

## Online Appendix:

# How Do Electoral Incentives Affect Legislator Behavior? Evidence from U.S. State Legislatures

Alexander Fournaies  
Harris School, University of Chicago

Andrew B. Hall  
Stanford University

August 12, 2021

# Appendix

## Contents

A.1	Data	3
A.2	Reviewing A Simple Model of Accountability and Term Limits	3
A.3	Elections Select For Productive Legislators	8
A.4	Selection Effect in States without Term Limits	10
A.5	Heterogeneity in the Effects of Electoral Incentives	12
A.6	Interest Group Ratings	15
A.7	NY and TX as Non-Term-Limited Control States	17

## A.1 Data

Table A.1 shows the coverage of our dataset in terms of states and years.

**Table A.1 – #Term Limited Legislators / Total # Legislators**

Term	AR House	AZ House	CA House	CO House	FL House	ME House	MI House	MO House	MT House	NV House	OH House	OK House	SD House	LA House	AZ Senate	LA Senate	ME Senate	Total
2015-2016	25/100	5/60	15/80	6/65	22/118	17/151	40/110	23/163	13/100	2/42	15/99	19/101	14/70	./.	1/30	./.	2/35	219/1324
2013-2014	25/100	3/60	17/80	9/65	15/120	20/151	29/110	12/163	7/100	3/42	18/99	7/101	6/70	./.	1/30	./.	1/35	173/1326
2012-2015	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	11/105	./.	5/39	./.	16/144
2011-2012	24/100	4/60	22/80	7/65	11/120	27/151	15/110	25/163	12/100	1/42	7/99	5/101	7/70	./.	2/30	./.	10/35	179/1326
2009-2010	34/100	14/60	18/80	8/65	24/120	21/151	34/110	55/163	11/100	10/42	15/99	5/101	8/70	./.	10/30	./.	4/35	271/1326
2008-2011	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	13/105	./.	6/39	./.	19/144
2007-2008	29/100	7/60	24/80	11/65	35/120	16/151	44/110	18/163	14/100	0/42	28/99	7/101	13/70	./.	2/30	./.	6/35	254/1326
2005-2006	27/100	3/60	26/80	13/65	19/120	18/151	21/110	8/163	15/100	0/42	14/99	15/101	7/70	./.	3/30	./.	1/35	190/1326
2004-2007	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	53/105	./.	18/39	./.	71/144
2003-2004	37/100	5/60	19/80	8/65	7/120	21/151	36/110	13/163	5/100	0/42	9/99	28/101	4/70	./.	2/30	./.	7/35	201/1326
2001-2002	14/100	9/60	21/80	6/65	14/120	26/151	23/110	74/163	9/100	0/42	10/99	0/101	7/70	./.	6/30	./.	8/35	227/1326
2000-2003	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	0/105	./.	0/39	./.	0/144
1999-2000	25/100	14/60	21/80	9/65	58/120	17/151	20/110	0/163	./.	0/42	48/99	0/101	19/70	./.	7/30	./.	7/35	245/1226
1997-1998	51/100	0/60	14/80	18/65	0/120	10/151	64/110	0/163	./.	./.	0/99	0/101	0/70	./.	0/30	./.	1/35	158/1184
1996-1999	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	0/105	./.	0/39	./.	0/144
1995-1996	0/100	0/60	26/80	./.	0/120	29/151	0/110	0/163	./.	./.	./.	0/101	./.	./.	0/30	./.	4/35	59/950
1993-1994	0/100	0/60	0/80	./.	0/120	0/151	0/110	./.	./.	./.	./.	0/101	./.	./.	0/30	./.	0/35	0/787
1991-1992	0/100	0/60	./.	./.	0/120	0/151	./.	./.	./.	./.	./.	./.	./.	./.	0/30	./.	0/35	0/496
1989-1990	0/100	./.	./.	./.	./.	0/151	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	0/35	0/286
1987-1988	0/100	./.	./.	./.	./.	0/151	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	0/35	0/286
1985-1986	./.	./.	./.	./.	./.	0/151	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	0/35	0/186
Total	291/1500	64/780	223/960	95/650	205/1558	222/2416	326/1320	228/1793	86/800	16/378	164/990	86/1212	85/700	77/525	34/390	29/195	51/560	2282/16727

Louisiana has off-cycle elections, and legislators are elected for 4-year periods.

