## Changes in the location of the median voter in the U.S. House of Representatives, 1963–1996\*

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**Abstract.** We consider the degree of ideological polarization within and between the parties in the U.S. House of Representatives for the period 1963–1996, using the Groseclose, Levitt and Snyder (1996) adjustment method for ADA and ACU scores to ensure over time comparability of roll call voting data. We focus especially on the median House member, since we believe that change in the median offers a better measure of the impact of the change in party control than does changes in the mean roll-call voting score.

Our data analysis makes two general points. First and foremost, when we looked at the change in the location of the House median voter, we found a dramatic change after the Republicans gained a majority in the House in 1994. After the Republicans became a majority in the House, the ADA median in the House in 1995–1996 was at 24, far closer to the Republican median of 4 than to the Democratic median of 83. The shift in *median* from 1993–1994 to 1994–1995 involved a change of over 25 points in one election – far and away the greatest single shift in ideology of the modern era. In contrast, the *mean* changed only 1 point over this same period. Second, for the three decades we investigated, we found three historical epochs vis a vis the relative locations of the ADA (or ACU) floor median and the ADA (or ACU) floor mean in the U.S. House of Representatives – two inflection points in 1983 and 1994 which are related to trends in regional realignment.

#### 1. Introduction

Duncan Black (1958), Anthony Downs (1957), and the voluminous theoretical literature deriving from their pioneering work of this paper emphasize the importance of the median voter.<sup>1</sup> The basic insight is that, *ceteris paribus*, we would expect that policies would track the preferences of the median voter,

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since, for politics which is organized primarily along a single ideological dimension, the median voter is the pivotal voter whose agreement is crucial in any majority vote in choosing between opposing points of view. Thus, in a legislature such as the U.S. House of Representatives where a single issue dimension predominates (Poole and Rosenthal, 1997), we should pay particular attention to changes in the location of the floor median.

Remarkably, however, most work on the U.S. congress reports mean rather than median values for roll-call voting scores such as ADA or ACU. Yet the mean and the median of such scores may be quite far apart from one another because the overall distribution is the sum of two distributions (that for members of two different parties). When we have two party distributions which are ideologically quite far apart in their means, and with little or no overlap, then a considerable divergence between mean and median roll-call voting scores can be expected to arise. While the mean location is simply a weighted average of the two party means, the relationship between the location of the overall median voter, and that of the median voter in each of the two parties, is considerably more complicated.

The gap between each party's median voter and the overall median can be shown to be a function of party sizes, party means, and the variances in each party's support distribution (Miller, 1996; Grofman et al. 1999). Usually the size factor predominates, and the larger party's median voter is closer to the overall median voter than is the median voter in the smaller party; sometimes, however, the party that is more ideologically concentrated will have its median closer to the overall median position, even when it is the smaller party. <sup>2</sup> But, most importantly for present purposes, when party means are widely separated and the variance within each party is low, a change in which party is the majority can yield a dramatic change in the location of the median voter, even though there will be little change in the overall mean.

Because some models of legislative politics do posit the importance of the mean voter, e.g., ones in which politics is some weighted average (consensus) of the members of the legislature; and because we wish to emphasize comparisons in changes in means and medians, we report both types of averages. Also, at least one important model of legislative politics posits the political importance of the median party member in whichever party has the majority.<sup>3</sup> Thus, we also have chosen to report data broken down by party.

We look at the median and mean ADA scores for Democratic and Republican members of the House and at the overall mean and median in the House as a whole over the period 1963–1996, and at the corresponding standard deviation values. Because there is an issue of comparability of ADA scores across time due to selection effects in the bills used to compile the scores, we take advantage of the Groseclose, Levitt and Snyder (1999) correction

procedure to create scores that are comparable across years. Because there are issues of reliability using only a single measure of roll-call voting, we have also replicated our analyses using (adjusted) ACU scores.<sup>4</sup> However, once if we invert ACU scores by subtracting from 100, the results we get are so close to those we get for ADA scores that we generally have not bothered to report them.<sup>5</sup>

We show that the mean-median differences in (adjusted) ADA scores in the U.S. House, 1963–1996, are driven by changes in the number of quite conservative Democratic members elected from the South and by the change in party control that took place in 1994. We identify three periods: Initially (1963–1982), the House median is to the right of the House mean, pulled in that direction by southern Democrats. As Democrats are replaced by Republicans in the South, and the overlap among the party distributions goes down, but still with the Republican party in the minority, the preponderance effect becomes more important than the variance effect, and the overall median is to the left of the overall mean for the period 1983–1994.

