

# Congressional Trends to Tax and Spend: Examining Fiscal Voting Across Time and Chamber

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## Abstract

This paper examines congressional spending preferences over time by party and chamber. The data employed is the annual vote index compiled by the National Taxpayers Union for 1979-2002. NTU scores are presented with and without adjusting for inter-chamber and intertemporal movements of the policy space over which the scores are calculated. Results indicate that the parties and chambers are much more stable over time, and exhibit a slighter liberal trend, with adjustments for movements in the policy space. In addition, during fiscal milestones the adjusted scores indicate less pronounced changes in spending preferences than the unadjusted data do.

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# 1 Introduction

Congress plays a pivotal role in determining the fiscal outcomes that motivate a range of issues in public finance and political economics. Regarding budget deficits and public debt, for example, scholars and commentators routinely point out that the president sets the budget along with Congress. But when making comparisons over time—perhaps to explain growing deficits, for example—attention is usually focused on the executive branch and external circumstances such as war and spending emergencies (e.g., natural disasters, financial bailouts). Observers are inclined also to decry certain budget items that seem to serve narrow or low-priority interests such as pork-barrel projects. Relatively little attention is given to the tendencies toward more or less fiscal restraint over time within Congress. Certain studies have examined voting on fiscal issues by individual legislators over their careers (Aka et al. 1996; Reed et al. 1998), but there is a dearth of work examining the aggregate fiscal preferences of parties and chambers, in order to give a sense of how the fiscal preferences of the congressional body have changed over time. Such a profile offers insight into issues in addition to the budget, such as the growth of government, fiscal federalism, and macroeconomic stabilization policy.

In this paper, I present the fiscal profile of Congressional parties and chambers from 1979 through 2002 using the index of roll call votes compiled annually by the National Taxpayers Union, a non-profit research and advocacy organization based in Washington, D.C. Due to the nature of calculating NTU scores, adjustments must be made in order to draw intertemporal and interchamber comparisons.<sup>1</sup> In general, the adjusted data indicate much less volatility and a slighter liberal trend than do the nominal data among party and chamber mean fiscal policy positions. In addition, during fiscal milestones the adjusted scores indicate less pronounced changes in spending preferences than the unadjusted data do.

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<sup>1</sup>The transformation is analogous to adjusting nominal data for inflation over time and for cross-sectional purchasing power differences.

## 2 Description of the Data

NTU scores are an annual index of individual legislators' roll call voting records on fiscal matters. Similar types of "watchdog" indices are calculated each year by many other groups. NTU scores are unique among these indices by the way the issue set is defined and weighted. A typical watchdog group selects a series of major votes each year, adopts a position on each vote, and assigns each member a score based on the frequency of supporting the group's position. In contrast, the NTU incorporates every vote that has an effect on federal spending, taxes, federal debt, or certain types of regulation. Each vote is then assigned a weight based on the magnitude its fiscal effect. A legislator's NTU score in a given year is the weighted frequency with which he/she voted to reduce, or not to increase, spending or taxes. The score's range is 0 to 100, with a higher score indicating more fiscal restraint in the voting record.

Table 1 provides a summary of the manner in which NTU scores have been calculated since their inception in 1979 through 2002. On average, the scores include 197 votes from the House floor, and 153 from the Senate floor, each year. Weighting the scores began in 1985, and there is a subjective element in assigning the weights since they are done mostly by NTU staff. The sample includes a score for every representative and senator during the 24-year period considered, amounting to 12,810 scores.<sup>2</sup>

## 3 Initial View

Figure 1 shows the mean NTU scores for the House and Senate, and for Republicans and Democrats within the two chambers. Several things are noteworthy here. First, the House and Senate are remarkably close together; neither seems to be more or less fiscally conservative or liberal than the other. Second, Republicans score consistently higher than Democrats in both the House and Senate; although, for several years in the 1980s the parties were quite close in the Senate. Figure 1 also presents the polarization of the two parties, calculated

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<sup>2</sup>A surprisingly small number of cells (30) are missing data due to vacancies or excessive absenteeism, in which case the NTU does not record a score.

