

Online Appendix for:  
Congress, Lawmaking, and the Case of the Fair Labor Standards  
Act, 1971-2000

Joshua D. Clinton\*

November 11, 2011

---

\*Associate Professor, Department of Political Science and Co-Director of the Center for the Study of Democratic Institutions, Vanderbilt University, Nashville, TN. Email: [josh.clinton@vanderbilt.edu](mailto:josh.clinton@vanderbilt.edu)

This appendix contains supporting tables and figures for “Congress, Lawmaking, and the Case of the Fair Labor Standards Act, 1971-2000.” Section 1 provides a more complete description of the estimator used in the text, including a comprehensive listing of the votes and equality constraints analyzed in Section 4 of the paper and an analysis of how well the constrained and unconstrained models fit the data. Section 2 presents the JAGS/winBUGS code used to estimate the models in the text. Section 3 conducts a simulation study to demonstrate the ability of the constrained estimator to recover known parameter values relative to the unconstrained estimator. Section 4 compares the estimated proposals from the Bayesian quadratic estimator without the equality constraints presented in the text and section 2 of the appendix as well as a comparison of the proposal estimates of Poole’s (1998) Common Space scores to highlight the similarities and differences. Section 5 examines the results of a constrained estimator that imposes many fewer parameter constraints to validate the overall conclusions of the text.

Section 6 provides additional information to help interpret the persistence of conservative outcomes that emerge from the statistical analysis. Section 6.1 compares the federal minimum wage to the average manufacturing wage from 1938 to 2004 to show that the relative real wage is not only a decreasing fraction of the average manufacturing wage, but the enacted wage steps do almost nothing to mitigate this discrepancy. I also investigate the universe of proposed wage steps in Congress over the period of 1973 to 2005 to show that the wage increases being proposed by Congress are also increasingly smaller in real wages over the period. Finally, section 6.2 provides an account of the lawmaking activity analyzed in section 3 of the text using journalistic accounts of the time to provide some context for the estimates. None of the analyses in section 6 is definitive, but the results are consistent with the findings reported in the paper – proponents of policy change face repeated difficulties in enacting change and the magnitude of the enacted change is persistently modest compared to other wages and the relationship in prior periods.

## 1 Additional Information About the Estimation

Table 2 presents the complete list of roll calls I analyze, a brief description of their content, the date of the vote, and the index of  $\theta_{y(t)}$  and  $\theta_{n(t)}$ . For example, on May 11, 1972, the House voted to amend the Erlenborn substitute amendment. Voting yea is a vote for  $\theta_2$  and voting nay is a vote for  $\theta_3$  ( $\theta_1$  is the status quo policy for this sequence). When voting on another amendment to the Erlenborn amendment, the outcome associated with a yea vote is  $\theta_4$ , and the proposal associated with the nay vote is  $\theta_2$ . The indexing is unique to each Congress;  $\theta_1$  in the 92nd Congress and  $\theta_1$

in the 93rd Congress denote different proposals and locations.

## TABLE 2 ABOUT HERE

Consistent with arguments made in the text about the plausibility of being able to form expectations about the most desired policy outcome (and the nature of the likely agenda), Table 2 reveals that many of the votes occur on the same day.<sup>1</sup>

Section 2 contains the JAGS/winBUGS code used to estimate constrained and unconstrained models of voting behavior on the FLSA.<sup>2</sup> The diffuse priors used for the models are:  $x_i \sim N(0, 1) \forall i \in L$  and  $\theta_t \sim N(0, 6.25) \forall t \in T$ . To identify the space, I normalize the space post-estimation to impose the restriction that ideal points have mean 0 and variance 1. Because ideal points are assumed to be constant for individuals that remain in the same chamber and continue to belong to the same political party to ensure that the estimates are comparable across time, the normalization is performed using all of the estimated ideal points for the time period.

Table 1 reports the fit of the constrained model used in the text compared to an identical model fit without the constraints. The code reported in section 2 is used to analyze the 114 votes in Table 2 in each instance. Whereas the constrained estimator uses the constraints reported in Table 2 to estimate 112 proposals, the unconstrained estimator allows each alternative to be unconstrained and therefore estimates 228 proposal locations. Table 1 also reports the number of votes analyzed in each Congress, the number of proposal parameters estimated in the constrained estimator, and the ratio of constrained locations to unconstrained locations in each Congress. Because two location parameters are estimated for every roll call in the unconstrained model, the *Ratio* is always 2 for the unconstrained models. *Naive Classification* reports the probability of correctly predicting an individual vote based using the modal vote, *Unconstrained Classification* reports the probability of correctly predicting a vote using an unconstrained estimator, and *Constrained Classification* presents the probability of correctly predicting a vote using the estimated model parameters for the model proposed in the text.

Several conclusions are evident in Table 1. First, imposing the constraints described in 2 results in a significant reduction of the number of estimated parameters – only during the 106th Congress

---

<sup>1</sup>I permit a change in the status quo when it is likely that the stakes of policy changed (e.g., the location of voting yea likely changed between the adoption of Erlenborn’s substitute amendment and the adoption of H.R. 7130) or the likelihood that the status quo changed in the midst of the debates during the 93rd Congress because of rampant inflation. In both instances, I am able to use substantive information to relax the relevant parameter constraints.

<sup>2</sup>In estimating the model with  $L$  legislators and  $T$  votes, instead of working with the  $L \times T$  matrix of votes I instead use the  $LT$  length vector resulting from stacking the votes of each legislator (it is actually less than  $LT$  after removing votes where the legislator is absent – because the primary emphasis is on the proposal locations  $\theta$  as well as the relevant order statistics (e.g., chamber median), this missing data contributes little to the estimates.

