Chapter Title: The Spatial Mapping of Minimum Wage Legislation

Chapter Author: Keith T. Poole, Howard Rosenthal

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7   The Spatial Mapping of Minimum Wage Legislation

Keith T. Poole and Howard Rosenthal

7.1   Introduction

Federally legislated minimum wages, first enacted in the Fair Labor Standards Act of 1938, are an enduring legacy of the New Deal.[1] While economists may argue the merits of minimum wages—along the lines that they impede efficiency and redistribute from poor and unskilled outsiders to the insiders of organized labor, minimum wages are determined by a political process.

This process is highly partisan. The original minimum wage law was enacted by a Democratic Congress. Periodically, the (nominal) level of the wage has been increased. But none of the increases occurred during the 10 years since 1938 when the Republican party controlled at least one of the houses of Congress. Increases in the nominal wage have also been blocked or moderated by Republican presidents.

Figure 7.1 shows that the real minimum wage rose steadily from the end of World War II until 1968, the end of the Kennedy-Johnson administration. When the Democrats both defeated Dewey and regained control of Congress in the 1948 elections, the minimum wage, in 1988 dollars, was only $1.96. Four years later, when Eisenhower was elected, the wage stood at $3.34. After the eight years of the Eisenhower administration, the wage again increased,
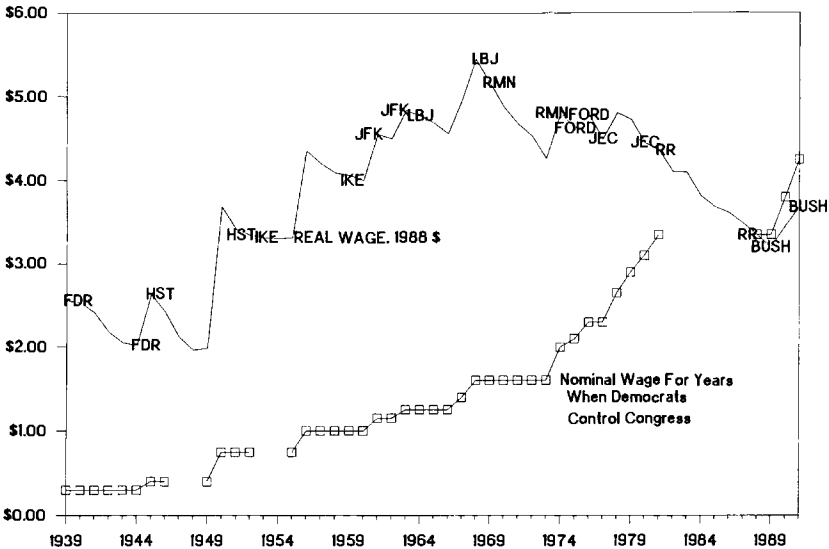
Fig. 7.1   The minimum wage

but far less rapidly, to $4.00. After increases were passed in 1961 and 1966, the real minimum wage reached its all time peak, $5.44 in 1968.[2]

The demise of the Great Society initiated a steep decline in the real minimum wage. Under Nixon the minimum wage fell—and, without Watergate would probably have eroded further—to $4.78. The 1977 increases only moderated the decline, since double-digit inflation in the late seventies eroded the value of the increments. When Ronald Reagan took office, the real wage stood at $4.36. When he left, the wage had declined to $3.20. The increases, passed at the end of 1989, will recoup only a small portion of the substantial decline in the real minimum wage that took place in the eighties. (The 1990 and 1991 entries in fig. 7.1 are based on the wage set by the 1989 law and an assumed inflation rate of 5%.)

The purpose of this essay is to explore the history of congressional roll call voting on minimum wages, with an emphasis upon the recent increase enacted in 1989. We begin, in section 7.2, with a more detailed look at the time series on minimum wages in order to more firmly document the partisan character of increases in the wage. In section 7.3, we briefly present a dynamic spatial model that we use to analyze roll call voting on minimum wage votes. The spatial model is based on the hypothesis that voting on nearly all issues, not just minimum wage but also foreign policy issues, regulatory issues, and so on, reflects a legislator's general ideological orientation on a few "liberal-conservative" dimensions. In contrast, "economic" models of congressional voting are motivated by the premise that members of Congress seek reelection and therefore seek to match their voting decisions to issue-specific economic

preferences of their constituents. After, in section 7.4, critiquing the economic models, we, in section 7.5, directly address three previous "economic" studies of roll call voting on minimum wages and show how the roll calls analyzed in those studies fit into the spatial model. A systematic spatial analysis of all (71) House roll calls on minimum wages between 1937 and 1985 is conducted in section 7.6. We find that minimum wage voting is related not only to a "prolabor" or "economic" dimension but also to a "pro-civil rights/anti-civil rights" or "social" dimension. In section 7.7, we present a more detailed analysis of events in 1989. Once again, the roll calls are highly spatial. Finally, section 7.8 contains some rough calculations that suggest that, for individual senators, support for minimum wages has waned somewhat over time. A brief conclusion then follows.

7.2   Congress, the Presidency, and Minimum Wage

In the introduction, we noted a most striking indication of the partisan character of the minimum wage—no increase has been voted when the Republicans controlled at least one House of Congress. We would now like to anchor this observation more firmly by contrasting it with some simple, exploratory regressions of the process in those years when the Democrats had full control of Congress. We eliminate the war years and begin our sample with 1945; we end with 1990.

For the years of full or partial Republican control of Congress (1947–48, 1953–54, and 1982–87[3]), the time path of the nominal minimum wage, m_t, can be described exactly as $m_t = m_{t-1}$. Similarly the real minimum wage, w_t, is exactly

$$w_t = w_{t-1} \left[\frac{P_{t-1}}{P_t} \right],$$

where P_t is the price level. In other words, given that the reversion of the nominal wage cannot be altered with partial Republican control, the real wage atrophies with inflation. As it makes no sense to include these "error free" years in a regression, we delete them from the sample, but we use the two equations as null hypotheses to test whether years of Democrat control represent a different regime. Figure 7.1 shows both the real wage and, for periods of Democratic control of Congress, the nominal wage.

When the Democrats have been in control of Congress since the war, the nominal wage (in spite of the fact that revisions to the law have always been separated by at least four years) increases quite regularly at an average annual rate of 7.1%. (The null hypothesis—zero—is rejected at $p = .002$.) Much of the fall in the real minimum wage in recent years, is, from this perspective, a combination of higher inflation rates in the seventies and a prolonged period of Republican control of the Senate in the eighties.

When the Democrats control the White House as well, the rate averages

9.3%. Divided government, with a Republican president and fully Democratic Congress, averages 4.6%. Sample sizes are small, however, for the comparison of Republican and Democratic presidents. On the one hand, the Republican average is not significantly greater than zero. On the other, the difference between the Democratic and Republican averages is not significant, either. A similar pattern of small differences appeared in other regressions.[4] The remainder of this section does not distinguish among presidents.

We also reject the null hypothesis for the real wage. Table 7.1 presents two regressions where the natural logarithm of the real wage is the dependent variable. In the first column, the regressions include a constant, the log of the lagged real wage, and the log of the price ratio. The null hypothesis is a zero constant and unit slopes. The null hypothesis is rejected for the constant, the wage slope, and for the joint hypothesis (F-test). In the second column, lags of the independent variable are added. Under the null hypothesis, their coefficients should be zero, but they are significantly nonzero. The regression suggests that the political process of adjustment to the minimum wage has a lagged response to changes in the price level. For both regressions, one can compute a steady-state real wage assuming a constant rate of inflation. This, in contrast to the equation for Republican control of Congress, always shows a nonzero wage, but, consistent with our earlier observation that the nominal wage grows at 7%, a real wage that is decreasing in the inflation rate. These regressions suffice to show that the real-wage time series is quite different when the Democrats hold sway on Capitol Hill than when they must at least share power with the Republicans.

Fully modeling the dynamics of the real minimum wage is beyond the scope of this paper. A major concern is that a nonmarket mechanism like Congress does not make a series of daily or even annual adjustments. Idiosyn-

Table 7.1   Logarithmic Regressions for the Real Minimum Wage, w_t

	Regression Model	
Variable	(1)	(2)
Constant	.394	.423
	(.111)	(.093)
$\ln(w_{t-1})$	.750	.366
	(.076)	(.170)
$\ln\left[\dfrac{P_{t-1}}{P_t}\right]$	.516	−1.016
	(.579)	(.754)
$\ln(w_{t-2})$		.388
		(.160)
$\ln\left[\dfrac{P_{t-2}}{P_{t-1}}\right]$		2.046
		(.775)
$\bar{R}^2$	.744	.786
p level, Null hypothesis	.0027	.0007

Note: Standard errors are in parentheses.

cratic matters are likely to affect the exact timing of increases. Nixon's vulnerability during Watergate may have been instrumental to enactment of the 1974 bill that he signed after successfully vetoing a nearly identical bill in 1973; an exceptionally conservative Republican president may have delayed any increases when the Democrats regained control of the Senate in 1987. Once a package of nominal increases is eventually enacted (the 1977 bill mandated increases in 1978, 1979, 1980, and 1981, and the 1989 bill in 1990 and 1991), further legislation has always followed the initiation of the last mandated increase. As a result, the real wage appears to be at the mercy of unanticipated inflation at least for several years after any bill has been signed into law. In this section, we have found that how the wage changes depends on who controls Congress. We now present a model that enables us to understand the coalitions that form to pass legislation during periods of Democratic control.

7.3   The Spatial Model of Congressional Voting

In this paper, we present, in figures 7.2–7.4 and also in 7.7–7.11, a number of "spatial maps" of each house of Congress. The horizontal dimension on each plot can be thought of as extending from the economic left, or prolabor side to the economic right, or promanagement. The top of the vertical dimension represents opposition to civil rights, the bottom, support of civil rights legislation.

Members of Congress are represented as points on the map. Legislator positions are shown by d (Northern Democrat), s (Southern Democrat), and r (Republican).[5] Roll calls are represented by lines, known as cutting lines. Members on one side of the line tend to vote "yea" on the roll call, those on the other side tend to vote "nay." Members "very close" to the cutting line tend to split about 50–50. Those very far from the line almost always vote as predicted.

The spatial model (Enelow and Hinich 1984) of Congressional voting (Poole and Rosenthal 1991) asserts that *any bill, regardless of content*, can be represented in a low (one- or two-) dimensional space. This model reflects the fact that legislators' positions on a wide variety of public policies are interrelated. For example, a legislator who opposes raising the minimum wage is very likely to have favored aiding the Nicaraguan Contras, to have supported Bork's nomination to the Supreme Court, opposes cutting defense spending, supports a constitutional amendment to outlaw flag burning, and so on. In the language of contemporary American politics, this collection of policy positions would be held by a "conservative" and the opposite collection by a "liberal."