## A.2 Reviewing A Simple Model of Accountability and Term Limits

To clarify the meaning of the main estimates on productivity, we consider an extremely simplified version of the model from Alt, Bueno de Mesquita, and Rose (2011). Candidates have type  $\theta \in \{\theta_I, \theta_C\}$  (I for incompetent, C for competent). Among the pool of all possible candidates, the fraction  $\mu_0 \in (0, 1)$  are competent types. If elected to office, the candidate chooses high or low effort  $a \in \{\underline{a}, \bar{a}\}$ . When competent types exert effort ( $\bar{a}$ ), they produce the good outcome  $H$  with certainty; if they do not exert effort ( $\underline{a}$ ), they still produce  $H$  with probability  $\gamma \in (0, 1)$ . Incompetent types cannot produce  $H$  and so never exert effort. Candidates receive payoffs  $B - c(a)$  where  $B$  is the benefit from holding office and  $c(a)$  is the cost of effort, which is  $c$  for  $\bar{a}$  and 0 otherwise. Voters only care about maximizing the chance of receiving the  $H$  outcome.

Before the first period, a candidate is randomly drawn from the pool to serve as incumbent. The candidate then chooses whether or not to exert effort. The first-period outcome,  $H$  or  $L$ , is observed, and the voter decides whether to retain the incumbent for the second period or replace her with a new draw from the pool. In the final period, if the incumbent is reelected, she faces a term limit and so exerts low effort for sure. If instead the voter chooses to replace the incumbent, we assume that the new incumbent behaves in the second period (her first as incumbent) just like the original incumbent did in the first period, in equilibrium (Alt, Bueno de Mesquita, and Rose (2011) works through the fuller model, in which there are infinite periods and this assumption is not necessary; our simplified version offers the same intuition as that more rigorous version.)

Below, we derive the conditions under which there is an equilibrium in pure strategies where all competent types exert effort in the first period, voters re-elect all competent types, and competent types do not exert effort in the final period. The key condition for this equilibrium is that  $\gamma > \mu_0$ . Intuitively, the voter will only reelect an incumbent who has produced  $H$  if the payoff of having a competent incumbent slack off in the final period exceeds the expected payoff from a random draw from the pool. We now use this equilibrium to study the effects we wish to estimate. The *electoral incentives effect* is the effect of removing electoral incentives on incumbent effort. If the competent type exerts effort,  $H$  results for sure; if the competent type does not exert effort, there is a  $\gamma$  chance of  $H$ . Therefore the true electoral incentives effect is  $\gamma - 1$ .<sup>1</sup>

A pooled comparison of outcomes between cases with second-term incumbents and with first-term incumbents does not estimate the electoral incentives effect. Second-term incumbents are all competent, but they exert low effort, so we observe outcome  $H$  in  $\gamma$  of the cases. First-term incumbents exert effort and produce  $H$  if they are competent, so we observe  $H$  in  $\mu_0$  of the cases. The pooled comparison therefore estimates  $\gamma - \mu_0$ . Since  $1 > \gamma > \mu_0$  in this equilibrium, this comparison underestimates the true effect of the removal of reelection

---

<sup>1</sup>We define this effect to be negative rather than positive in the spirit of our empirical design below, which estimates the effect of the removal of accountability via term limits.

incentives—it is positive even though the true effect is negative. This is because the true, negative accountability effect is confounded by positive electoral selection; incumbents who survive to be term limited are more likely to be competent.

However, a within-incumbent comparison of outcomes for the incumbent’s second term vs. first term correctly estimates the effect of the removal of reelection incentives, because incumbent type is a fixed attribute that can be differenced out. In their first term, competent incumbents all produce  $H$ . Only competent incumbents are re-elected to serve a second term, where they do not exert effort and produce  $H$  with probability  $\gamma$ . Therefore the average of the within-incumbent comparisons, made only for incumbents who serve two terms, will be  $\gamma - 1 < 0$ . In the difference-in-differences design below, we will interpret the estimated effect of term limits as capturing this electoral incentives effect.

In addition to the electoral incentives effect, this model also predicts an electoral selection effect; second-term incumbents are all competent, in this equilibrium, while first-term incumbents have only a  $\mu_0$  chance of being competent. The settings we study below will feature term limits of greater than two lengths—a context that, to our knowledge, has not been explored theoretically because of the complexity that comes in accountability models with more than two terms—but we will examine this qualitative prediction. If there is an electoral selection effect, then incumbents who have served more terms should be of higher competence than those who survive fewer rounds of electoral selection; our data confirms that this is the case in term-limited state legislatures.