	<b>Votes</b>	<b>Vote Parameters</b>	<b>Ratio</b>	<b>Naive Classification</b>	<b>Constrained Classification</b>	<b>Unconstrained Classification</b>
92nd (1971-72)	19	18	.95	.60	.91	.91
93rd (1973-74)	34	32	.94	.63	.85	.90
95th (1976-77)	27	25	.93	.62	.83	.86
101st (1989-90)	19	17	.90	.64	.89	.89
104th (1995-96)	9	10	1.11	.63	.90	.90
106th (1999-00)	6	10	1.67	.59	.92	.92

Table 1: COMPARING CONSTRAINED AND UNCONSTRAINED MODELS.

does the number of location parameters estimated in the unconstrained estimator approach the number estimated in the unconstrained estimator. Second, the classification performance of the constrained and unconstrained models are nearly equivalent even though the unconstrained model estimates nearly twice as many vote parameters. Highlighting the fact that the proposal locations in the unconstrained model are only identified because of functional assumptions, the unconstrained model estimates 228 proposal locations using 114 votes. In contrast, the constrained model only estimates 112 alternatives because some alternatives are involved in multiple votes. Although there are some errors, the fact that the predictive performance of the two models is so similar suggests that the imposed constraints are not inconsistent with the observed voting behavior.

To further validate the estimator, section 3 contains a simulation study of the ability of the constrained estimator to recover proposal estimates. Using the agenda in the 92nd House as the basis for the study, I estimate constrained and unconstrained models to show the ability of the constrained model to successful recover the true data generating parameters if the true parameters are known.

Cong	Chmbr.	Bill	Date	Brief Description	$\theta_y(t)$	$\theta_n(t)$
92	H	HR7130	5/11/72	Amend Erlenborn Amdt.: Change Wage	2	3
92	H	HR7130	5/11/72	Amend Erlenborn Amdt.: Overtime provision	4	2
92	H	HR7130	5/11/72	Amend Erlenborn Amdt.: Strike Youth Wage	5	2
92	H	HR7130	5/11/72	Amend HR7130: Substitute Erlenborn	2	6
92	H	HR7130	5/11/72	To Pass: HR7130	7	1
92	H	HR7130	8/1/72	To Disagree to Sen. Amdts to HR 7130	16	1
92	H	HR7130	8/1/72	To Disagree to Sen. Amdts to HR 7130	16	1
92	S	S1861	7/19/72	To Amend: Extend Coverage	9	8
92	S	S1861	7/19/72	To Amend: Set Youth Wage	10	8
92	S	S1861	7/19/72	To Amend: Ag. Workers Wage	11	8
92	S	S1861	7/19/72	To Amend: Change Wage	12	8
92	S	S1861	7/20/72	To Table Taft Amendment	8	12
92	S	S1861	7/20/72	To Amend: Exempt Domestic Employees	13	8
92	S	S1861	7/20/72	To Amend: Change Wage	14	8
92	S	S1861	7/20/72	To Amend: Delete OT for bus drivers	15	8
92	S	S1861	7/20/72	To Amend: Change Wage for workers in Canal zone	16	8
92	S	S1861	7/20/72	To Amend: Set Youth Wage	17	16
92	S	S1861	7/20/72	To Amend: Change Wage for Puerto Rico and Virgin Islands	18	16
92	S	HR7130	7/20/72	To Pass HR7130: S1861 passed in lieu	16	2
93	H	HR7935	6/6/73	To Amend: Change Ag. Wage	3	2
93	H	HR7935	6/6/73	To Amend: Substitute Erlenborn	4	2
93	H	HR7935	6/6/73	To Amend: Change Wage	5	2
93	H	HR7935	6/6/73	To Amend: Change Wage	6	2
93	H	HR7935	6/6/73	To Amend: Change Ag. Wage	7	2
93	H	HR7935	6/6/73	To Amend: Change Ag. Wage	8	2
93	H	HR7935	6/6/73	To Amend: Exclude Fed. employees	9	2
93	H	HR7935	6/6/73	To Amend: Exclude State, Local employees	10	2
93	H	HR7935	6/6/73	To Amend: Exclude Seasonal industries	11	2
93	H	HR7935	6/6/73	To Amend: Set Youth Wage	12	11
93	H	HR7935	6/6/73	To Amend: Freeze wage in Canal zone	13	11
93	H	HR7935	6/6/73	To Pass: HR 7935	13	1
93	H	HR7935	6/6/73	To Pass: HR 7935 Conf. Rpt.	13	1
93	H	HR7935	9/19/73	To Override Veto	13	1
93	H	HR12435	3/20/74	To Amend: Exempt Newspaper Delivery	30	29
93	H	HR12435	3/20/74	To Pass: S2747 passed in lieu	31	33
93	H	S2747	3/28/74	To Pass: S2747 Conf. Rpt.	32	33
93	S	S1861	7/17/73	To Amend: Change Wage	15	14
93	S	S1861	7/18/73	To Amend: Dominick Substitute	16	14
93	S	S1861	7/19/73	To Amend: Increase Small Bus. Exemption	17	14
93	S	S1861	7/19/73	To Amend: Set Elderly Wage	18	14
93	S	S1861	7/19/73	To Amend: Exempt Workers	19	14
93	S	S1861	7/19/73	To Amend Cook Amdt.: Small Bus. exempt.	20	14
93	S	S1861	7/19/73	To Pass: HR7935 passed in lieu	14	1
93	S	HR7935	8/2/73	To Pass: HR7935 Conf. Rpt.	13	1
93	S	S2747	3/5/74	To Table Buckley Amdt.	22	21
93	S	S2747	3/5/74	To Amend: Dominick Substitute	23	22
93	S	S2747	3/5/74	To Amend: Change Wage	24	22
93	S	S2747	3/7/74	To Amend: Cover Domestic	25	22
93	S	S2747	3/7/74	To Amend: Clarify Guidelines	26	22
93	S	S2747	3/7/74	To Amend: Require Study Before Adoption	27	22
93	S	S2747	3/7/74	To Amend: Exempt Policemen & Firemen	28	22
93	S	S2747	3/7/74	To Pass: S. 2747	22	33
93	S	S2747	3/28/74	To Pass: S2747 Conf. Rpt.	32	33
95	H	HR3744	9/15/77	To Amend: Change Wage	3	2
95	H	HR3744	9/15/77	To Amend: Commission to study effect	4	3
95	H	HR3744	9/15/77	To Amend: Indexing	5	4
95	H	HR3744	9/15/77	To Amend: Tip credit	6	4
95	H	HR3744	9/15/77	To Amend: Exempt Seasonal workers	7	6
95	H	HR3744	9/15/77	To Amend: Set Youth Wage	8	7
95	H	HR3744	9/15/77	To Amend: Exclude Youth Ag work	9	7
95	H	HR3744	9/15/77	To Amend Blouin Amdt: Small bus. exemption	10	9
95	H	HR3744	9/15/77	To Amend Blouin Amdt: Small bus. exemption	11	9
95	H	HR3744	9/15/77	To Pass HR3744	11	1
95	H	HR3744	10/12/77	To Table Motion to Disagree with Sen. Amdt. and Request Conf.	11	12
95	H	HR3744	10/20/77	To Pass Conf. Rpt on HR3744	12	1
95	S	S1871	10/6/77	To Amend William Amdt: Change Wage	13	12
95	S	S1871	10/6/77	To Amend William Amdt: Change Wage	14	12
95	S	S1871	10/6/77	To Amend William Amdt: Change Timing	15	12
95	S	S1871	10/6/77	To Amend: Williams Substitute	12	16
95	S	S1871	10/6/77	To Amend: Study Tip Credit	17	12
95	S	S1871	10/6/77	To Amend: Tip Credit	18	12
95	S	S1871	10/7/77	To Amend: Exempt Youths	19	12
95	S	S1871	10/7/77	To Amend: Set Youth Wage	20	12
95	S	S1871	10/7/77	To Amend: Set Youth Training Wage	21	12
95	S	S1871	10/7/77	To Amend: Set Youth Training Wage	22	12
95	S	S1871	10/7/77	To Amend: Elderly Wage	23	12
95	S	S1871	10/7/77	To Table Division 2 of Deconcini Amdt.	24	12
95	S	S1871	10/7/77	To Table Bumpers Amdt. to Tower Amdt.	25	12
95	S	S1871	10/7/77	To Amend in Nature of Substitute:	11	12
95	S	S1871	10/7/77	To Pass HR 3744: Strike all but enacting clause, insert S1871	12	11
101	H	HR2	3/23/89	To Amend: Goodling Substitute	3	2
101	H	HR2	3/23/89	To Amend: Murphy Substitute	4	2
101	H	HR2	3/23/89	To Amend: Increase penalties	5	4
101	H	HR2	3/23/89	To Pass: HR2	4	1
101	H	HR2	5/11/89	To Pass Conf. Rpt for HR2	6	1
101	H	HR2	6/14/89	To Pass over President's veto	6	1
101	H	HR2710	11/1/89	To Pass: HR2710	7	1

