

The Effect of Political Competition on Democratic Accountability Online Appendix

Philip Edward Jones
pejones@udel.edu

Department of Political Science and International Relations
University of Delaware
347 Smith Hall
Newark, DE 19716

Abstract Representing uncompetitive, homogeneous constituencies is increasingly the norm for American legislators. Extensive research has investigated how competition affects the way representatives respond to their constituents' policy preferences. This paper explores competition's effect on the *other* side of representation, how constituents respond to their legislators' policy record. Combining multiple measures of state competitiveness with large-N survey data, I demonstrate that competition enhances democratic accountability. Voters in competitive states are more interested in politics, more aware of the policy positions their U.S. senators have taken, and more likely to hold them accountable for those positions at election time. Robustness checks show that these effects are not due to the intensity of campaigning in a state: general competition, not particular campaign activities, drives citizens' response. The recent increase in uncompetitive constituencies has likely lessened the degree to which legislators are held accountable for their actions in office.

Keywords Accountability; Competition; Heterogeneity; Representation

Table A1: Levels of perceived policy congruence in states and rankings on measures of political competition.

State	% of constituents perceiving		Rank (and value) of political competition		
	25% congruence or less	75% congruence or more	Electoral competition	Ideological disagreement	Demographic diversity
WI	31.33	44.29	1 (94.62)	7 (1.97)	22 (0.34)
FL	33.20	40.19	2 (93.57)	8 (1.91)	7 (0.45)
WA	30.91	44.16	3 (93.39)	1 (2.51)	13 (0.38)
PA	39.95	38.39	4 (92.41)	23 (1.35)	19 (0.36)
MO	43.05	37.37	5 (92.10)	5 (2.14)	18 (0.37)
NJ	33.04	41.46	6 (90.80)	3 (2.35)	9 (0.44)
DE	49.21	39.13	7 (89.83)	18 (1.52)	11 (0.41)
MI	24.77	55.19	8 (89.82)	6 (1.98)	14 (0.38)
ME	20.91	44.98	9 (89.13)	13 (1.73)	27 (0.30)
CA	27.92	44.13	10 (87.57)	2 (2.47)	1 (0.52)
NM	23.19	52.01	11 (83.83)	9 (1.89)	5 (0.47)
OH	44.22	33.19	12 (83.26)	19 (1.5)	15 (0.37)
TX	35.49	39.12	13 (82.23)	11 (1.75)	2 (0.48)
CT	35.56	21.27	14 (80.83)	22 (1.37)	16 (0.37)
MT	34.56	48.44	15 (80.55)	20 (1.47)	24 (0.34)
WV	29.52	45.60	16 (76.82)	25 (0.70)	23 (0.34)
AZ	39.43	37.31	17 (76.58)	17 (1.64)	8 (0.45)
NV	38.55	39.06	18 (73.06)	14 (1.70)	6 (0.46)
VA	41.04	35.27	19 (72.67)	4 (2.33)	10 (0.41)
NY	20.01	50.98	20 (71.65)	16 (1.67)	3 (0.48)
RI	33.09	33.57	21 (70.91)	24 (1.07)	12 (0.40)
WY	24.88	47.63	22 (70.47)	26 (0.57)	26 (0.32)
MA	21.83	53.52	23 (68.94)	10 (1.82)	17 (0.37)
MS	23.09	51.70	24 (68.23)	21 (1.42)	4 (0.48)
UT	26.70	41.98	25 (65.08)	14 (1.70)	20 (0.35)
ND	18.19	62.16	26 (63.72)	27 (0.23)	25 (0.33)
NE	17.92	33.41	27 (51.04)	12 (1.74)	21 (0.34)
Mean	31.17	42.79	79.75	1.65	.40

Note: State's rank on each measure of political competition shown, with the actual value of competition in parentheses. States are ordered by their level of electoral competition, shown in the third column.

Table A2: Correlations between state-level variables.

		2006 campaign variables		
		Quality challenger	Incumbent spending	Challenger spending
General competition variables	Electoral competition	0.29	0.17	0.12
	Ideological disagreement	0.18	0.26	0.14
	Demographic diversity	0.19	0.15	-0.12

Note: Cell entries are Pearson's product-moment correlation coefficients between state-level variables. None of the correlations are significant at the .1 level.

Table A3: Multi-level Poisson regression models predicting number of senator's policy positions constituents correctly identified, excluding one policy from scale in turn.