The gap between models of adverse selection and moral hazard in elections and our empirical context is considerable. Virtually all models of elections as accountability mechanisms focus on executive offices, supposing that incumbents can directly implement policy or influence the state of the world if elected. Not coincidentally, existing studies using term limits to study electoral accountability also focus on executive offices; Besley and Case (1995), List and Sturm (2006), and Alt, Bueno de Mesquita, and Rose (2011) all study U.S. governors, while Ferraz and Finan (2011) studies Brazilian mayors. Unlike executives, an individual

legislator is rarely pivotal. Although she can certainly influence policy, it will be particularly difficult for voters to attribute any change in the state of the world to their individual representative. Given this challenge, and the lack of theoretical work, we see our paper as a first step in helping to stimulate the production of models of this form. As we will show, legislative elections appear to affect the allocation of legislator effort despite these differences from elections for executive offices.

## Details on Equilibrium

We are interested in a possible equilibrium in pure strategies in which the voter retains the incumbent if she observes  $H$  at the end of the first period, and kicks out the incumbent if she instead observes  $L$ .

Let the voter's belief about the probability the incumbent is competent, conditional on observing outcome  $O$ , be  $\tilde{\mu}$ . If the voter observes  $H$  at the end of the first period, she knows with certainty that the incumbent is a competent type; that is,  $\tilde{\mu}^H = 1$ . If the voter observes  $L$  at the end of the first period, either the incumbent is an incompetent type, or the incumbent is a competent type who has exerted low effort. Therefore her belief is

$$\tilde{\mu}^L = \frac{\mu_0(1 - \alpha)(1 - \gamma)}{\mu_0(1 - \alpha)(1 - \gamma) + (1 - \mu_0)},$$

where  $\alpha$  is the voter's belief about the probability that a competent type chooses high effort. In a pure strategy equilibrium, we have  $\alpha = 1$ , so this simply reduces to  $\tilde{\mu}^L = 0$ .

Consider first when the voter observes  $H$  in the first period. In the second and final period, when the termed-out incumbent does not exert effort, she will receive  $H$  with probability  $\gamma$ . For the voter to retain the incumbent after observing  $H$  in the first period, this must be higher than the chance of getting  $H$  in second period from replacing the incumbent with a new, first-term incumbent. There is a  $\mu_0$  chance the replacement incumbent would

be a competent type. We assume this replacement would also exert effort in the first term. Therefore for this equilibrium we must have  $\gamma > \mu_0$ .

Now consider when the voter observes  $L$  in the first period. Again, she has a  $\mu_0$  chance of getting  $H$  from replacing the incumbent with a new incumbent. If she retains the incumbent, she has a  $\tilde{\mu}^L \gamma$  chance of getting  $H$  in the final period. Therefore, for an equilibrium in which the voters retains if  $H$  and removes if  $L$  in the first period, it must be the case that  $\mu_0 > \tilde{\mu}^L \gamma = 0$ . Therefore, our condition for this equilibrium is  $\gamma > \mu_0 > 0$ .

Now we must consider the competent incumbent's payoffs to ensure he has no profitable deviation. If the incumbent exerts effort, he wins for sure, receiving payoff  $B - c$ . If he does not exert effort, he still wins with probability  $\gamma$ . In choosing whether to deviate, and potentially to mix, he faces the following optimization problem

$$\max_{\alpha} \alpha(B - c) + (1 - \alpha)\gamma B.$$

Therefore, the competent incumbent will have no incentive to deviate if  $B - c > \gamma B$ .

### A.3 Elections Select For Productive Legislators

Theories of adverse selection and moral hazard in elections predict a causal effect of politician competence on survival in office. High-type politicians should, on average, survive more rounds of electoral selection than less competent politicians. While this predicted effect cannot be directly estimated because competence, by definition, is unobservable in these models, these theories do predict an observable, positive association between a politician’s productivity and the number of elections she survives (because intrinsically competent politicians are both more productive and, in expectation, survive more elections).