simply as the Republican mean minus the Democrat mean. Here we see some confirmation of the scholarly and popular wisdom that the parties are becoming more polarized over time (Pool and Rosenthal 1991; Grofman et al. 2001; López and Ramirez 2004). In particular, Senate polarization on fiscal voting increases five-fold between 1991 and 1993, and increases further from there. House polarization increases with similar magnitude beginning in 1989, though it settles down somewhat after 1995. Next, these figures seem to reflect certain milestones in recent congressional history. For example, the 1994 "Republican revolution" is evident in the House and Senate panel, as well as in the Republican lines within the separate party panels—though one can see that the Republican numbers began to increase in 1991. However, the figures also suggest puzzling changes occurring without a fiscal milestone. For example, in 1988, the last year of the Reagan presidency, both the House and Senate appear to drop significantly toward fiscal largess. But there was no major tax bill in that year, and the budget deficit in nominal dollars was already shrinking from its high in 1986. It is not clear—from President Reagan's 1988 budget proposal, for example—that the stock market crash of 1987 led to major fiscal policy changes. Furthermore, nothing in the NTU's 1988 study indicates a rationale for why the scores are much lower in that year than in neighboring years. Such apparent anomalies may be simply due to the fact that hundreds of votes are considered, and no single issue is given sufficient weight in order to affect appreciably even an individual's score, much less a party or chamber mean. However, there is a deeper issue at hand in making these comparisons across time and chamber.

## 4 Shifting and Stretching the Policy Space

Vote indices such as NTU scores are based on an underlying policy space, which depends on the set of votes in a given year that is used to calculate the index. Only fiscal matters that advance to the final floor voting stage are considered in the NTU index. The set of fiscal issues brought to floor votes changes from year to year, and it also differs across chambers in a given year—both of which are evident in Table 1. Furthermore, the subjective weighting process also changes over time due to the addition of new staff assigning the weights under evolving procedures. These aspects together mean that the underlying space is not stable

over years or between House and Senate, so the nominal NTU scores cannot be compared across time or chamber.

According to Groseclose, Levitt, and Snyder (1999), the policy spaces underlying watchdog group scores “shift” and “stretch” when the set of votes on which the scores are based changes. This can cause spurious changes in the vote index.

To illustrate the problem in the case of NTU scores, assume each representative and senator has an ideal policy outcome over all conceivable fiscal issues. Assume further that ideal points are fixed, so that a measure of each member’s fiscal policy position would remain unchanged for that member over time. If the set of votes used to compute the index shifts, members’ scores will change even though their true positions are fixed. Suppose, for example, that from period  $t - 1$  to period  $t$  the chair of the budget committee changes hands from a fiscal conservative to a fiscal liberal, so that a series of larger than previous spending increases are reported to the floor. Fewer members will vote for these measures than previously, and those who vote against will receive greater NTU scores, so the chamber will appear to become more fiscally restrained in period  $t$ . Following Groseclose, Levitt, and Snyder (1999), this spurious increase can be corrected by a simple counter shift parameter—call it  $a_t$ —subtracted from a member’s score in magnitude commensurate with the degree of the shift in policy space.

A similar problem can occur if the space stretches. Suppose a new presidency ushers in a period of divided government, and perhaps the spending priorities differ greatly between congressional leaders and the administration—or perhaps for deficit reduction one group wants to increase taxes and the other pushes to decrease spending. Under such a scenario, the set of floor votes on fiscal policy will have greater variance. Members away from the center will change votes, and the distribution of NTU scores will diminish. Depending on majority-minority shares of seats, and the concentration of ideal points by party, this could lead to even major changes in party and chamber means (Merrill et al. 1999). Again following Groseclose, Levitt, and Snyder (1999), the scores can be adjusted by a stretch

parameter—call it  $b_t$ —which is inversely related to the magnitude of the stretch in scale.<sup>3</sup>