The consistency of policy positions held by legislators allows us to develop a spatial map on which we can place cutting lines not just for minimum wage votes but also votes on foreign policy, regulation, affirmative action, and so on. In essence, the two dimensions in the maps represent abstractions—the labor and civil rights labels are provided as simple heuristics.

How are the members of Congress and cutting lines placed on the maps? Many readers will be familiar with the related topics of principle-components factor analysis and eigenvector extraction. What we do is similar in spirit to these methods, but the actual techniques are quite different since they are recovery techniques based on a maintained hypothesis of probabilistic spatial voting. The techniques are explained in detail in Poole and Rosenthal (1985a, 1991).

The maps in Figures 7.2, 7.3, and 7.4 are based on applying the techniques in a simultaneous, dynamic estimation involving every roll call between 1789 and 1985.[6] We found (Poole and Rosenthal 1991) that throughout American history at most two dimensions suffice to capture about 85% of the individual decisions, even on close votes. In fact, over 80% classification can be obtained with a one-dimensional model, essentially the horizontal projections of the points in the figures in this paper.

We also found that relative spatial positions exhibit remarkable intertemporal stability, particularly since the Great Depression. As a result, we would get virtually identical spatial maps if we excluded minimum wage votes from the calculation of legislator positions or used different time periods in the estimation.

One important source of change in the maps (cf. figs. 7.2–7.4 with 7.8 below) is the position of Southern Democrats. As the civil rights conflict evolved, they moved, as a group, to a distinct position at the top of the maps. But, then, following the passage of the Voting Rights Act in 1966, they became more similar to Northern Democrats. This movement, largely resulting from the replacement of old blood with new legislators with different locations (Bullock 1981) will, as we shall see in section 7.6, have a major impact on minimum wage votes.

Quite typical of minimum wage votes captured by the spatial model are the three shown in figures 7.2, 7.3, and 7.4.[7] The top panels of figures 7.2 and 7.3 show those who voted yes and were paired or announced yes, and the bottom panels show those who voted no or were paired and announced no. The top panel of figure 7.4 shows those individuals who took the "liberal" position of voting against the Erlenborn amendment but for final passage on the (successfully vetoed) 1973 bill. The middle panel shows those who voted "moderate" by supporting both the amendment and the bill, while the bottom panel shows the "conservative" position of voting for the amendment and against the bill. Classification errors for figures 7.2 and 7.3 are those individuals on the "wrong" side of the cutting line. (Figure 7.4 is discussed in section 7.5.) The two figures represent correct classification of 84% and 93% respectively. Even higher classifications could be obtained from cutting lines chosen to minimize classification error rather than to maximize a likelihood function. In a nutshell, votes can be correctly classified on the basis of the legislator's general ideological orientation, without recourse to information about the specifics of minimum wage.
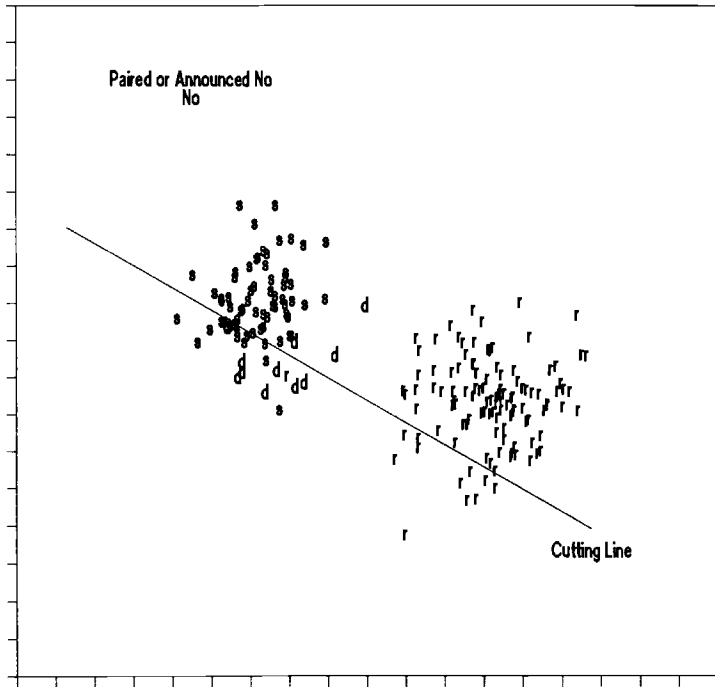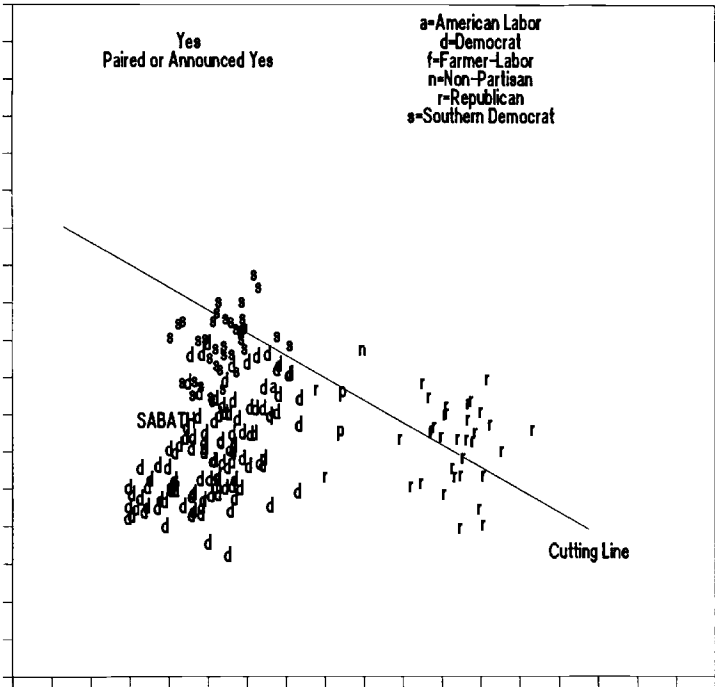
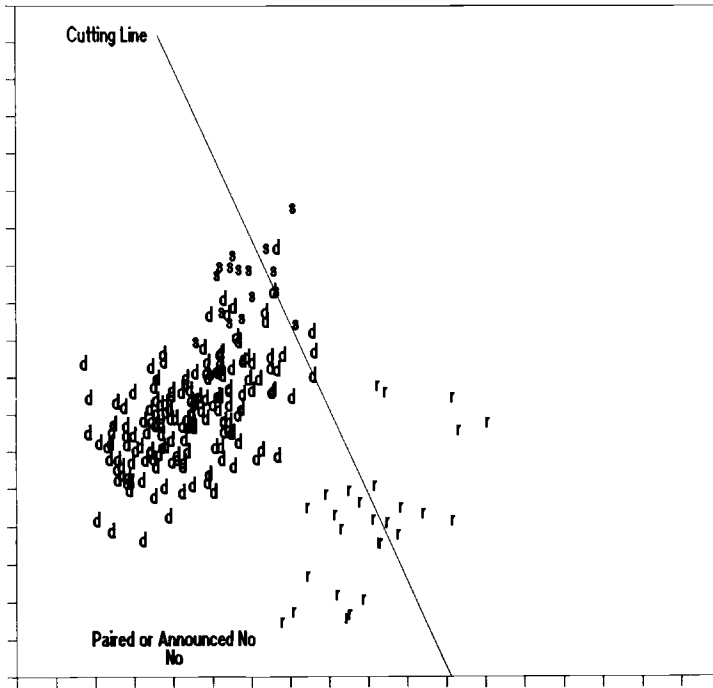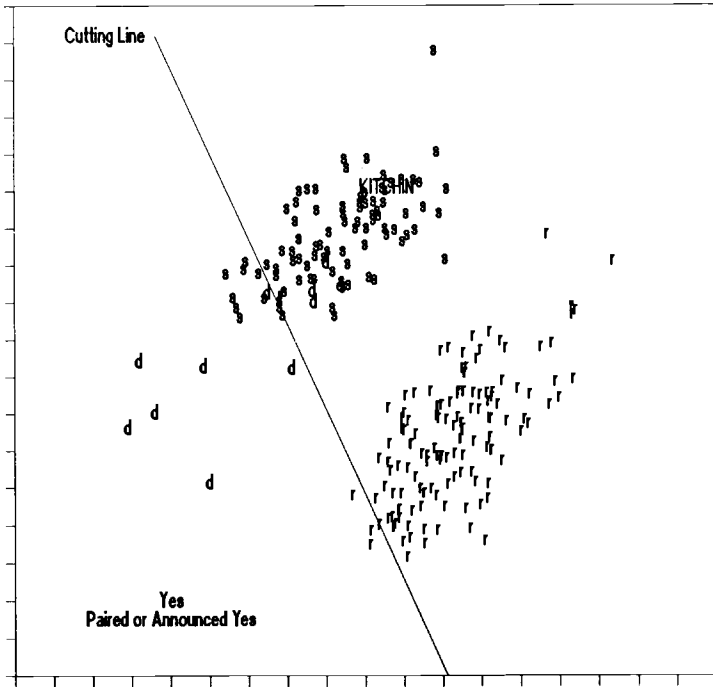Fig. 7.2   Sabath (D–Illinois) motion, 25 April 1940

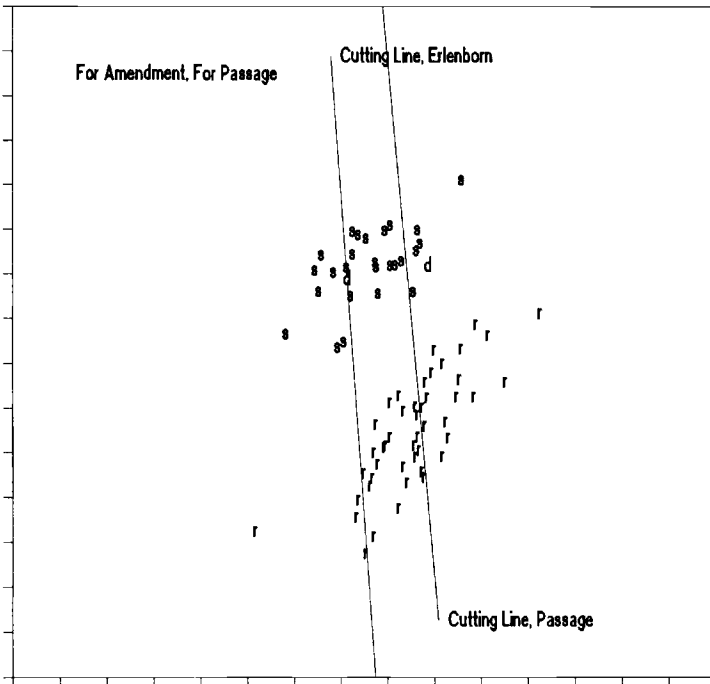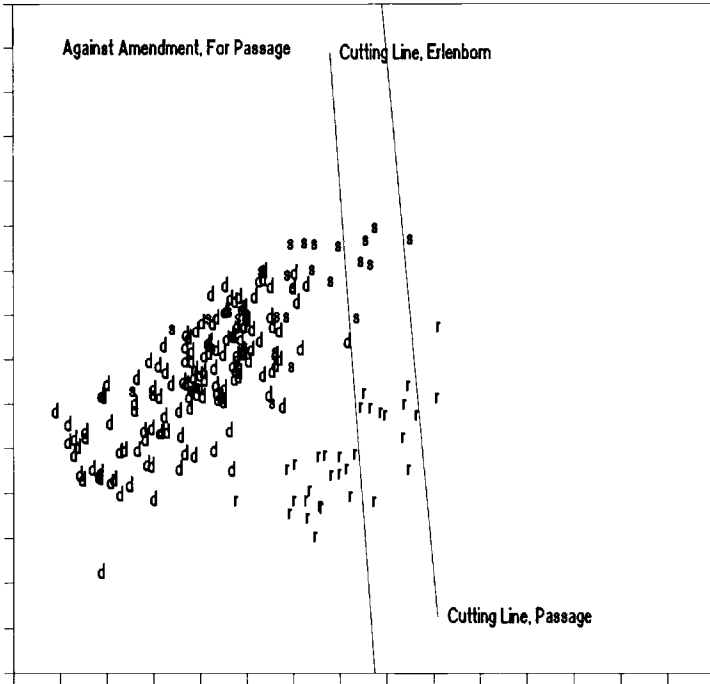**Fig. 7.3** Kitchin (D–North Carolina) amendment, 30 June 1960

