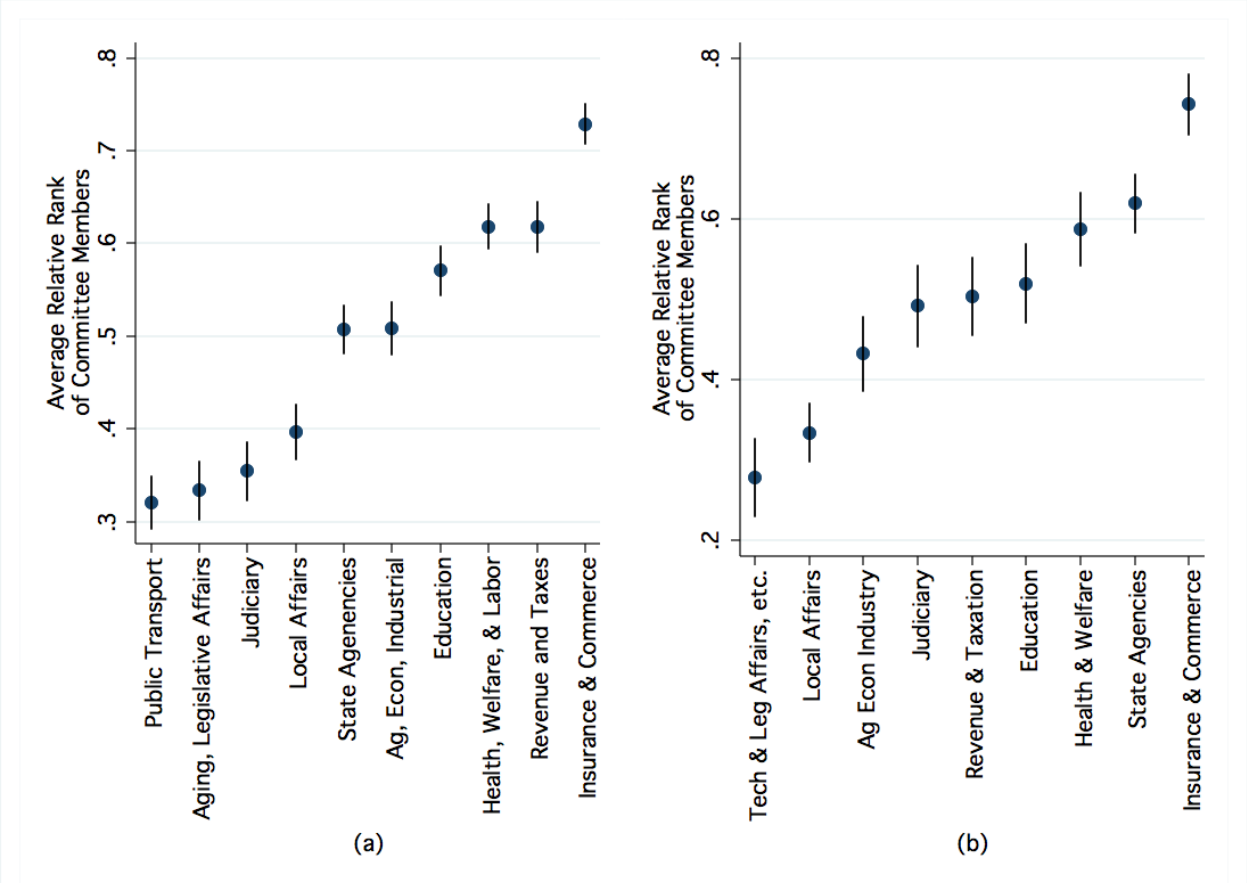
Appendix for "How Do Committee Assignments Facilitate Legislative Party Power? Evidence from a Randomized Experiment in the Arkansas State Legislature"

Relative Rank Substantially Predicts Committee Assignments.

Although our design does not rely upon measures of each committee's desirability to each legislator, we first verify that committees in Arkansas are at least meaningfully heterogeneous in their desirability to legislators by examining the mean *relative rank* of legislators on different legislative committees.

Figure A1. Average Seniority Scores on House and Senate Committees



Notes: The graph gives the average seniority score (with a 95 percent confidence interval) of the members serving on the standing committees in the Arkansas state House (in panel a) and Senate (b) from the period 1977-2011. The seniority scores range from 1 to 100 for the House and from 1 to 35 for the Senate.