	Number of policy positions correct, excluding position on...											
	Abortion	Stem cells	Iraq	Immigration	Min. wage	CAFTA	Capital gains					
Intercept	1.26 (0.05) ***	1.23 (0.06) ***	1.23 (0.06) ***	1.24 (0.06) ***	1.18 (0.06) ***	1.32 (0.05) ***	1.24 (0.05) ***					
Turnout 2004	-0.02 (0.01)	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)	-0.03 (0.01) *	-0.02 (0.01)					
High school grads	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)	0.04 (0.02) *	0.02 (0.02)					
GOP senator	0.01 (0.07)	0.08 (0.08)	0.03 (0.08)	0.08 (0.08)	0.16 (0.08) *	0.00 (0.07)	0.03 (0.07)					
Years in office	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)					
Committee chair	-0.34 (0.14) *	-0.29 (0.16) ^	-0.32 (0.15) *	-0.34 (0.15) *	-0.28 (0.16) ^	-0.14 (0.12)	-0.29 (0.13) *					
Electoral competition	0.01 (0.00)	0.00 (0.00)	0.01 (0.00)	0.01 (0.00)	0.01 (0.00)	0.01 (0.00) *	0.01 (0.00)					
Intercept	1.23 (0.05) ***	1.20 (0.05) ***	1.19 (0.05) ***	1.21 (0.05) ***	1.15 (0.05) ***	1.29 (0.05) ***	1.21 (0.05) ***					
Turnout 2004	0.00 (0.01)	-0.01 (0.01)	-0.01 (0.01)	0.00 (0.01)	0.00 (0.01)	-0.01 (0.01)	0.00 (0.01)					
High school grads	0.00 (0.01)	0.01 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.02)	0.02 (0.01)	0.00 (0.01)					
GOP senator	0.05 (0.07)	0.13 (0.07) ^	0.08 (0.07)	0.12 (0.07) ^	0.21 (0.07) **	0.03 (0.07)	0.07 (0.06)					
Years in office	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)					
Committee chair	-0.40 (0.13) **	-0.34 (0.13) *	-0.39 (0.13) **	-0.42 (0.13) **	-0.36 (0.14) **	-0.17 (0.11)	-0.35 (0.11) **					
Ideological disagreement	0.16 (0.06) **	0.19 (0.07) **	0.20 (0.06) ***	0.18 (0.06) **	0.20 (0.07) **	0.18 (0.07) **	0.18 (0.06) **					
Prop. same party	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)					
Intercept	1.22 (0.05) ***	1.19 (0.06) ***	1.18 (0.05) ***	1.2 (0.06) ***	1.14 (0.06) ***	1.28 (0.05) ***	1.20 (0.05) ***					
Turnout 2004	0.01 (0.01)	-0.01 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)					
High school grads	0.02 (0.02)	0.03 (0.02) ^	0.03 (0.02) *	0.03 (0.02)	0.03 (0.02) ^	0.04 (0.02) *	0.03 (0.01) ^					
GOP senator	0.09 (0.07)	0.17 (0.08) *	0.14 (0.07) ^	0.16 (0.08) *	0.26 (0.08) **	0.08 (0.08)	0.12 (0.07) ^					
Years in office	0.01 (0.00) ^	0.01 (0.00) *	0.01 (0.00) *	0.01 (0.00) ^	0.01 (0.00) ^	0.01 (0.00) ^	0.01 (0.00) *					
Committee chair	-0.40 (0.13) **	-0.33 (0.14) *	-0.38 (0.13) **	-0.40 (0.14) **	-0.35 (0.14) *	-0.17 (0.11)	-0.35 (0.12) **					
Demographic diversity	2.29 (1.00) *	2.63 (1.09) *	3.11 (0.98) **	2.34 (1.07) *	2.67 (1.10) *	2.69 (1.10) *	2.45 (0.90) **					

^p<.1 *p<.05 **p<.01 ***p<.001

Note: Individual-level variables measuring perceived party congruence, gender, age, income, race, and education are included as in Table 2 but not shown here.

Table A4: Multi-level probit models predicting vote choice for or against incumbent senator, allowing all individual-level coefficients to vary by state.

