ONLINE APPENDIX

Testing Legislator Responsiveness to Citizens and Firms in Single-Party Regimes: A Field Experiment in the Vietnamese National Assembly

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1 Delegate Survey Administered by VNA Library

Vietnamese original:

1. Đại biểu thấy còn băn khoăn về dự Dự luật Giáo dục sửa đổi?
   - ☐ Không còn băn khoăn
   - ☐ Còn băn khoăn *(Đề nghị Đại biểu trả lời tiếp tại câu 2)*

English translation:

1. Are you [the delegate] prepared to debate the proposed revisions to the Education Law?

   ☐ I am prepared to debate.

   ☐ I am unprepared to debate (Please answer question two below).

2 Transcript Coding and Dictionary

To construct finer grained measures of responsiveness, we applied basic regular expressions and a custom dictionary to code more targeted content outcomes. The first of these is an indicator variable for whether a delegate mentioned her own province. In order to convey to one's peers the preferences contained in the infographics, it is quite plausible that a delegate might mention her own province. This should also hold for delegates who do not directly discuss their constituents' preferences but nonetheless act on the infographics more obliquely. Two of the content-specific indicators are constructed from lists of terms which could be used interchangeably with "citizens" or "firms". The remaining four indicators identify discussion of particular articles within the draft law that are directly relevant to the treatment infographics.

Outcome variables in Table 4.4 (page 8) derived from applying the following Vietnamese regular expressions to the transcripts. To ensure accuracy when character encodings misbehave across operating systems and applications, all Vietnamese regular expressions were first converted to Unicode strings at `https://r12a.github.io/app-conversion/`. For example, string detection for "Điều 31" actually looked for "\u0110i\u1EC1u 31".

Col	Name	Vietnamese Regex	English Regex
1	Citizens	(ý kiến)?(bầu cư|công dân|cử tri|người bỏ phiếu|người dân|nhân dân)	(preferences of)?citizens
2	Firms	(ý kiến)?(công ty|doanh nghiệp|doanh nhân)	(preferences of)?firms
3	Art. 27-29	Điều (27|28|29)	Article (27|28|29)
4	Art. 31	Điều 31	Article 31
5	Art. 70	Điều 70	Article 70
6	Art. 105	Điều 105	Article 105

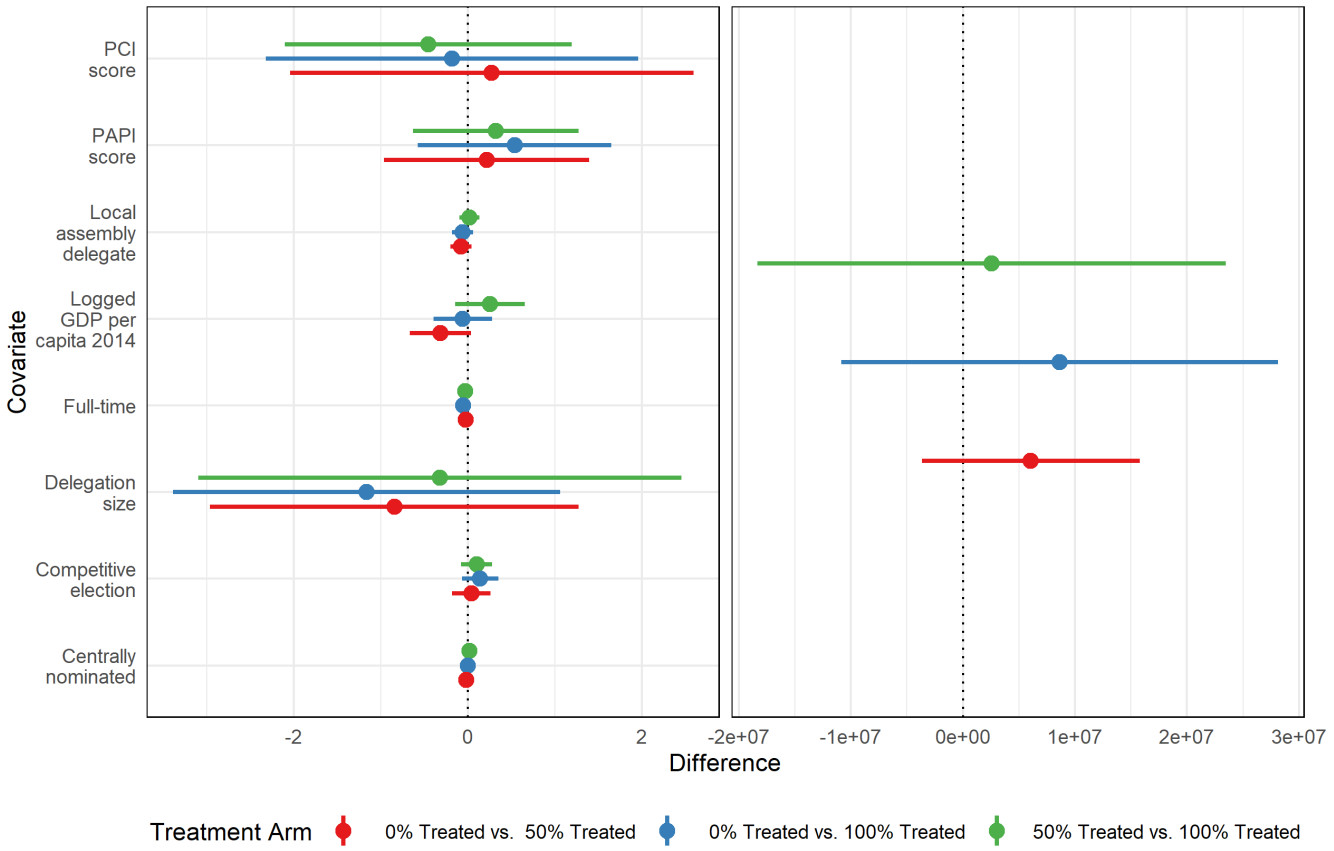

Figure 3.1: **Provincial-level matching achieved balance.** Figure displays balance across three dosages, with the right panel separated for reasons of scale.

3 Dosage Matching

Matching was accomplished with the `R` package `Matching` (Sekhon, 2011) and 11 covariates: (1) % full-time delegates, (2) % centrally-nominated delegates, (3) % competitively elected delegates, (4) % delegates serving in local assemblies, (5) delegation size, (6) 2016 PAPI score, (7) 2016 PCI score, (8) 2014 GDP per capita, and (9) 2016 fiscal transfers. Figure 3.1 demonstrates that provinces were assigned to three dosages (0%, 50%, and 100%) in a way that maintained balance across each of these covariates.

4 OLS Results Assessed by Randomization Inference

Tables 4.1 and 4.2 contain the primary regression results used in the paper, with statistical significance assessed by randomization inference. Tables 4.3 and 4.4 contain supplementary regressions with finer-grained content-based measures of responsiveness. The parenthetical quantity underneath each regression coefficient represents that coefficient's quantile as compared to 10,000 coefficients estimated from repeated randomizations. For example, a parenthetical value of 0.999 means that our experimental estimate exceeds 99.9% of the coefficients resulting from re-randomized treatment assignments. The auxiliary statistics in the bottom rows refer to regressions on the observed data.

Table 4.1: Citizen-treated delegates more prepared for debate (Paper Figure 5; Figures 8.1; 8.2).