The shift and scale adjustments amount to a linear transformation as follows. If the  $k^{th}$  member in chamber  $i$  has NTU score  $y_{kit}$  in period  $t$ , then the adjusted NTU score is  $\hat{y}_{kit} = \frac{y_{kit} - \hat{a}_t}{\hat{b}_t}$ , where the parameter estimates  $\hat{a}_t$  and  $\hat{b}_t$  for each chamber-year can be obtained using maximum likelihood as detailed in Groseclose, Levitt, and Snyder (1999). The shift and scale parameter estimates for House and Senate NTU scores appear in the Appendix.<sup>4</sup>

## 5 Adjusted View

Figure 2 contains the nominal and adjusted mean NTU scores for chambers over time. Compared to nominal, the adjusted scores exhibit a remarkable degree of stability in both the House and Senate.<sup>5</sup> Thus, seemingly large year-to-year changes in the nominal data are determined mostly by movements of the policy space. In the House there is one relatively large upward movement following the 1994 elections. The increase from 1994 to 1995 is more than 10 percent of the mean and is a larger change than in any other year. The Senate, while also stable over the long term, appears to be relatively conservative during most of the Reagan years, then dips down between 1987 and 1994, and then again reflects greater fiscal restraint with the Republican majority that began in 1995. Overall, the House and Senate are very close together, with the Senate being slightly more fiscally conservative in most years. The effect of the shift and scale parameters can be seen by comparing the year-to-year changes in the nominal and adjusted scores. For example, from 1994 to 1995, the nominal House mean increased by 15.12 percent, but the real score increased by only

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<sup>3</sup>It is not necessary to assume legislators' policy positions are fixed. If the scale shifts and/or stretches relative to even a moving ideal point, the unadjusted NTU scores will still overstate the degree of movement in the ideal point.

<sup>4</sup>Tim Groseclose provided the program code for conducting the estimations in an old version of the computational software Matlab. The estimates appearing in the Appendix to this paper were obtained using a variant of the older code that was updated for use in a newer version of Matlab. We first replicated Groseclose's estimates for ADA scores, then proceeded to estimate the parameters for the NTU data. Full details are available on request.

<sup>5</sup>This also contrasts with a high degree of fluctuation in both nominal and adjusted measures of voting on a broader issue set, such as ADA scores (Groseclose et al. 1999; Grofman et al. 2001).

10.2 percent. Thus, the movement of the policy space explains roughly 4.9 percent of the apparent trend toward fiscal conservatism after the Republicans won the majority in the House.

The adjusted scores also indicate much less polarization than do the nominal scores, particularly after about 1990. While there is certainly some upward drift in both the House and Senate, a great deal of the apparent polarization can be attributed to changes in the issues that are put to floor votes. In 1993 through 1995 in particular, the  $\hat{b}_t$  parameter estimates in the Appendix suggest that the set of votes brought to the House floor had greater variance than in the preceding and following years. This would explain the dramatic increase in polarization within the nominal scores, but a relatively smaller increase in the adjusted scores.

The individual parties are profiled in Figure 3. Here again we see that the adjusted scores show greater stability, while still indicating that the Republicans are becoming slightly more fiscally conservative over time while the Democrats move slightly in the opposite direction. Interestingly, the “dip” that occurred in 1988 can still be seen in the adjusted scores for Senate parties. Republicans show about an 8 percent decrease (toward fiscally liberal) in 1988 followed by a 6.5 percent increase in 1989. Senate Democrats experienced a 1.2 percent increase in 1988 followed by an almost 10 percent decrease in 1989. So even after adjusting for a changing policy space, there was a one-year move among senators toward the center on fiscal policy matters. The previous presidential election year, 1984, saw an even greater decrease in polarization in the Senate.

## 6 Conclusions and Extensions

This paper presents a view of House and Senate voting on fiscal policy issues over time. The data used are the annual index of budget and tax votes calculated by the National Taxpayers Union, after adjusting for movements in the policy space across time and chamber. In addition to showing that the House and Senate exhibit nearly the same mean fiscal policy position over time, the analysis indicates that there is remarkable stability over time for

Congress as a whole—with the exceptions of select milestone years such as the 1988 budget deficit debate and 1995 when Republicans gained majorities in both chambers for the first time in four decades. However, relatively large changes can be seen in the polarization data since the late 1980s, indicating that Republicans have drifted toward fiscal restraint and Democrats toward fiscal loosening in both the House and Senate. These results can be used to analyze issues in public finance and political economy such as debt and deficits, growth in government, fiscal federalism, and macroeconomic policy, as well as presidential-congressional relations. Political economists will also be interested in the shift and stretch parameter estimates to draw inferences regarding congressional leaders and movements of the policy space—for example, in models of agenda setting power.