		Model 1:	Model 2:	Model 3:
		Electoral competition	Ideological disagreement	Demographic diversity
Intercept (β_{0j})	Intercept (γ_{00})	0.97 (0.41) *	0.88 (0.41) *	1.00 (0.44) *
	Turnout 2004 (γ_{01})	0.00 (0.11)	0.05 (0.09)	-0.05 (0.08)
	High school grads (γ_{02})	-0.02 (0.14)	-0.06 (0.12)	0.11 (0.15)
	GOP senator (γ_{03})	-3.36 (0.56) ***	-3.25 (0.56) ***	-3.23 (0.63) ***
	Electoral competition (γ_{04})	-0.02 (0.04)		
	Ideol. disagreement (γ_{05})		-0.22 (0.60)	
	Prop. same party (γ_{06})		0.15 (0.07) *	
	Demographic diversity (γ_{07})			5.91 (7.99)
Policy congruence (β_{1j})	Intercept (γ_{10})	4.71 (0.32) ***	4.47 (0.28) ***	4.67 (0.33) ***
Perceived party congruence ^a Co-partisan (β_{2j})	Intercept (γ_{20})	2.16 (0.37) ***	2.17 (0.38) ***	2.11 (0.36) ***
	Turnout 2004 (γ_{21})	0.06 (0.10)	-0.04 (0.09)	-0.01 (0.07)
	High school grads (γ_{22})	-0.02 (0.13)	0.08 (0.11)	0.09 (0.13)
	GOP senator (γ_{23})	0.48 (0.51)	0.44 (0.52)	0.53 (0.53)
	Electoral competition (γ_{24})	-0.03 (0.03)		
	Ideol. disagreement (γ_{25})		0.09 (0.56)	
	Prop. same party (γ_{26})		-0.03 (0.07)	
	Demographic diversity (γ_{27})			3.63 (6.44)
Independent (β_{3j})	Intercept (γ_{30})	0.86 (0.18) ***	0.94 (0.20) ***	0.97 (0.20) ***
	Turnout 2004 (γ_{31})	0.02 (0.05)	-0.01 (0.04)	0.00 (0.04)
	High school grads (γ_{32})	-0.02 (0.06)	0.01 (0.06)	-0.04 (0.07)
	GOP senator (γ_{33})	0.42 (0.25) ^	0.36 (0.28)	0.24 (0.29)
	Electoral competition (γ_{34})	-0.01 (0.02)		
	Ideol. disagreement (γ_{35})		-0.13 (0.31)	
	Prop. same party (γ_{36})		-0.02 (0.04)	
	Demographic diversity (γ_{37})			-3.22 (3.58)
Don't know (β_{4j})	Intercept (γ_{40})	1.20 (0.31) ***	1.05 (0.30) ***	1.19 (0.32) ***
	Turnout 2004 (γ_{41})	0.00 (0.09)	-0.04 (0.07)	-0.06 (0.07)
	High school grads (γ_{42})	-0.12 (0.11)	-0.08 (0.10)	-0.06 (0.13)
	GOP senator (γ_{43})	-0.20 (0.44)	-0.04 (0.44)	-0.21 (0.48)
	Electoral competition (γ_{44})	-0.03 (0.03)		
	Ideol. disagreement (γ_{45})		0.28 (0.47)	
	Prop. same party (γ_{46})		0.06 (0.06)	
	Demographic diversity (γ_{47})			-0.53 (6.11)