	All delegates			No central nominees	
	(1) Baseline	(2) Covariates	(3) Saturation	(4) Covariates	(5) Saturation
Citizen	0.228	0.233	0.148	0.224	0.008
	(0.999)	(0.999)	(0.770)	(0.996)	(0.510)
% Citizen			-0.343		-0.428
			(0.090)		(0.055)
Citizen × % Citizen			0.441		0.810
			(0.868)		(0.967)
Firm	0.094	0.091	0.113	0.075	0.102
	(0.901)	(0.890)	(0.709)	(0.800)	(0.677)
% Firm			0.001		-0.072
			(0.508)		(0.388)
Firm × % Firm			0.115		0.196
			(0.629)		(0.681)
Full-time		-0.101	-0.12	-0.101	-0.134
		(0.402)	(0.020)	(0.372)	(0.003)
Central nominee		0.059	0.074		
		(0.152)	(0.725)		
Competitive		-0.086	-0.093	-0.064	-0.069
		(0.046)	(0.062)	(0.031)	(0.069)
Constant	0.481	0.551	0.598	0.547	0.615
	(0.007)	(0.011)	(0.219)	(0.038)	(0.444)
Observations	293	293	293	250	250

Randomization inference based on 10,000 randomizations. Quantile of experimental estimate in parentheses.

Table 4.2: Citizen-treated delegates more likely to speak (Paper Figure 6; Figure 8.3).

Pooled	All delegates			No central nominees
Transcripts	(1) Baseline	(2) Covariates	(3) Saturation	(4) Covariates
Citizen	0.102	0.105	0.084	0.135
	(0.958)	(0.965)	(0.743)	(0.985)
% Citizen			-0.268	
			(0.042)	
Citizen × % Citizen			0.231	
			(0.774)	
Firm	0.050	0.055	0.245	0.058
	(0.778)	(0.804)	(0.966)	(0.799)
% Firm			0.023	
			(0.531)	
Firm × % Firm			-0.283	
			(0.131)	
Full-time		0.132	0.129	0.133
		(0.830)	(0.528)	(0.882)
Central nominee		0.030	0.032	
		(0.121)	(0.366)	
Competitive		0.087	0.085	0.080
		(0.847)	(0.506)	(0.448)
Constant	0.409	0.310	0.340	0.303
	(0.065)	(0.043)	(0.373)	(0.033)
Observations	470	470	470	375

Randomization inference based on 10,000 randomizations. Quantile of experimental estimate in parentheses.

Table 4.3: Delegate mentioned province.

Transcripts:	Pooled		Query	Caucus
	(1) Baseline	(2) Covariates	(3) Covariates	(4) Covariates
% Citizen	0.525	0.581	0.022	0.581
	(0.955)	(0.968)	(0.502)	(0.984)
% Firm	0.007	-0.06	-0.045	-0.061
	(0.374)	(0.268)	(0.298)	(0.300)
% Full-time		-2.295	0.164	-2.948
		(0.760)	(0.416)	(0.771)
% Central nominee		2.309	-0.205	2.992
		(0.341)	(0.627)	(0.351)
% Competitive		0.141	0.150	0.034
		(0.991)	(0.605)	(0.994)
Constant	0.155	0.428	-0.036	0.541
	(0.104)	(0.041)	(0.668)	(0.024)
Observations	63	63	63	63

Randomization inference based on 10,000 randomizations. Quantile of experimental estimate in parentheses. The unit of analysis is the province.

Table 4.4: Speech content analyses.

	(1) Citizens	(2) Firms	(3) Art. 27–29	(4) Art. 31	(5) Art. 70	(6) Art. 105
% Citizen	-0.296	-0.593	0.015	0.063	0.047	0.127
	(0.060)	(0.026)	(0.388)	(0.674)	(0.415)	(0.677)
% Firm	0.260	0.299	0.228	0.121	0.176	-0.139
	(0.838)	(0.898)	(0.706)	(0.827)	(0.632)	(0.279)
% Full-time	-0.754	0.827	-1.985	0.342	0.574	-0.957
	(0.786)	(0.690)	(0.828)	(0.898)	(0.813)	(0.303)
% Central nominee	0.993	-0.907	2.287	-0.496	-1.66	0.697
	(0.116)	(0.166)	(0.124)	(0.078)	(0.143)	(0.762)
% Competitive	0.061	-0.129	-0.175	-0.009	-0.121	0.197
	(0.052)	(0.014)	(0.660)	(0.888)	(0.715)	(0.740)
Constant	0.856	0.669	0.884	-0.038	0.388	0.387
	(0.820)	(0.875)	(0.328)	(0.060)	(0.366)	(0.498)
Observations	63	63	63	63	63	63

Randomization inference based on 10,000 randomizations. Quantile of experimental estimate in parentheses. The unit of analysis is the province.

Table 4.3 presents provincial-level regression results in which the dependent variable is an indicator equaling 1 when any member of a provincial delegation mentions her own province, and the baseline specification includes only the share of delegates receiving each treatment. Pooling the query session and group caucus transcripts, Columns 1 displays a strong effect of the citizen treatment, with an increase in saturation from 0% to the observed maximum of 71% yielding an increase of 37 percentage points (0.525×0.71). Yet again, we see no evidence for a treatment effect of the firm infographics. Adding covariates (Column 2), included here as provincial shares, only strengthens the effect of the citizen treatment. Although somewhat unexpected given the absence of

floor debate mentions, the marginal effect of increasing the treatment share from 0% to the observed maximum treatment share is approximately 50 percentage points – a considerable effect. Column 3 reveals no effect on the query sessions – understandable given the diffuse focus of these events – while Column 4 presents estimates nearly identical to those of the pooled transcripts. This indicates that the effects in the pooled corpus are driven by delegation behavior in the group caucuses.

A final set of provincial-level results, presented in Table 4.4, examine the floor debate and group caucus transcripts for finer-grained indicators of responsiveness. The first two columns look at terms synonymous (or nearly so) with citizens or firms, and the remaining columns examine particular articles of relevance in the Education Law itself: general education, vocational education, teachers, and school fees. With but one exception, all specifications yield null results. Increased provincial saturation of the citizen treatment significantly reduced the likelihood that a delegation member would mention firms, yet failed to increase the probability of mentioning citizens.

5 OLS Results, Province-clustered Standard Errors

The coefficients presented in Tables 5.1 and 5.2 are identical to those reported the published Appendix; the tables differ in that the parenthetical quantity appearing beneath each coefficient is the more familiar standard error, here clustered on provinces. The only other difference lies in the addition to Table 5.1 of two columns (4 and 8) which replicate analyses (3 and 7) over 100 multiply-imputed datasets.

Table 5.1: Debate preparation. Forms the basis of Figures 5, 8, and 9.