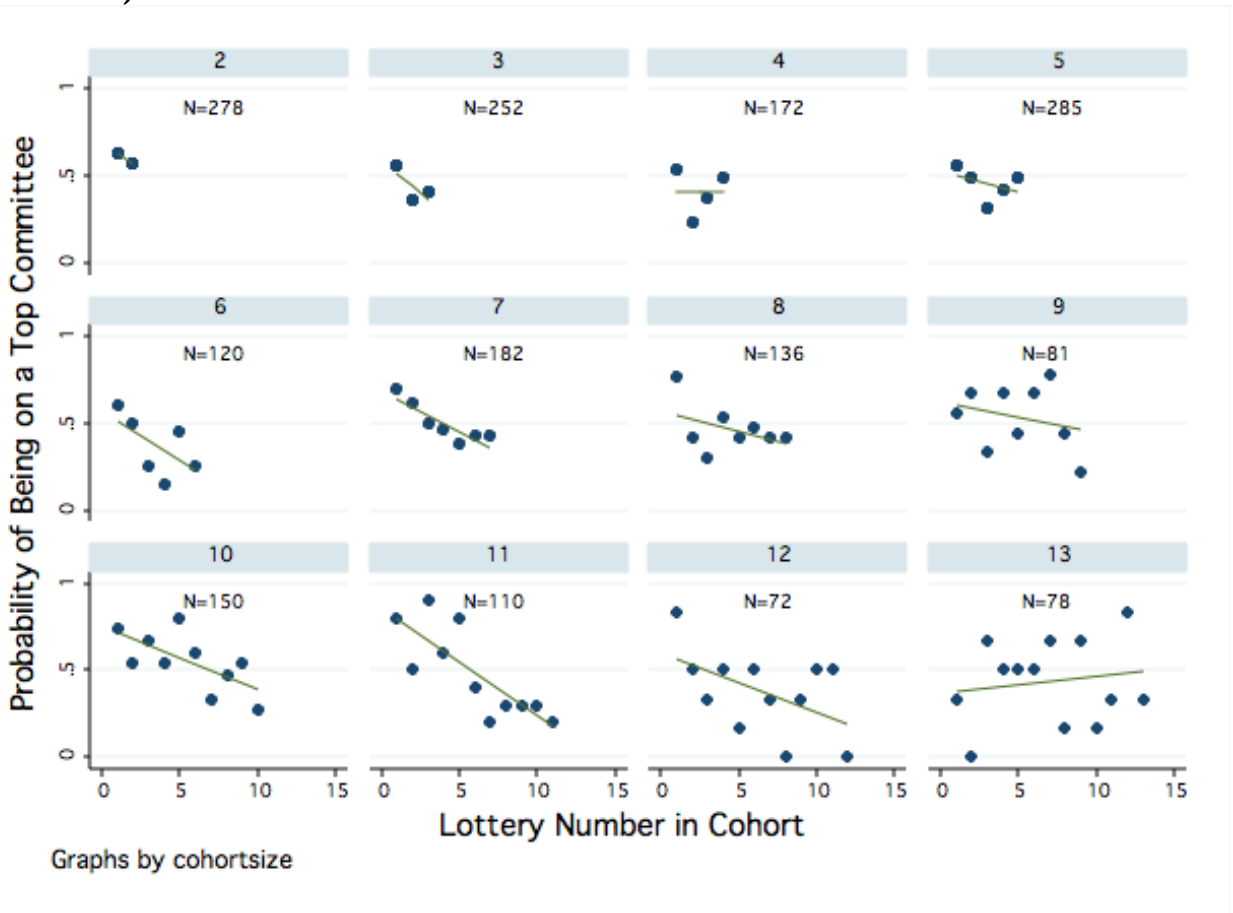
One of the advantages of studying committees in Arkansas is that we do not have to rely

on transfer requests to measure the value of committees (Stewart and Groseclose 1999) but can directly look at legislators' revealed preferences. And legislators' revealed preferences demonstrate that senior members (who have greater latitude over their committee assignments) systematically prefer seats on some committees over others. Figure A1, which gives the average *relative rank* on the y-axis of the committee members in each committee by chamber, displays this pattern. For example, in the Arkansas state house (see panel A), the Insurance and Commerce Committee appears to fill up with the most senior members at the beginning of the committee selection process. On the other hand, few members, it seems, would serve on the Public Transport or Aging Committees if they had the choice to serve on others. Panel (b) of Figure A1 shows the same pattern of results for the 35-member Senate.