Table A4 continued

		Model 1: Electoral competition		Model 2: Ideological disagreement		Model 3: Demographic diversity
Evaluation of economy ^b						
Worse (β_{5j})	Intercept (γ_{50})	0.12 (0.21)		0.24 (0.24)		0.00 (0.25)
	Turnout 2004 (γ_{51})	0.07 (0.06)		0.01 (0.05)		0.05 (0.04)
	High school grads (γ_{52})	-0.04 (0.07)		0.02 (0.06)		0.02 (0.08)
	GOP senator (γ_{53})	0.08 (0.28)		-0.03 (0.32)		0.28 (0.35)
	Electoral competition (γ_{54})	-0.01 (0.02)				
	Ideol. disagreement (γ_{55})			-0.06 (0.38)		
	Prop. same party (γ_{56})			-0.07 (0.04)		
	Demographic diversity (γ_{57})					3.12 (4.55)
Stayed same (β_{6j})	Intercept (γ_{60})	-0.47 (0.23)	*	-0.30 (0.24)		-0.55 (0.27)
	Turnout 2004 (γ_{61})	0.11 (0.07)	^	0.00 (0.05)		0.07 (0.05)
	High school grads (γ_{62})	-0.11 (0.08)		-0.01 (0.06)		-0.07 (0.09)
	GOP senator (γ_{63})	1.00 (0.32)	**	0.86 (0.33)	**	1.06 (0.39)
	Electoral competition (γ_{64})	-0.02 (0.02)				
	Ideol. disagreement (γ_{65})			-0.37 (0.38)		
	Prop. same party (γ_{66})			-0.13 (0.04)	**	
	Demographic diversity (γ_{67})					-0.80 (5.08)
Better (β_{7j})	Intercept (γ_{70})	-1.22 (0.31)	***	-1.09 (0.31)	***	-1.36 (0.35)
	Turnout 2004 (γ_{71})	0.06 (0.09)		0.02 (0.07)		0.09 (0.07)
	High school grads (γ_{72})	-0.08 (0.11)		-0.05 (0.09)		-0.14 (0.12)
	GOP senator (γ_{73})	2.69 (0.44)	***	2.54 (0.44)	***	2.75 (0.51)
	Electoral competition (γ_{74})	0.01 (0.03)				
	Ideol. disagreement (γ_{75})			-0.22 (0.48)		
	Prop. same party (γ_{76})			-0.13 (0.06)	*	
	Demographic diversity (γ_{77})					-2.44 (6.60)
Much better (β_{8j})	Intercept (γ_{80})	-1.90 (0.41)	***	-1.85 (0.41)	***	-2.18 (0.47)
	Turnout 2004 (γ_{81})	0.19 (0.12)		0.07 (0.09)		0.17 (0.09)
	High school grads (γ_{82})	-0.21 (0.15)		-0.08 (0.12)		-0.15 (0.16)
	GOP senator (γ_{83})	4.48 (0.62)	***	4.38 (0.62)	***	4.68 (0.72)
	Electoral competition (γ_{84})	-0.02 (0.04)				
	Ideol. disagreement (γ_{85})			0.21 (0.65)		
	Prop. same party (γ_{86})			-0.14 (0.08)	^	
	Demographic diversity (γ_{87})					1.98 (8.96)
Don't know (β_{9j})	Intercept (γ_{90})	-0.57 (0.52)		-0.12 (0.63)		-0.32 (0.74)
	Turnout 2004 (γ_{91})	0.23 (0.18)		0.04 (0.15)		0.09 (0.13)
	High school grads (γ_{92})	-0.15 (0.19)		0.02 (0.17)		-0.11 (0.22)
	GOP senator (γ_{93})	1.01 (0.69)		0.63 (0.80)		0.71 (1.02)
	Electoral competition (γ_{94})	-0.07 (0.06)				
	Ideol. disagreement (γ_{95})			-1.00 (0.97)		
	Prop. same party (γ_{96})			-0.16 (0.10)		
	Demographic diversity (γ_{97})					-7.55 (14.39)

Table A4 continued

		Model 1:		Model 2:		Model 3:	
		Electoral competition		Ideological disagreement		Demographic diversity	
Evaluation of Iraq war ^c							
Not a mistake (β_{10j})	Intercept (γ_{100})	-1.70 (0.40)	***	-1.57 (0.40)	***	-1.39 (0.40)	***
	Turnout 2004 (γ_{101})	0.20 (0.12)	^	0.13 (0.10)		0.11 (0.08)	
	High school grads (γ_{102})	-0.25 (0.15)	^	-0.16 (0.13)		-0.31 (0.15)	*
	GOP senator (γ_{103})	3.87 (0.58)	***	3.78 (0.58)	***	3.47 (0.59)	***
	Electoral competition (γ_{104})	-0.04 (0.04)					
	Ideol. disagreement (γ_{105})			-0.96 (0.58)	^		
	Prop. same party (γ_{106})			-0.05 (0.07)			
Don't know (β_{11j})	Demographic diversity (γ_{107})					-13.47 (7.46)	^
	Intercept (γ_{110})	-1.51 (0.30)	***	-1.59 (0.32)	***	-1.54 (0.32)	***
	Turnout 2004 (γ_{111})	0.12 (0.09)		0.10 (0.07)		0.10 (0.06)	
	High school grads (γ_{112})	-0.17 (0.11)		-0.12 (0.10)		-0.14 (0.11)	
	GOP senator (γ_{113})	2.83 (0.42)	***	2.98 (0.45)	***	2.97 (0.47)	***
	Electoral competition (γ_{114})	0.00 (0.03)					
	Ideol. disagreement (γ_{115})			-0.03 (0.49)			
	Prop. same party (γ_{116})			0.00 (0.06)			
Demographic diversity (γ_{117})					0.01 (5.94)		
Log-likelihood		-3074 (df=100)		-3067 (df=112)		-3076 (df=100)	
N voters		17,887		17,887		17,887	
N states		27		27		27	

^aReference category: Other party

^bReference category: Much worse

^cReference category: A mistake

^p<.1 *p<.05 **p<.01 ***p<.001

Note: Coefficient for perceived policy congruence also allowed to vary by state, with same group-level coefficients as shown in Table 4

Table A5: Replicating interest, knowledge, and congruence models with campaign variables but excluding competition variables.