	All delegates				No central nominees			
	(1) Baseline	(2) Covariates	(3) Saturation	(4) MI[a]	(5) Baseline	(6) Covariates	(7) Saturation	(8) MI[a]
Citizen	0.228	0.233	0.148	0.136	0.219	0.224	0.008	0.047
	(0.070)	(0.069)	(0.148)	(0.149)	(0.079)	(0.079)	(0.168)	(0.172)
% Citizen			−0.343	−0.272			−0.428	−0.339
			(0.249)	(0.237)			(0.265)	(0.248)
Citizen × % Citizen			0.441	0.340			0.810	0.597
			(0.350)	(0.338)			(0.396)	(0.390)
Firm	0.094	0.091	0.113	0.116	0.081	0.075	0.102	0.094
	(0.063)	(0.062)	(0.128)	(0.139)	(0.073)	(0.072)	(0.143)	(0.153)
% Firm			0.001	0.022			−0.072	−0.012
			(0.230)	(0.200)			(0.266)	(0.245)
Firm × % Firm			0.115	0.040			0.196	0.121
			(0.321)	(0.301)			(0.366)	(0.355)
Full-time		−0.101	−0.120	−0.091		−0.101	−0.134	−0.105
		(0.074)	(0.074)	(0.075)		(0.075)	(0.073)	(0.074)
Central Nominee		0.059	0.074	0.047				
		(0.093)	(0.095)	(0.095)				
Competitive		−0.086	−0.093	−0.074		−0.064	−0.069	−0.060
		(0.058)	(0.057)	(0.054)		(0.063)	(0.061)	(0.061)
Constant	0.481	0.551	0.598	0.575	0.489	0.547	0.615	0.585
	(0.049)	(0.059)	(0.068)	(0.066)	(0.056)	(0.063)	(0.068)	(0.069)
Observations	293	293	293	470	250	250	250	470
R^2	0.035	0.048	0.059	0.053	0.032	0.043	0.066	0.056
RMSE	0.485	0.482	0.479	0.231	0.486	0.483	0.477	0.230

Note: Province-clustered standard errors in parentheses. ;[a]Replicates the preceding column over 100 multiply-imputed datasets.

Table 5.2: Delegate spoke. Forms the basis of Figures 6, 7, and 10.

Transcripts:	Pooled			Floor	Query	Caucus	Pooled (no central nominees)	
	(1) Baseline	(2) Covariates	(3) Saturation	(4) Saturation	(5) Saturation	(6) Saturation	(7) Covariates	(8) Saturation
Citizen	0.102	0.105	0.084	−0.105	0.158	0.073	0.135	0.229
	(0.062)	(0.063)	(0.135)	(0.045)	(0.101)	(0.133)	(0.065)	(0.138)
% Citizen			−0.268	−0.164	0.004	−0.192		−0.232
			(0.204)	(0.075)	(0.125)	(0.177)		(0.217)
Citizen × % Citizen			0.231	0.392	−0.222	0.196		−0.045
			(0.302)	(0.128)	(0.235)	(0.270)		(0.295)
Firm	0.050	0.055	0.245	0.072	0.020	0.235	0.058	0.230
	(0.067)	(0.067)	(0.160)	(0.074)	(0.109)	(0.129)	(0.072)	(0.179)
% Firm			0.023	−0.053	0.043	−0.064		0.022
			(0.156)	(0.050)	(0.124)	(0.148)		(0.183)
Firm × % Firm			−0.283	−0.053	−0.051	−0.163		−0.264
			(0.233)	(0.116)	(0.215)	(0.216)		(0.283)
FullTime		0.132	0.129	0.007	−0.012	0.140	0.133	0.137
		(0.068)	(0.068)	(0.039)	(0.047)	(0.067)	(0.067)	(0.067)
CentNom		0.030	0.032	−0.016	0.046	0.016		
		(0.077)	(0.075)	(0.042)	(0.062)	(0.073)		
Competitive		0.087	0.085	0.050	0.073	0.034	0.080	0.076
		(0.051)	(0.051)	(0.020)	(0.026)	(0.047)	(0.057)	(0.057)
Constant	0.409	0.310	0.340	0.059	0.071	0.291	0.303	0.329
	(0.044)	(0.058)	(0.065)	(0.019)	(0.028)	(0.059)	(0.059)	(0.069)
Observations	470	470	470	470	470	470	375	375
R^2	0.007	0.033	0.040	0.033	0.023	0.034	0.029	0.037
RMSE	0.496	0.490	0.488	0.229	0.348	0.478	0.488	0.486

Note: Province-clustered standard errors in parentheses.

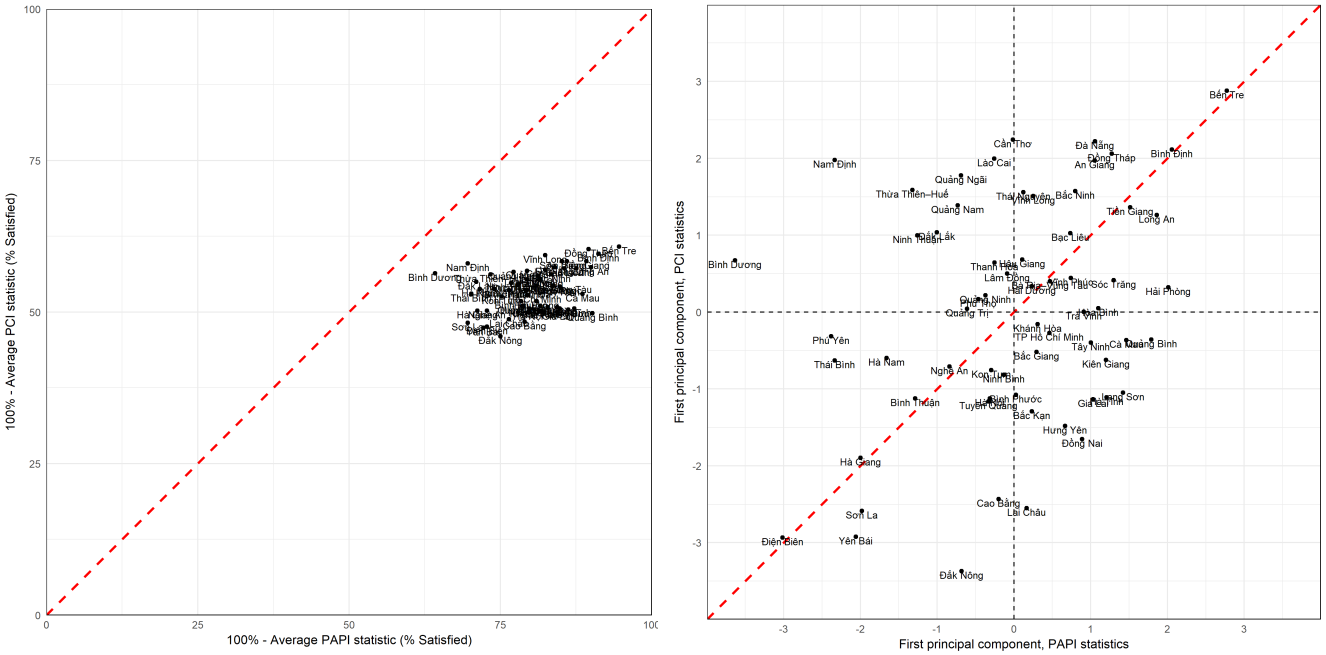

Figure 6.1: **Provincial infographic statistics, raw averages and PCA first components.** Simply averaging over the percentages in each infographic reveals that there is little variation in treatment strength. The overall pattern remains the same, but the purported variation is increased mechanically via PCA.

6 Treatment Strength: Heterogeneity by Province

We conducted principal components analysis (PCA) of the provincial-level infographic statistics for each of the two treatments – citizens (from PAPI) and firms (from PCI). Before presenting the PCA results, it is important to put them into context by visualizing the variation in scores on their natural scale. The left panel of Figure 6.1 does this, and clearly the variation is minimal. Here larger numbers imply more satisfied constituents. This, of course, implies that the strength of a particular treatment is approximately equivalent across provinces. Keeping this in mind, we turn to the right panel. Here are plotted all 63 provinces according to their scores on the first normalized principal component. As before, larger numbers imply a more satisfied constituency. Interacting these scores with their respective treatments, we run a regression of the form

$$\Pr(Y_i = 1) = \beta_0 + \beta_1 \text{Cit}_i + \beta_2 \text{PAPI}_p + \beta_3 \text{Cit}_i \text{PAPI}_p + \beta_4 \%\text{Cit}_p + \beta_5 \text{Firm}_i + \beta_6 \text{PCI}_p + \beta_7 \text{Firm}_i \text{PCI}_p + \beta_8 \%\text{Firm}_p + \boldsymbol{\gamma}\mathbf{X}_i + \epsilon_i$$

where $\mathbf{X}$ includes individual covariates, we obtain the following results displayed in Table 6.1.