Figure A.1 offers a simple test of this prediction. The figure presents the conditional expectation of incumbent productivity *in their first term, only*, across the number of elections incumbents go on to win in their entire careers. The idea is that first-term productivity reflects incumbent type separate from effects of learning while in office and of term limits. As the plot shows, the more elections an incumbent wins over the course of her career, the more productive she was in her first term, on average. Incumbents who survive more rounds of electoral selection appear to be more productive types.

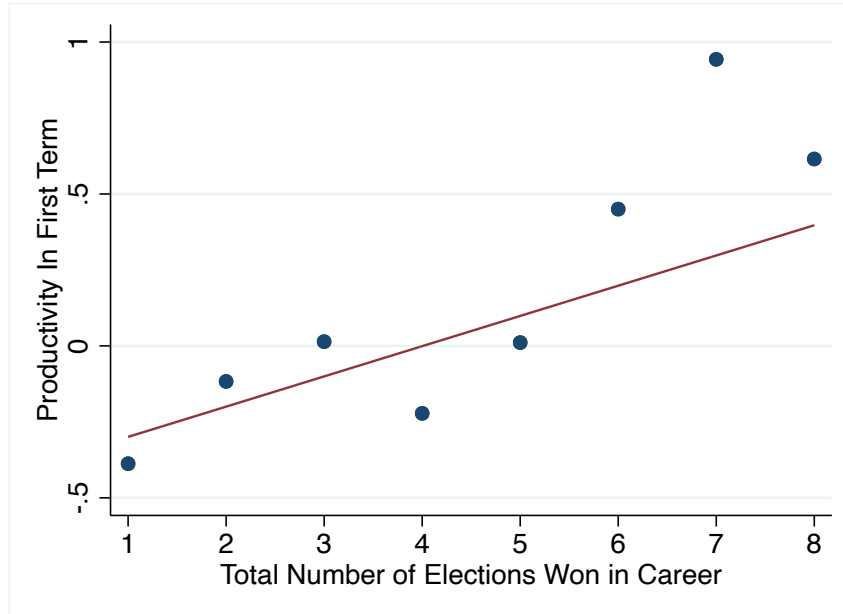
To investigate this association more formally, we use OLS to estimate models of the form

$$Productivity_{ic,min(t_i)} = \beta_s Elections\ Won_{ic,max(t_i)} + \delta_{ct} + \varepsilon_{ict}, \quad (1)$$

where  $Productivity_{ic,min(t_i)}$  measures the productivity of legislator  $i$  in chamber  $c$  in his first term in office,  $min(t_i)$ ;  $Elections\ Won_{ic,max(t_i)}$  counts the total number of elections that legislator  $i$  in chamber  $c$  has won at the end of his career in year,  $max(t_i)$ ;  $\delta_{ct}$  are chamber-by-term fixed effects. To be clear, this is not a panel regression, but a cross-sectional comparison of legislators. The coefficient  $\beta_s$  is essentially estimated by comparing first-term productivity of legislators who differ in the number of elections they survive over the course of their careers, but who were elected to the same chamber in the same year. By focusing exclusively on



**Figure A.1 – Selection Effects.** Legislators who win more elections are already more productive in their first term, suggesting that elections successfully select for high productivity types.



legislators’ first-term productivity, the selection effect is not confounded by learning effects, or by the effects of term limits. Theory predicts that  $\beta_s > 0$ .

Table A.2 presents the results. As the table shows, consistent with the figure, we see evidence that incumbents who win more elections were more productive in their first term, on average. Although there is no difference in the number bills sponsored, the differences in committee activity, showing up to cast roll-call votes, and the overall productivity index are considerable.

The average state in our sample has a term limit of 4.4 terms. According to column 4, an incumbent who serves 4.4 terms is predicted to be 0.26 units more productive on the productivity index. This electoral selection effect is roughly as large as the electoral incentives effect we estimated in the paper, as would be predicted in an equilibrium in which voters are willing to reelect incumbents into final, term-limited terms. In sum, we find evidence for substantial electoral selection for more productive incumbents, despite the fact that these elections are relatively low salience affairs with little information available to voters.

**Table A.2 – Electoral Selection for Productivity.** On average, incumbents who survive more rounds of electoral selection are more productive than those who survive fewer rounds.