A natural extension of this paper is to focus attention on adjusted NTU scores among congressional leaders, since their fiscal policy positions largely determine which issues are brought to votes. In addition, considering medians rather than means may afford greater applicability in spatial models of political economy that are based on median tendencies. Also, since growing deficits have become more of an issue of debate under President George W. Bush, it will be of interest to incorporate data through 2008, and calculate the adjusted scores, once the data becomes available. Finally, previous research that has used nominal NTU scores (e.g., Aka et al. 1996, Reed et al. 1998) could be revisited to investigate whether adjusting the scores for moving issue sets would alter results.

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Table 1: Basis for Calculating NTU Scores: 1979-2002

Year	No. Votes		Weights Assigned
	House	Senate	
1979	250	187	Equally
1980	203	192	Equally
1981	151	231	Equally
1982	197	180	Equally
1983	202	168	Equally
1984	207	109	Equally
1985	211	207	By impact on federal spending: NTU staff + member survey
1986	219	123	By impact on federal spending: NTU staff + member survey
1987	218	186	By impact on federal spending: NTU staff + member survey
1988	164	92	By impact on federal spending: NTU staff + 2 outside experts
1989	154	90	By impact on federal spending: NTU staff + 2 outside experts
1990	215	107	By impact on federal spending: NTU staff + 2 outside experts
1991	179	101	By impact on federal spending: NTU staff + 2 outside experts
1992	199	100	By impact on federal spending: NTU staff + outside expert panel
1993	271	206	By impact on federal spending: NTU staff + outside expert panel
1994	237	109	By impact on federal spending: NTU staff
1995	268	262	By impact on federal spending: NTU staff
1996	172	151	By impact on federal spending: NTU staff
1997	171	138	By impact on federal spending: NTU staff
1998	146	137	By impact on federal spending, taxes, debt, and regulation: NTU
1999	183	144	By impact on federal spending, taxes, debt, and regulation: NTU
2000	227	135	By impact on federal spending, taxes, debt, and regulation: NTU
2001	155	194	By impact on federal spending, taxes, debt, and regulation: NTU
2002	139	115	By impact on federal spending, taxes, debt, and regulation: NTU
Averages	197.42	152.67	