Here Column 1 modifies Tables 4.1 and 5.1, Column 3. Interacting treatment assignments with PAPI and PCI scores – essentially inverse treatment strength – yields somewhat divergent results from those obtained with the saturation interaction. Specifically, this interaction implies that citizen-treated delegates in the provinces with the highest observed PAPI scores (the most satisfied constituents) were as much as 35 percentage points more likely to make up their minds than their firm-treated or untreated peers in the same provinces. In low-PAPI provinces, where the treatment is strongest, the marginal effect of citizen infographics is marginally weaker – estimated to equal around 31 percentage points (Column 1). With a slightly positive slope, the effect is that the less satisfied is a delegate's provincial citizenry, the lower is the likelihood she feels prepared to debate the education bill. The negative coefficient on PAPI, however, implies spillover among those not receiving the citizen treatment: lowering citizen satisfaction from its observed maximum to its observed minimum is associated with a 32 percentage point increase in the probability of debate preparation among firm-treated and untreated delegates. Column 1 also reveals a counterintuitively significant, positive, and increasing marginal effect of the firm treatment as firm satisfaction increases from average levels to higher levels. In other words, firm-treated delegates were more likely to feel prepared for debate in provinces with weaker treatments.

Columns 2-5 modify Tables 4.2 and 5.2, Columns 3-6 by similarly replacing the saturation interactions with (reversed) treatment strength interactions. The first two columns examine speaking proclivities in the pooled transcripts and on the floor. As expected, increased satisfaction on the part of citizens (PAPI) weakens the treatment effect, with clear negative slopes to the marginal effects. Consistent with the saturation effects addressed in the main paper, the effect of the citizen treatment is significant, both statistically and substantively. In fact, a citizen-treated delegate in the province with the lowest PAPI score (the least satisfied constituents) was approximately 50 percentage points likelier to speak than her firm-treated or untreated peers. Comparing this panel to the lower-right panel, addressing floor debates, and comparing Columns 2 through 5, it is clear that this effect is driven not by floor debates but by group caucus sessions.

Table 6.2 modifies the paper's provincial-level analyses by supplementing treatment saturation with PAPI and PCI controls. As the top two rows make clear, treatment strength has no effect on

any speech content outcomes, with one exception. As a province's PAPI score (citizen satisfaction) increases, it becomes marginally more likely that a member of its VNA delegation mentions Article 70, which concerns teacher quality. Turning to treatment saturations, the probability that some member of a provincial delegation mentions her own province is substantially raised when the provincial share of citizen-treated is increased. The coefficients here, 0.593 for pooled and 0.594 for caucus transcripts, are actually somewhat higher than those found in the paper specifications.

Table 6.1: **PCA-treatment interactions.** Multiplicative interactions between 1) PAPI scores and citizen treatment; and 2) PCI scores and firm treatment.

DV:	*Delegate prepared*	*Delegate spoke*			
Data:	(1) Survey	(2) Pooled	(3) Floor	(4) Query	(5) Caucus
Citizen	0.313	0.193	0.038	0.092	0.162
	(0.077)	(0.098)	(0.028)	(0.066)	(0.084)
PAPI	−0.050	0.048	0.009	0.020	0.047
	(0.030)	(0.024)	(0.009)	(0.013)	(0.024)
Citizen × PAPI	0.008	−0.075	−0.023	−0.046	−0.080
	(0.038)	(0.039)	(0.012)	(0.026)	(0.036)
% Citizen	−0.297	−0.150	−0.032	−0.071	−0.107
	(0.184)	(0.153)	(0.054)	(0.105)	(0.139)
Firm	0.130	0.154	0.035	0.033	0.195
	(0.069)	(0.113)	(0.036)	(0.072)	(0.089)
PCI	0.026	0.032	0.012	0.035	0.006
	(0.028)	(0.018)	(0.008)	(0.011)	(0.016)
Firm × PCI	0.092	−0.066	−0.030	−0.038	−0.037
	(0.033)	(0.034)	(0.014)	(0.024)	(0.029)
% Firm	0.015	−0.093	−0.089	0.030	−0.144
	(0.164)	(0.150)	(0.053)	(0.088)	(0.132)
FullTime	−0.085	0.124	0.014	−0.021	0.135
	(0.073)	(0.068)	(0.038)	(0.047)	(0.068)
CentNom	0.026	0.039	−0.022	0.056	0.023
	(0.095)	(0.076)	(0.042)	(0.060)	(0.073)
Competitive	−0.094	0.061	0.043	0.057	0.020
	(0.056)	(0.051)	(0.021)	(0.026)	(0.048)
Constant	0.595	0.329	0.045	0.079	0.278
	(0.066)	(0.062)	(0.019)	(0.027)	(0.060)
N	293	470	470	470	470
R^2	0.097	0.056	0.027	0.041	0.046
RMSE	0.479	0.490	0.232	0.349	0.481

Note: Province-clustered standard errors in parentheses.

DV:	Mentioned own province			Citizens	Firms	Art. 27-29	Art. 31	Art. 70	Art. 105
Data:	(1) Pooled	(2) Query	(3) Caucus	(4) Pooled[a]	(5) Pooled[a]	(6) Pooled[a]	(7) Pooled[a]	(8) Pooled[a]	(9) Pooled[a]
PAPI	0.012	−0.005	0.014	0.025	0.075	−0.059	−0.020	0.088	−0.00002
	(0.050)	(0.024)	(0.047)	(0.043)	(0.052)	(0.053)	(0.020)	(0.046)	(0.051)
PCI	−0.012	−0.032	0.002	−0.050	0.014	0.066	−0.002	0.045	−0.042
	(0.044)	(0.021)	(0.042)	(0.039)	(0.047)	(0.047)	(0.018)	(0.041)	(0.045)
% Citizen	0.593	0.017	0.594	−0.273	−0.522	−0.041	0.044	0.130	0.127
	(0.249)	(0.118)	(0.236)	(0.217)	(0.263)	(0.264)	(0.098)	(0.229)	(0.254)
% Firm	−0.056	−0.071	−0.046	0.251	0.383	0.214	0.100	0.294	−0.167
	(0.268)	(0.127)	(0.254)	(0.234)	(0.284)	(0.285)	(0.106)	(0.247)	(0.274)
% FullTime	−2.369	0.017	−2.956	−1.030	0.786	−1.580	0.359	0.666	−1.160
	(1.290)	(0.612)	(1.222)	(1.125)	(1.365)	(1.369)	(0.510)	(1.189)	(1.319)
% CentNom	2.382	−0.042	2.991	1.277	−0.916	1.888	−0.500	−1.823	0.919
	(1.429)	(0.678)	(1.354)	(1.246)	(1.512)	(1.516)	(0.565)	(1.316)	(1.460)
% Competitive	0.145	0.203	0.015	0.108	−0.236	−0.206	0.017	−0.289	0.260
	(0.215)	(0.102)	(0.203)	(0.187)	(0.227)	(0.228)	(0.085)	(0.198)	(0.219)
Constant	0.433	−0.034	0.545	0.869	0.693	0.859	−0.044	0.412	0.391
	(0.289)	(0.137)	(0.274)	(0.252)	(0.306)	(0.307)	(0.114)	(0.267)	(0.296)
N	63	63	63	63	63	63	63	63	63
R^2	0.156	0.092	0.195	0.097	0.132	0.111	0.071	0.181	0.064
RMSE	0.458	0.217	0.434	0.399	0.484	0.486	0.181	0.422	0.468

Note: [a]Transcripts from floor debates and group caucuses only. The unit of analysis is the province.