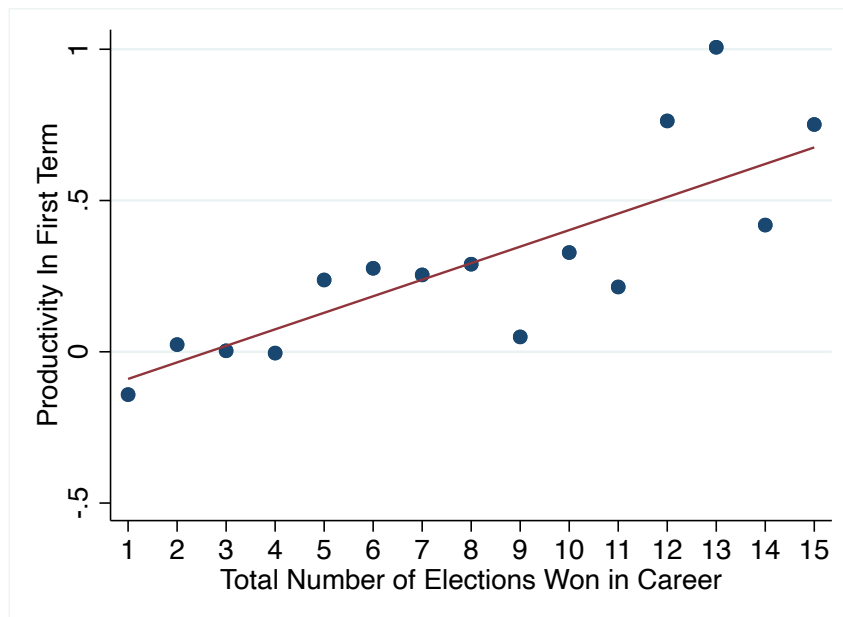
	Log of Bills Sponsored, 1 <sup>st</sup> Term	Committee Activity, 1 <sup>st</sup> Term	Pct Floor Votes, 1 <sup>st</sup> Term	Productivity Index, 1 <sup>st</sup> Term
	(1)	(2)	(3)	(4)
Elections Won	0.01 (0.01)	0.05 (0.02)	1.73 (0.25)	0.05 (0.01)
N	5,316	5,210	3,679	3,679
Legislators	5,316	5,210	3,679	3,679
Mean	2.63	3.44	92.77	-0.16
Standard Dev.	1.10	2.11	13.27	0.94
Chamber-Year FE	Yes	Yes	Yes	Yes

Outcome variables are all measured using only the incumbent’s first term in office, to measure type rather than learning. In columns 1 the outcome variable is the log of the number of sponsored bills, plus one. In columns 2 the outcome variable is an index of committee activity. In columns 3 the outcome is the percentage of roll-call votes the legislator is present for and votes on. In columns 4 the outcome variable is the first principal component from a PCA of the three measures of effort. The variable Elections Won is a simple count of the total number of elections a legislator has won over her entire career. The unit of observation is a legislator. Dataset covers the 14 state legislative chambers with term limits of three terms or longer, and covers legislative terms following elections from 1984-2014. Robust standard clustered by legislator in parentheses.

## A.4 Selection Effect in States without Term Limits

In figure A.2, we show the selection effects based on legislators in chambers without term limits. In particular, the graph is constructed using data on TX and NY as well as data on the states with term limits before they take effect. The positive slope suggests that elections select for more productive legislators in chambers without term limits.

Figure A.2 – Selection Effects: States without Term Limits.



## A.5 Heterogeneity in the Effects of Electoral Incentives

Table A.3 looks at several key sources of heterogeneity in the overall effect of being term limited on legislator productivity.

In the first column, we interact the Term Limited indicator with an indicator for whether the state that the legislator serves in has a lifetime ban, or not. As we see, the effect of being term limited on bill sponsorship appears to be much larger (almost twice as large) in states with lifetime bans.

We also investigate how the effect varies across state legislatures that pay their legislators more or less. Higher salaries give legislators stronger incentives to desire reelection, and are also a proxy for more professional legislatures where career incentives are stronger and voter information may be higher (Squire 2007; Rogers 2017). Salary is measured in thousands of dollars per day; as the results show, the effect of being term limited on productivity appears to grow substantially as salary increases.

In the third column, we interact the Term Limited variable with the measure of state legislative professionalization from Bowen and Greene (2014). We scale this measure to run from 0, in the least professionalized legislature, to 1 in the most professionalized legislature. Similar to the previous column, we see that the effect of being term limited on productivity is much larger (more than twice as much) for the most professionalized legislature than the least.

