

# Online Appendix for The State of Labor in the Democratic Party Coalition

In this appendix we estimate several additional models as robustness checks for what we present in the main text. This includes adding year fixed effects (Section A); an alternative measure of donation rules (Section B); increased lags of the dependent variable (Section C); and a model with both measures of union membership included (Section D). Across almost every model the effect of donations and centrality remains substantively unchanged to what is presented in the main text. In one instance the coefficient on business donations in the Democratic network shrinks and no longer reaches normal measures of statistical significance.

## A Year Fixed Effects

Table 1 shows estimated coefficients for a model that includes yearly fixed effects. This year fixed effects will capture any unobserved heterogeneity across election years. For example, elections that line up with the presidential cycle might push unions further out from the party. Overall the results are the same. All statistically significant results in the main text are still significant and the substantive values deviate only in small ways from those results.

Table 1: Model with Year Fixed Effects

		Centrality in Democrat		Centrality in Republican	
		Pub Union	Total Union	Pub Union	Total Union
In Democratic Party	Labor Donations	0.50** (0.08)	0.48** (0.07)	0.03 (0.04)	0.03 (0.04)
	Labor Centrality	0.35** (0.06)	0.35** (0.06)	-0.02 (0.02)	-0.03 (0.02)
	Business Donations	-1.18** (0.37)	-1.05** (0.36)		
	Business Centrality	0.14 (0.36)	0.07 (0.36)		
In Republican Party	Labor Donations	0.17 (0.15)	0.17 (0.15)	0.08 (0.11)	0.04 (0.11)
	Labor Centrality	-0.22 (0.17)	-0.26 (0.17)	-0.00 (0.07)	0.01 (0.07)
	Business Donations			-0.07 (0.06)	-0.09 (0.06)
	Business Centrality			0.05 (0.07)	0.05 (0.07)
	Public Union Rate	-0.10** (0.04)		0.05** (0.01)	
	Total Union Rate		-0.17 (0.12)		0.20** (0.05)
	Donation Restrictions	0.00 (0.01)	0.01 (0.01)	-0.00 (0.00)	-0.01 (0.00)
	Democrats in Leg	-0.27** (0.06)	-0.28** (0.06)		
	Rep in Leg			-0.01 (0.02)	-0.01 (0.02)
	Intercept	0.23** (0.04)	0.23** (0.04)	0.01 (0.01)	0.01 (0.01)
	Year Fixed Effects	Yes	Yes	Yes	Yes
	Num.Obs.	557	557	557	557
	R <sup>2</sup>	0.498	0.494	0.142	0.148
	Adj R <sup>2</sup>	0.478	0.474	0.108	0.114

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ . Models of labor influence for Republican and Democratic parties. Robust clustered standard errors are in parentheses clustered on state-chamber.

## B Alternative Measure of Donation Rules

In the main text we present results which include a dummy variable for states with bans on direct union donations to campaigns. Witko (2017) develops a more fine grained scale of bias within campaign finance systems. It ranges from 0 to 4, with higher values indicating more corporate friendly finance rules. Using data from (Kulesza, Witko and Waltenburg 2016) we recreate this scale up through 2012. In general we expect that this coefficient will be negative, as restrictions on union donations and support for corporate donations will push unions from the center of the party network.

In Table 2 we recreate our analysis from the main text using this variable (note that the sample size here is smaller). The main substantive results are unchanged, with the effects of labor donations and business donations in the Democratic network are substantively the same. The effect of bias in the financial rules reaches a p-value of 0.040 in the model of the Democratic network with public union rates, and 0.054 in the model with the total union rate. In both cases the sign is in the opposite direction than expected though.

The other major change is that the effect of labor donations in the Republican network is now significant and positive. Given that there is both a smaller sample size and an additional control this result is interesting but hard to contextualize. The donation restrictions themselves have no significant effect. This may indicate that labor donations were useful to enter the Republican network up until 2012.

Table 2: Model with Refined Donation Restriction Measure

		Centrality in Democrat		Centrality in Republican	
		Pub Union	Total Union	Pub Union	Total Union
In Democratic Party	Labor Don to Dem	0.41** (0.08)	0.40** (0.08)	-0.02 (0.02)	-0.02 (0.01)
	Labor Centrality	0.31** (0.07)	0.31** (0.07)	-0.01 (0.01)	-0.02 (0.01)
	Business Donations	-1.25* (0.50)	-1.17* (0.50)		
	Business Centrality	0.28 (0.35)	0.24 (0.35)		
In Republican Party	Labor Donations	0.15 (0.21)	0.13 (0.21)	0.33** (0.10)	0.31** (0.10)
	Labor Centrality	-0.05 (0.23)	-0.07 (0.24)	0.04 (0.06)	0.04 (0.07)
	Business Donations			-0.03 (0.04)	-0.04 (0.04)
	Business Centrality			0.08 (0.07)	0.08 (0.07)
	Public Union Rate	-0.06 (0.05)		0.03** (0.01)	
	Total Union Rate		-0.11 (0.16)		0.10** (0.03)
	Corp Bias in Finance Rules	0.02* (0.01)	0.02 (0.01)	-0.00 (0.00)	0.00 (0.00)
	Democrats in Leg	-0.27** (0.06)	-0.28** (0.06)		
	Rep in Leg			0.02 (0.01)	0.02 (0.01)
	Intercept	0.23** (0.04)	0.23** (0.04)	-0.00 (0.01)	-0.01 (0.01)
	Num.Obs.	378	378	378	378
	R <sup>2</sup>	0.449	0.448	0.247	0.246
	Adj R <sup>2</sup>	0.436	0.434	0.228	0.228

Note: \* p < 0.05, \*\* p < 0.01. Models of labor influence for Republican and Democratic parties. Robust clustered standard errors are in parentheses clustered on state-chamber.