Table 6.2: **Analyzing speech content with PCA.** PAPI and PCI scores have no effect on delegation-level speaking behavior.

7 Saturation Results by Original Treatment Conditions

Here we examine treatment effects by provincial-level saturation and individual treatment assignment. We do so by examining raw outcomes across six bins: (1) untreated delegates in untreated provinces, (2) untreated in 50% treated provinces, (3) citizen-treated delegates in 50% treated provinces, (4) citizen-treated delegates in fully treated provinces, (5) firm-treated delegates in 50% treated provinces, and (6) firm-treated delegates in fully treated provinces. Table 7.1 (page 18) displays the results when we regress the debate preparation and speaking outcomes on these simple dummy variables with intercepts suppressed.

Consistent with our primary results using continuous treatment shares, we find that the citizen treatment increases responsiveness relative to untreated delegates in 50% treated provinces, regardless of how responsiveness is measured. Also consistent with earlier results, as we increase a province's treatment saturation from 50% to 100%, we find that citizen-treated delegates are more prepared for debate. We do not, however, observe a similarly-signed difference on the speaking outcome. Because provincial treatment saturations include both the citizen and firm treatments simultaneously, increasing the saturation does not necessarily correspond to increasing a province's share of citizen-treated delegates. We find no evidence of reinforcement effects of the firm treatment across either outcome. Because control delegates do not exhibit increased responsiveness in the 50% treated provinces relative to the untreated provinces, we also find no evidence of spillover effects.

We also conducted formal F-tests for the equality of coefficients to assess direct (Citizen-50% vs. Control-50%; Firm-50% vs. Control-50%), reinforcement (Citizen-100% vs. Citizen-50%; Firm-100% vs. Firm-50%), and spillover (Control-50% vs. Control-0%) effects. As Table 7.2 (page 19) shows, the only statistically significant differences were those between citizen-treated and untreated delegates in 50% treated provinces.

Table 7.1: Examining results by provincial saturation.

	Dependent variable:	
	Prepared	Spoke
Control (0% Saturation)	0.460	0.425
	(0.324, 0.596)	(0.320, 0.530)
Control (50% Saturation)	0.500	0.394
	(0.374, 0.626)	(0.292, 0.495)
Citizen (50% Saturation)	0.694	0.536
	(0.557, 0.831)	(0.429, 0.643)
Citizen (100% Saturation)	0.730	0.475
	(0.572, 0.888)	(0.347, 0.602)
Firm (50% Saturation)	0.636	0.461
	(0.507, 0.766)	(0.348, 0.573)
Firm (100% Saturation)	0.500	0.457
	(0.355, 0.645)	(0.340, 0.574)
N	293	470
R^2	0.598	0.460
RMSE	0.488	0.499
F-Statistic	71.133	65.880

Note: Linear regressions with suppressed intercepts. Coefficient 95% confidence intervals displayed in parentheses.

Table 7.2: Spillover and reinforcement effects not reflected in saturation analysis.

	Prepared		Spoke	
	F-stat	p-value	F-stat	p-value
Direct (50% Citizen vs. 50% Control)	4.192	0.042	3.597	0.059
Direct (50% Firm vs. 50% Control)	2.204	0.139	0.755	0.385
Spillover (100% Control vs. 50% Control)	0.180	0.671	0.182	0.670
Reinforcement (100% Citizen vs. 50% Citizen)	0.114	0.736	0.520	0.471
Reinforcement (100% Firm vs. 50% Firm)	1.909	0.168	0.002	0.967

Note: F-tests for equality of coefficients from Table 7.1.

8 Saturation Results by Realized Treatment Share

The results in the main text paint a picture of delegates responsive only when presented with the preferences of their local citizens—not when presented with those of their provincial business community. These results, however, ignore the anticipated effects of caucus-induced spillover. By gathering in one or more provincial delegations at the outset of the legislative session, individual delegates have an opportunity to exchange debate-relevant information. Importantly, this includes the provincial-level infographics we provided to randomly selected delegates, and we therefore address the possibility of spillover with a saturation design. By interacting provincial treatment shares with individual treatment assignments, we assume that the greater the proportion of citizen- (firm-) treated delegates in a province, the higher is the probability that information from citizens (firms) will be shared. The quantities of interest here are the conditional effect on control delegates of increasing the provincial share of treated delegates (*H3*) and the conditional effect on treated delegates of increasing the provincial share of similarly-treated delegates (*H4*).

H3 - Spillover: *Control delegates exposed to treated delegates will learn from them and increase*

responsiveness.

H4 - Reinforcement: *Treated delegates exposed to similarly treated delegates will feel more confident about their information and increase responsiveness.*[1]

To test these claims, we regress a dichotomous indicator for preparedness on three delegate-level covariates, individual treatment assignments, provincial shares of treated delegates, and interactions between treatment assignments and treated shares. We run a linear probability model with the following specification, where i indexes delegates and p provinces:

$$\Pr(Y_i = 1) = \beta_0 + \beta_1 \text{Cit}_i + \beta_2 \%\text{Cit}_p + \beta_3 \text{Cit}_i \%\text{Cit}_p + \beta_4 \text{Firm}_i + \beta_5 \%\text{Firm}_p + \beta_6 \text{Firm}_i \%\text{Firm}_p + \boldsymbol{\gamma}\mathbf{X}_i + \epsilon_i$$

where $\mathbf{X}$ denotes indicators for full-time, central nomination, and competitive elections, which both theory and prior work suggest may influence responsiveness. β_0 is the constant, representing the share of untreated delegates in untreated provinces answering that they are prepared for debate. β_1 (β_4) is the marginal change (i.e. the shift in the intercept) due to the citizen (firm) treatment when the provincial share of delegates receiving that treatment is zero. Similarly, β_2 (β_5) represents the marginal effect of increasing the share of citizen- (firm-) treated delegates from 0% to 100% for delegates who did not receive the citizen (firm) treatment. These treatments are indexed by p because they do not differ among delegates from the same province. A positive coefficient here would signal spillover, in which an untreated delegate grows increasingly likely to feel prepared for debate as the share of treated peers rises. Lastly, positive estimates for β_3 (β_6) would indicate a reinforcement effect, meaning that a rising proportion of similarly treated peers increases the odds that a treated delegate is prepared.

The full results from the regression on preparation to speak and act of speaking can be found above in online Appendices 4 (Table 4.1 Model 3, page 5 and Table 4.2 Model 3, page 6). The first thing to notice is that the coefficients tracking spillover from treatment to control for both citizens β_2 and firms β_5 are not-significant and even marginally negative in some cases. This indicates that we do not find evidence consistent with spillover from treatment to control (H3). By contrast, we do find significant effects on the interactions terms for citizens β_3 and firms β_6. This provides a tentative hint that is consistent with the reinforcement hypothesis (H4).