## 2 JAGS/WinBUGS Code

```

model{ for (i in 1:V92){
  y92[i] ~ dbern(prob92[i])
}

```

Cong.	Chmbr.	Bill	Date	Brief Description	$\theta_y(t)$	$\theta_n(t)$
101	S	S4	4/11/89	To Amend: Perfecting Amdt.	9	8
101	S	S4	4/12/89	To Amend: Hatch Substitute	10	9
101	S	S4	4/12/89	To Amend: Increase SSA monthly earnings	11	9
101	S	S4	4/12/89	To Amend: Delay tax	12	11
101	S	S4	4/12/89	To Amend: Davis-Bacon	13	12
101	S	S4	4/12/89	To Table Wallop Motion	14	13
101	S	S4	4/12/89	To Recommit: S4	15	14
101	S	HR2	4/12/89	To Pass: HR2	14	1
101	S	HR2	5/17/89	To Pass: Conf. Rpt for HR2	6	1
101	S	HR2710	11/8/89	To Table Symms amdt.	7	16
101	S	HR2710	11/8/89	To Table Gramm amdt.	7	17
101	S	HR2710	11/8/89	To Pass: HR2710	7	1
104	H	HR1227	5/23/96	To Amend: Change Wage	3	2
104	H	HR1227	5/23/96	To Amend: Many Changes	4	3
104	H	HR1227	5/23/96	To Amend: Small Bus. exemption.	5	4
104	H	HR1227	5/23/96	To Pass HR1227	4	1
104	H	HR3448	8/2/96	To Pass Conf. Rpt. HR 3448 (& HR 1227)	6	1
104	S	HR3448	7/9/96	To Amend: Wage Provisions	8	7
104	S	HR3448	7/9/96	To Amend: Change Wage & Others	9	7
104	S	HR3448	7/9/96	To Pass HR3448 (& HR 1227)	10	1
104	S	HR3448	8/2/96	To Pass Conf. Rpt. for HR3448 (& HR 1227)	6	1
106	H	HR3846	3/9/00	To Amend:	3	2
106	H	HR3846	3/9/00	Motion to recommit	4	3
106	H	HR3846	3/9/00	To Pass HR3846	3	1
106	S	S1429	7/30/99	Sense of Senate: Amend FLSA (NG)	5	6
106	S	S625	11/9/99	To Table: Sense of Senate: Amend FLSA (NG)	9	10
106	S	S625	11/9/99	To Amend: Change Wage (NG)	7	8