## C Autocorrelation in Residuals

In Table 3 we re-estimate the Democratic networks models in the main text with an additional lags on the dependent variable. Breusch-Godfrey tests for auto-correlation in the residuals are included at the bottom (See Wooldridge (2010) for a description of Breusch-Godfrey test). The Republican network models are not included as the ones in the main text show no signs of autocorrelation (Breusch-Godfrey p-values of 0.23 and 0.27).

The substantive results are generally the same across the inclusion of lags. The effects of donations stays significant and substantively around the same value in all but one model where the coefficient on business donations shrinks. The largest departure from the models in the text is that the effects of union membership becomes significant and negative using both measures.

Table 3: Model with Additional Lagged DVs

		Public Union			Total Union		
		1 Lag	2 Lags	3 Lags	1 Lag	2 Lag	3 Lags
In Democratic Party	Labor Donations	0.50** (0.08)	0.38** (0.07)	0.35** (0.08)	0.48** (0.07)	0.35** (0.07)	0.33** (0.08)
	Labor Centrality t-1	0.36** (0.06)	0.27** (0.06)	0.28** (0.07)	0.37** (0.06)	0.27** (0.06)	0.29** (0.07)
	Labor Centrality t-2		0.31** (0.07)	0.26** (0.08)		0.32** (0.07)	0.26** (0.08)
	Labor Centrality t-3			0.09 (0.06)			0.09 (0.06)
	Business Donations	-1.15** (0.40)	-1.01* (0.42)	-1.62** (0.54)	-1.02** (0.38)	-0.83 (0.43)	-1.36* (0.54)
	Business Centrality	0.21 (0.34)	0.68 (0.60)	0.78 (0.68)	0.15 (0.34)	0.53 (0.61)	0.62 (0.69)
In GOP	Labor Centrality	-0.26 (0.17)	-0.13 (0.20)	-0.12 (0.25)	-0.30 (0.18)	-0.17 (0.21)	-0.16 (0.25)
	Labor Donations	0.12 (0.15)	0.15 (0.16)	0.12 (0.17)	0.12 (0.15)	0.18 (0.15)	0.15 (0.17)
	Public Union Rate	-0.10* (0.04)	-0.14** (0.04)	-0.15** (0.04)			
	Total Union Rate				-0.15 (0.12)	-0.33* (0.13)	-0.34* (0.15)
	Donation Restrictions	0.00 (0.01)	0.00 (0.01)	0.01 (0.02)	0.00 (0.01)	0.01 (0.01)	0.02 (0.02)
	Democrats in Leg	-0.24** (0.06)	-0.16** (0.06)	-0.16* (0.06)	-0.26** (0.05)	-0.17** (0.06)	-0.17** (0.06)
	Intercept	0.24** (0.03)	0.17** (0.03)	0.17** (0.04)	0.24** (0.03)	0.17** (0.03)	0.17** (0.04)
	Num.Obs.	557	466	376	557	466	376
	R <sup>2</sup>	0.483	0.548	0.538	0.480	0.542	0.531
	Adj R <sup>2</sup>	0.475	0.538	0.524	0.471	0.532	0.517
	Breusch-Godfrey	8.3e-05	0.043	0.84	7.8e-05	0.028	0.88
	P-Value						

Note: \* p < 0.05, \*\* p < 0.01. Models of labor influence for Republican and Democratic parties. Robust clustered standard errors are in parentheses clustered on state-chamber.

## D Including Union Membership Together

As a final robustness check we include both measures of union rates in the same model, the results are displayed in Table 4. The coefficients for the main results on donations and centrality are similar to those presented in the main text. Multi-collinearity means that the coefficient on measures of union strength are estimated with substantially more error, washing out the statistical significance for both in the case of the Republican party.

Table 4: Model with Both Measures

		Dem Centrality	Rep Centrality
In Democratic Party	Labor Donations	0.50** (0.07)	0.03 (0.04)
	Labor Centrality	0.36** (0.06)	-0.03 (0.02)
	Business Donations	-1.20** (0.39)	
	Business Centrality	0.30 (0.36)	
In Republican Party	Labor Donations	0.04 (0.15)	0.06 (0.11)
	Labor Centrality	-0.25 (0.17)	0.01 (0.07)
	Business Donations		-0.07 (0.06)
	Business Centrality in Rep		0.04 (0.07)
	Public Union Rate	-0.19* (0.09)	0.02 (0.03)
	Total Union Rate	0.38 (0.30)	0.14 (0.13)
	Donation Restrictions	-0.00 (0.01)	-0.00 (0.00)
	Democrats in Leg	-0.25** (0.06)	
	Rep in Leg		-0.00 (0.02)
	Intercept	0.24** (0.03)	0.00 (0.01)
	Num.Obs.	557	557
	R <sup>2</sup>	0.485	0.131
	Adj.R <sup>2</sup>	0.476	0.115

*Note:* \*  $p < 0.05$ , \*\*  $p < 0.01$ . Models of labor influence for Republican and Democratic parties. Robust clustered standard errors are in parentheses clustered on state-chamber.

## References

- Kulesza, Christopher, Christopher Witko and Eric Waltenburg. 2016. “Reform interrupted? State innovation, court decisions, and the past and future of campaign finance reform in the states.” *Election Law Journal* 15(2):143–159.
- Witko, Christopher. 2017. “Regulation and Upper Class Bias in Campaign Finance Systems.” *Election Law Journal* 16(1):6–20.
- Wooldridge, Jeffrey M. 2010. *Econometric analysis of cross section and panel data*. MIT press.