[1] H4 was not pre-specified in our PAP and should be treated with greater caution than the others.

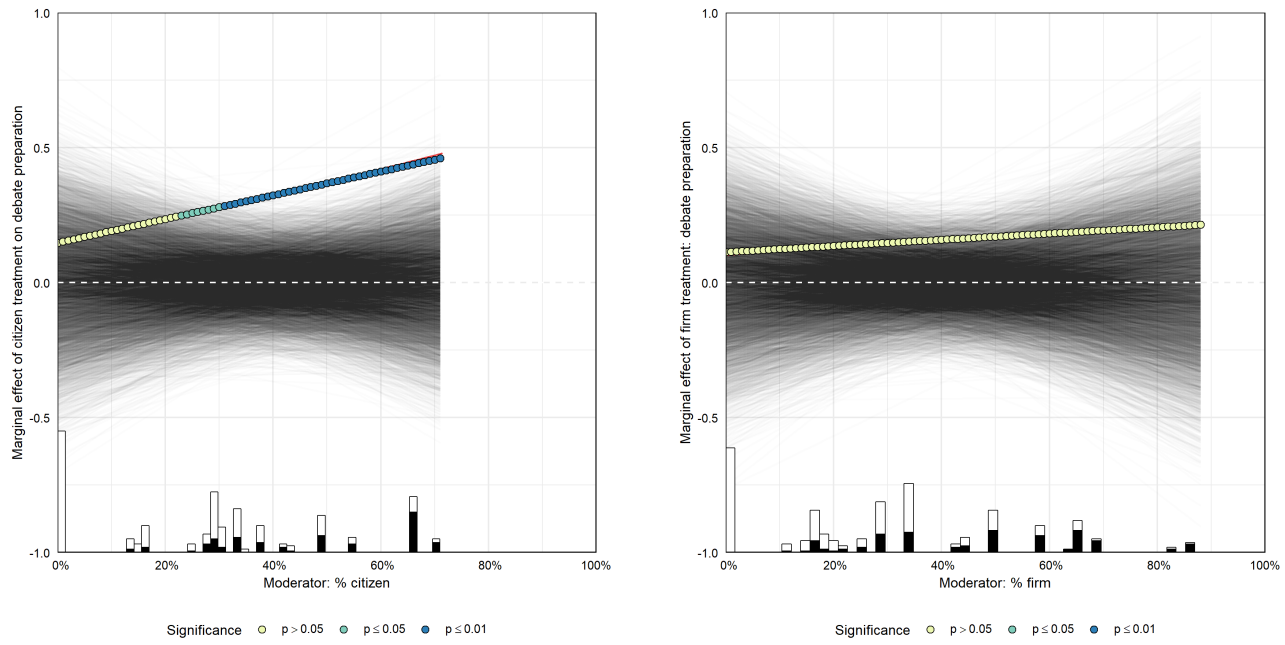

Figure 8.1: **Increasing the share of citizen-treated delegates reinforces the effect of that treatment on debate preparation.** Figure displays marginal treatment effects (colored circles) over 10,000 regression lines from randomization inference. Obscured red line (under circles) plots kernel estimator verifying LIE assumption, and histogram at bottom illustrates support on the moderator.

We explore H4 more directly by plotting the marginal effects of the experiment over the level of saturation. Essentially, we are studying the average treatment effect at different levels of saturation. The left panel of Figure 8.1 displays the marginal effects of the citizen treatment over the observed range of the moderator—the provincial proportion of citizen-treated delegates—with the right panel presenting the equivalent result for the firm treatment. Our experimental estimate is depicted by a line of colored circles, each colored to denote the randomization inference-based significance of the marginal effect. Underneath our estimate—and almost entirely obscured—lies a red curve produced by a kernel estimator (Hainmueller, Mummolo and Xu, 2018). The advantage of this second approach, which flexibly estimates the marginal effect of the citizen treatment at 50 points evenly distributed across the observed range of the %Citizen moderator, is that it permits verification of the assumed linear interaction effect (LIE). The total eclipse of the kernel estimator

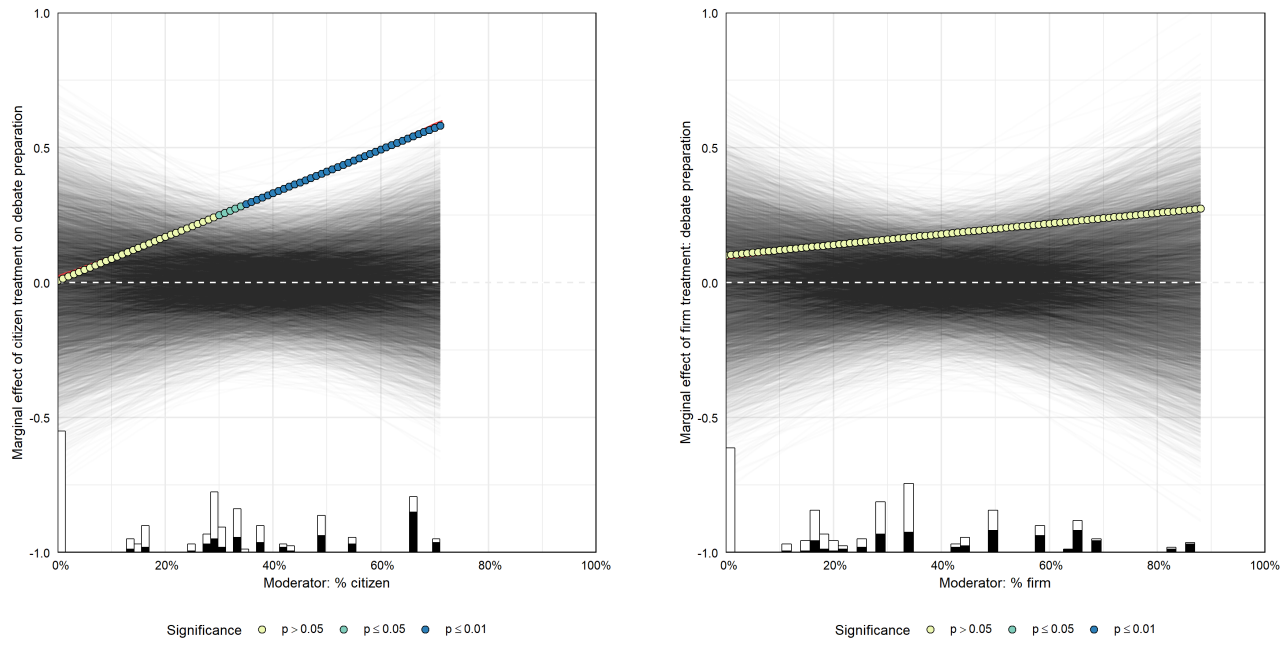

Figure 8.2: **Reinforcement effect of the citizen treatment on debate preparation is stronger among local nominees.** Figure displays marginal treatment effects (colored circles) over 10,000 regression lines from randomization inference. Obscured red line (under circles) plots kernel estimator verifying LIE assumption, and histogram at bottom illustrates support on the moderator.

by our experimental estimate indicates that the LIE assumption is clearly met.[2] Underneath both estimates are the 10,000 partially transparent re-randomized marginal effects, from which we derive the statistical significance of our estimate. At the foot of the panel is a histogram illustrating common support on the moderator (Hainmueller, Mummolo and Xu, 2018). Although common support fails, of necessity, at 0 (the pure control)% saturation, it is otherwise satisfactory.