The same pattern holds within year-chamber-cohort-caucus district groupings. The scatter plot in Figure A2 shows the relationship between the probability that legislators within each year-chamber-cohort-caucus district groupings served on one of the three most desirable committees, given on the Y-axis, and their seniority number in their year-chamber-cohort-caucus district group, given on the X-axis. The subgraphs in Figure A2 correspond to the size of the year-chamber-cohort-caucus district group that each legislator serves in. The lines show the linear best-fit for the data. As expected, the downward sloping lines in Figure A2 indicate that legislators who are more senior within their year-chamber-cohort-caucus district are more likely to serve on the more desirable committees (i.e. the committees preferred by the longest-serving members). Moreover, the same top three committees consistently capture legislators' interest. The opposite pattern is observed for the least desirable committee (see Figure A1 in the Appendix). Legislators randomized to higher (i.e., worse) seniority numbers within their cohort and caucus district end up on committees disproportionately filled with others who have been

similarly (randomly) disadvantaged. If all committees in the Arkansas legislature were equally desirable, it is very unlikely that we would observe this degree of systematic sorting.

Figure A2. Probability of Being on a Top Committee, by Seniority Number (Sub-graphs by cohort size)



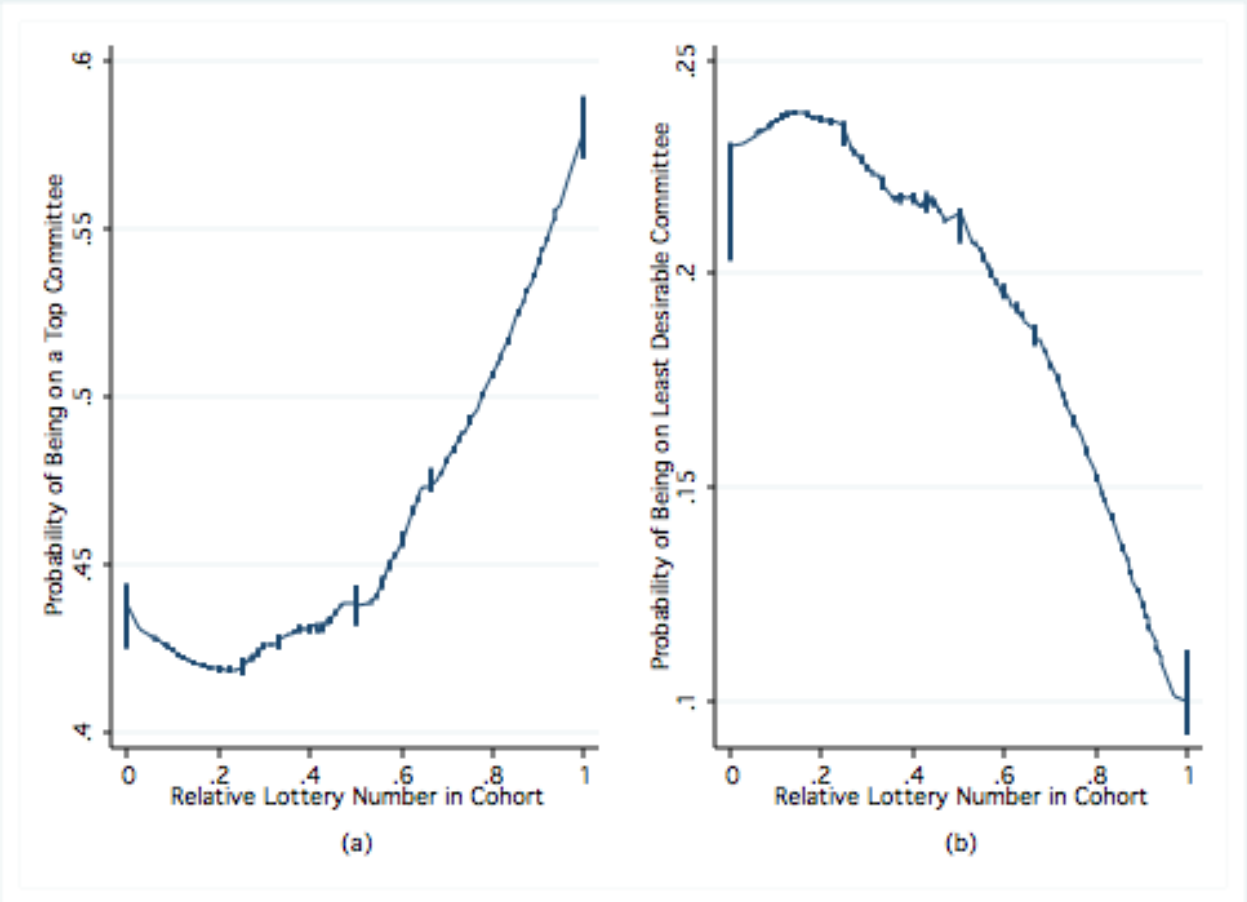
Notes: Each sub-graph corresponds to the size of the year-chamber-cohort-caucus district group that each legislator serves in. Each dot represents the percent of people with that lottery number in their cohort that serves on one of the top committees in the chamber.