However, once the Republicans come to be the majority party in 1994, we get a second reversal, but now the gap between floor mean and floor median is even greater because the Republicans are both the majority party and the party with lower variance. Indeed, the changes wrought by the 1994 House elections can only be characterized as revolutionary when looked at in terms of their impact on the floor median (a change of 25 ADA points, the largest of the modern era), but their true significance is missed when we look only at changes in mean ADA scores (a minuscule 1 point). Moreover, despite the relatively small Republican majority in 1994, the House median is much closer to the Republican median than the floor median ever was to the Democratic median, even in the days of large Democratic majorities in the House.

For purposes of further comparison, we also relate our results using Groseclose-Levitt adjusted ADA scores to results derived from using the first dimension of Poole-Rosenthal D-nominate scores (Poole and Rosenthal, 1997). Findings based on D-Nominate scores are very similar, again showing a dramatic shift in the overall House median in 1995, and a considerably lesser shift in House mean.

#### 2. Data analysis

Data on adjusted ADA scores for the 88th through the 104th congresses (1963–1996) are shown in Table 1, using the Groseclose, Snyder and Levitt (1999) correction method. We provide data for Democrats and Republicans and also report data separately for southern and non-southern Democrats (us-

Table 1a. Democratic House member adjusted ADA scores, by region, 1963–1996

		Non	-South				outh		Overall				
Year	Mean	Median	Standard Deviation	N	Mean	Median	Standard Deviation	N	Mean	Median	Standard Deviation	N	
1963	67.2	67.5	14.0	167	32.4	34.2	21.4	88	55.2	67.5	23.7	255	
1964	68.4	74.8	15.5	163	32.2	34.2	23.5	88	55.7	69.1	25.4	251	
1965	69.9	74.0	16.6	206	24.1	18.2	18.0	83	56.7	65.0	26.8	289	
1966	69.2	77.0	18.9	206	24.5	15.1	21.1	83	56.3	68.0	28.1	289	
1967	71.8	72.2	18.1	165	21.6	11.1	22.2	78	55.7	66.6	30.5	243	
1968	70.1	79.1	21.2	164	23.7	13.3	20.7	77	55.3	65.0	30.2	241	
1969	69.8	76.6	24.3	161	19.7	13.4	15.6	75	53.9	51.7	32.0	236	
1970	68.6	73.8	23.7	159	16.6	8.7	18.0	74	52.8	57.5	33.1	233	
1971	70.0	75.7	24.2	179	20.7	11.3	19.6	73	55.7	61.8	32.1	252	
1972	69.1	69.9	26.7	179	21.0	14.6	17.3	73	55.2	57.3	32.7	252	
1973	71.9	77.0	21.2	169	30.9	26.2	22.6	71	59.8	65.3	28.6	240	
1974	68.7	71.8	28.0	169	24.8	18.6	24.5	71	55.8	57.4	33.6	240	
1975	74.3	77.9	21.2	209	28.8	19.4	24.5	76	62.2	73.3	29.9	285	
1976	74.6	78.8	23.6	209	31.1	21.7	22.4	76	63.0	68.4	30.2	285	
1977	71.7	75.1	26.9	209	29.1	20.9	24.1	76	60.3	64.3	32.2	285	
1978	69.6	70.5	31.0	209	33.8	28.2	25.3	76	60.0	57.5	33.5	285	
1979	69.7	74.7	26.3	198	30.8	21.5	27.1	71	59.4	66.2	31.6	269	
1980	66.5	72.0	23.9	197	29.9	22.0	24.2	72	56.7	61.0	28.9	269	
1981	75.3	80.2	23.7	170	30.6	28.2	24.1	64	63.1	69.8	31.0	234	
1982	74.5	80.4	21.5	171	29.7	24.7	21.2	63	62.5	70.3	29.2	234	
1983	76.6	80.6	14.7	185	47.8	49.1	23.2	74	68.4	75.7	21.8	259	
1984	76.1	79.4	17.7	185	39.6	39.1	23.7	75	65.6	71.8	25.6	260	
1985	76.8	81.3	19.7	178	43.3	39.4	21.2	65	67.9	70.8	25.0	243	
1986	75.7	78.5	18.2	176	44.7	46.4	23.3	66	67.2	73.6	24.1	242	
1987	76.6	81.7	14.8	179	51.2	50.7	21.1	69	69.5	74.0	20.2	248	
1988	76.0	78.5	15.0	178	50.2	48.0	21.8	68	68.9	73.4	20.7	246	
1989	76.9	80.4	16.8	180	47.5	47.1	22.3	67	69.0	75.6	22.6	247	
1990	77.1	81.0	18.0	185	44.3	41.4	22.4	71	68.0	75.9	24.2	256	
1991	76.4	81.7	20.7	193	45.1	41.4	22.6	71	68.0	71.6	25.3	264	
1992	76.7	80.0	15.3	194	54.5	59.4	22.0	71	70.7	74.9	19.9	265	
1993	78.1	82.3	16.9	186	56.1	57.9	25.8	70	72.1	77.4	22.0	256	
1994	77.3	81.4	20.0	186	57.6	56.3	25.5	71	71.8	76.4	23.3	257	
1995	80.5	83.0	13.8	146	64.1	69.1	27.2	57	75.9	83.0	19.9	203	
1996	80.2	85.0	15.7	148	59.3	61.1	28.2	57	74.4	81.0	22.0	205	