Source: National Taxpayers Union, annual congressional voting studies, 1979-2002

Figure 1: Nominal NTU Scores by Chamber, Party, and Polarization

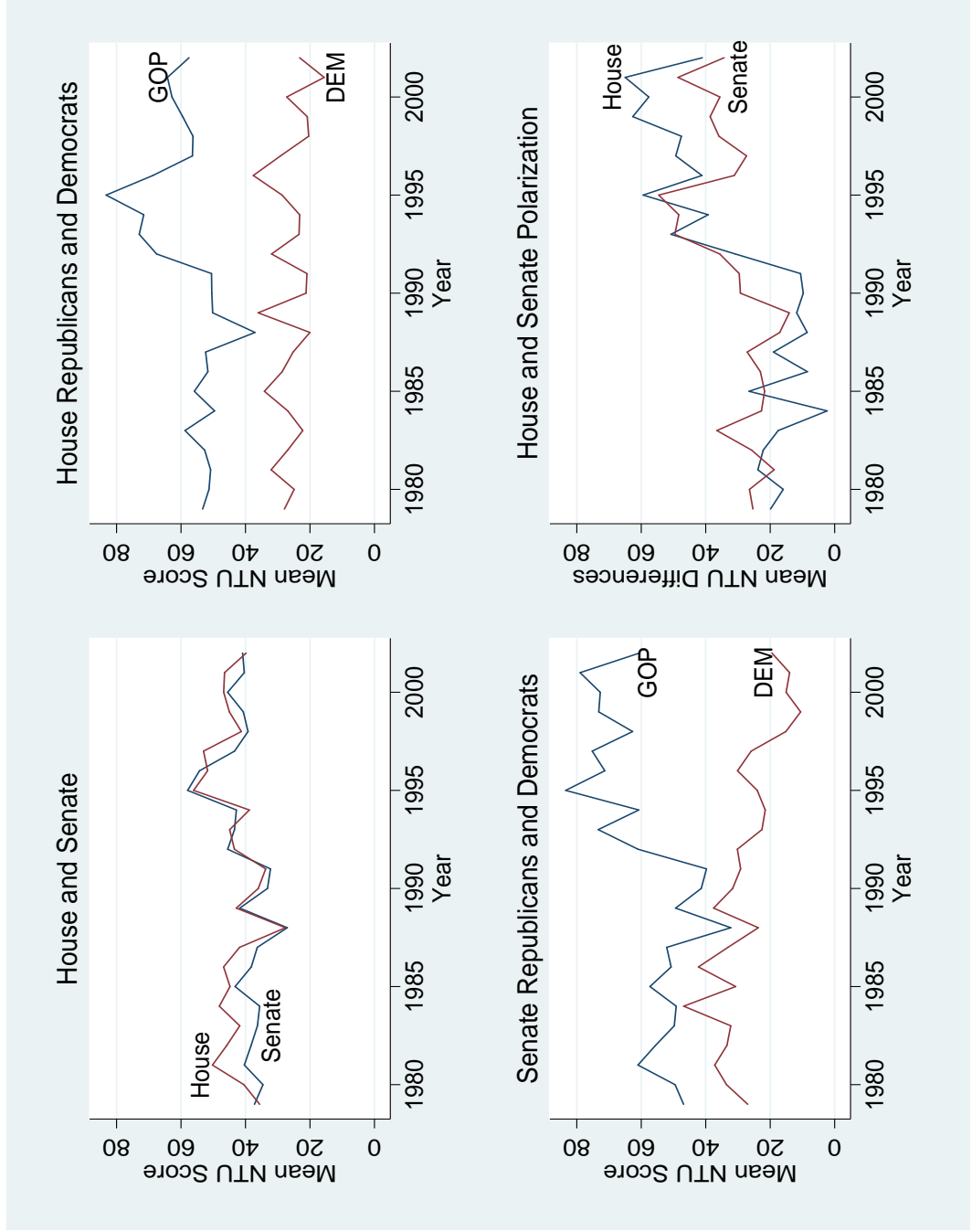
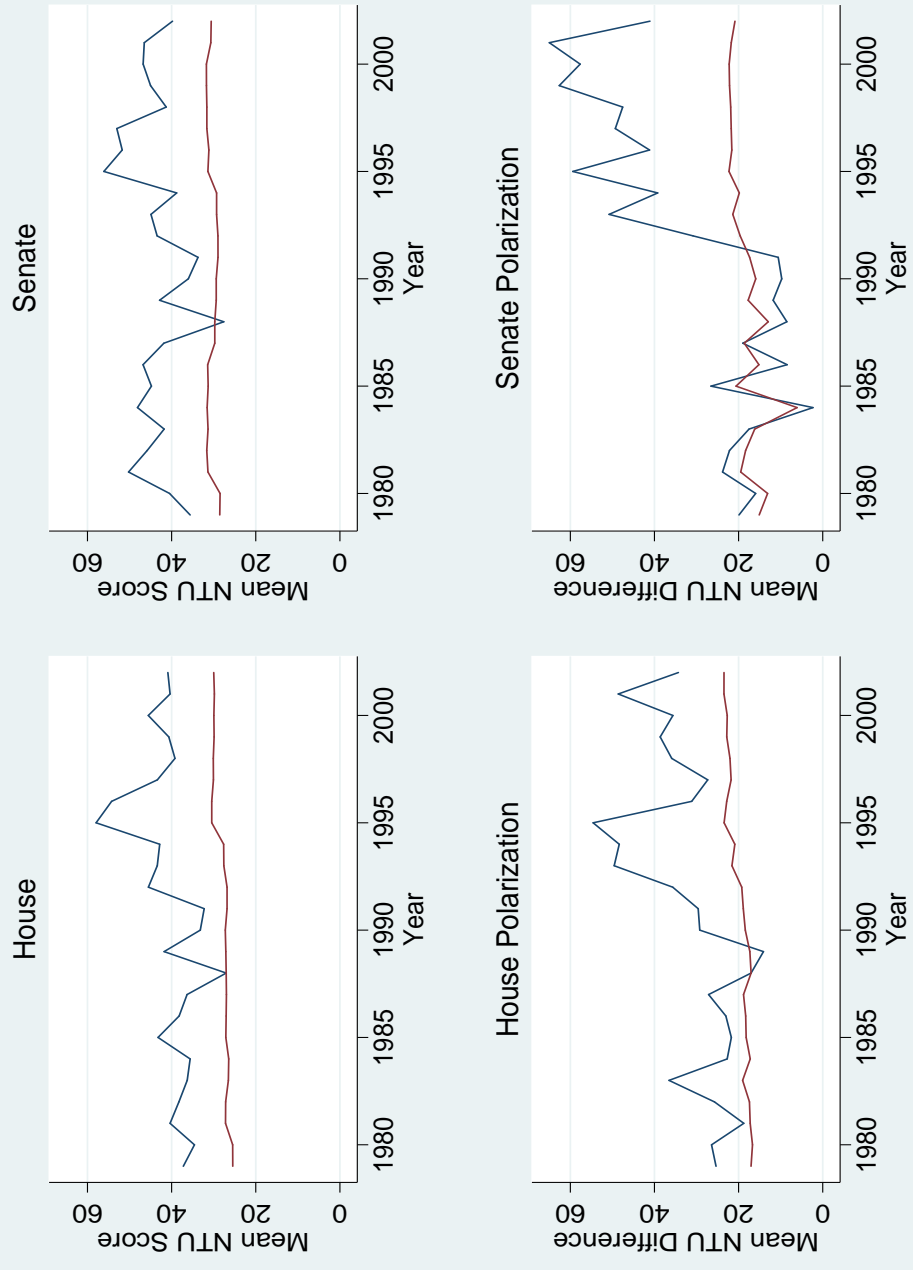
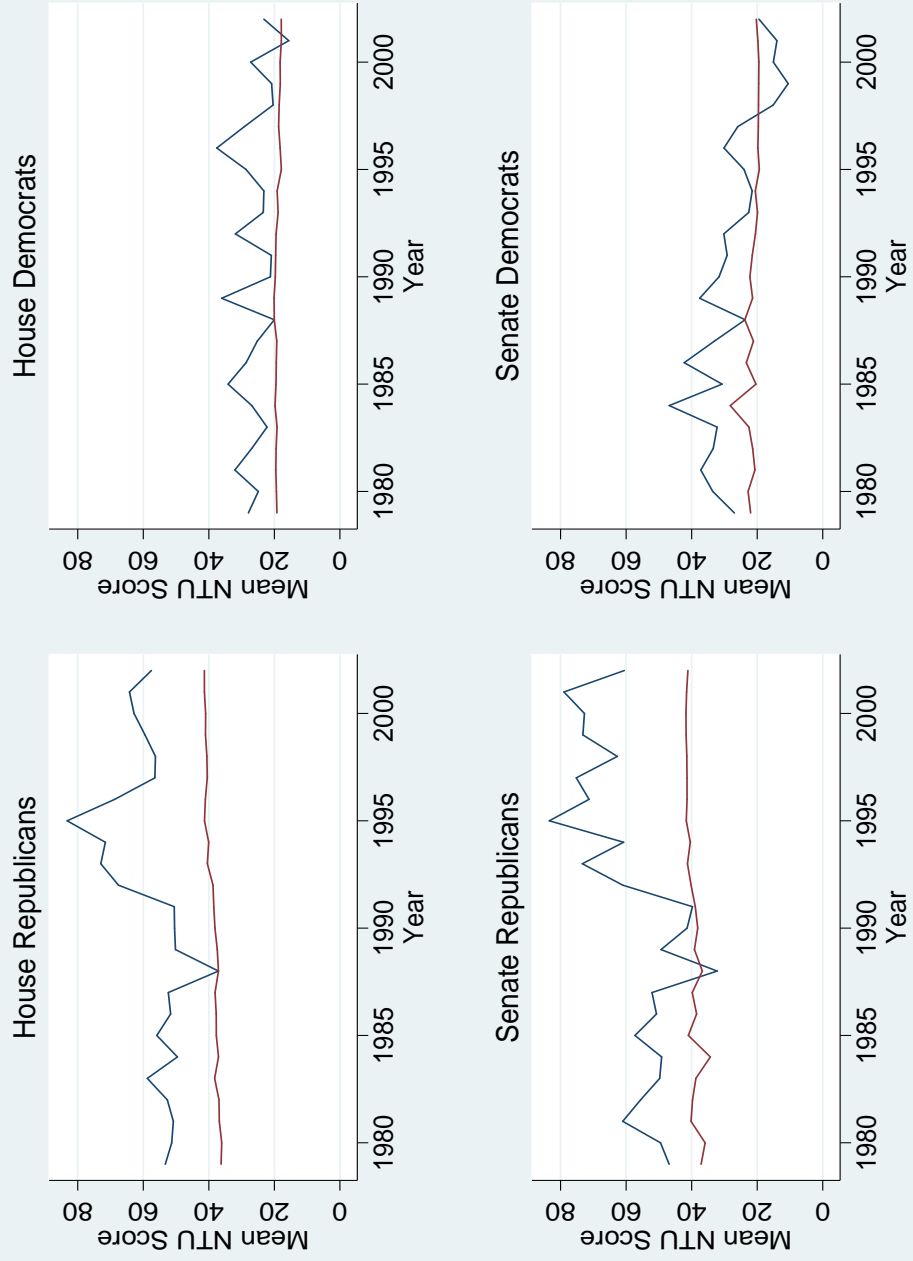