Table 2: OBSERVED ROLL CALL ACTIVITY, 1971-2000: Excludes unanimous and procedural votes. The index associated with each vote lists the constraints imposed. The indexing is unique to each Congress –  $\theta_1$  in the 92nd Congress is not equivalent to  $\theta_1$  in the 93rd Congress.

```

uy92[i] <- -pow((x[legis92[i]] - theta92[yi92[i]]),2)
un92[i] <- -pow((x[legis92[i]] - theta92[ni92[i]]),2)
logit(prob92[i]) <- uy92[i] - un92[i]}

for (j in 1:V93){
  y93[j] ~ dbern(prob93[j])
  uy93[j] <- -pow((x[legis93[j]] - theta93[yi93[j]]),2)
  un93[j] <- -pow((x[legis93[j]] - theta93[ni93[j]]),2)
  logit(prob93[j]) <- uy93[j] - un93[j]}

for (k in 1:V95){
  y95[k] ~ dbern(prob95[k])
  uy95[k] <- -pow((x[legis95[k]] - theta95[yi95[k]]),2)
  un95[k] <- -pow((x[legis95[k]] - theta95[ni95[k]]),2)
  logit(prob95[k]) <- uy95[k] - un95[k]}

for (l in 1:V101){
  y101[l] ~ dbern(prob101[l])
  uy101[l] <- -pow((x[legis101[l]] - theta101[yi101[l]]),2)
  un101[l] <- -pow((x[legis101[l]] - theta101[ni101[l]]),2)
  logit(prob101[l]) <- uy101[l] - un101[l]}

for (m in 1:V104){
  y104[m] ~ dbern(prob104[m])
  uy104[m] <- -pow((x[legis104[m]] - theta104[yi104[m]]),2)
  un104[m] <- -pow((x[legis104[m]] - theta104[ni104[m]]),2)
  logit(prob104[m]) <- uy104[m] - un104[m]}

for (n in 1:V106){
  y106[n] ~ dbern(prob106[n])
  uy106[n] <- -pow((x[legis106[n]] - theta106[yi106[n]]),2)
  un106[n] <- -pow((x[legis106[n]] - theta106[ni106[n]]),2)
  logit(prob106[n]) <- uy106[n] - un106[n]}

for (o in 1:N){x[o]~dnorm(0,1)}
for (p in 1:M92){theta92[p]~dnorm(0,.16)}

```

```

for (q in 1:M93){theta93[q]~dnorm(0,.16)}
for (r in 1:M95){theta95[r]~dnorm(0,.16)}
for (s in 1:M101){theta101[s]~dnorm(0,.16)}
for (t in 1:M104){theta104[t]~dnorm(0,.16)}
for (u in 1:M106){theta106[u]~dnorm(0,.16)}
}

```

### 3 Simulation Study of the Estimators

To provide additional information on the comparison of the constrained and unconstrained estimator, I study the ability of the constrained and unconstrained estimators to recover known parameter values using a simulation study. Given the time-consuming nature of the estimation itself, I explore a smaller agenda tree than is analyzed in the paper, but there is no reason to suspect that analyzing fewer votes will provide a misleading characterization of the relative performance of the constrained and unconstrained estimators. If anything, using fewer votes will recover the estimates with increased imprecision.

For the investigation, I use the constraints noted in the agenda tree relevant for the five votes involved in the proceedings of the 92nd House in Figure 1 in the text. To these five votes I include an additional 10 “nuisance” votes to provide additional data to help recover legislators’ ideal points. To define the true values of the proposals, I use the estimates of  $\theta_1$  through  $\theta_7$  from the 92nd House for the first five votes. The proposal locations of the ten additional votes are randomly chosen: yea proposals are drawn from a uniform distribution over the range  $[-2, 2]$  and nay proposals are drawn from a normal distribution with mean 0 and variance 1. Ideal points are assumed to be uniformly distributed from  $[-2, 2]$ .

Given the true values of  $\theta$  and  $\mathbf{x}$ , I calculate the utility differential for every legislator and every vote using the expressions in the text. I add an idiosyncratic, standard normal shock to each of the utility differentials to produce some voting error, and the roll call matrix is constructed by evaluating whether the shocked utility differential is greater than 0 or not; if the shocked utility differential is positive, the legislator gets more utility for voting yea than nay.

For the unconstrained estimator, the roll call matrix is analyzed with every location estimate left unconstrained. For the constrained estimator, the locations for the first five votes are constrained as Figure 1 in the text implies and the remainder are unconstrained. Because the true values for the simulation are the estimates from the constrained estimator analyzed in the text, the imposed constraints match the true data generating process. The estimates for both estimators are rescaled after estimation to impose the constraint that ideal points are mean 0 and variance 1. (I do this for

consistency with standard practice even though the “true” ideal points are assumed to be uniform.)

Running the constrained and unconstrained model using JAGS through R produces the results graphed in Figure 1 for the first five votes of a randomly chosen simulation (I ignore the last 10 votes because no constraints are imposed). The x-axis depicts the location of the true proposal locations and ideal points used to generate the roll call data and constraints. The y-axis depicts the location of the estimated ideal points (plotted along the y-axis) and the location of the estimated proposals. (The estimated ideal points are not uniformly distributed according to either estimator, but this is because the votes are not distributed across the entire policy space as would be required to adequately partition the policy space and the post-estimation normalization.)

Figure 1: COMPARING TRUE AND ESTIMATED LOCATIONS FOR CONSTRAINED AND UNCONSTRAINED ESTIMATORS: For a randomly chosen simulation, true and estimated ideal points are plotted along the x-axis and y-axis respectively. The circle denotes the location of the proposal involved in three of the observed votes (i.e.,  $\theta_2$ ). Only the outcomes of the first 5 votes are analyzed because they are the only ones involving proposal constraints.

The results of the investigation are conservative in that there is only a single constrained proposal (i.e., the proposal circled in the Constrained estimator plot). The associated estimates for the unconstrained estimator are the three proposals that are vertically aligned in the Unconstrained figure. Even so, several conclusions are evident. First, the proposal locations of both estimators are highly correlated with the true proposal values – the correlations for the constrained and unconstrained estimates in Figure 1 are .87 and .93 respectively.

Second, the unconstrained estimator are uniformly more extreme than the proposal locations from the constrained estimator. In fact, comparing the estimated proposal locations to the ideal points estimated by each model (graphed along the y-axis) for a sample simulation reveals that nearly every proposal in the unconstrained estimator is more extreme than the most extreme legislator! In contrast, the proposal locations of the constrained estimator are almost all in the interior of the range of ideal points. The reason is that whereas the proposals in the unconstrained estimator appear only once in the likelihood function, the proposals in the constrained estimator appear multiple times against multiple alternatives which provides additional information.

