republicans are likely to cosponsor as well.

In fact these predictions are borne out remarkably well in Figure 6. In all congresses, proposals that did not pass were located heavily to the right side of the figure. In the 103rd Congress, with unified democratic control, the proposals that passed still had mostly democratic cosponsors. In the 104th Congress, more republicans were in the sponsoring coalition of passed bills, and even more so in the 108th, with unified republican control of Congress and the presidency. Another implication
Figure 6: Percent of cosponsor support coming from Republicans, White Democrats and Black Democrats for bills sponsored by Black Democrats. Passed bills are shaded.
of the model is that republican cosponsors should be positively related to the probability that a proposed bill passes, and indeed a simple logit model of passage on types of cosponsors gives exactly these results. So the cosponsorship patterns observed in the data are consistent with a simple theoretical model of strategic bill proposal.

For this section of the analysis, we began by defining dependent variables that capture the degree of cosponsor support with respect to minority legislators. For inward support we used the variable inbb from Table 1, the total black cosponsor signatures receive, both on all bills and only those bills that passed. Similarly, we used outbb for our outward cosponsor support measure, the total signatures given to black-sponsored legislation, again for both all bills and passed bills. Finally, we used factor analysis on the measures in Table 1 and found two dominant factors, the first relating to the outward support measures and the second to inward support. We used the first of these — which we term the “outward factor score” — as another indicator of support for minority-sponsored legislation.\(^3\) We also collected information on the black voting age population in each district (BVAP), the member’s party, region, bills sponsored, and voting support for minorities. Summary statistics of all measures are given in Table 2.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black Voting Age Population</td>
<td>0.11</td>
<td>0.14</td>
<td>0</td>
<td>0.9</td>
<td>6598</td>
</tr>
<tr>
<td>Republican</td>
<td>0.43</td>
<td>0.5</td>
<td>0</td>
<td>1</td>
<td>6607</td>
</tr>
<tr>
<td>South</td>
<td>0.3</td>
<td>0.46</td>
<td>0</td>
<td>1</td>
<td>6607</td>
</tr>
<tr>
<td>Black</td>
<td>0.06</td>
<td>0.24</td>
<td>0</td>
<td>1</td>
<td>6598</td>
</tr>
<tr>
<td>Voting Support</td>
<td>0.54</td>
<td>0.29</td>
<td>0</td>
<td>1</td>
<td>6598</td>
</tr>
<tr>
<td>Bills Sponsored</td>
<td>17.16</td>
<td>17.47</td>
<td>0</td>
<td>257</td>
<td>6598</td>
</tr>
<tr>
<td>Inward Support, All Bills</td>
<td>15.44</td>
<td>26.65</td>
<td>0</td>
<td>388</td>
<td>6598</td>
</tr>
<tr>
<td>Inward Support, Passed Bills</td>
<td>10.31</td>
<td>14.26</td>
<td>0</td>
<td>146</td>
<td>6598</td>
</tr>
<tr>
<td>Outward Support, All Bills</td>
<td>1.68</td>
<td>5.83</td>
<td>0</td>
<td>121</td>
<td>6598</td>
</tr>
<tr>
<td>Outward Support, Passed Bills</td>
<td>1.66</td>
<td>2.36</td>
<td>0</td>
<td>19</td>
<td>6598</td>
</tr>
<tr>
<td>Outward Factor Score</td>
<td>0.00</td>
<td>0.99</td>
<td>-2.11</td>
<td>7.56</td>
<td>6598</td>
</tr>
</tbody>
</table>

Table 2: Summary Statistics

A few words are in order about the role of race in determining cosponsorship behavior. In

\(^3\)The outward cosponsorship measures also have a greater correlation with the degree of roll call voting support for minority favored legislation than the inward measures, and they correspond more nearly to the measures of cosponsor support used in previous studies. Hence we focus most of the further analysis on these measures.
general, it is difficult to distinguish the independent effect that the race of a representative has on legislator actions, since minority representatives tend to be elected almost exclusively in the high-BVAP districts. Since the 103rd Congress, for instance, 92% of the elections held in districts with BVAP greater than 45% were black, while only 2% of the elections in under-45% BVAP districts resulted in a black taking office. Thus our inferences on what would happen were a white representative to be elected from a majority black district are based on extrapolations from their behavior in low-BVAP districts, which is not an ideal situation for forecasting.