	Interest in politics [as in Table 1]	Knowledge of positions [as in Table 2]	Perceptions of congruence [as in Table 3]
Intercept	-2.79 (0.10) ***	1.38 (0.06) ***	0.40 (0.01) ***
Turnout 2004	0.03 (0.01) *	0.00 (0.01)	0.00 (0.00)
High school grads	-0.05 (0.02) **	0.00 (0.01)	0.00 (0.00)
GOP senator		0.06 (0.07)	0.02 (0.02)
Years in office		0.00 (0.00)	0.00 (0.00) **
Committee chair		-0.24 (0.11) *	0.04 (0.03) ^
Quality challenger	-0.02 (0.08)	0.00 (0.07)	-0.02 (0.02)
Challenger fundraising	0.01 (0.01)	0.00 (0.01)	-0.01 (0.00) ***
Incumbent fundraising	0.01 (0.00)	0.01 (0.00)	0.00 (0.00)
Actual policy congruence			0.75 (0.01) ***
Party congruence ^a			
Co-partisan		-0.16 (0.01) ***	0.29 (0.01) ***
Independent		-0.10 (0.01) ***	0.13 (0.00) ***
Don't know		-1.29 (0.02) ***	0.18 (0.01) ***
Female	-0.83 (0.04) ***	-0.17 (0.01) ***	
Age	0.03 (0.00) ***	0.00 (0.00) ***	
Income	0.17 (0.01) ***	0.02 (0.00) ***	
Race ^b			
Black	-0.66 (0.06) ***	-0.08 (0.01) ***	
Hispanic	-0.55 (0.06) ***	-0.03 (0.01) **	
Other race	0.10 (0.08)	0.00 (0.02)	
Education ^c			
High school	-0.06 (0.09)	0.02 (0.02)	
Some college	0.88 (0.09) ***	0.11 (0.02) ***	
College	1.04 (0.09) ***	0.14 (0.02) ***	
Post-college	1.48 (0.11) ***	0.17 (0.02) ***	
Threshold 2	-0.55 (0.10) ***		
Log-likelihood	-12251 (df=18)	-16421 (df=24)	-1629 (df=15)
N voters	16,790	24,118	21,020
N states	27	27	27

^aReference category: Other party ^bReference category: White

^cReference category: No high school degree

^p<.1 *p<.05 **p<.01 ***p<.001

Table A6: Replicating vote choice models with campaign variables but excluding competition variables.

	Vote choice [as in Table 4]	
Intercept	-0.66 (0.17)	***
Turnout 2004	0.05 (0.03)	^
High school grads	-0.08 (0.04)	*
GOP senator	-0.13 (0.18)	
Quality challenger	-0.40 (0.20)	*
Challenger fundraising	-0.03 (0.02)	*
Incumbent fundraising	0.00 (0.01)	
Policy congruence	5.46 (0.56)	***
Turnout 2004	-0.06 (0.10)	
High school grads	0.06 (0.15)	
GOP senator	0.89 (0.72)	
Quality challenger	0.00 (0.79)	
Challenger fundraising	-0.07 (0.07)	
Incumbent fundraising	0.08 (0.04)	^
Perceived party congruence ^a		
Co-partisan	3.13 (0.09)	***
Independent	1.55 (0.07)	***
Don't know	1.27 (0.14)	***
Evaluation of economy ^b		
Worse	0.00 (0.11)	
Stayed same	-0.10 (0.11)	
Better	-0.09 (0.12)	
Much better	-0.16 (0.14)	
Don't know	-0.35 (0.29)	
Evaluation of Iraq war ^c		
Not a mistake	-0.21 (0.09)	*
Don't know	-0.27 (0.12)	*
Log-likelihood	-4061 (df=27)	
N voters	17,887	
N states	27	

^aReference category: Other party

^bReference category: Much worse

^cReference category: A mistake

^p<.1 *p<.05 **p<.01 ***p<.001