Substantively, the left panel of Figure 8.1 implies that citizen-treated delegates in the provinces at the highest observed levels of citizen dosage were nearly 50 percentage points likelier to feel prepared for debate than their firm-treated or untreated peers in the same provinces. Even at low dosages, the marginal effect of the citizen treatment is estimated to equal 10-20 percentage points. The positive slope of this marginal effect is indicative of a reinforcement effect: the greater the

[2]The optimal bandwidth selected (using cross-validation) for each figure is full support, meaning that there is always a mix of treated and untreated delegates.

share of citizen-treated delegates in a province, the higher is the likelihood that each feels prepared to debate the VLOE. Regression results presented in Appendix Table 4.1 reveal a negative yet insignificant coefficient on %Citizen, suggesting that spillover among those not receiving the citizen treatment is minimal.

The right panel of Figure 8.1 displays the marginal effects of the firm treatment. Similar to the citizen treatment, the marginal treatment effect is positive and increasing at all dosage levels. This firm effect, however, is substantially smaller and statistically indistinguishable from zero or the citizen effect. Although the LIE assumption holds once again, increasing the firm dosage from 0% to its observed maximum of 88% raises the probability that a firm-treated delegate was prepared for debate by only ten percentage points. At their highest observed treatment shares, the marginal effect of the firm treatment (0.25) is approximately half that of the citizen treatment (0.5) and is statistically indistinguishable from zero. Thus, while we definitively find greater responsiveness to citizens, it cannot be said with confidence that the firm treatment sparks responsiveness. These findings illustrate that delegates exhibit greater responsiveness to citizens than to firms, and that only the citizen treatment induces responsiveness.

Figure 8.2 replicates the analysis of Figure 8.1 on a subset of the data, dropping all central nominees as those least likely to be responsive to local constituencies. These models are substantively similar, but demonstrate a much larger reinforcement effect, particularly for the citizen treatment—the marginal effect is 0.58 at the maximum observed treatment share. This indicates that the reinforcement effect is much more important for the less elite and politically connected local- and self-nominated delegates. As noted in Appendix Table 4.1, the negative spillover effect of the citizen dosage on those not receiving the citizen treatment remains, and is in fact strengthened. As a further robustness check, online Appendix 5 (Table 5.1, page 10) also reports the results of these interactive specifications as applied to 100 multiply-imputed datasets and combined according to the rules laid out in Rubin (2004). These estimates are substantively similar to those obtained via listwise deletion.

Returning to the transcripts from three legislative fora, we begin with the pooled speaking behavior. Figure 8.3 presents the marginal treatment effects on the likelihood of a delegate speaking

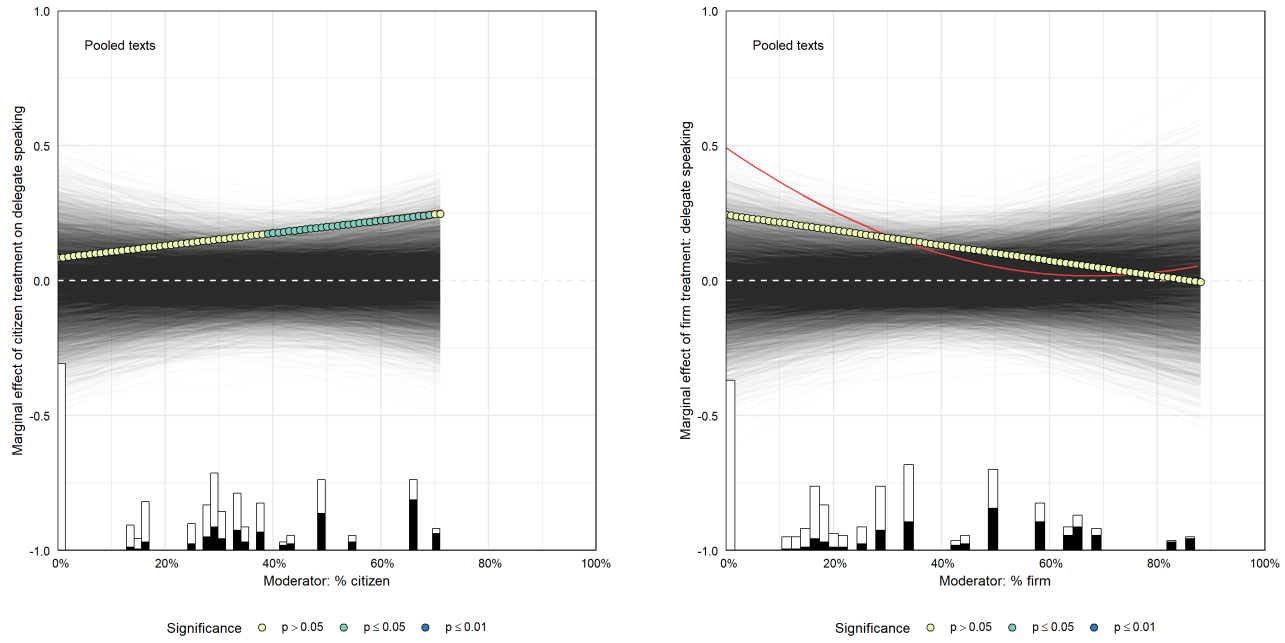

Figure 8.3: **Increasing the share of citizen-treated delegates reinforces the effect of that treatment on speech.** Figure displays marginal treatment effects (colored circles) over 10,000 regression lines from randomization inference. Partially obscured red line (under circles) plots kernel estimator checking LIE assumption, and histogram at bottom illustrates support on the moderator.

in any forum, revealing a number of things. First, the marginal effect of the firm infographic (right panel) is positive at low treatment shares, decreases as the share is increased, and is effectively zero at the observed maximum share.[3] Turning to the citizen treatment, we find positive and linearly increasing marginal effects of the citizen treatment across all treatment shares, and weak negative spillover among the firm-treated and untreated (see online Appendix Table 4.2, page 6, and online Appendix Table 5.2, page 11). Increasing the citizen dosage to its observed maximum triples the marginal effect, from approximately 0.08 to 0.27.

Using a multiplicative interaction to model the threat of spillover, we uncover strong reinforcement effects—and little evidence of spillover—of the citizen treatment. As knowledge of citizens'

[3]The kernel estimator (red curve), however, indicates that the LIE assumption does not hold for the firm treatment-firm dosage interaction. Because the linear model is inappropriate, the randomization inference results are therefore inappropriate to judge the significance of the result at low dosages.

preferences becomes more widespread within a provincial delegation, its delegates exhibit greater confidence in their debate preparation and less hesitation to speak, particularly in floor debates and group caucuses. The flipside of this effect is that as a larger proportion of the delegation is presented with citizens' preferences, those left out—the firm-treated and untreated—are increasingly unsure of how debate may unfold and accordingly more reticent in their speech.

9 Placebo test

The docket of the May VNA Session also provides an excellent opportunity to test the results of our experimental finding against a set of placebo laws for which no experimental treatments were administered. In addition to the Education Law, the survey administered by the VNA Library included questions on debate preparation for two additional laws: the Law on Livestock and the Law on Cultivation. While infographic treatments were prepared and delivered on the topic of education, these agricultural laws were not part of the treatment and are wholly unrelated to education. To test these additional laws, we stack the delegate-level data, add a dichotomous variable equaling 1 for responses to the Education Law and 0 for responses to the placebo laws, and interact this variable with the two treatments. Modelled this way, the coefficient on Citizen measures any Hawthorne effect[4] of the survey question among citizen-treated delegates, while the coefficient on the interaction between Citizen and EducationLaw captures the marginal effect of the citizen treatment above and beyond any Hawthorne effect – in other words, the true treatment effect of interest. The effects of the firm treatment are measured analogously.