<sup>\*</sup>Values in cells represent indexed ADA scores (using the Groseclose, Levitt, and Snyder, 1997 correction method) for House Democrats for the period 1963–1996. Indexed ADA scores are used instead of "nominal" scores to control for the selection of different sets of votes each year by the ADA. Scores are broken down by South (Alabama, Arkansas, Florida, Louisiana, Mississippi, North Carolina, South Carolina, Texas, and Virginia), Non-South, and all Democrats. Source for ADA scores: *Americans for Democratic Action*.

ing a ten-state definition of the old South – the Confederate states minus Tennessee) and for the so-called "conservative coalition" (i.e., southern Democrats plus Republicans). Table 1 also reports standard deviations, as well as the sizes of the various groups.<sup>8</sup>

From Table 1 we see the well-known results (see, e.g., Ornstein, Mann and Malbin, 1991; Aldrich and Rohde, 1995) that

- (a) the number of southern Democrats has been sharply declining;
- (b) with the elimination of many of the most conservative southern Democrats either through retirement, electoral loss, or party conversion, the mean ADA score of southern Democrats has been increasing to the point that, by 1983, southern Democrats actually looked more like non-southern Democrats than like Republicans (see Figure 1(b)).

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*Table 1b.* Republican House member, whole House, and Conservative Coalition adjusted ADA scores, 1963–1996