Members who have higher *relative ranks* tend to systematically end up on top committees as well. Although this pattern *understates* the importance of the randomization because the value of each committee to each legislator cannot be directly measured, it is encouraging for the validity of the design that legislators with better lottery numbers do systematically end up on certain 'top' legislative committees much more often.

Figure A3 presents the lowess regression lines for legislators' relative rank and their

likelihood of being on either a top committee in their chamber (panel a) or the least desirable committee in the chamber (panel b), as determined by the raw seniority scores. As these graphs show, *Relative Rank* substantially predicts the quality of legislators' committee assignments. Fully sixty percent of the legislators who are first in their cohort serve on one of the top committees in the legislature, whereas those lower in the seniority rankings are about 15 percentage points less likely to serve on one of these committees. (Recall that legislators with last pick by this metric still serve on top committees because the least senior members of the most senior cohort still pick before any members of the next most senior cohort.) Panel (b) shows that the effect for the least desirable committees is also strong.

Figure A3. Probability of Being on Best and Worst Committees, by Relative Lottery Number



Notes: This presents the locally weighted regression (lowess) to estimate the predicted

probability that a legislator serves on one of the top committees (panel a) and the least desirable committee (panel b) in the chamber based on their relative rank in their year-chamber-cohort-caucus district group

The regression results displayed in Table A1 show that the pattern in Figure A3 holds up quantitatively as well, with the most senior members in a cohort about 15 percentage points more likely to sit on one of the top committees and members with the lowest seniority about 13 percentage points more likely to serve on the least desirable committee. Both results are statistically significant at the 0.01 level. The two columns for each set of regressions show that these effects are robust to the inclusion of fixed effects for each chamber-cohort-caucus district group.

We also test our assumptions by assigning each legislator a score that corresponds to the average seniority number on that legislators' most desirable committee. To do so, we first assign each committee in each session a score corresponding to the average seniority number on that committee. We then calculate the *desirability of best committee*, the average seniority on the committee with the highest such average of all the committees on which a legislator sits. We finally rescale this metric from 0 to 1, so that 1 corresponds to the most desirable committee in any session and 0 corresponds to the least desirable committee in any session. Table A1 shows that legislators' *Relative Rank* again substantially predicts how desirable their best committee is.

Table A1. Effect of Relative Rank on Likelihood of Serving on Desirable Committees (OLS)

Dependent Variable	*On Top Committee*		*On Least Desirable Committee*		*Desirability of Best Committee*	
Fixed Effects?	Yes	No	Yes	No	Yes	No
Relative Rank	0.15**	0.15**	-0.14**	-0.14**	0.06**	0.06**
	(0.03)	(0.03)	(0.02)	(0.02)	(0.01)	(0.01)
Constant	-	0.41**	-	0.26**	-	0.49**
	-	(0.02)	-	(0.01)	-	(0.01)
N Observations	2,084	2,084	2,084	2, 084	2,054	2,054
Number of Fixed	441	-	441	-	438	-

Effects

Notes: The independent variable for all regressions, *relative rank,* is the scaled random seniority rank of each legislator within their caucus district. The variable ranges from 0 to 1, with legislators assigned to 1 as the most senior. Coefficients represent the estimated effects of being the most senior member instead of the least senior member. Fixed effects are used for the groups in which the randomization takes place (i.e. for each chamber-cohort-caucus district group). *^Sig. at the 0.10 level (two-tailed), *Sig. at the 0.05 level (two-tailed), **Sig. at the 0.01 level (two-tailed).*

These results validate our assumption that a legislators' *Relative Rank* constitutes a large, exogenous shock to the desirability of their assignments. However, note that these aggregate measures only capture the aspects of committee desirability that are common to all legislators, whereas many committees (e.g. Agriculture) are likely far more attractive to some legislators than to others. It is therefore likely that these results significantly understate the degree to which a legislator's *Relative Rank* affects the attractiveness of her assignments.