Inspection of the figures reveals that while legislators tend to vote along party lines, there is considerable diversity within each party.[8] Most important, minimum wage votes tend to split both parties, with some liberal Republicans joining Northern Democrats and with Southern Democrats historically voting with the Republicans. Political scientists describe the alliance of the Southern Democrats and the Republicans as the "conservative coalition." Minimum wage is a conservative coalition issue. While a three-party (Northern Democrats, Southern Democrats, and Republicans) model will classify much better than a two-party model, figures 7.2–7.4 show that a three-party model is still inferior to a spatial model. The three-party model fails to tell us which Southern Democrats are likely to oppose minimum wage and which Republicans are likely to break party ranks and support minimum wage. In contrast, the spatial model can capture the diversity within party and regional blocs.

7.4   Economic Models

Economic models link roll call voting to demographic measures and measures of costs and benefits. Peltzman (1984) investigated a large set of roll calls in an analysis that included a bevy of sociodemographic and economic variables, party, and an interest group rating. He found that after controlling for constituency interest measures, the marginal effects of party and interest group rating were small. Peltzman's methodology has two weaknesses. First, interest group ratings lose some information, since they are folded (Poole and Daniels 1985) and not fine grained (Cox and McCubbins 1991, chap. 6). Second, there is no investigation of the marginal explanatory power of the constituency interest variables once an ideology measure has been used. We carried out this exercise (Poole and Rosenthal 1985b) and found that broad-brush measures of economic interests made little contribution to classification after controlling for spatial position.

Unlike Peltzman's analysis of large numbers of roll calls on a variety of issues, Kalt and Zupan (1984) focused on strip-mining voting. Although they were careful in accounting for constituency interests, they found that long-term ideology was an important determinant of roll call voting behavior. Reanalyzing their data, we found (Poole and Rosenthal 1985b) that the economic variables made only a small, very marginal contribution to classification once our spatial positions were used.[9]

In Gilligan, Marshall, and Weingast (1989), the enactment of the Interstate Commerce Act was modeled as a trade-off, made within the institutional structure of Congress, of interests on the short-haul pricing constraint issue and the issue of regulating by statute rather than by regulatory commission.[10] Their empirical work is a standard "economic" analysis. Since no interest group ratings were available for 1887, they could not run the type of tests performed by Kalt and Zupan.[11] But party is significant, even with the "economic" controls.

Against Amendment, For Passage   Cutting Line, Erlenbom

Cutting Line, Passage

For Amendment, For Passage   Cutting Line, Erlenbom
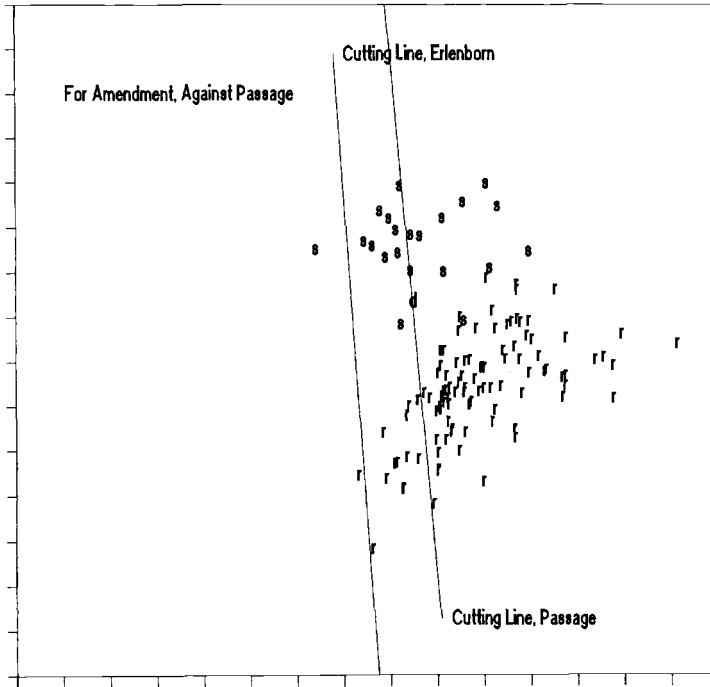
Cutting Line, Passage

Fig. 7.4 Erlenborn (R–Illinois) amendment and passage, June 1973, House of Representatives

Similarly, previous research on minimum wage voting by Bloch (1980), Silberman and Durden (1976), and Krehbiel and Rivers (1988) has shown that measures of constituency interest, in terms of wage levels, unemployment levels, and union membership, are far less important to voting decisions than party membership. For example, Krehbiel and Rivers (1988; hereafter K-R), in an ordered probit analysis of 1977 votes on minimum wage amendments, found that Democrats, ceteris paribus, would prefer a minimum wage 17¢-22¢ higher than Republicans, whereas a 10% increase in the percentage of the labor force belonging to unions in the state would induce a preferred increase in the minimum wage of under 8¢. Similar conclusions can be drawn from Bloch's probits on 1966 and 1974 Senate voting. In disaggregated results for each party, Bloch found that neither the wage nor the union variable was significant at the conventional 0.05 level in 1966. To put matters simply, two senators from the same state will tend to oppose each other on minimum wage if they are from different parties. The partisan effect overwhelms aggregate measures of constituency interest.

7.5   The Spatial Model and the Economic Model Compared: The Senate in 1977

"Ideology," as measured by spatial position, is, however, a more powerful explanatory variable than political party. In fact, a spatial model clearly outperforms the economic models in the literature, even when party is included as an economic variable.

To demonstrate this point, we begin with the K-R study, in which the authors attempted to integrate the "economic" approach with a one-dimensional spatial model. The dimension is simply the nominal value of the minimum wage. When an increase to $2.90 an hour is being voted against a status quo of $2.70, the cutting line should be to the right of the cutting line for a higher proposal of $3.05 versus $2.70. That is, a more moderate proposal should attract broader support. The K-R study used constituency characteristics (party, union membership, wages, unemployment, South, and percentage black) and observed votes on the Bartlett and Tower amendments to estimate ideal points on minimum wages.

The strength of the K-R approach is that it incorporates the quantitative information about the wage levels directly into the analysis. The weakness is that, for the ideal points to be estimated accurately, the economic constituency variables must be highly correlated with the true ideal points. Unfortunately, the economic variables (including party as an economic variable) bear little relationship to the roll call votes they analyzed. As we go on to show, the spatial model provides a much better accounting of the data and does so at a smaller cost in terms of estimated parameters.

Our alternative procedure, to recapitulate, is to view ideal points on specific issues as arising from more general liberal-conservative or "ideological" preferences onto which specific issues, such as minimum wage, are mapped. We estimated our model using three alternative data sets. First, we used all roll calls from 1789 to 1985. We investigated both one- and two-dimensional models. This data set includes, except for those senators serving after 1985, all roll calls in a senator's career. Second, we used only roll calls in 1977 prior to the votes on the Bartlett and Tower amendments. Third, we used all roll calls in the previous Congress (1975–76). For this last data set, we restrict classification computations to senators that had served in 1975–76. For the second and third data sets, we report results only for one-dimensional models where we chose cutting lines to optimize classification, using the previously estimated ideal points as exogenous information. Thus, in the second and third data sets, we are estimating one parameter per roll call. The K-R study estimates six to eight parameters in joint estimations covering both roll calls.

The results appear in table 7.2. For those members serving in 1976, one-dimensional liberal-conservative coordinates correctly classify 93.3% of the 134 votes cast on the two minimum wage amendments. For all members vot-

Table 7.2   **Classification Accuracy**

Predictor	Percentage of Votes Correct			
	Bartlett	Tower	Combined	*N*
	A. Yes, No, Each Roll Call			
Spatial Models:				
1975–76 roll calls	95.8	90.5	93.3	134[a]
Earlier 1977 roll calls	95.5	88.0	91.7	181[b]
Dynamic NOMINATE, one-dimensional	91.0	88.0	89.7	181
Dynamic NOMINATE, two-dimensional	91.0	91.3	91.2	181
Marginals	80.9	65.2	73.0	181
	B. Yes-Yes, No-Yes, No-No Both Roll Calls			
Dynamic NOMINATE, two-dimensional	n.a.	n.a.	85.7	91[c]
Khrebiel-Rivers	n.a.	n.a.	73.9–76.1	91
Marginals	n.a.	n.a.	68.1	91

[a]*N* reflects those serving in 1975–76 and voting in 1977.
[b]*N* reflects those actually voting in 1977.
[c]*N* reflects those voting or announced on both Bartlett and Tower roll calls.

ing, using coordinates estimated from all 1977 roll calls preceding the minimum wage votes, we correctly classify 91.7% of the 181 votes cast.

We also classified the votes using the coordinates estimated from our dynamic model. In this case, the cutting line is a maximum-likelihood, rather than optimal classification, estimate. However, we again do quite well, correctly classifying 89.7%.

There is little payoff, on these roll calls, from using a two-dimensional model. For the Bartlett amendment, we make eight classification errors with both one- and two-dimensional models. With the Tower amendment, a second dimension reduces the errors from eleven to eight. The overall percentage correctly classified becomes 91.2%. The little gain is not surprising since minimum wage had become a liberal-conservative "economic" issue by 1977 (see below).

To have an appropriate baseline for comparison with K-R, we used our estimated cutting lines to classify senators into three classes: predicted yes on both amendments, predicted no on Bartlett but yes on Tower, and predicted no on both. (No senator was predicted yes-no, and no senator actually voted yes-no.) We then compared actual votes to predicted votes and found that we had correctly classified 86% of the individual decision pairs.