		Repu	blicans			Whol	e House		Conservative Coalition				
Year	Mean	Median	Standard	N	Mean	Median	Standard	N	Mean	Median	Standard	N	
			Deviation				Deviation				Deviation		
1963	12.3	6.6	15.9	174	38.0	40.7	29.7	431	19.1	13.9	20.2	262	
1964	13.8	6.6	15.4	171	38.9	37.4	30.1	424	20.0	12.3	20.5	259	
1965	18.9	13.3	15.7	138	44.7	43.6	29.7	429	20.9	13.3	16.7	221	
1966	19.4	15.1	15.9	137	44.6	38.7	30.3	428	21.3	15.1	18.1	220	
1967	19.3	16.6	15.3	183	40.3	29.6	31.0	428	20.1	11.1	17.6	261	
1968	20.4	13.3	17.6	184	40.4	35.2	30.9	427	21.4	13.3	18.6	261	
1969	23.1	13.4	20.3	184	40.6	32.6	31.6	422	22.0	13.4	19.1	258	
1970	25.1	16.9	21.3	183	40.9	29.1	31.8	418	22.5	16.9	20.6	256	
1971	23.9	15.8	20.3	176	42.8	33.1	32.0	429	23.0	14.3	20.1	249	
1972	24.1	14.6	21.0	178	42.4	33.0	32.4	431	23.2	14.6	20.0	251	
1973	20.8	14.4	19.8	184	42.7	37.9	31.7	427	23.6	18.3	21.1	255	
1974	26.1	18.6	25.1	190	42.6	33.0	33.5	433	25.8	18.6	24.9	261	
1975	24.5	17.0	22.2	142	49.7	48.2	32.8	432	26.0	19.4	23.0	218	
1976	22.7	16.5	19.5	143	49.7	47.7	33.2	433	25.6	16.5	20.9	219	
1977	24.8	20.9	20.6	139	49.0	48.0	33.4	430	26.3	20.9	21.9	215	
1978	24.5	18.5	21.1	139	48.6	44.5	34.4	429	27.8	18.5	23.0	215	
1979	15.5	10.9	17.8	153	43.7	38.6	34.6	426	20.3	10.9	22.3	224	
1980	21.0	11.0	20.8	151	44.1	39.0	31.3	424	23.9	17.0	22.3	223	
1981	19.5	12.6	17.5	184	44.0	33.4	33.9	424	22.3	12.6	20.0	248	
1982	19.0	9.5	20.4	185	43.5	34.8	33.7	425	21.7	14.6	21.1	248	
1983	11.6	7.9	15.3	158	47.1	51.5	33.9	422	23.1	12.7	24.8	232	
1984	15.7	8.7	17.5	157	47.0	49.1	33.4	422	23.4	13.8	22.6	232	
1985	13.8	8.0	15.9	174	45.4	44.6	34.4	420	21.8	13.2	21.8	239	
1986	13.9	4.5	18.4	175	44.9	44.0	34.3	419	22.4	9.4	24.1	241	
1987	11.9	4.3	17.5	171	46.1	50.7	34.2	421	23.2	15.9	25.7	240	
1988	13.4	2.2	21.5	167	46.5	53.1	34.4	415	24.0	17.4	27.3	235	
1989	15.3	9.0	17.9	160	47.8	51.8	33.5	410	24.8	18.5	24.2	227	
1990	15.9	7.9	17.5	173	46.9	47.5	33.7	432	24.2	19.1	23.0	244	
1991	15.8	11.1	14.7	161	48.2	46.4	33.7	430	24.6	16.2	22.1	232	
1992	11.7	7.9	16.1	163	48.1	54.3	34.3	433	24.7	18.2	26.7	234	
1993	12.4	9.1	13.0	170	48.1	53.0	34.9	431	25.3	14.0	26.6	239	
1994	12.6	6.2	12.1	172	47.9	48.8	35.1	434	25.8	16.2	26.7	242	
1995	10.3	4.0	9.1	· 230	41.0	23.5	36.1	433	21.0	8.7	26.0	287	
1996	11.1	6.3	11.5	230	40.9	26.2	36.0	435	20.7	11.3	25.1	287	

<sup>\*</sup>Values in cells represent indexed ADA scores (using the Groseclose, Levitt, and Snyder, 1997 correction method) for House Republicans, the whole House, and the Conservative Coalition for the period 1963–1996. Indexed ADA scores are used instead of "nominal" scores to control for the selection of different sets of votes each year by the ADA. The Conservative Coalition includes Republicans plus southern Democrats. The South includes: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Texas, and Virginia. Source for ADA scores: *Americans for Democratic Action*.