Third, because of the extremism of the unconstrained estimates, the constrained estimator is preferable according to the criterion of mean-squared error. Replicating the simulation 100 times



(i.e., appending 10 new votes to the set of specified votes and estimating the proposals 100 times using each estimator) reveals that the mean-squared error for the proposals involved in the first five votes is unambiguously smaller for the constrained estimator. Replicating the patterns evident in Figure 1, the average mean square error for the constrained estimator is .11 with a standard deviation of .07 and a range of [.04, .58] and the average mean square error for the unconstrained estimator is 1.66, with a standard deviation of .78 and a range of [.25, 3.52] .

The intuition for the increased extremism for the unconstrained estimator is as follows. For both estimators (and indeed, all statistical models of roll call voting) the point at which members are indifferent between voting for and against the bill is readily identifiable because it is simply the point that best divides the coalitions voting yea and nay given the estimated ideal points. Identifying the location of the alternatives responsible for the voting behavior and cutpoint is more difficult because any pair of alternatives that are equidistant from the cutpoint will yield the same cutpoint. Because every alternative is a free parameter and each alternative occurs in a single roll call vote, the identification of the alternative locations is based entirely on the assumed functional form – the location is given by the pair of equidistant alternatives that maximize the likelihood function (which is based on the legislators’ assumed utility function). As Poole and Rosenthal (2007, 28) note “[o]ur estimates of roll call outcomes are much less reliable than the estimates of legislator locations or roll call cuts. Consequently, this book contains no discussion of the outcomes for individual roll calls.”

In contrast, the constrained estimator supplements the information contained in the likelihood function with additional constraints to help identify those alternatives that are involved in multiple votes. For example, if an alternative is involved in three votes, three cutpoints are partially a function of the proposal and this information helps restrict where the proposal most likely lies in the policy space (assuming the constraints are true).

In principle, there is nothing that prevents the unconstrained estimator from recovering the constrained estimates. Because the identification of the location estimates is so fragile for the unconstrained estimator, the estimates are very imprecisely estimated and it is difficult to use them to reach conclusions. By using more votes to help locate proposals involved in multiple votes, the constrained estimator is able to more precisely estimate the location of the proposals.

## 4 Comparing Outcome Estimates

In addition to the comparisons of the simulation study, I also compare how the constrained and unconstrained estimates for the votes involving the FLSA differ. Figure 2 compares the locations of the proposals graphed in Figure 4 of the text estimated using the constrained and unconstrained Bayesian estimator given in section 2 of the appendix and summarized in Table 1.

Figure 2: COMPARING CONSTRAINED AND UNCONSTRAINED FINAL PROPOSAL LOCATION ESTIMATES: Horizontal (vertical) line segments denote the 95% credible intervals for the constrained (unconstrained) estimators.

Several conclusions emerge. First, as in the simulation study, the unconstrained estimates are far more extreme than the constrained estimates despite the fact that the same normalization assumption is imposed on the estimated ideal points (i.e.,  $\mathbf{x}$  is mean 0 and variance 1). Second, there is far more uncertainty in the unconstrained estimators because the location depends so heavily on the parametric assumptions. In contrast, the constrained estimator uses the fact that each proposal appears in several votes to use the additional information to refine the estimated location. To highlight this aspect, consider the one outlying (and unshaded) point in Figure 2. The unshaded point represents the location of H.R. 2710 in the House on 11/1/1989. This vote overwhelmingly passed on a 382 to 37 vote. Highlighting the problems that result from relying exclusively on the parametric identification of the proposal locations, without any additional information the unconstrained estimator estimates the implied policy location associated with the passage of the vote to be -6.08 – wholly implausible given that the most liberal member of Congress is estimated to have an induced ideal point of -2.05. Given the imposed constraints on the location of the status quo involved in the vote, the constrained estimator produces an estimate of .660 (which is reassuringly similar to the estimated ideal point of President George H.W. Bush given the substantive policy content of H.R. 2710).

We can also compare the constrained outcomes to those of the Common Space scores of Poole (1998). The comparison is slightly trickier because the estimators differ in several respects (e.g., the choice of Gaussian versus quadratic utility functions), but recent work suggests that there are reasons to suspect that the outcomes are roughly comparable (Carroll et. al. 2009; Clinton and Jackman 2009).

Figure 3: COMPARING AGENDA CONSTRAINED AND COMMON SPACE LOCATION ESTIMATES: Ideal point estimates are plotted along the respective axes.

Figure 3 graphs the final estimated location using the estimator described in the text and the proposal location estimates associated with the (unconstrained) Common Space estimates of Poole (1998). Several phenomena are evident.

First, the effect of the equality constraints is evident in the stacking of the Common Space proposals for a given constrained location estimate. The hashes along the x and y axes denote the distribution of estimated ideal points for each estimator. Second, despite scale differences due to differences in the identifying assumptions, there is a clear relationship between the two set of estimates. The reason for the relationship is that many locations in the constrained estimator involve a proposal that is voted upon only once (e.g., the location of an unsuccessful amendment) and the constrained and unconstrained estimators therefore have the same amount of information for the proposal (although the constrained estimator may produce a different estimate because the other alternative involved in the vote may be constrained).

## 5 Alternative Constraints?

The results in the text are based on the constraints listed in Table 2. For robustness, I reestimate the model using a much smaller set of proposal constraints. In particular, I only constrain final proposals and votes on conference reports against the status quo. The weaker assumption entailed by this set of constraints is that legislators are only able to form expectations about likely outcomes at the very end of the process when voting on final passage and conference reports. This weakened assumption results in the estimation of 198 proposals using the 114 votes. (By way of comparison, the constraints used for the analysis in the text reduce the number of estimated parameters to 112.) Given that location estimates appear in far fewer votes, the parametric assumptions are much more important in the estimation of the proposal locations and the characteristics of the unconstrained estimates noted above are likely to present themselves. Even so, we can assess whether policy change fails to occur in the presence of extreme status quos, and whether the enacted policy change is conservative rather than centrist.