Also, when examining the data one finds that although blacks generally have higher cosponsorship scores than whites, this pattern is far from absolute. In the 108th Congress, for example, neither the fifth nor the sixth ranked representatives according to their outward cosponsor (outbb) scores were black. The first of these, Martin Frost [TX-24], had a combined latino plus black population of over 50%. The second, Raul Grijalva [AZ-7] comes from a 44% latino district. But others, such as 11th ranked Jim McDermott [WA-7] and 13th ranked Dennis Kucinich [OH-10] have few minorities of any type in their districts, but they cosponsor legislation in general at high rates and have high voting support scores for black legislation as well. In fact, 15 of the top 40 by this ranking are non-blacks, and the lowest-ranked black, Denise Majette [GA-4] is only 88th on the list. Partisan difference are nearly absolute, though; the highest-ranked republicans, Mark Foley [FL-16], is tied for number 146 on the list.

To see which variables affect members’ levels of cosponsorship support for minorities, Table 3 reports the results from negative binomial regressions of two support measures — inbb and outbb — for the early and late portions of our sample period. In all cases the values of the overdispersion parameter $\alpha$ were high enough to reject a Poisson distribution in favor of the negative binomial specification.

The results show that for predicting inward support — that is, the degree to which minority legislators cosponsored a given member’s bills — democrats, non-southerners and blacks receive more support than their counterparts in both periods, while the black voting age population of the district had no independent impact. Moreover, the marginal impact of each variable on the number of cosponsorships received was roughly constant in the early and late periods.
For outward cosponsorships, all four independent variables are highly significant in both periods, including district BVAP. Here, the marginal impact of being a southern representative falls significantly from the early to late period, while the impact of being republican rises. Thus partisanship begins to dominate sectional differences in the more recent analysis of our key measure of cosponsorship support.4

So far, our results have mirrored those of previous studies, showing significant partisan and racial differences in the provision of substantive representation benefits. We conclude our analysis by examining the levels of BVAP that would maximize these different measures of cosponsor support. For this part of the analysis, we take a hypothetical state with 25% black population and consider districting schemes with a target maximum BVAP of $x \geq 0.25$. Then we construct as many districts with $x$ percent BVAP as possible, and spread the remaining black voters equally across all remaining districts. We estimate the impact of BVAP on the type of representative elected — republican, white democrat or black democrat — via an ordered probit regression, yielding $P(\theta|BVAP_i)$ for $\theta = 0, 1, 2$ in district $i$. We also estimate the expected level of coponsorship support variable $c Rep(c|\theta, BVAP_i)$ via robust linear regression. Finally, we calculate the average cosponsor support

4In fact, if one performs a negative binomial regression using outward support for passed bills (poutbb) as the dependent variable, only the coefficients on party and race of representative are significant for the later period, while BVAP and south are insignificant.
Table 4: Levels of BVAP in most concentrated districts that maximize various cosponsorship-based measures of substantive black representation

\[
\max_x \sum_i P(\theta|BVAP_i) \ast Rep(c|\theta, BVAP_i),
\]

for a given cosponsor measure \( c \), and where the relation between \( BVAP_i \) and \( x \) is implicit.\(^5\) Note that this approach automatically takes into account the fact that putting more minority voters in one district means removing them from surrounding districts, thus capturing both the benefits and costs of concentrated minority districting schemes.

The results from this maximization exercise are given in Table 4 for five different measures \( c \) of cosponsorship support. As indicated, in the early congresses very high levels of BVAP were optimal, up to 100% black in the south. In this era the gap between minority and non-minority support for black legislation was so great that maximizing substantive representation was achieved at levels of BVAP that nearly guaranteed the election of a black representative.

But in more recent periods this optimal level of BVAP has fallen, to the point where it is now uniformly under 50%, even in the south. This is not because racial and sectional differences in representation have disappeared; rather, it is due to the rise of the Republicans’ electoral fortunes and the fact the growing gap between the level of support offered by white democrats and the level offered by republicans.

5. Conclusion

One way to read the results presented above is that they confirm once again the conventional wisdom in this area: minority legislators do provide more substantive benefits than do their non-

\(^5\)This methodology was first used in Cameron, Epstein and O’Halloran (1996).
minority counterparts, but the hazard rate of electing Republicans is now so great, especially in the South, that districting schemes designed to maximize substantive representation allocate no more than 45% BVAP to any one district. There are benefits to electing minority representatives, that is, but there are costs as well in surrounding districts, and responsible redistricting strategies cannot ignore half of this equation.

Another way to view our findings, though, is to use them as a window into the realm of what it takes to pass legislation that advantages minority voters. This is a generally underdeveloped field, and we can only make a few tentative conclusions from the work presented here, but we see hints of some broader themes emerging.

Namely, the recent partisan shifts have had just as dramatic an effect on cosponsorship networks as they have had on policy proposals and voting. Whereas blacks were once key members of the ruling democratic coalition, centrally located within the network of cosponsors even though they had relatively extreme policy preferences, now they are completely marginalized. Partisan differences dominate the landscape, adding another piece of evidence for the damage that majority republican control has done to substantive black representation in Congress.
REFERENCES