(c) Republicans started off conservative and have gotten even more so, to the extent that, in 1995–1996, the median Republican had an adjusted ADA score of only 4!

Now let us turn to the special insights into this portrait of the House that can be gleaned by attention to variance differences between the parties and subsets thereof and their consequences for the location of the overall median voter relative to the overall mean and to the medians of the two parties.

The data in Table 1, graphed in Figure 2, show that from the 88th through the 97th congress, the (adjusted) ADA score of the median House member is to the right of the mean (adjusted) ADA score of the House, often considerably so. The reason for this is clear. Southern Democrats form a right tail on the Democratic ADA distribution, and the variance within the Democratic

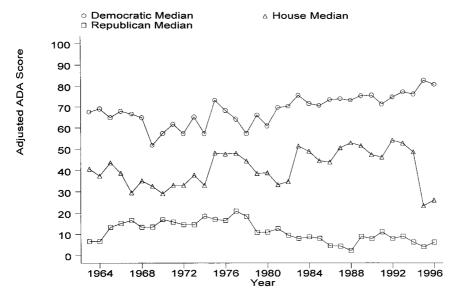
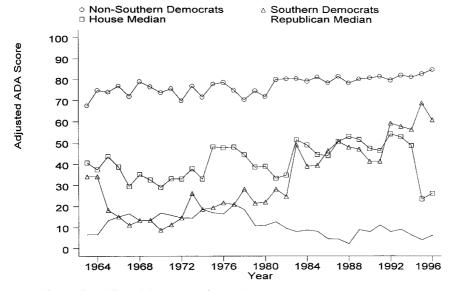


Figure 1a. Median adjusted ADA scores for Democrats, Republicans, and the whole House, 1963–1996.



*Figure 1b.* Median adjusted ADA score for southern Democrats, non-southern Democrats, Republicans, and the whole House, 1963–1996.

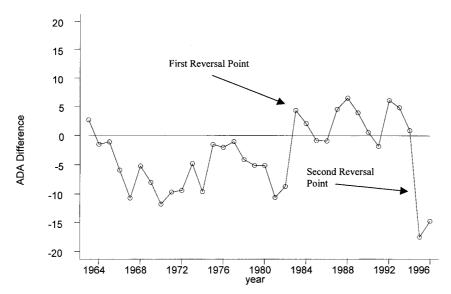
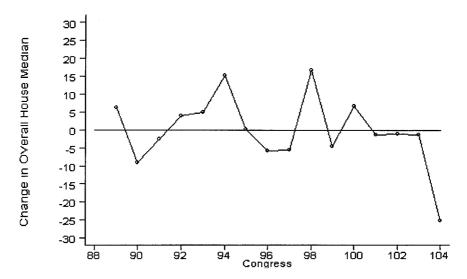


Figure 2. Difference in adjusted ADA scores of mean and median House members, 1963–1996.

party is quite high compared to variance within Republican ranks. Thus, the median House member is shifted in a rightward direction from the mean House member, toward the location of the Republican median, despite the fact that the Republicans are the minority party in each of these congresses. Here we see the power of ideologically concentrated minorities to shift the median in their direction.

In contrast, from the 98th through the 103rd congress, we see in Figure 2 (and Table 1) that the floor median shifted left of the floor mean. What has happened? The answer is simple: redistricting, especially redistricting in the South that created majority black districts electing rather liberal representatives, plus (the arguably partly related) Republican gains in the House in the South leading to a dramatic decrease in the number of southern districts held by Democrats (Lublin, 1995; Grofman and Handley, 1998). The combination of these two effects, raising the liberalism of the southern House seats remaining in Democratic hands at the same time as reducing the impact of those seats on the variance of the party because there were fewer of them, meant that what we have seen in the 1980s through 1992 is an ever more conservative and more tightly concentrated Republican party, and an ever more concentrated and more liberal Democratic party.