In the fourth column, we interact the treatment with an indicator for whether the state has a cumulative ban. As mentioned in the paper, in California and Oklahoma, term limits are based on the total number of terms served irrespective of whether they are served in the lower or upper chamber of the legislature, which means that treated legislators in these states do not have electoral incentives related to considering a run for the other chamber after they are termed out. As we see, while the interaction is too noisy to provide much

confidence, we do estimate that the effect is meaningfully larger (more negative) in these states.

Finally, in the fifth column, we interact the treatment variable with a measure of the power of the Speaker, which comes from Mooney (2013). As the resulting estimate shows, we do not find any evidence that the effect of being term limited on productivity gets smaller (or larger) in cases where the majority party is more powerful.

**Table A.3 – Variation in the Effect of Electoral Incentives.**

	Productivity Index				
	(1)	(2)	(3)	(4)	(5)
Term Limited	-0.19 (0.04)	-0.16 (0.05)	-0.15 (0.05)	-0.23 (0.03)	-0.21 (0.07)
Term Limited × Lifetime Ban	-0.13 (0.06)				
Term Limited × Daily Salary (1,000s)		-0.22 (0.12)			
Term Limited × Professionalization			-0.20 (0.08)		
Term Limited × Cumulative Ban				-0.07 (0.08)	
Term Limited × Mooney Ranking					-0.00 (0.01)
N	11,109	10,412	10,412	11,109	11,109
Legislator Fixed Effects	Yes	Yes	Yes	Yes	Yes
Chamber-Year Fixed Effects	Yes	Yes	Yes	Yes	Yes

In column 1, the indicator for being term-limited is interacted with an indicator for whether or not a state’s term limit is a lifetime ban or only requires the legislator to sit out a term. In column 2, the term-limited indicator is interacted with the average legislative salary per day. In column 3, the term-limited indicator is interacted with an index of legislative professionalization. In particular, all states are ranked according to Bowen and Greene (2014)’s index of legislative professionalization and the most professional legislature is assigned a score of 1, and the least professional is assigned a score of 0. In column 4, the term-limited indicator is interacted with an indicator of whether the legislator is elected in one of the states that use cumulative bans (CA and OK). In column 5, the term-limited indicator is interacted with a ranking of the states based on Mooney’s index on the power of legislative leaders. The main effects of Lifetime Ban, Daily Salary, Professionalization, Cumulative Ban, and Mooney Ranking are absorbed by the chamber-year fixed effects. Robust standard errors clustered by legislator and reported in parentheses.

## A.6 Interest Group Ratings

The table below lists the interest groups whose ratings of legislators we use in our ideological analysis in the paper. For each interest group, we provide their issue area classification, the states in which they provide ratings, the range of years for which we obtained ratings, and the total number of ratings we observe.