Our 13 classification errors seem unlikely to be "residuals" that can be reconciled by appeal to standard economic interests considerations. To illustrate this point, we consider the 13 errors in terms of union membership, a key

independent variable in K-R, and the presence of a right-to-work law.[12] Our two most serious errors were Danforth (R–Missouri) who voted yes-yes when predicted to vote no-no and Garn (R–Utah) who voted no-no when predicted yes-yes. Neither deviation would seem to have an "economic" interpretation. Missouri was above the national average in union membership and did not have a right-to-work law, while Utah had a low degree of unionization and a right-to-work law.[13] Moreover, any economic considerations that would "explain" Garn's vote would "unexplain" the vote of Hatch, the other Republican senator from Utah. A similar inspection of the 11 less serious errors (no-yes predictions where the actual votes fell into the other two categories or vice versa) also failed to disclose any consistent pattern in terms of either unionization or right-to-work laws. The "errors" of the spatial model are likely to be linked as much to internal horse-trading within Congress as they are to underlying economic interests in the constituencies.

However, K-R's results are much poorer; they are able to classify correctly only 74%-76% of the individual voting decisions. (The percentage correct varies over alternative specifications.) Thus, as table 7.2 indicates, their model only modestly betters the classification success that could be obtained by simply using the marginal distribution of votes to predict that everyone would vote as the majority voted (no-no).[14] (Of the 91 senators in the sample, 68% fall into the modal class, no-no).

We also looked at the 1966 and 1970 Senate roll calls studied by Bloch (1980). We achieved classification success of 90% and 86%, respectively, for these two roll calls. Bloch does not report classification success, but it is unlikely his results would better ours since his independent variables are a subset of those used by K-R.[15]

The final earlier study we compare to our "ideological" approach is Silberman and Durden (1976). They applied ordered probit to two 1973 House roll calls; the Erlenborn substitute and its final passage by the House.[16] The independent variables were a South dummy, campaign contributions to the 1972 Congressional winner by labor, contributions by small business organizations, and measures of low-wage workers and teen-age workers. It is difficult to compare this study to the spatial model as the authors report only the estimated coefficients. Two points can be made.

First, the most statistically significant coefficients are the region dummy and the two campaign contribution coefficients. In this respect, we note that campaign contributions and region cannot be specifically linked to minimum wages but are relevant to a whole set of interests that are captured by our spatial coordinates. Indeed, as shown by Poole and Romer (1985) and Poole, Romer, and Rosenthal (1988), campaign contributions, particularly by labor, are highly related to spatial position. In other words, there is an identification problem. Region and campaign contributions have a logical relationship to minimum wage interests. On the other hand, they relate to a whole set of other interests as well. Since Southerners, for example, tend to vote as a bloc on a

whole set of issues, it is difficult to distinguish the economic impact specific to minimum wage from general regional interests.

Second, campaign contributions do not measure within-constituency interests. Since the contribution variables are contributions to the winning candidate, variable values for individual districts will be highly sensitive to the outcomes of House races. Moreover, many contributors, such as the United Auto Workers or the National Association of Manufacturers, are not local groups. So if the Silberman-Durden specification is valid (as against a Bloch or K-R), we will have to believe that, while economic interests may matter, they are not median voter interests.

In figure 7.4, we have plotted the cutting lines and shown the cross-tabulation of the two roll calls. Table 7.3 contains the classification analysis.

Excluding against-against types and individuals voting on only one of the roll calls (as did Silberman and Durden), we correctly classify 81% of the joint decisions. The most serious errors occur in the upper-right and lower-left corners of the table. These represent only 1% of the representatives. (Classification of the two roll calls separately shows 89% for Erlenborn and 87% for passage.)

More research would be needed to ask if the Silberman-Durden variables would account for the errors of the spatial model. One of them clearly will not, at least on its own. An inspection of figure 7.4 shows that Southern Democrats are spread out over the three categories. There is not a strong pattern to the classification errors for southern representatives.

To summarize the results of this section, there appears to be little interest in using economic models once the spatial nature of voting has been recognized. Why do the economic variables fail to have an impact?

We hardly deny that economic interests are important to congressional decision making. But at this time, little progress has been made in either modeling or measuring those interests. As political scientists (Fiorina 1974; Fenno 1978; Weingast, Shepsle, and Johnsen 1981) have long pointed out, a member of Congress is an agent who faces a multitude of principals. Whose prefer-

Table 7.3   **Classification Analysis for the 1973 House Votes**

	Actual Vote		
Predicted Vote	Against Erlenborn, For Passage	For Erlenborn, For Passage	For Erlenborn, Against Passage
Against Erlenborn, For passage	188	16	3
For Erlenborn, For passage	11	35	27
For Erlenborn, Against passage	2	17	102

ences—typical constituents, registered voters in his or her party, party militants, or campaign contributors not even resident in the district—are operant is a complicated problem. And even if we knew whose preferences counted, measuring those preferences is likely to be at least as complicated as the cost benefit calculations of Kalt and Zupan. Simply using explanatory variables culled from government documents is unlikely to do the job. On the other hand, most of the time most of the relevant information gets picked up by the legislator's Euclidean coordinates.

7.6   Minimum Wage Roll Calls in the House of Representatives, 1937–83

The highly spatial nature of the handful of minimum wage roll calls analyzed in the literature is indeed generally true for the entire history of minimum wage roll calls. We show this by considering the entire set of minimum wage roll calls that occurred in the House of Representatives during the period, 1789–1985, spanned by our dynamic estimation. The first roll call occurred in the 75th House in 1937, the last in the 98th House in 1983.

In figure 7.5, we show the classification success for each roll call. The roll calls are inversely ordered by the size of the majority. The bottom curve shows the classification success, equal to the size of the majority, achieved by the majority (marginals) model. The intermediate curve shows classification success for a one-dimensional estimation. The top curve is for two dimensions.[17] The Congress number for each roll call appears above the top curve. It can be seen that the classification success is generally independent of the size of the majority. On roll calls where no one is close to being pivotal, gratuitous expressions of opinion can occur. For example, on the final passage of a bill, extreme liberals and extreme conservatives can both vote against and express their dissatisfaction with an inevitable compromise. But when the game is on the line, spatial considerations predominate.

The spatial model provides a better accounting of minimum wage voting after World War II than before. Voting on minimum wage occurred before the war in the 75th Congress, when the initial legislation was passed, and in the 76th, when revisions were considered. Subsequently, new legislation was made moot by the command economy of the war. Divided government occurred in 1947–48, with a Republican Congress and a Democratic president. In the labor area, the Republicans devoted their energies to overriding Truman's veto of the Taft-Hartley Act. Minimum wages did not get considered until the 81st Congress.

Consequently, we can divide the roll calls neatly into pre-World War II and post-World War II samples. Classification of minimum wage roll calls using only the one-dimensional dynamic model is very high after World War II, averaging 88.2%, but is much lower, at 71.2%, before World War II.[18] Moving to a two-dimensional model improves matters considerably before World
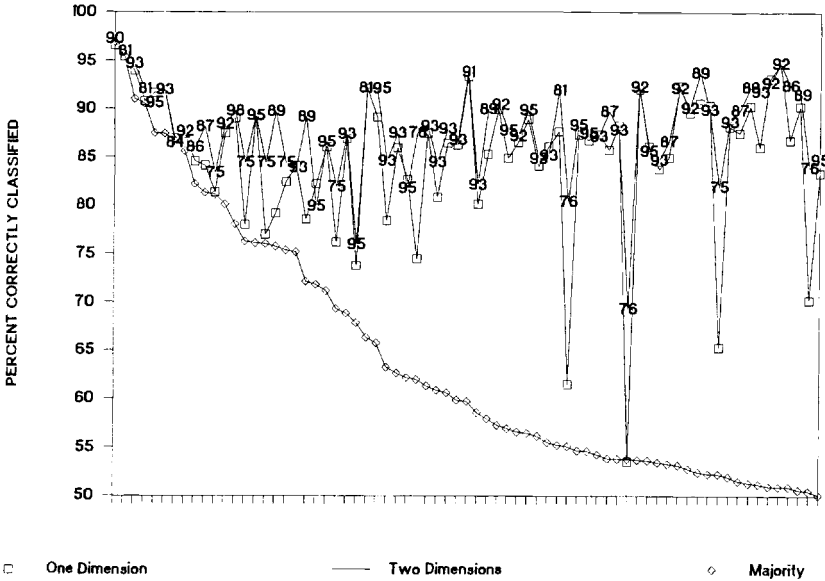
Fig. 7.5   Minimum wage roll calls in the House, classification and model dimensionality

Note: The top line in the figure is broken by the Congress number for each roll call. The line shows the classification accuracy for the two dimensional model. The intermediate line shows the classification accuracy for the one dimensional model. The bottom line shows the percentage voting on the majority side. This line descends from left to right, since the roll calls are ordered by the size of the majority.

War II, with classifications jumping to 82.0% but still below the 88.6% obtained for the postwar period.[19]

Since the second dimension was needed to obtain good classifications in the prewar period, we know that initially minimum wage was an unusual, nonstandard issue for its time. Conceivably, since our dynamic model is constrained to using the same abstract dimensions for an entire 200 years period, the second, vertical dimension, could capture the main lines of debate in certain periods of history. But when we look across all roll calls, and not just at minimum wage roll calls, we find that since the 1850s the first, horizontal dimension has always dominated the second dimension in terms of classification (Poole and Rosenthal 1991, fig. 4).[20] In particular, for the 75th and 76th Congresses, computing optimal classification cut points using the estimated legislator coordinates from the first dimension classifies over 80% of the individual decisions across all roll calls. Optimal classification for the second dimension results only in about 70% correct, barely better than the marginals. Comparable results hold, by and large, for the postwar period.

The finding that the second dimension is the key to classification of minimum wage prior to World War II shows that, initially, minimum wage was not

part of the main line of liberal-conservative conflict. Related to this result, figure 7.2 shows that, in terms of projections onto the horizontal dimension, Southern and Northern Democrats were not differentiated. As this differentiation increased, as shown in figure 7.3, Southern Democrats had become more similar to Republicans than to Northern Democrats on the horizontal dimension, and the minimum wage conflict turned into a quintessential liberal-conservative battle.

Another important point is made by the comparison of the prewar and postwar periods. The fact that, even in two dimensions, minimum wage voting is significantly less structured before World War II is indicative of the potential multidimensionality of most economic legislation. Since, for example, the level of the wage can be traded off against the definition of which jobs will be covered, a vote between two alternative bills may not fit readily into the pre-existing spatial pattern of voting. The complex nature of such trade-offs should, we suggest, be most apparent in the initial legislative handling of an issue. Eventually, however, the multidimensionality is packaged and shoe-horned into the spatial structure.