However, during this time period, the reduction in variance of the Democrats is more dramatic than of the Republicans, who already started off low. Thus, the variance effect diminished in importance, permitting the numerical



\*Note: Change is calculated by subtracting ADA score of median Member first session to first session.

Figure 3. Change in overall adjusted ADA score of the median House member from one Congress to the next, 1963–1996.

preponderance of the Democrats to be the key factor from 1983–1994, *reversing the pattern of earlier periods*. The House median was then at or to the left of the House mean, advantaging Democrats (a.k.a. liberals).

Finally, in 1994, we have yet another reversal of the relative location of the median and the mean House members. When the Republicans take over control of the House, given their incredibly low standard deviation and their new status as the majority party in the House, the median House member is now a Republican. This, too, follows from the logic of our model. When, the overlap condition is no longer satisfied because of dramatic ideological polarization between the parties, then the majority party shifts the median in its direction away from the mean; moreover, the more ideologically concentrated is that majority party, the greater will be the shift!

In 1995, the House adjusted ADA *mean* is at 41, but the *median* voter in the House is only at 24. The median voter's ADA score has shifted from nearly 50 in the previous five congresses to only 24 - a shift in the location of the House median of more than 25 points in one election, far and away the largest shift ever over the past four decades! (See Figure 3.) Is it any wonder the Republicans were talking about a revolution?

In contrast, however, the shift in the ADA score of the mean House member from 1993–1994 to 1995–1996 is only 1 point (see Figure 3 or Table 1)!! In other words, most of the change in political impact at the 1994 House

elections was due to variance effects that dramatically affected the location of the median voter, given the change in locus of party control and cannot simply be attributed to a change in the composition (mean liberalism) of the House, *per se*.

Note, too, that, contrary to the usual robust behavior of the median to perturbations in extreme values – when compared with the mean; here, for bounded variables, and a sharply bimodal distribution – it is the median rather than the mean that will bounce around most sharply when the locus of party control changes in the House! Thus, while the Republican revolution is triggered by the increasing liberalism among the remaining southern Democrats and the increasing conservatism among an ever more southern-based Republican party that creates a humongous separation between the parties – an almost unbelievable 60 ADA point difference in party medians in 1993–1994 and an even more incredible 79 point difference in 1995–1996 – it took a change in which party was in the majority for the full effects of these historical patterns to truly manifest themselves.

We can also perform similar analyses using the first dimension of Poole-Rosenthal D-nominate scores (Poole and Rosenthal, 1997) rather than the Groseclose-Levitt adjusted ADA scores. D-Nominate scores have the advantage that they are based on the complete set of all (non-consensual) roll-call votes in Congress, rather than on the quite limited set of roll-calls identified by the Americans for Democratic Action as both significant votes and reflecting an underlying left-right dimension.<sup>11</sup> Findings based on D-Nominate scores (which range from -1 (left) to +1 (right)) are very similar to those using adjusted ADA scores, again showing a dramatic shift in the overall House median in 1995 of .63 points (from -.24 to .39), and a considerably lesser shift in House mean of .27 points (from -.11 to .16). This shift in median in 1995 is far and away the greatest change over the time period, with the next largest change between congresses being less than half as large. 12 Similarly, by 1995, D-Nominate scores show a virtual chasm between the roll-call voting scores of Democrats (with a median at -.39 and a mean also at -.39) and those of Republicans (with a median at .67 and a mean at .68), with no Republicans having a negative D-Nominate score, and only seven Democrats having a positive D-Nominate score.

### 3. Discussion

The relative location of the House mean and median has shifted over time. In the U.S. House, the impact of the variance effect on the location of the overall House median changed with changes in the number of quite conservative Democratic members elected from the South and with party control.

Initially, the House median is to the right of the House mean, pulled that way by southern Democrats. As Democrats are replaced by Republicans in the South, and the overlap among the two distributions goes down, but still with the Republican party in the minority, the preponderance effect becomes more important, and the effect reverses itself, i.e., the overall median is to the left of the overall mean. However, once the Republicans come to be the majority party, we get a second reversal, but now the gap between mean and median is even stronger because the Republicans are both the majority party *and* the party with lower variance.