**Table A.4 – Interest Group Ratings**

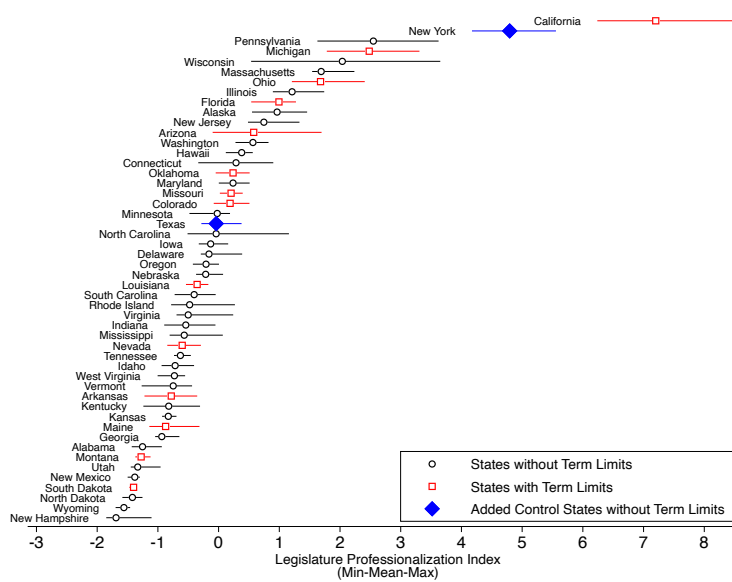
Interest Group	Issue Area	States	Year Range	Observations
American Civil Liberties Union	Other	CA CO FL LA ME MI MO OH OK	1994-2014	610
American Conservative Union	Other	AR AZ CA CO FL LA ME MI MO NV OH OK	1992-2014	1,677
American Federation of Labor and Congress of Industrial Organizations (AFL-CIO)	Labor Unions	AR AZ CA CO FL LA ME MI MO MT OH OK	1995-2014	5,274
Americans for Prosperity	Taxes	AZ CA FL LA MI MO MT OH	2003-2014	1,033
Arkansas Citizens First Congress	Other	AR	2002-2014	589
Associated Builders & Contractors	Business	CA CO FL LA ME MI OH OK	1994-2012	775
Associated Industries of Florida	Business	FL	1998-2014	1,062
California Communities United Institute	Abortion	CA	2000-2012	524
California Manufacturers and Technology Association	Business	CA	2002-2014	481
California National Organization for Women	Abortion	CA	1996-2010	616
California Park & Recreation Society	Business	CA	2000-2014	476
California Republican Assembly	Other	CA	2000-2014	603
California Taxpayers' Association	Taxes	CA	1996-2014	659
Center for Arizona Policy	Abortion	AZ	2002-2014	395
Children's Advocacy Institute	Education	CA	1996-2014	611
Christian Coalition of America	Other	CA FL LA ME MI MO OK	1992-2012	928
Clean Water Action	Environment	CA MI	2000-2014	927
Colorado Conservation Voters	Environment	CO	2000-2014	513
Colorado Union of Taxpayers	Taxes	CO	1996-2014	644
Congress of California Seniors	Other	CA	1998-2014	624
Conservation Colorado	Environment	CO	1998-2014	384
Consumer Federation of California	Business	CA	2000-2014	527
Drug Policy Forum of California (DPFCA)	Other	CA	1998-2014	499
Equality California	Abortion	CA	2000-2014	632
Family Planning Association of Maine	Abortion	ME	1998-2004	593
Florida Health Care Association (FHCA)	Business	FL	2008-2014	471
Foundation for Florida's Future	Education	FL	2006-2014	583
Gun Owners of California	Guns	CA	1996-2014	440
Howard Jarvis Taxpayers Association	Taxes	CA	2002-2014	536
League of Conservation Voters	Environment	AZ CA CO FL LA ME MI MO OH OK	1994-2014	2,985
Louisiana Association of Business and Industry (LABI)	Business	LA	1995-2011	498
Maine Conservation Voters	Environment	ME	1998-2014	1,303
Maine Education Association	Education	ME	1996-2012	642
Maine People's Alliance	Other	ME	1996-2014	1,096
Maine Women's Lobby	Abortion	ME	2002-2010	695
Michigan Farm Bureau	Business	MI	1998-2014	626
Missouri Farm Bureau Federation	Business	MO	1996-2006	634
Missouri National Education Association	Education	MO	1996-2006	822
Missouri Progressive Vote Coalition	Abortion	MO	2002-2012	930
Missouri Votes Conservation	Environment	MO	2000-2008	564
Montana Audubon	Environment	MT	2000-2014	720
Montana Conservation Voters	Environment	MT	2000-2014	793
Montana Contractors' Association	Labor Unions	MT	2006-2014	491
Montana Education Association-Montana Federation of Teachers	Education	MT	2000-2014	793
Montana Environmental Information Center	Environment	MT	2000-2014	694
Montana Family Foundation	Other	MT	2004-2014	593
Montana Human Rights Network	Other	MT	2000-2012	673
Montana Shooting Sports Association	Guns	MT	2000-2014	493
Montana Stockgrowers Association	Business	MT	2000-2006	398
NARAL Pro-Choice America	Abortion	AZ CA CO FL LA ME MI MO MT OH SD	1994-2014	2,998
National Federation of Independent Business (NFIB)	Business	AR AZ CA CO FL LA ME MI MO MT NV OH OK SD	1994-2014	9,534
National Rifle Association	Guns	AR AZ CA CO FL LA ME MI MO MT NV OH OK SD	1992-2014	5,566
National Right to Life Committee	Abortion	AZ CA FL LA ME MI MO OK SD	1994-2014	1,502
Northern Plains Resource Council	Environment	MT	2000-2014	792
Oklahoma Institute for Child Advocacy	Education	OK	2002-2012	500
PROMO- For the Personal Rights of Missourians	Abortion	MO	1996-2002	607
PawPAC - California's Political Action Committee for Animals	Environment	CA	1996-2014	759
Planned Parenthood Action Fund	Abortion	AR AZ CA CO FL LA ME MI MO MT NV OK	1992-2014	3,944
Research Institute for Economic Development	Business	OK	1998-2014	850
Sierra Club	Environment	AR AZ CA CO LA MI MO OH OK	1994-2014	3,806
South Dakota Farmers Union	Business	SD	1996-2014	553
The Oklahoma Constitution	Other	OK	2006-2014	492
United States Chamber of Commerce	Business	AZ CA CO FL LA ME MI MO MT OH OK	1994-2014	7,140
United States Public Interest Research Group (U.S. PIRG)	Business	CA CO ME MI MT OH	1994-2012	1,159
Total Legislator-Terms Ratings				80,331