The packaging indeed results, at any one point in time, in minimum wage voting being nearly unidimensional. In figure 7.6, we plot the cutting line angles in chronological order. If the votes were unidimensional at a point in time, all the angles for a year would be identical. While there is some variation within years, it is quite small, particularly for roll calls with close (less
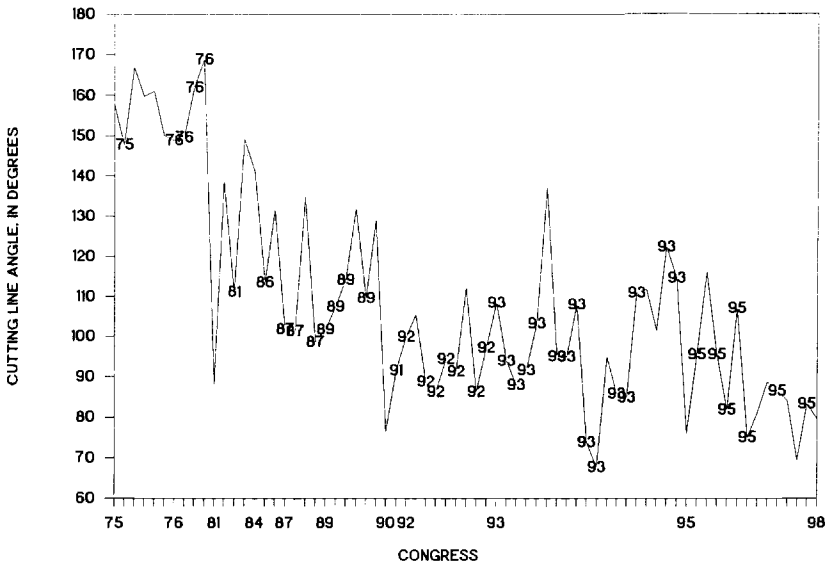

Fig. 7.6   Angles in the House of Representatives, Congress labeled for margins < 65–35

Table 7.4   **Cutting Line Angles, Time, and Margin**

	Coefficient	
Independent Variable	(1)	(2)
Constant	3,385.37	3,291.22
	(268.11)	(260.56)
Calendar year	−1.667	−1.622
	(.136)	(.132)
(Year × Margin[a])/100		.8059
		(.336)
$\bar{R}^2$	.679	.703
Standard error of estimate	15.037	14.467

Note: Dependent variable is cutting line angle in degrees. Standard errors are in parentheses.
[a]Margin = |%Yes − %No|.

than 65–35) margins. (We have not yet carried out an estimation where all minimum wage roll calls in a Congress were constrained to have an identical angle.)

In contrast, the angles vary strongly and linearly across time. In table 7.4, we present the results of a regression of the angle against a constant, calendar time, and roll call margin. Angle declines sharply with time, especially for close roll calls.[21] The standard error of the estimate of 14.5 degrees indicates the small variability in angle within a give year.

Results in Poole and Rosenthal (1991) help to understand why the angle has gradually shifted. At the beginning of the New Deal, positions of Northern and Southern Democrats did not have significant differences. The Roosevelt coalition represented a reasonably coherent voting bloc. The civil rights issues introduced significant and increasing polarization within the party. The passage of the Voting Rights Act in 1966, however, marked the beginning of a period in which Southern Democrats have drifted back toward the party mainstream.

This pattern is evidenced in figures 7.2–7.4. By 1940, some of the separation of the Southern delegation had occurred. They had moved above the Northern Democrats on the vertical dimension but had not moved to the right on the horizontal dimension. By 1960, a time when civil rights began to dominate American domestic politics, Southern Democrats had made the full transition. By 1977, there was less separation, and by the 1980s the regional differences among Democrats had dampened considerably (fig. 7.7–7.11).

The changing positions of Southern Democrats are tracked by the minimum wage cutting lines. The opposition of Southern Democrats as well as Republicans to the initial minimum wage legislation led to a nearly horizontal cutting line before the war. As Southern Democrats, flush with the manna of the New Deal, switched from seeking to alleviate their economic situation vis-à-vis the North to seeking to protect the internal status quo vis-à-vis blacks, they

became more conservative on the economic dimension. The cutting line angle echoed this movement.

While a standard economic explanation for the opposition of the South is that minimum wages cause low-wage regions to lose their comparative advantage in attracting investment, an alternative view is that enfranchised whites in the South sought to maintain disenfranchised blacks in a low-wage situation. Congressman Dies (D–Texas) was unambiguous on this point in stating: "There is a racial question involved here. Under this measure whatever is prescribed for one race must be prescribed for the others, and you cannot prescribe the same wages for the white man as the black man" (New York Times, 14 December 1937).

Later developments support the view that the race issue played a key role. First, as the debate on extending coverage unfolded after the war, Southern Democrats fought hard to prevent extension to sectors such as tobacco where competition with the North was not an issue. Then, in the seventies, as Southern Democrats acquired a black constituency, more of them became favorably disposed to increased minimum wages, even though Southern states had low levels of unionization and nearly all had right-to-work laws. Concurrent with the new liberalism among Southern Democrats, liberal Republicans became a vanishing breed. Echoing this movement, the cutting line became nearly vertical.

7.7   Minimum Wage in the 1980s

The most recent developments in minimum wage legislation are a microcosm of the long-term historical analysis of the preceding section. With the election of Ronald Reagan and a Republican Senate in 1980, the debate shifted from increases in the nominal wage to retrenchment of coverage in the form of administration proposals for a subminimum wage for teenagers. The subminimum wage, however, was not successful in the Democratic controlled House.

It is interesting that one factor that contributed to the impasse on the subminimum wage was the failure of McDonald's and other large fast-food chains to support the proposal. These large-market-share firms preferred not to risk their consumer image.[22] In contrast, the National Restaurant Association, which represented many small firms, supported the proposal. It is also possible that large firms saw wage regulation as enforcing their competitive advantage with respect to smaller firms. In any event, it appears that oligopoly coupled with an active media may result in outcomes that anticipate legislation and vitiate much of the agenda of Republican conservatives.

As soon as control of the Senate switched back to the Democrats after the 1986 elections, proposals for an increase in the wage began to make their way through committees. An anticipated presidential veto removed much of the

impetus from these proposals until a "kinder, gentler" George Bush endorsed an increase in the minimum wage during his campaign.

The new Bush administration proposed an increase to $4.25 an hour over three years and a training wage, equal to 80% of the minimum, to be paid to new workers in the first six months on the job. Democratic bills were introduced in the House and Senate. The relevant committees were chaired by two ultraliberals, Augustus Hawkins in the House and Edward Kennedy in the Senate. Hawkins's committee reported out a bill calling for an increase to $4.65 without a training wage. A GOP substitute bill, containing the administration's proposals, was rejected. However, the Hawkins bill was known to be in disfavor at the White House. It was amended via a "compromise," offered by Murphy (D–Pennsylvania) that subsequently passed as the House bill. This called for an increase to $4.55 and a training wage set at 85% of the minimum wage with sharp restrictions on the conditions and time for which the training wage would apply. The president indicated he would veto this bill, and the passage vote of 248 to 171 clearly indicated a veto would be sustained. Nonetheless, the Democratic leadership chose to invite the veto by proceeding to pass a nearly identical bill in the Senate and to gain acceptance of the conference report in both Houses.

After the president vetoed the bill and the veto override failed, the White House and the Democratic congressional leadership negotiated. The supposedly powerful committee chairs were reportedly frozen out of the negotiations. Bush got his way on the level—the final bill went no higher than $4.25. But he agreed to a two-year rather than three-year phase-in, to restrict the training wages to teenagers, and to make the limit 85% rather than 80%.

There are three key lessons in this scenario. First, politics has symbolic, as well as real, victories. The Republicans finally got the teenage training wage but at a higher level than the $2.50 an hour (75% of the $3.35 minimum wage then in effect) proposed by the Reagan administration. The Democrats got an increase in the nominal wage but at a level that barely dents the erosion of the seventies and eighties. Second, committee chairs do not always carry the clout found in other discussions (e.g., Weingast and Moran 1983). Third, attempts to model the interaction between committees, the two Houses, and the president, as a game with a small number of stages may be misplaced. The actual process appears to be pure bilateral bargaining between a Democratic legislature and a Republican executive in which both parties have veto powers. While Bush could successfully veto any bill that did not match his proposal, the Democrats could prevent any bill from passing. Since both parties were committed to a bill, negotiated compromise occurred.

The voting process continued to fit into our spatial model. The votes occurred in the 101st Congress. Our dynamic estimation ended with the 99th Congress and full data on the 101st Congress is not available. Consequently, we did a separate spatial estimation based on roll calls in the 100th Congress

and then analyzed the 1989 votes of those members who had served in both Congresses. Thus, the remaining analysis is based on spatial positions estimated from votes that occurred prior to the minimum wage votes.

The very first House roll call, a procedural motion to accept the rule on the bill (fig. 7.7) was nearly a straight party-line vote. The few defectors tended, as called for in the spatial model, to be in the moderate wings of their parties. Searching for optimal classification found a cutting line that had only 15 errors of 382 voting, paired, or announced. The first substantive vote in the House concerned the GOP substitute (fig. 7.8). Many Southern Democrats were attracted by this proposal. On the other hand, some liberal Republicans defected. Again, spatial positions from 1987–88 successfully picked out the likely supporters and opponents of the substitute. The substitute lost by only 20 votes; the margin is partly represented by Republican losses since the early Reagan years, partly by the increasingly liberal character of the Southern Democrats. On this vote, we had 31 classification errors of 389 voting, paired, or announced.

Most other votes were intermediate between these two, with fewer Southern Democrat defections than occurred on the GOP substitute bill. One vote that was not was the final passage vote on November 1, shown in figure 7.9. The spatial model presumes a choice between two alternatives. But final passage is often an opportunity for extremists to voice their displeasure. Negative votes were cast not only by the right wing of the Republican party but also by two literal Democrats, Miller (California) and Perkins (Kentucky). For Republicans, the bill went too far, for the two liberals, not far enough. Since many final passage votes involve mainly symbolic protest, they should typically not be treated in either spatial or economic analyses.

The Senate exhibited patterns similar to the House. A cutting line can be found for the GOP substitute vote that results in only five errors (fig. 7.10). All Democrats are predicted to vote against the substitute. All but one of the Republicans voting against the substitute were on the liberal end of the party. The one exception was Jesse Helms, so opposed to any form of minimum wage that he voted against the administration bill. Economic models like those discussed earlier would also fail to capture this form of protest voting.