Figure 4 replicates Figure 4 in the text using the results from an agenda constrained estimator

that only imposes constraints on final outcomes. It plots the location of the estimated status quos (solid triangles), unsuccessful final proposals (open circles), enacted public laws (asterisks) and the path of policy change across time. The location of the House median (thick lines), conservative pivot (dashed line) and majority party median in the House (dotted line) are also plotted, as is the distribution of ideal points across the entire period.

[ FIGURE 4 ABOUT HERE ]

Figure 4: (LIMITED) AGENDA CONSTRAINED OUTCOMES: The figure plots the location of unsuccessful (open circles) final proposals as well as enacted public laws (asterisks) and status quos (solid diamonds). The dashed line denotes the ideal policy of the relevant conservative pivot, the thick line denotes the location of the House median, and the dotted lines denotes the median of the majority party in the House. The arrows denote the path of policy change across time and the dashes along the bottom provides distribution of ideal points for the entire period (1971-2000).

Several conclusions are evident. First, the results are substantively consistent with the results reported in the text: policy change does not necessarily occur even when the status quo is extreme, and the enacted policy change is frequently conservative. The fact that weaker constraints produce a qualitatively similar conclusion reassuringly demonstrates that the inferences are not terribly dependent on the constraints imposed on votes prior to the votes on, and following, final passage. The results of Figure 4 differ from the results in Figure 4 in that the outcome in the 93rd Congress is estimated to be at the House median, and the outcome of the 95th Congress is curiously estimated to be even more liberal than the median Democrat in the House.

Although the similarity in the overall conclusions is reassuring, the reliance on parametric identification for the estimates plotted in Figure 4 produces results that are more problematic than the results in the text. Reflecting the patterns discussed in sections 3 and 4 of the appendix, the estimated proposals are extreme relative to the distribution of ideal points. In fact, every status quo is estimated to be more conservative than the most conservative member serving between 1971-2000 and proposals are often estimated to lie outside of the space spanned by the estimated ideal points.

Relaxing the number of imposed constraints, leads to qualitatively similar conclusions about the overall nature of lawmaking, but the increased reliance on parametric assumptions results in

more problematic, if not implausible, estimates of the nature of policy change relative to those analyzed in the text.

## 6 Are the outcomes reasonable?

Two conclusions about policy change emerge from the paper. First, attempted change only occurs when the status quo is extreme. In every instance of successful policy change, the status quo is considerably more conservative than the conservative pivot relevant for any of the models. Second, enacted policies are always more conservative than the more conservative chamber median, and almost always more conservative than the more conservative pivot. This section uses additional information to help situate the results and establish that the results are consistent with the nature of the policy change and journalistic accounts of the lawmaking activities.

### 6.1 Measuring the Magnitude of Policy Change

Although the FLSA contains many aspects besides the minimum wage, some traction on the reasonability of the conclusions is possible by examining how the enacted changes in the minimum wage rate compare over time. I conduct two analyses to support the conservative nature of the policy change estimated in the text. First, I compare the relationship between the federal minimum wage and the average manufacturing wage across time in real dollars to demonstrate the declining relative value of the minimum wage across time even when policy change occurs. Second, I examine the level of the minimum wage that was proposed between 1973 and 2005 to show that the maximum value of the real minimum wage was observed in the 95th Congress.

I first compare the real minimum wage (in 2004) dollars against the average manufacturing wage using the Congressional Research Service report on “Inflation and the Real Minimum Wage: Fact Sheet” (Cashell, 2004). As Figure 5 reveals, as a percentage of the average manufacturing wage, the federal minimum wage is decreasing almost constantly since its enactment. In 1939 the minimum wage was 60% of the average manufacturing wage, in 1968 it was 57%, and the activities in the early and mid-1970s brought the wage rate to less than than half of the average manufacturing wage. The real minimum wage continued to lose ground and none of the amendments I study had an enormous effect on the real minimum wage relative to the average manufacturing wage.

[ FIGURE 5 ABOUT HERE ]

Examining the magnitude of the change enacted between 1971 and 2000 reveals that the en-

Figure 5: AVERAGE MANUFACTURING WAGE AND FEDERAL MINIMUM WAGE COMPARED, 1938-2004: The real wages (in 2004) dollars based on the report by the Congressional Research Service using data from the Department of Labor. The numbers denote what proportion of the average manufacturing wage the federal minimum wage is for the given year.

acted changes were modest at best. For example, the minimum wage was 56% of the average manufacturing wage in 1968, but the change enacted by the 92nd Congress that took effect in May of 1974 raised the minimum wage to only 47% of the manufacturing wage. Moreover, the change enacted by the 95th Congress that were implemented starting in January of 1978 raised the ratio to only .45. The small changes in the real minimum wage relative to the average manufacturing wage are consistent with the strong status quo bias detected in the paper.

To further establish that the conservative outcomes estimated in the paper are plausible I examine the minimum wage initially proposed in bills between 1973 and 2005. Using the ability to search bills provided by the Library of Congress's THOMAS, I search for "Fair Labor Standards" and "Minimum Wage" to identify proposals to change the federal minimum wage over this period. I then identify the magnitude of the initial wage step and calculate the real wage of the proposed federal minimum wage in 2006 dollars. (I exclude the handful of proposals that attempt to set the minimum wage as a percentage of the average manufacturing wage). The goal of the analysis is to merely establish that the conservative policy change estimated in the text is consistent with the observed proposals; the analysis is admittedly crude in that no attempt is made to adjust for the proposals that are and are not indexed nor the discounted effects of the proposals.

[ FIGURE 6 ABOUT HERE ]

Figure 6: PROPOSED FEDERAL MINIMUM WAGE (IN 2006 DOLLARS), 1973-2005: The set of proposed minimum wage rates in 2006 dollars. Proposals enacted into law are plotted in solid.