Heterogeneous Treatment Effects by Tenure and Decade

We conducted additional analyses that examined whether incumbent tenure or decade moderated the effect of *relative rank*. The results of the analysis are presented in Tables A2 (tenure) and A3 (decade). For these analyses we estimated regressions that included dummy variable for the characteristics of interest (either incumbent tenure or decade) and the interaction between these variables and *relative rank*. The models did include an intercept term but for space reasons we do not present it. We also present the results both with and without the fixed effects. Fixed effects refer to the groups in which the randomization takes place (i.e. for each year-chamber-cohort-caucus district group). The variable *relative rank* is the scaled random seniority rank of each legislator within their randomization group. The variable ranges from 0 to 1, with legislators assigned to 1 as the most senior. Coefficients represent the estimated effects of being the most senior member instead of the least senior member. Ns differ in regressions with dependent variables for which data is not available for all years.

Table A2. Effect of Seniority within Cohort (*Relative Rank*) on Outcomes of Interest, by Legislator Tenure (OLS)

	Win Reelection		*Lose Primary*		*Lose General*		*Run for Higher Office*		*Win Higher Office*		*Retire*	
	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.
Rel. Rank	-0.018	-0.001	0.010	0.008	0.019	0.018	0.002	0.002	0.007	0.007	-0.019	-0.030
	(0.044)	(0.060)	(0.021)	(0.022)	(0.013)	(0.013)	(0.026)	(0.026)	(0.019)	(0.019)	(0.038)	(0.047)
Rank*	-0.033	-0.031	-0.002	0.001	-0.031	-0.031	0.053	0.053	0.043	0.043	0.019	0.021
2nd Term	(0.064)	(0.086)	(0.031)	(0.032)	(0.019)	(0.019)	(0.037)	(0.038)	(0.027)	(0.027)	(0.055)	(0.068)
Rank*	0.066	0.054	-0.015	-0.019	-0.019	-0.018	-0.027	-0.027	-0.013	-0.013	0.006	0.013
3rd+ Term	(0.053)	(0.071)	(0.025)	(0.026)	(0.016)	(0.016)	(0.030)	(0.031)	(0.022)	(0.022)	(0.045)	(0.056)
2nd Term	-	-0.046	-	-0.000	-	0.019	-	-0.000	-	-0.004	-	0.029
	-	(0.052)	-	(0.020)	-	(0.012)	-	(0.023)	-	(0.016)	-	(0.042)
3rd+ Term	-	-0.256**	-	0.026	-	0.004	-	0.045*	-	0.016	-	0.229**
	-	(0.044)	-	(0.016)	-	(0.010)	-	(0.019)	-	(0.014)	-	(0.035)

	Opposed in General		*Opposed in Primary*		*Vote Share in General*		*Vote Share in Primary*		*Money Raised*	
	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.
Rel. Rank	0.007	0.001	-0.025	-0.022	-0.054	-0.038	-0.125	-0.088^	-11,228	-7,409
	(0.041)	(0.042)	(0.042)	(0.044)	(0.045)	(0.037)	(0.078)	(0.050)	(8,360)	(8,458)
Rank*	0.032	0.027	-0.012	-0.005	0.121^	0.063	0.093	0.050	5,611	8,432
2nd Term	(0.060)	(0.061)	(0.060)	(0.063)	(0.068)	(0.053)	(0.115)	(0.072)	(12,336)	(12,458)
Rank*	0.002	0.007	0.061	0.046	-0.019	0.005	0.143	0.115*	-235,210^	-48,337
3rd+ Term	(0.049)	(0.050)	(0.049)	(0.052)	(0.089)	(0.048)	(0.092)	(0.057)	(132,506)	(62,987)
2nd Term	-	-0.069^	-	0.011	-	-0.035	-	-0.029	-	-3,710
	-	(0.037)	-	(0.039)	-	(0.032)	-	(0.041)	-	(7,501.557)
3rd+ Term	-	-0.099**	-	0.006	-	0.029	-	-0.10**	-	103,791*
	-	(0.031)	-	(0.032)	-	(0.030)	-	(0.034)	-	(40,460)