Finally, as seen in figure 7.11, the vote to kill the Gramm (R–Texas) amendment shows that strategic considerations do little to upset the spatial pattern of voting. Gramm proposed to strike from the final bill a provision that kept teenagers in agriculture from being paid the subminimum rather than the minimum wage. Voting to kill the amendment introduced by this conservative Republican was in fact supporting the president's position. Republicans waffled between their support for the president's negotiated compromise and their preferences for lower minimum wages. The motion was made by Strom Thurmond (R–South Carolina) who then voted against his own motion. The waffling also resulted in fairly noisy voting by the more liberal Republicans. Nonetheless, the spatial model correctly classifies all but 9 of the 87 senators
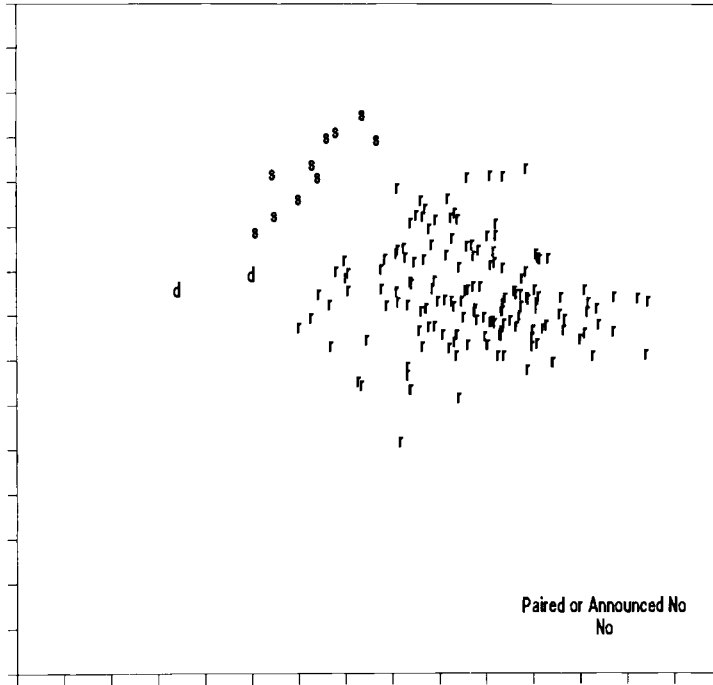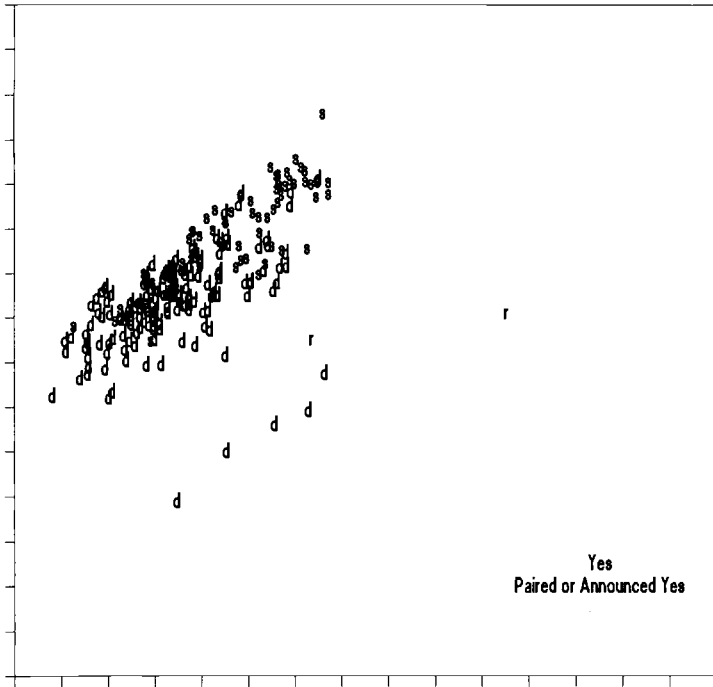
Fig. 7.7   HR2, procedural motion, 22 March 1989
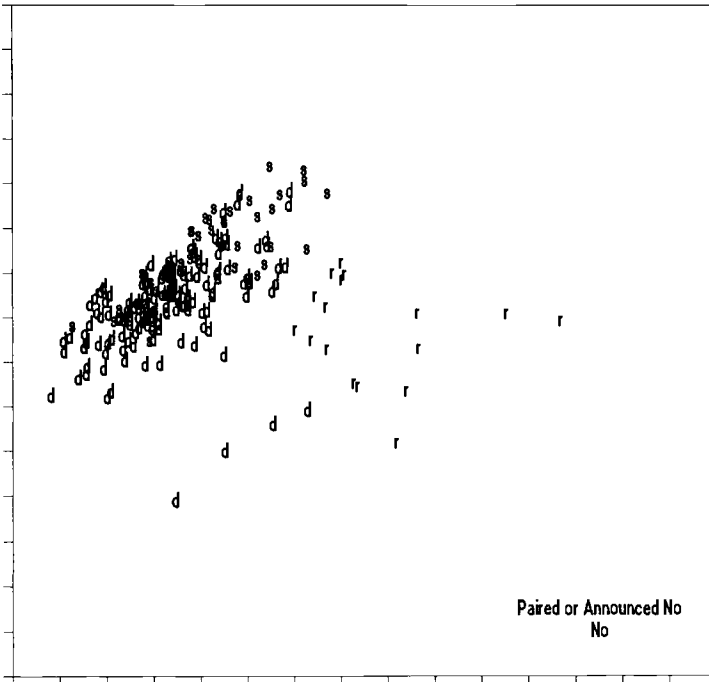
Yes
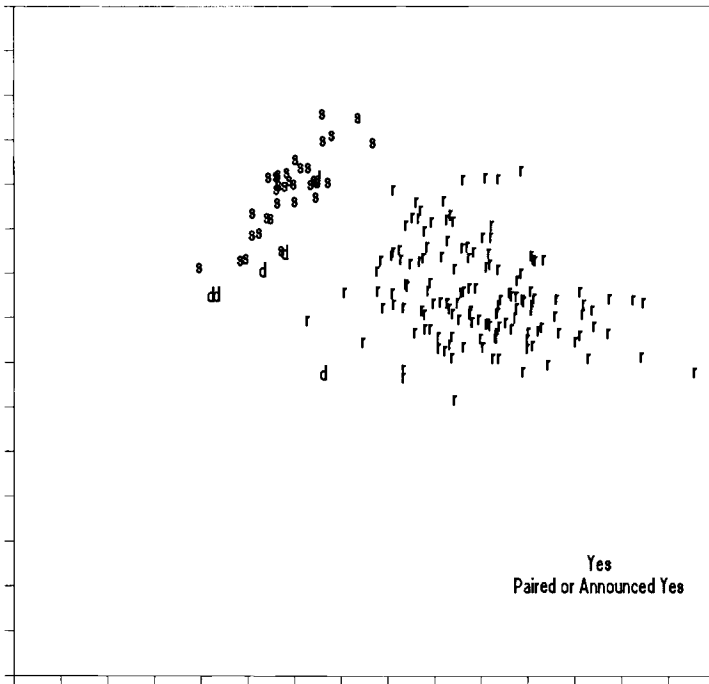Paired or Announced Yes

Paired or Announced No
No

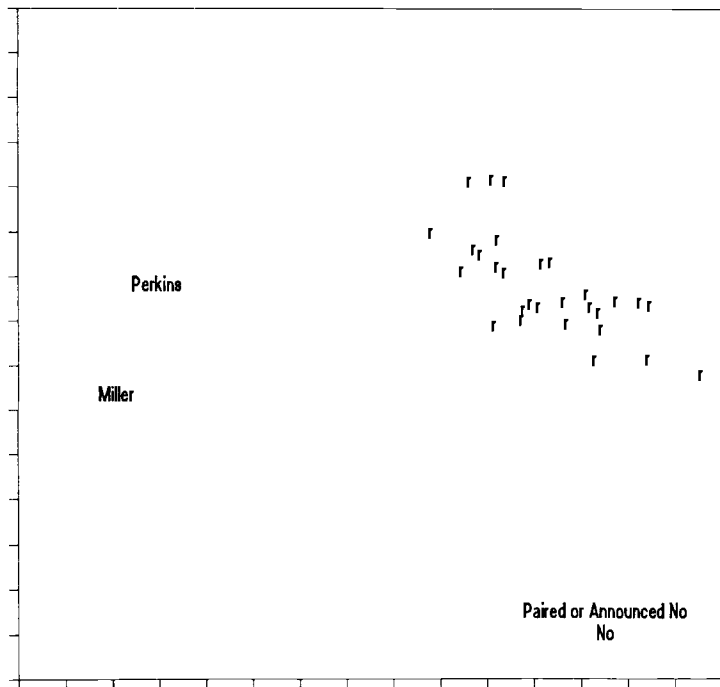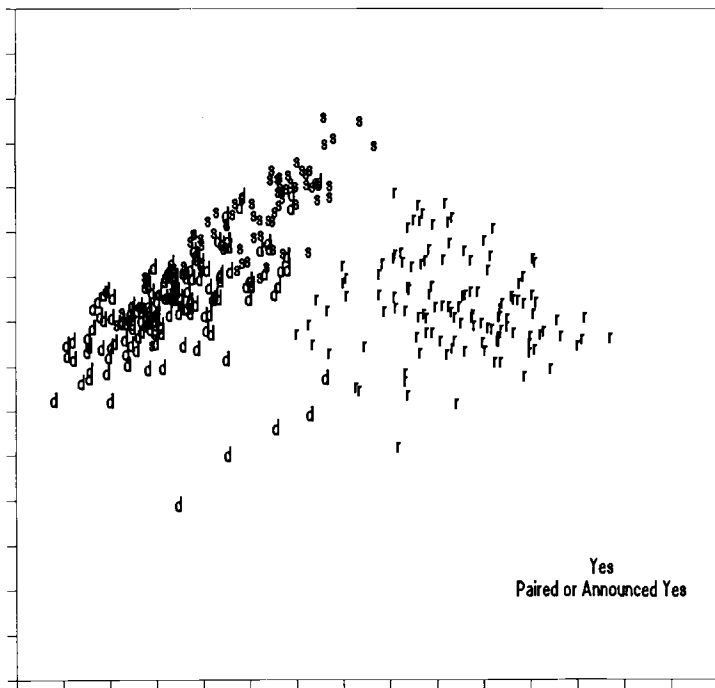Fig. 7.8   HR2, GOP substitute, 23 March 1989
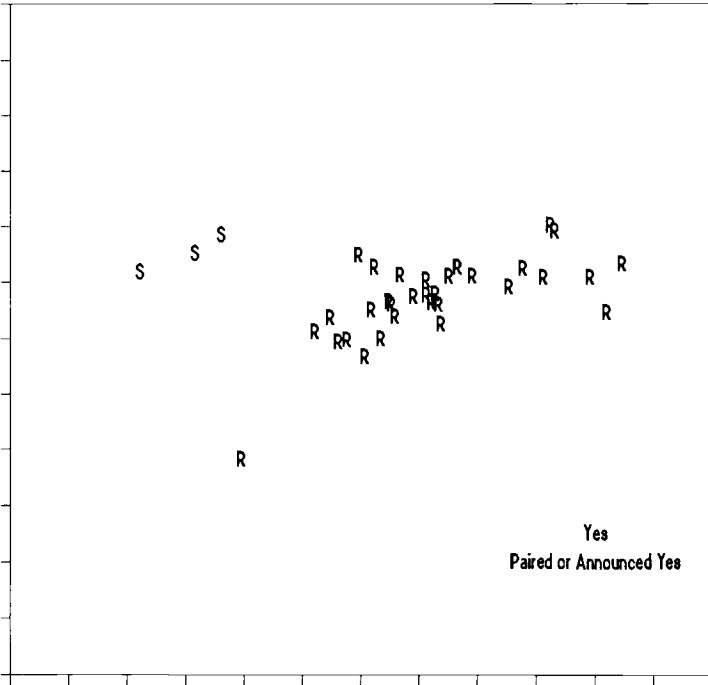
Fig. 7.9   HR2710, passage, 1 November 1989
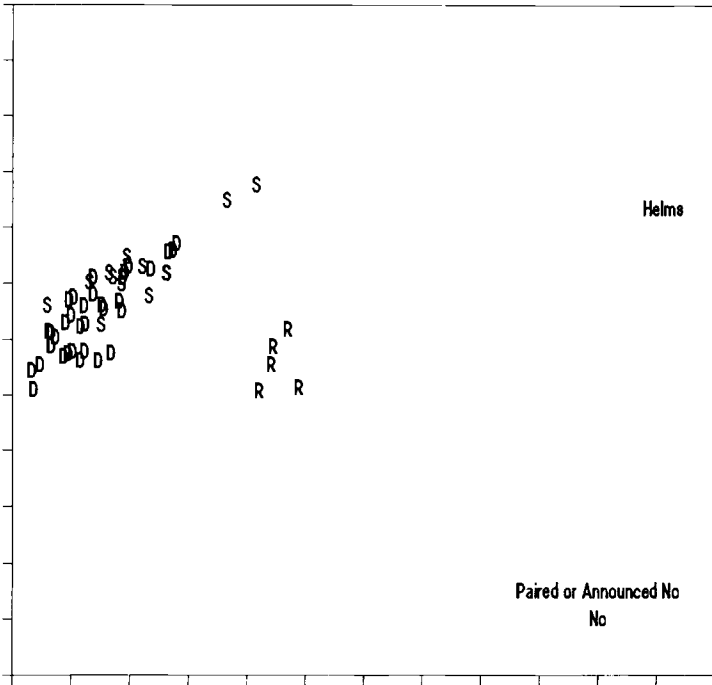
Fig. 7.10   S4, GOP substitute, 11 April 1989