When studying the effects of the 1994 election on the U.S. House, were we to have done what most political scientists (and even most economists) do, namely look only at changes in terms of means, we would have missed seeing how powerful Republican views were in the House after the 1994 election (or at least, how powerful they would have been, had Clinton not been president and able to exercise the threat of veto). And we would have missed seeing how huge was the rightward *shift* in the location of the *median* voter in the House from 1993–1994 to 1995–1996. Moreover, this dramatic shift in the median in the Republican direction was achieved despite the fact that the Republican preponderance, 230–205, was not large by historical standards, especially compared to years of Democratic dominance in the House in, say, the 1960s.

In addition to our new periodization of congressional party structures, we believe that the most important result we give, and perhaps the least intuitive, has to do with the potential for remarkable changes in the location of the median member of Congress occurring with little or no change in mean locations. Contrary to what we might think we remember from statistics classes, for certain types of distribution (e.g., sharply polarized bimodal mixtures) it is the median and not the mean which can swing wildly with only small perturbations. For example, intuitively, what we have is that the 1994 change in party control of the House shifts us from a median location in the right tail end of a somewhat dispersed Democratic party (which thus gives us a median voter who is moderate) to the left tail of a highly concentrated Republican party (which gives us a median voter who is highly conservative.)<sup>13</sup>

## **Notes**

- Useful reviews of recent extensions of the Downsian approach include Enelow and Hinich (1984, 1990) and Hinich and Munger (1994).
- Necessary and sufficient conditions for divergence between the mean and the median
  are set out in Merrill, Grofman, Brunell and Koetzle (1999) in the form of a precise
  mathematical relationship. Because of the complexity of that formulation, we do not try
  to summarize it here.

- 3. A Wuffle (personal communication, April 1, 1998) has dubbed this "the House is a party animal" model.
- 4. Our ADA estimates differ marginally from those reported in Groseclose, Levitt and Snyder (1996) because we calculated the corrections from the original ADA data set. However, the ACU scores we report are taken directly from a data set provided by Timothy Groseclose to whom we are deeply indebted.
- 5. When there are minor differences in results for ADA and ACU scores, we report those in footnotes.
- The identical reversal years are found when we use ACU scores adjusted using the Groseclose et al. method.
- 7. For *median* ACU scores we also get a jump that is the largest of the modern era, 22 points, with virtually no change in the *mean* ACU score.
- A similar but much less inclusive time series is reported in Grofman, Griffin and Glazer (1990).
- 9. We mean this quite literally: the new adjusted House ADA median is at 24 and, while there are a number of legislators with that ADA score, the majority of them are Republicans.
- 10. The intuition is quite simple. Because the two parties in the House are, ca. 1994, in effect separated by an ideological chasm, as party control changes, i.e., with a change in which party is the majority party, then the location of the median voter will shift from a location within the Democratic party to one within the Republican party thus guaranteeing huge changes in the location of the median voter.
- 11. For ADA scores, that position which is (strongly) favored by the ADA is taken to be the more liberal (in the modern sense) position.
- 12. Although the basic results apply to both D-Nominate and adjusted ADA scores, they are not quite as stark for the former as they are for the latter. Because ADA selects bills that showcase left-right differences, as the parties diverge ideologically, they will capture a stronger impact of party differences than the run-of-the-mill floor vote which makes up the bulk of the roll-calls used to calculate D-Nominate scores. Thus, we see Groseclose-Levitt adjusted ADA scores as a valuable complement to D-Nominate scores. Indeed, since they capture the most visible votes and the issues of greatest controversy, in some way they are more revealing about political conflict in congress (and its party basis) than are the more inclusive D-Nominate measures.
- 13. If the parties are both very highly concentrated (with almost no overlap), even if they are of similar sizes, then the mean and the median can still be very far apart. The mean will be centrally located in what we may think of as the "valley" between the parties, but the median will be toward the end of the party distribution of the majority party.

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