	Serve Chamber Leader		*Number Bills Filed*		*Number Bills Passed*		*Party Unity*		*Unity (Losing Votes)*		*Extremity*	
	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.
Rel. Rank	-0.013	-0.013	0.668	0.838	-0.446	-0.340	0.044	0.044	0.012	0.012	0.005	0.008
	(0.027)	(0.027)	(3.197)	(3.642)	(2.190)	(2.567)	(0.055)	(0.061)	(0.022)	(0.024)	(0.037)	(0.040)
Rank*	-0.041	-0.041	1.117	1.499	2.991	3.217	-0.053	-0.054	-0.006	-0.007	0.018	0.022
2nd Term	(0.039)	(0.039)	(4.461)	(5.083)	(3.057)	(3.582)	(0.080)	(0.088)	(0.031)	(0.034)	(0.054)	(0.058)
Rank*	0.032	0.032	-11.5*	-11.2*	-3.874	-3.701	-0.101	-0.100	-0.032	-0.032	-0.061	-0.069
3rd+ Term	(0.032)	(0.032)	(4.5)	(5.1)	(3.062)	(3.588)	(0.079)	(0.086)	(0.031)	(0.034)	(0.053)	(0.057)
2nd Term	-	0.073**	-	6.7*	-	2.624	-	0.043	-	0.019	-	-0.015
	-	(0.024)	-	(3.0)	-	(2.130)	-	(0.052)	-	(0.020)	-	(0.035)
3rd+ Term	-	0.039^	-	13.7**	-	6.604**	-	0.068	-	0.024	-	0.010
	-	(0.020)	-	(3.024)	-	(2.131)	-	(0.052)	-	(0.020)	-	(0.035)

*Notes: Fixed effects for year-chamber-cohort-caucus district groups. See paper for variable description. Sig. Levels: ^0.10, *0.05, **0.01.*

Table A3. Effect of Seniority within Cohort (*Relative Rank*) on Outcomes of Interest (OLS)

	Win Reelection		*Lose Primary*		*Lose General*		*Run for Higher Office*		*Win Higher Office*		*Retire*	
	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.
Rel. Rank	0.002	0.007	-0.004	-0.007	0.003	0.003	-0.001	-0.001	0.007	0.007	0.001	-0.001
	(0.032)	(0.043)	(0.015)	(0.016)	(0.010)	(0.010)	(0.018)	(0.019)	(0.013)	(0.013)	(0.027)	(0.035)
Rank*90s	0.070	0.070	-0.001	-0.004	-0.006	-0.005	-0.024	-0.024	-0.007	-0.007	-0.029	-0.035
	(0.051)	(0.068)	(0.025)	(0.026)	(0.016)	(0.016)	(0.030)	(0.030)	(0.021)	(0.022)	(0.044)	(0.056)
Rank*00s	-0.028	0.018	0.010	0.015	-0.002	-0.003	0.018	0.018	0.011	0.011	-0.007	-0.029
	(0.050)	(0.066)	(0.024)	(0.025)	(0.015)	(0.015)	(0.029)	(0.029)	(0.021)	(0.021)	(0.042)	(0.055)
1990s	-	-0.170**	-	-0.031^	-	0.006	-	0.059**	-	0.028^	-	0.129**
	-	(0.043)	-	(0.016)	-	(0.010)	-	(0.019)	-	(0.014)	-	(0.036)
2000s	-	-0.332**	-	-0.052**	-	0.003	-	0.048**	-	0.018	-	0.142**
	-	(0.041)	-	(0.015)	-	(0.009)	-	(0.018)	-	(0.013)	-	(0.034)

	Opposed in General		*Opposed in Primary*		*Vote Share in General*		*Vote Share in Primary*		*Money Raised*	
	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.
Rel. Rank	0.009	0.012	-0.008	-0.013	-0.062	-0.051^	-0.047	-0.005	-6,054	-2,947
	(0.030)	(0.030)	(0.030)	(0.031)	(0.061)	(0.031)	(0.050)	(0.028)	(14,736)	(6,917)
Rank*90s	0.002	-0.014	0.062	0.053	0.069	0.049	0.047	0.013	0.000	-2,500
	(0.048)	(0.048)	(0.048)	(0.050)	(0.077)	(0.044)	(0.082)	(0.049)	(0.000)	(16,879)
Rank*00s	0.014	0.009	-0.014	0.003	0.065	0.078	0.077	-0.090	-3,768	0.000
	(0.046)	(0.047)	(0.046)	(0.048)	(0.085)	(0.053)	(0.151)	(0.083)	(16,221)	(0.000)
1990s	-	0.071*	-	-0.097**	-	-0.067*	-	0.021	-	-11,293
	-	(0.031)	-	(0.032)	-	(0.028)	-	(0.032)	-	(10,030)
2000s	-	-0.029	-	-0.135**	-	-0.084*	-	0.054	-	0.000
	-	(0.029)	-	(0.030)	-	(0.033)	-	(0.049)	-	(0.000)