Yes
Paired or Announced Yes
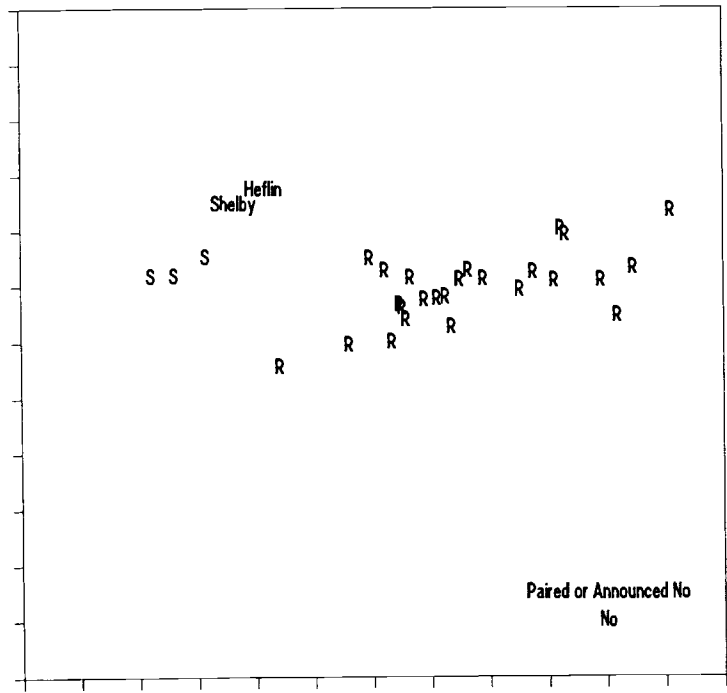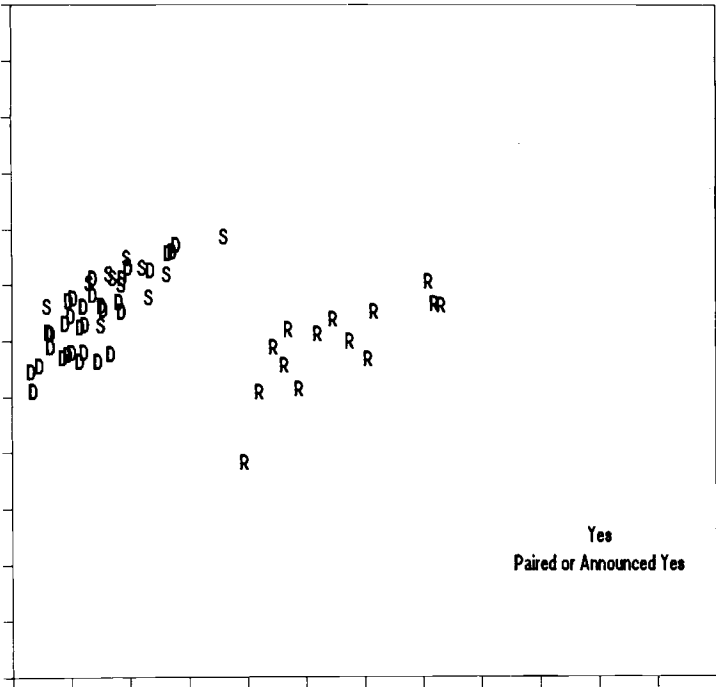
Paired or Announced No
No

Fig. 7.11   HR2710, Gramm amendment, Senate, 8 November 1989

voting. Because Southern Democrats are now increasingly like other Democrats, the motion passed easily. (Only two Democrats were predicted to vote against the motion.)

Roll call voting on minimum wage during the Bush administration remains, in summary, a highly partisan matter.

7.8   Is Support for Minimum Wage Waning?

Until this point, we have indicated that minimum wage voting obeys a spatial mapping. While the mapping has always been present, outcomes have differed dramatically, with the real minimum wage first rising sharply and then, since 1968, falling sharply. Indeed, the minimum wage has lagged, in real terms, minimum wages in other countries where the standard of living is not above that of the United States. For example, in the mid-1980s, the minimum wage was about $4.65 an hour in Belgium (Emerson 1988) and France (Rotbart 1989) when it was $3.35 in the United States.

Part of the falling minimum wage in the United States may be attributed to Republican resurgence. On the other hand, while minimum wage voting may always be spatially patterned, the induced mapping of the real wage may well have changed. The "ideal" real minimum wage of a legislator with the same relative degree of "liberalness" may have fallen over the past two decades. We need to compute the spatial mapping of the real wage.

Making comparisons is difficult because each bill is in fact a multiattribute item. As a result, we will only work through some rough, back-of-the-envelope calculations.

We find that the cutting lines of the Tower amendment in 1977 and the GOP substitute bill in 1989 similarly partition senators serving in both years.[23] In particular, Senator Lugar, who took the conservative position both in 1977 and 1989 and Senators Hatfield, Packwood, and Heinz, who voted with the liberals both times, were reasonably close to both cutting lines. Therefore, if we can map a wage to a cutting line in both cases, we can get a rough estimate of how the preferences of moderate Republicans have changed over time. If those senators now have lower support for a real minimum wage, the assumptions underlying the spatial model force the conclusion that the ideal points of all senators shifted in the direction of lower support.

As K-R point out, the Tower amendment was in fact a vote between the proposals of Tower and Williams. Tower proposed increases to $2.65 in 1978, $2.85 in 1979, and $3.05 in 1980. Williams proposed $2.65 in 1978, $2.90 in 1979, $3.15 in 1980, and $3.40 in 1981. Here K-R do not deal with the problems posed by the differences in the schedules. Rather than attempt to deal with discounted streams and anticipated inflation rates, we simply compare the 1980 wages and impute a value of $3.10 to the cutting lines. In 1988 dollars, this amounts to $4.45.

The 1989 vote on the GOP substitute is also complicated by multiattribute considerations, since the GOP substitute had a lower and more extended train-

ing wage as well as a lower minimum wage. Nonetheless, we compare the 1991 wages of $4.55 in the Democratic substitute and $4.25 in the GOP substitute and impute a cutting line value of $4.40 or $3.81 in 1988 dollars. Comparing the $4.45 figure from 1977 to $3.81 for 1989 suggests an ebbing support for minimum wage. The differential would be greater if one argued that the inflation of the late seventies was largely unanticipated or that inflation in 1990 and 1991 will exceed our assumed 5% rate. On the other hand, the differential would be less if one argued that senators were conditioning their votes with a view to adopting a bill that would win presidential approval. Carter's acquiescence to labor demands and Bush's firmness may have influenced the spatial mapping in the legislative branch.

7.9   Conclusion

We have traced out how minimum wage voting fits into the spatial structure of congressional voting and indicated that the spatial structure better accounts for the data than statistical analyses based on constituency characteristics. Voting on minimum wage bills is a highly partisan, liberal-conservative matter. Over time, the mapping of wages into the spatial structure has probably changed. Individual legislators who supported a given real wage in the seventies probably prefer a somewhat lower real wage today.

Much work remains to be done on the multiattribute nature of the bills. Specifically, we need to investigate the interaction between the level of the wage and coverage.

The major policy implication of our research for those interested in affecting the level of the minimum wage is that they should direct their attention not to forming realigning coalitions on the issue but rather to moving the location of the "cutting" line that separates liberals from conservatives along the dimension that represents the stable mapping. Still, reasoned argument is likely to be far less important than changing control. Given the Democratic lock on the House, Republicans can affect change only by allowing inflation to erode the value of the nominal wage. On the other hand, any presidential landslide for the Democrats would be likely to lead rapidly to a minimum wage indexed to about 50% of the average wage in manufacturing.

If we think it is likely that Democrats will pursue their traditional platform, it is partly because we think that the eighties were mostly business as usual in American politics. The parallels between Nixon and Reagan are as striking as the differences. Both were elected after overseas debacles by the Democrats. Both were reelected by landslides. Both began their administrations by advocating a subminimum training wage. Both saw no increase in the minimum wage during their first terms. Nixon finally conceded on minimum wage when the Watergate scandal hit early in his second term. More speculatively, Bush's campaign promises on the minimum wage may have been one of several moves to moderation induced by a fall in Republican popularity from the Iran-Contra scandal, which hit late in Reagan's second term. In any event, the

minimum wage continues to be hostage to the larger ebb and flow of liberal and conservative fortunes.

Notes

1. In our descriptive account of minimum wage legislation, we have relied on a number of secondary sources, mainly various volumes of *Congress and the Nation* and *Congressional Quarterly Weekly Report,* both published by Congressional Quarterly Press.