## A.7 NY and TX as Non-Term-Limited Control States

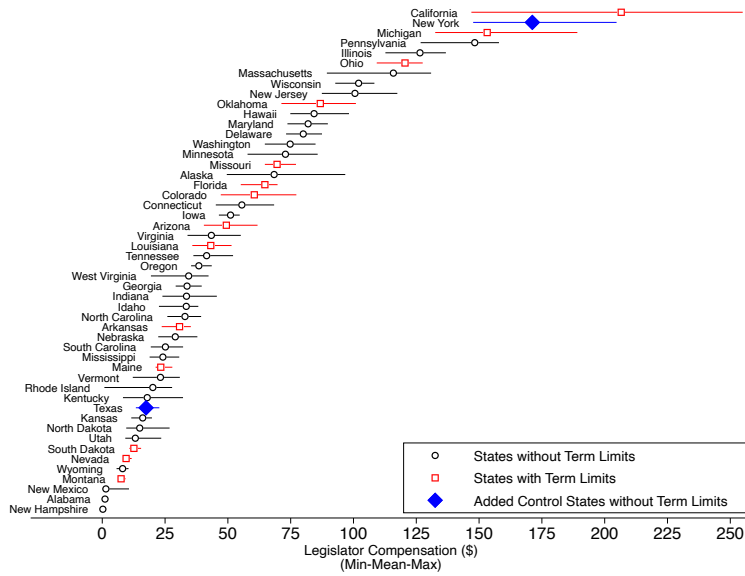
In this section, we offer graphs to show how NY and TX span the range of professionalism and salaries of term-limited state legislatures, and are therefore logical “control” states to use in our alternative design in which we compare term-limited legislators to legislators in other states that don’t have term limits.

**Figure A.3 – State Legislative Professionalism: How NY and TX Compare.**



NOTE: The figure is based on data from Bowen and Greene (2014).

Figure A.4 – State Legislative Salaries: How NY and TX Compare.



NOTE: The figure is based on data from Bowen and Greene (2014).

## References

- Alt, James, Ethan Bueno de Mesquita, and Shanna Rose. 2011. “Disentangling Accountability and Competence in Elections: Evidence from U.S. Term Limits.” *The Journal of Politics* 73(1): 171–186.
- Besley, Timothy, and Anne Case. 1995. “Does Electoral Accountability Affect Economic Policy Choices? Evidence From Gubernatorial Term Limits.” *The Quarterly Journal of Economics* 110(3): 769–798.
- Bowen, Daniel C, and Zachary Greene. 2014. “Should we measure professionalism with an index? A note on theory and practice in state legislative professionalism research.” *State Politics & Policy Quarterly* 14(3): 277–296.
- Ferraz, Claudio, and Frederico Finan. 2011. “Electoral Accountability and Corruption: Evidence from the Audits of Local Governments.” *The American Economic Review* 101(4): 1274–1311.
- List, John A, and Daniel M Sturm. 2006. “How Elections Matter: Theory and Evidence from Environmental Policy.” *The Quarterly Journal of Economics* 121(4): 1249–1281.
- Mooney, Christopher Z. 2013. “Measuring State House Speakers Formal Powers, 1981–2010.” *State Politics & Policy Quarterly* 13(2): 262–273.
- Rogers, Steven. 2017. “Electoral Accountability for State Legislative Roll Calls and Ideological Representation.” *American Political Science Review* 111(3): 555–571.
- Squire, Peverill. 2007. “Measuring State Legislative Professionalism: The Squire Index Revisited.” *State Politics & Policy Quarterly* 7(2): 211–227.