Figure 6 graphs the set of proposed initial minimum wages in Congress from 1973 to 2005. Solid points indicate proposals that were enacted into law and open points denote unsuccessful proposals. The pattern is clear – over time the observed proposals are increasingly conservative in terms of proposing a smaller federal minimum wage. The highest real minimum wage over

this period resulting from the 95th Congress and President Carter in 1977. It is notable that every other successful proposal, and nearly every unsuccessful proposal contained a lower federal minimum wage. If the 1977 increase was located at the ideal point of the chamber median as the results of my analysis (as well as the analysis of Krehbiel and Rivers (1986) and Wilkerson (1991)) reveals, the conservative outcomes estimated in the paper are consistent with the lower real federal minimum wage. Of course the analysis is not definitive as we do not know where the critical pivots are located in Figure 6, but the patterns are certainly not inconsistent with the estimates and conclusions of the paper.

Neither of these analysis can demonstratively prove the reasonability of the estimates I provide in the paper, but the patterns are consistent with the findings. The federal minimum wage is an increasingly smaller proportion of the average manufacturing wage, the enacted increases do almost nothing to mitigate the discrepancy, and the proposed minimum wage levels between 1973 and 2005 are highest in the 95th Congress. All of these aspects are consistent with a status quo bias in lawmaking.

## **6.2 Qualitative Accounts of Policy Change, 1971 and 2000**

Given the novelty of the characterizations, the apparent importance of the conservative pivot for lawmaking, and the record of frequent inaction despite the possibility of change, it is useful to consider qualitative accounts of the lawmaking activity to buttress the substantive conclusions of the text. While examining contemporary reports of the legislative proceedings cannot provide conclusive proof of conclusions reached in the paper, it provides additional reassurance regarding the reasonability of the recovered estimates.

In 1973, during the first session of the 93rd Congress, Congress approved an amendment to the FLSA in H.R. 7935 that was slightly more liberal than the median House member. Republicans, again led by Senators Taft and Dominick, tried unsuccessfully to amend the bill and align it with President Nixon's expressed policy preferences. After the substitute amendment containing the administration's proposal failed on July 18th, Taft remarked "that the committee bill 'is about as certain to be vetoed as any I've seen here'" (*NYT*, 1973). As Taft predicted, Nixon vetoed the bill on September 6th, and the House fell 23 votes short of overriding the veto on September 19th.

Inflation continued to increase during the maneuverings – the Consumer Price Index rose 8.8 % in 1973 alone – and the resulting deterioration of the real wage led to the status quo's further conservative drift between the first and second sessions of the 93rd Congress. Early in the second

session, Nixon dropped his insistence on a youth wage provision and legislative activity quickly followed: the Senate passed S. 2747 (which did not include a youth wage provision) on March 3rd, the House passed S. 2747 in lieu of H.R. 12435 on March 20th, conferees agreed to a compromise bill on March 27th, both the House and the Senate agreed to the conference report the next day (by 345-50 and 71-19 respectively), and Nixon signed the bill into law on April 8th (PL 93-259). PL 93-259 is statistically indistinguishable from the estimated ideal policy of the conservative pivot (i.e., the veto-override pivot) in Figure 3 in the text.

Prior to 1989, the FLSA was last amended using roll calls in 1977 during the 95th Congress.<sup>3</sup> On March 23, 1989 the 101st House passed a proposal 248-171 despite President Bush's suggestion that the bill was unacceptable. In arguing for an (unsuccessful) substitute amendment, Rep. Penny (R, MN) remarked: "...the President has been very clear that he will veto any measure providing for more than \$4.25...I urge a vote for the Goodling substitute, the only substitute that will become law" (135 Cong Rec H 849, March 23, 1989).<sup>4</sup> Despite the claimed inevitability of a veto, the Senate voted 62-37 to pass the eventual conference report ( "Conf. Rpt. HR 2" in Figure 3 in the text). President Bush vetoed the bill within an hour of it reaching his desk on June 13th and a veto override was immediately, and unsuccessfully, attempted in the House.<sup>5</sup> A series of negotiations throughout the summer and fall of 1989 between the Democratic leadership and President Bush resulted in new bills being quickly proposed and passed in each chamber. Bush signed the resulting legislation – denoted "PL 101-157" in Figure 3 in the text– into law on November 17, 1989. PL 101-157 was an incremental change according to Figure 3 in the text, and nearly identical to the conservative pivot's ideal point (the veto-override pivot in this instance).

The minimum wage returned to the agenda in the 104th Congress after President Clinton proposed an increase in the 1995 State of the Union address. While the proposal was initially characterized as "largely symbolic since some leaders of the new Republican Congress are opposed to the very concept" (Purdum, 1995), by mid-April of 1996, twenty House Republicans, largely from the Northeast, joined with Democrats in publicly supporting an increase and the Republican

---

<sup>3</sup>The FLSA was actually also amended in 1984 without a single recorded vote following the Supreme Court's decision to reverse its 1976 decision in *National League of Cities v. Usery* and allow Congress to regulate the working conditions of state and local government employees in February of 1984. PL 99-150 (which allowed non-volunteer state and local government employees to receive compensatory time off instead of overtime pay) passed without a single roll call in either chamber.

<sup>4</sup>Democrats acknowledged the symbolic nature of the vote. Rep. Ridge (D,PA), cosponsor of a successful amendment intermediate between the committee version of H.R. 2 and a just-defeated Republican substitute acknowledged "In this vote we will determine how many truly want to restore the minimum wage. This is not a final vote. This is the first step in a process" (135 Cong Rec H 861, March 22, 1989).

<sup>5</sup>After the failed 247 to 178 override vote, the *Los Angeles Times* reported "it was not clear whether Democrats would seek to scale back the size of the increase...or simple allow the measure to languish and use the veto as a political issue" (Pine, 1989).



House caucus was pressed to schedule a vote (Shogren, 1996).<sup>6</sup> Moderate Republicans voted with Democrats to pass the proposed minimum wage increase 354-72 and defeat Rep. Goodling's (R, PA) amendment exempting small businesses with gross revenues of less than \$500,000 the following day (Goodling's amendment was characterized as a "poison pill" by President Clinton).