	Serve Chamber Leader		*Number Bills Filed*		*Number Bills Passed*		*Party Unity*		*Unity (Losing Votes)*		*Extremity*	
	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.	F.E.	No F.E.
Rel. Rank	0.017	0.017	-2.831	-2.543	-0.736	-0.558	-0.057	0.013	0.002	-0.000	-0.076^	-0.077^
	(0.019)	(0.019)	(1.845)	(2.194)	(1.252)	(1.511)	(0.063)	(0.040)	(0.014)	(0.027)	(0.042)	(0.045)
Rank*90s	-0.022	-0.022	0.000	0.000	0.000	0.000	0.000	-0.070	-0.002	0.000	0.000	0.000
	(0.031)	(0.031)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.080)	(0.029)	(0.000)	(0.000)	(0.000)
Rank*00s	-0.041	-0.041	0.000	0.000	0.000	0.000	0.070	0.000	0.000	0.002	0.097*	0.101^
	(0.030)	(0.030)	(0.000)	(0.000)	(0.000)	(0.000)	(0.073)	(0.000)	(0.000)	(0.031)	(0.049)	(0.052)
1990s	-	0.030	-	0.000	-	0.000	-	0.066	-	-0.056**	-	-0.070*
	-	(0.020)	-	(0.000)	-	(0.000)	-	(0.049)	-	(0.019)	-	(0.032)
2000s	-	0.100**	-	0.000	-	0.000	-	0.000	-	0.000	-	0.000
	-	(0.019)	-	(0.000)	-	(0.000)	-	(0.000)	-	(0.000)	-	(0.000)

*Notes: Fixed effects for year-chamber-cohort-caucus district groups. See paper for variable description. Sig. Levels: ^0.10, *0.05, **0.01.*

Study Protocol

A. Hypotheses

Legislators who are randomly assigned to choose their committee assignments sooner in the process have better outcomes than others. We test this hypothesis while looking at all of the following outcomes: legislator won re-election, lost their primary re-election, lost their general re-election, ran for or won higher office, retired, was opposed in the general election, was opposed in the primary election, their general and primary election vote shares, amount of campaign funds raised, served in a party or chamber leadership position, number of bills filed, the number of bills they passed, and the percentage of time they voted with their party (party unity) on all votes and votes that split the majority of the two parties.

B. Subjects

The observations came from the Arkansas state legislators who served between 1977-2011. There are 2,431 legislator-term observations during this period. However, only 2,173 of these observations are used because some legislators were the only ones elected in their caucus district in their cohort, and thus were not subject to any randomization, and because some committee assignment data was missing from 1977.

C. Allocation Method

The random assignment of Arkansas legislators in the committee assignment process occurs as follows. Each legislator in Arkansas' two state legislative chambers has a seniority number, and legislators choose their own standing committee assignments in the order of this seniority number. This seniority number is first determined by how long a member has served in the chamber, with the lowest numbers (and thus the first choice of committee assignments) going to those who have served longest. Crucially, however, the seniority number of legislators who have served the same length of time is randomly determined: before their first term, legislators draw numbers written on slips of paper out of a hat to determine their seniority within their freshman class. Their relative seniority within their cohort stays with them for the remainder of their time in the legislature.

Although legislators' seniority is randomized across their entire cohort, committee assignments in the House are allotted within four separate 'caucus districts' corresponding to the four congressional districts in Arkansas. Because only a certain pre-set number of legislators from each caucus district can sit on each committee, House members only compete with legislators in their caucus district for committee seats.

Legislators thus choose their committees in a fully randomly assigned order only within chamber-cohort-caucus groupings. We therefore compute a metric *Relative Rank* to capture legislators' relative seniority of legislators within these fully randomized groupings. This *relative rank* metric gives the percentile ranking of each legislator's lottery number relative to the legislators in their year-chamber-cohort-caucus district on a 0 to 1 scale. Legislators assigned to 1 are the most senior in their year-chamber-cohort-caucus district group (and thus can select the best committee assignment available to those in their caucus district elected at the same time) and legislators with a 0 are the least senior. Likewise, a *relative rank* value of 0.5 would mean

that the legislator is at the 50th percentile and chooses in the middle of her group.