2. Similar conclusions pertain to other evaluations. The minimum wage as a percentage of the poverty line gives similar results. The minimum wage, as a percentage of the average wage in manufacturing, rose to 50% in 1950 and remained at that level through 1968. Subsequently, it fell gradually below 50% until 1980, after which it declined sharply.

3. Most increases in the wage have become effective after the first year but before the end of a party's reign in the White House. There are two exceptions. In 1961, a raise became effective in Kennedy's first year. In 1981, a raise, voted in 1977, took effect in Reagan's first year. To give Kennedy the raise he supported and to avoid giving the Republicans a raise engendered by a unified Democratic government, we coded Carter's presidency as having lasted through 1981 and Republican control of the Senate as lasting from 1982 to 1987. Very similar results were produced by moving all terms of office forward one year.

4. These results are based on logarithmic regressions. The regression slopes were sufficiently close to 1.0 that we chose to base the discussion in terms of means. Adding terms for trend, trend squared, and a post-sixties dummy did not improve the fit.

5. We follow *Congressional Quarterly* in defining the South as the 11 Confederacy states plus Kentucky and Oklahoma.

6. The estimation was carried out on the Cyber 205 and ETA-10 supercomputers at the John Von Neumann National Supercomputing Center.

7. The space in the figures is 1.8 units square. Bootstrap results presented in Poole and Rosenthal (1991) suggest that about 75% of the first dimension coordinates of the representatives have standard errors less than 0.03 and 99% have standard errors less than 0.05. (Although the bootstrap results are for a one-dimensional estimation, the first dimension coordinates from the two-dimensional model correlate over 0.99 with the one-dimensional coordinates). Bootstrap results are not available for two-dimensional problems, but it is highly likely that the points in the figure are very precisely estimated relative to the range of the space.

8. In this context, the argument made by "distributive politics" advocates that party is not a constraint on politicians appears to be overstated (e.g., Marshall and Weingast 1988). If voting were independent of party, we would not see the party clusters in the figures. In fact, party discipline and leadership, even in the modern era, may well be the key to explaining why politics, potentially explosively multidimensional (Riker 1982), looks as if nearly all issues can be placed in a low-dimensional space. For example, Ferejohn (1986) details how the Democratic leadership bundled agricultural subsidies and food stamps into a single piece of omnibus legislation that represents an institutionalized logroll. Our analysis of roll call votes on this issue suggests that the logroll is not a coalition of farm interests and urban interests but of *Democratic* representatives from farming areas and urban representatives.

9. We thank Tom Romer for drawing our attention to the economics literature on roll call voting and for participating in the reanalysis of the Kalt and Zupan data.

10. It is interesting to note that a similar debate took place when the initial minimum wage legislation was drafted in 1937–38. Some members of Congress pressed for setting the minimum wage by independent commission. Similarly, during the 1988–89 debate, liberals advocated a commission that would propose future adjustments to the wage.

11. The votes on the Interstate Commerce Act in the House are in fact much like minimum wage. The spatial model works well.

12. Our data is for 1975. Our source is the *Statistical Abstract of the United States* (1988, 415).

13. Garn's votes in 1977 are even more puzzling when one observes that he was a stalwart opponent of minimum wage increases in 1988.

14. To be fair, we point out that the intent of K-R was to present a methodology rather than to contribute to our understanding of minimum wages. They were in part motivated by what they saw (p. 1158) as a consistency problem with our scaling procedures. In Poole and Rosenthal (1991), we present extensive Monte Carlo evidence that shows that consistency need not be a concern. K-R (1988) also has problems as a methodological piece. Equations (6), (7), and (11) contain errors that lead to an incorrect result for the covariance matrix.

15. Another problem with the Bloch study is that the votes analyzed were final passage votes. These generally tend to be "Hurrah" votes with large majorities. The key votes generally tend to be earlier votes on amendments or substitute bills. See our later discussion of the 1989 legislation.

16. The bill passed by the House went to the Senate and to conference. After the House accepted the conference report, the bill was vetoed by President Nixon.

17. Both estimations are for models where legislator positions were constrained to be a linear function of time.

18. The t-statistic for the null hypothesis of equality is 8.600.

19. The t-statistic for equality is 2.072. Since we hypothesize that classifications improve as new issues result in permanent legislation, a one-tailed test is appropriate, with $p = .021$.

20. We get very similar results when we evaluate the estimation in terms of geometric mean probability of observed choices, a measure based directly on the likelihood function. For simplicity, we focus on classification in this paper.

21. This regression provides a better description than the use of a pre-World War II dummy variable. Examination of the residuals did not suggest that margin was a source of heteroscedasticity.

22. An analogous situation appears to be the recent ban, initiated by H. J. Heinz (Starkist) on canning tuna caught in nets that trap dolphins. Heinz is a highly visible firm with over one-third of the tuna market. A similar ban would, it seems, be unlikely to arise in a market with only very small canners.

23. With comprehensive data for all roll calls from 1989, we could include the 1977 and the 1989 votes in a dynamic estimation. This would be a preferable method for checking the comparability of the two votes.

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Comment   Charles Brown

Much of the analysis of the politics of minimum wage legislation by econo-
mists emphasizes both economic (rational choice) models of legislator behav-
ior and economic differences as the ultimate explanatory variables in predict-
ing legislative votes. Poole and Rosenthal, on the other hand, emphasize
ideological factors—in effect, positions on apparently unrelated roll call
votes—which turn out to permit quite accurate discrimination between those
favoring higher and lower minimum wage increases.

   Based on similarities and differences on virtually all roll call votes in each
Congress, they assign each legislator a "position" in a hypothetical two-
dimensional space. Much like factor analysis, the computer finds the dimen-
sions and the analyst brings the labels. Poole and Rosenthal identify their
more important dimension as general liberal/conservative leanings, and the
other as attitudes on racial questions; this second dimension serves to separate
Northern and Southern Democrats.

   The key point is that these "positions"—in effect, scores on two hypotheti-
cal variables—are based on votes in general, not votes on minimum wage
questions in particular. To relate these general positions to minimum wage
votes, they find the "line" relating the two variables that distinguishes those
who vote "yea" on a particular minimum-wage vote from those who vote
"nay." Finding such a line in effect estimates two parameters; the resulting line
lets one "predict" more than 90 percent of the votes on a minimum wage-
related question, versus more than 80% for roll call votes in general.

   I find the result that a one- or two-dimensional characterization of general
voting stance predicts minimum wage votes well an interesting but not a sur-
prising one—the minimum wage controversy in Congress is a liberals-versus-
conservatives affair. (It would be interesting to see how Poole and Rosenthal's
"spatial" variables would do in predicting legislators' choice between mini-
mum wage increases and the Earned Income Tax Credit in raising the after-tax
earnings of the low-paid. My guess is that positions would be harder to pre-
dict.) On the other hand, the later finding that North-South splits among the
Democrats have been reduced (as the Southerners respond to enfranchisement
of blacks) was both interesting and unexpected.

   Poole and Rosenthal then argue that their "spatial" model predicts better
than "economic" models. They are able to compare their predictions against
those based constituent characteristics (e.g., wage levels and union member-
ship) as reported by Krehbiel and Rivers (1988). They achieve much more
accurate discrimination between minimum wage supporters and opponents
than do Krehbiel and Rivers, and they use considerably fewer parameters (two
vs. six, including one reflecting the influence of party membership).

   Those attached to constituent-characteristic models will detect a tilt in the

Charles Brown is a professor of economics at the University of Michigan.

track on which this horse race is run. The race between "political" and "economic" models here is very much like that between "time-series" and "structural" models in macroeconomics. While the former often provide more accurate predictions, the latter (arguably) give deeper insights into why things are changing. Similarly, one could argue that "economic" models are *attempting* to explain why some legislative districts are represented by those who rank high in Poole and Rosenthal's conservative dimension, while their model "merely" confirms that whatever explains the general pattern of other votes will explain minimum wage votes too. Indeed, if one did *not* see a high degree of consistency across votes, this would be puzzling for a constituent-characteristics model.[1]

I do, however, believe that Poole and Rosenthal have a point, that positions on the minimum wage are part of a larger mosaic of positions, and that larger mosaic (which they would call ideology) is important in understanding the politics of the minimum wage. One does not get very far in understanding the Autoworkers' or Steelworkers' support for minimum wages by focusing on their desire to exclude lower-cost labor: if their deepest fear was that Pintos or pig iron would be manufactured by nonunion U.S. workers making less than $3.90 an hour, they would sleep very well indeed.

Poole and Rosenthal note that constituent-characteristic models will have a hard time explaining why Senators Garn and Hatch (same party, same constituents) would ever disagree. This suggests to me an empirical strategy to supplement the results reported in the paper: What sort of predictive accuracy would one get (in Senate votes) using state dummy variables (and perhaps party)? Since senators from the same state have the same constituents, the dummy variables give an upper bound of how well we might ever hope to do with an "ideal" set of constituent variables, at least for Senate votes.

Poole and Rosenthal also argue their model's predictions compare with those of Silberman and Durden, whose "economic" model includes amount received from unions and from small business as well as constituent characteristics. Poole and Rosenthal note that adding these variables moves things in the direction of a model like theirs (contributions depend on general orientation more than on an individual vote like the minimum wage). Unfortunately, Silberman and Durden did not report how many votes their model predicted correctly, so we really cannot tell whether Poole and Rosenthal's approach is stronger or weaker than theirs.

Poole and Rosenthal then argue that the real value of the minimum wage preferred by Congress has been falling. This conclusion rests on a comparison of votes on the Tower amendment in 1977 and the GOP substitute bill in 1989. These produced very similar partitions of the Senators voting on both, but the alternatives at stake on the former vote were higher than those on the latter— hence the inference that a lower real minimum is preferred. In addition to

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[1] This point was made by Herschel Grossman.

problems that come from other provisions of the bills, which the paper notes, there is also the fact that the 1989 discussion concerned a larger increase (at a time of lower expected inflation) than the 1977 vote.[2] Consequently, agnosticism on the question of Congress's preferences over time seems the safer verdict to me.

A fine paper ends on a terribly speculative note: "any presidential landslide for the Democrats would be likely to lead rapidly to a minimum wage indexed at roughly 50 percent of the average wage in manufacturing." My own prediction is that a Democratic landslide would require a Democratic focus that demonstrates some independence of organized labor. If labor-led Democratic victories of the past could not produce an indexed minimum wage, why should the next (less labor-led) one do so?

References

Krehbiel, Keith, and Douglas Rivers. 1988. The Analysis of Committee Power: An Application to Senate Voting on the Minimum Wage. *American Journal of Political Science* 32:1151–74.
Silberman, Jonathan, and Gary Durden. 1976. Determining Legislative Preferences on the Minimum Wage: An Econometric Approach. *Journal of Political Economy* 84:317–29.

[2] Anne Krueger noted that the number of individuals affected by the new minimum may be at least as important as either Poole and Rosenthal's "real level" or my "relative increase" standards.

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