Despite threats by deputy Republican leader Sen. Don Nickles (R,OK) to keep the approved minimum wage increase from going to conference until concessions were extracted on a health insurance bill (Clymer 1996), the bill was reported to conference and a compromise on tax cuts negotiated by House Ways and Means Chairman Bill Archer (R, TX) and Senate Finance Chairman William V. Roth Jr (R, DE) in late July reportedly secured its passage (Hook, 1996). Clinton signed the increase into law in August of 1996 (PL 104-188). Consistent with prior episodes, PL 101-157 was nearly identical to the preferences of the most conservative pivot (the Republican filibuster pivot in this case).

The one instance where policy change did not reflect the preferences of the conservative pivot followed the election of President Carter in 1976. During the 95th Congress, the Chair of the House Labor Standards Subcommittee John Dent (D, PA) proposed to increase the minimum wage to \$3 and index the wage at 60% of the manufacturing wage. After internal debate within his administration, Carter stunned labor on March 24th with his more conservative proposal to raise the wage to \$2.50, and to index subsequent increases at 50% of the manufacturing wage. On July 19th, the House Education and Labor Committee approved a compromise proposal to raise the minimum wage to \$2.65 and index the wage to 53% of the average manufacturing wage (H.R. 3744), but the compromise fell apart on the House floor. The minimum wage increase was approved on a 309-96 vote on September 15, 1977, but so too were amendments eliminating indexing and a youth wage.<sup>7</sup> Expressing his disapproval with the outcome, George Meany, president of the A.F.L.-C.I.O. proclaimed: "we will be working just as hard in the Senate where we will seek to improve on the House version" (Shabecoff, 1977). Carter thereupon dropped his support for indexing and pushed for the higher wage level of the Senate bill. On October 6th, the Senate approved a bill after defeating separate attempts by Senators Bartlett (R, TX) and Tower (R, TX) to lower the hourly wage. After defeating four more attempts to provide for a youth wage, the Senate passed the

---

<sup>6</sup> An increase was initially tied to a decrease in the gasoline tax in the House, but the log roll fell apart on the floor. The House instead voted overwhelmingly (414-10) to instead pass a bill relaxing tax requirements and government regulations for small businesses worth \$7 billion on May 23rd.

<sup>7</sup> Originally receiving enough votes to pass in the House, the youth wage amendment was brought to a tie vote when Representatives Robert Giaimo (D, CT) and Tom Harkin (D, IA) switched their votes from yea to nay. Speaker of the House Thomas O'Neill Jr. (D, MA) was then able to cast the deciding vote against the amendment. (The reason for the switch was reported in the *New York Times* thusly: " 'They told us we could have their votes if we really needed them,' one elated labor lobbyist said" (Shabecoff, 1977).)

proposal the next day. Conferees approved a compromise version largely in the Senate's favor on October 14th. The Senate approved the compromise by voice vote on October 19th, and the House approved the proposal 236 to 187 the following day. On November 1st, Carter signed the bill into law (PL 95-151). As Figure 3 reveals, PL 95-151 is the only successful policy more liberal than the policy preference of the more conservative chamber, and it is the only successful proposal that is closer to the proposer than the conservative pivot. Even so, the legislative proceedings reveal that the enacted bill was far more conservative than the original proposal.

## References

- [1] Carroll, Royce, Keith Poole, Jeffrey Lewis, James Lo and Howard Rosenthal. 2009. "Comparing NOMINATE and IDEAL: Points of difference and Monte Carlo tests" *Legislative Studies Quarterly* 34(4).
- [2] Cashell, Brian W. 2004. "Inflation and the Real Minimum Wage: Fact Sheet," *Congressional Research Service Report*. RS20040. (Updated April 1, 2004)
- [3] Clinton, Joshua D. and Simon Jackman. 2009. "To Simulate or NOMINATE?" *Legislative Studies Quarterly*. 34(4): 593-621.
- [4] Clymer, Adam. 1996. "Disregarding Pure Politics," *New York Times*, Jul 10, 1996. pg. A12.
- [5] Hook, Janet. 1996. "Lawmakers OK Deal to Raise Minimum Wage." *Los Angeles Times*. Aug. 1, 1996. pg. 1.
- [6] New York Times. 1973. "Senate Rejects Substitute for Wage Bill." *New York Times*. Jul. 19, 1973: 15. *ProQuest*. (accessed December 6, 2006).
- [7] Pine, Art. 1989. "Congress Passes \$4.55 Wage Floor Bill in Face of Veto," *Los Angeles Times*. May 18, 1989. pg. 20.
- [8] Poole, Keith T. 1998. Estimating a Basic Space From a Set of Issue Scales. *American Journal of Political Science*. 42:954993.
- [9] Poole, Keith T., and Howard Rosenthal. 2007. *Ideology and Congress*. London: Transaction Press.
- [10] Purdum, Todd S. 1995. "President Will Seek a Higher Minimum Wage, Senior Aides Say," *New York Times* Jan. 24. 1995. pg. A14.

- [11] Rosenbaum, David E. 1972a. "House Weighs Rise in Minimum Wage." *New York Times*. May 11, 1972: 9. *ProQuest*. (accessed December 6, 2006).
- [12] Rosenbaum, David E. 1972b. "House Holds Up Wage Base Rise." *New York Times*. Aug. 2, 1972: 12. *ProQuest*. (accessed December 6, 2006).
- [13] Rosenbaum, David E. 1972c. "House Bars Move on Minimum Wage." *New York Times*. Oct. 4, 1972: 97. *ProQuest*. (accessed December 6, 2006).
- [14] Shabecoff, Philip. 1977. "House Votes a Minimum-Wage Rise And Rejects a Lower Youth Wage." *New York Times*. Sep. 16, 1977: 52. *ProQuest*. (accessed December 6, 2006).
- [15] Shogren, Elizabeth. 1996. "20 GOP Lawmakers Break Ranks, Back a Wage Boost." *New York Times*. Apr. 18, 1996: 10. *ProQuest*. (accessed June 20, 2007).