Table 2 in the paper presents a balance check on whether the legislator's partisanship or characteristics of their districts[1] predict either the relative rank metric or legislators' original seniority numbers. In both cases the pre-treatment covariates do not predict legislators' treatment status. This gives us additional confidence that the randomization was successful and no other confounding factors lead some legislators to gain their preferred committee assignments within chamber-cohort-caucus district groupings.

D. Treatments

The treatment is the relative rank for choosing their committee assignments. A better rank means that one chooses their committee assignment sooner in the process. Please see section C on the allocation method for a full description of the treatment.

E. Results

E1. Outcome Measures and Covariates

Variable	Description	Source
Win Reelection	Indicator variable. Equals 1 if the legislator won reelection at the end of the legislative term. Equals 0 otherwise.	Carsey et al. (2007) and the Arkansas Secretary of State's website
Lose Primary	Indicator variable. Equals 1 if the legislator lost primary election at the end of the legislative term. Equals 0 otherwise.	Carsey et al. (2007) and the Arkansas Secretary of State's website
Lose General	Indicator variable. Equals 1 if the legislator lost general election at the end of the legislative term. Equals 0 otherwise.	Carsey et al. (2007) and the Arkansas Secretary of State's website
Run for Higher Office	Indicator variable. Equals 1 if the legislator ran for higher office at the end of the legislative term. Equals 0 otherwise.	Carsey et al. (2007) and the Arkansas Secretary of State's website
Win Higher Office	Indicator variable. Equals 1 if the legislator won a position for higher office at the end of that legislative term. Equals 0 otherwise	Carsey et al. (2007) and the Arkansas Secretary of State's website
Retire	Indicator variable. Equals 1 if the legislator retired at the end of that legislative term. Equals 0 otherwise	Carsey et al. (2007) and the Arkansas Secretary of State's website
Opposed in General	Indicator variable. Equals 1 if the legislator was opposed in the next general election. Equals 0 otherwise	Carsey et al. (2007) and the Arkansas Secretary of State's website
Opposed in Primary	Indicator variable. Equals 1 if the legislator was opposed in the next primary election. Equals 0 otherwise	Carsey et al. (2007) and the Arkansas Secretary of State's website

[1] Unfortunately, the US Census only began providing this legislative district level data beginning with the 2000 Census. However, the seniority selection process has remained the same throughout the past several decades so we do not expect that our results would have differed if we had access to such data for previous decades.

Vote Share in General	The percent of the two-party vote that the legislator won in her next general election.	Carsey et al. (2007) and the Arkansas Secretary of State's website
Vote Share in Primary	The percent of the vote, among the top two candidates, that the legislator won in her next primary election.	Carsey et al. (2007) and the Arkansas Secretary of State's website
Money Raised	The amount of money that the legislator raised during the legislative term.	www.followthemoney.org
Serve as Chamber Leader	Indicator variable. Equals 1 if the legislator served in a leadership position for the party and/or chamber. Equals 0 otherwise	*Arkansas Legislative Digest*
Number of Bills Filed	The number of bills that the legislator filed during the legislative term.	*Arkansas Legislative Digest*
Number of Bills Passed	The number of bills from the legislator that passed during the legislative term	*Arkansas Legislative Digest*
Party Unity	The percent of time that the legislator voted with her party during the legislative term.	*Arkansas Legislative Digest (electronic file)*
Party Unity (Losing Votes)	The percent of time that the legislator voted with her party during the legislative term on votes that the party lost.	*Arkansas Legislative Digest (electronic file)*

E2. Consort

The randomization we analyze is naturally occurring. Further there is no attrition after the random assignment of seniority. We do exclude observations from the dataset (There are 2,431 legislator-term observations during the period we study but we only can use 2,173 of these), for one of the following two reasons:

1) Some legislators were the only ones elected in their caucus district in their cohort, and thus were not subject to any randomization.
2) Some committee assignment data was missing from 1977, so we drop the groups with missing data from that particular year. Note that we drop the entire caucus district-cohort if the data is missing.

Notice that both of these groups deal with dropping the chamber-caucus district-cohorts where the randomization either did not occur or for which we are missing data. The other chamber-caucus district-cohorts are not affected because the randomization took place separately within each of these groups. In other words, we are analyzing the results of combining a large number of smaller experiments that are conducted within each chamber-caucus district-cohort. We only use those groups for which we have complete information and where some randomization actually occurred (i.e., see point 1).

E3. Statistical Analysis

See Table 3 in the paper and the corresponding discussion.

F. Other Information

No IRB approval was sought. This paper only involved analyzing existing publicly available data. Funding for this project was provided by Yale's Institution for Social and Policy Studies.