Figure 2: Nominal and Adjusted NTU Scores by Chamber



Note: Less volatile lines are the adjusted scores.

Figure 3: Nominal and Adjusted NTU Scores by Party



Note: Less volatile lines are the adjusted scores.

**Appendix: Shift and Stretch Parameter Estimates  
for Adjusting NTU Scores Across Time and Chamber**

Year	House		Senate	
	a	b	a	b
1979	-0.672	1.488	-2.0273	1.3174
1980	-5.7617	1.5826	5.8251	1.217
1981	10.7679	1.0884	11.938	1.2213
1982	-1.8634	1.4776	7.5649	1.2087
1983	-14.5767	1.9186	7.82	1.0833
1984	0.7821	1.3174	36.1213	0.3801
1985	10.875	1.1933	4.4456	1.2889
1986	4.2008	1.2576	29.267	0.5578
1987	-2.5311	1.4407	11.5739	1.0179
1988	0	1	8.0299	0.6583
1989	19.7176	0.814	23.3209	0.6649
1990	-10.0705	1.5875	18.0477	0.612
1991	-9.7982	1.5678	16.0667	0.6093
1992	-4.167	1.8525	-2.0819	1.5706
1993	-19.9375	2.2963	-24.7309	2.3754
1994	-21.1225	2.3141	-19.1838	1.9775
1995	-12.946	2.3275	-27.5811	2.6662
1996	12.6793	1.365	-7.5856	1.9053
1997	5.6619	1.255	-18.6254	2.2651
1998	-9.7984	1.628	-27.4744	2.1737
1999	-9.9646	1.6932	-44.7136	2.8273
2000	-1.4255	1.5679	-35.4712	2.5918
2001	-21.3921	2.0699	-45.1818	2.9878
2002	-2.9647	1.4622	-20.4605	1.9688

Notes: a is shift parameter and b is stretch parameter. See text for details.