Interestingly, in Figure 9.1 we observe a Hawthorne effect that hovers around 14 percentage points. It is important to point out that there is no theoretical reason that this effect should differ across treatments, so it is reassuring to find it equal up to two decimal places (0.141 for the citizen treatment and 0.138 for the firm treatment). More importantly, we also capture a strong effect of the citizen treatment above and beyond this Hawthorne effect. Citizen-treated delegates were

[4]A Hawthorne effect occurs when treated subjects exert extra effort or otherwise alter their behavior simply as a result of their being monitored. Here, treated delegates may have interpreted the Library's survey – in conjunction with the mailed infographics – as an indication that something was afoot.

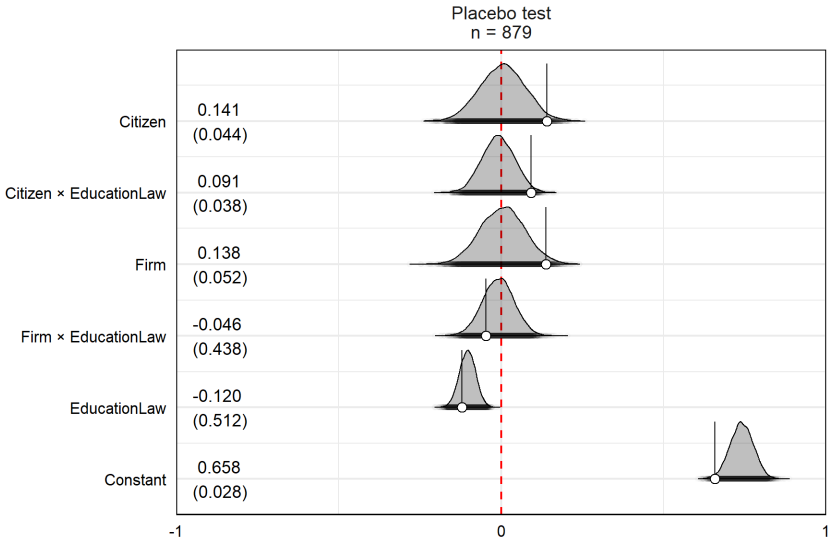

Figure 9.1: **Direct effect of citizen treatment above and beyond Hawthorne effect.** Citizen-treated delegates were nine percentage points more prepared for debate, on top of a consistently measured 14-percentage point Hawthorne effect.

nine percentage points more likely to indicate that they were prepared to debate the Education Law than were their firm-treated or untreated peers – and this effect is statistically significant at the 0.05 level across 10,000 re-randomizations. Consistent with our earlier results, we observe no similar effect of the firm treatment. These results clearly indicate that the informational treatment signaling citizens' preferences rendered delegates more prepared for debate, and that this effect is not spurious.

10 Survey nonresponse

Figure 10.1 the relationships between missingness and both treatments and covariates.[5] Each panel displays the distribution of observations across a treatment or covariate (x-axis) and an indicator for survey nonresponse (y-axis). Dashed red lines result from bivariate regressions of nonresponse upon the x-axis variables. In the first two panels, p-values are the result of randomization inference. The coefficients derived from a regression of survey nonresponse on our experimental treatment

[5] 15% of NAs are in fact not missing, but instead cannot be matched to individual delegates due to clerical errors.

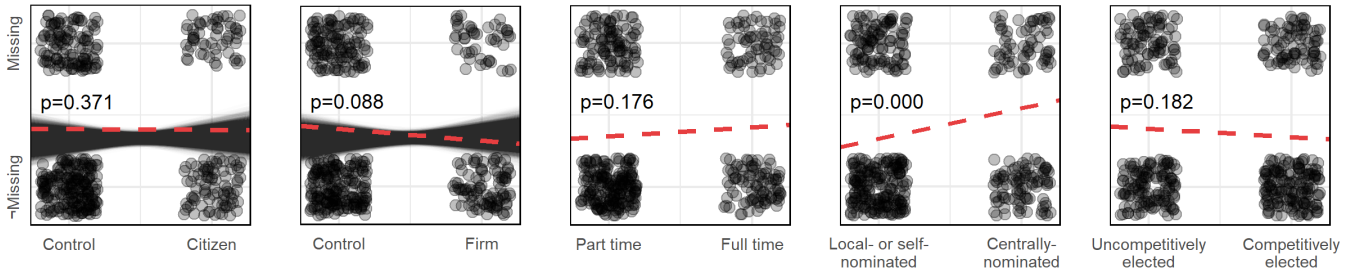

Figure 10.1: **Survey nonresponse uncorrelated with treatments.** Each panel presents the bivariate relationship between a covariate or treatment and survey nonresponse. Statistical significance in panels one and two is assessed by randomization inference.

assignment do not differ significantly from those resulting from 10,000 alternative randomizations, whose lines are plotted with high transparency.

Among the three covariate panels, only one, central nomination status, is significantly correlated with nonresponse. This is reasonable, as central nominees tend to be relatively elite politicians who are therefore harder to access. Recent work has shown that when missingness is driven by values of the independent variables, listwise deletion should not bias regression results (Arel-Bundock and Pelc, 2018). For this reason, we use listwise deletion for our primary results and consign multiple imputation-based results to a robustness check in online Appendix 5 (Table 5.1, page 10).

11 Examples of delegates' comments in legislative fora

Phan Thai Binh, Quang Nam Province, Caucus #15, Citizen Treatment

[Article 77, 91] Through meetings with teacher constituents in Quang Nam province, they expressed objection that teachers may possess bachelor degree in relevant disciplines with a pedagogic training certificate. I also agreed to review the standardized educational qualifications for teachers as well as the reality and unemployment. I am of the view that pedagogical schools would best train teachers.

Qua tiếp xúc cử tri với đội ngũ giáo viên tỉnh Quảng Nam, tất cả nhà giáo đều đề nghị đối với giáo viên sư phạm trong luật có nêu là bỏ đi việc tốt nghiệp ngành khác nhưng được bồi dưỡng chuyên môn sư phạm làm giáo viên. Tôi cũng cho rằng cái này cũng cần đánh giá, khảo sát lại thực trạng và tình trạng thất nghiệp. Theo tôi để chuyên sâu về giáo dục và chất lượng giáo dục thì nên chỉ có các trường sư phạm đào tạo giáo viên là tốt nhất.

Tran Kim Yen, Ho Chi Minh City, Caucus #2, Citizen Treatment

[Article 31] **Voters** are of the view that the whole learning process be assessed to decide if a pupil should get an upper secondary school diploma. It is expensive to organize an exam to determine high school graduation qualifications. I propose that upper secondary school students who meet the requirement would receive the diplomas without having to take graduation exams.

[Đ31] Ý kiến **cử tri** mong muốn phải xem xét quá trình học tập của các em để đánh giá việc có được cấp bằng tốt nghiệp trung học phổ thông không. Việc tổ chức một kỳ thi để xác định tốt nghiệp trung học phổ thông hiện nay rất tốn kém. Tôi đề xuất "có đủ điều kiện", còn điều kiện như thế nào thì có quy định cụ thể thì được cấp bằng, không nhất thiết phải được dự thi.

Nguyen Phi Long, Binh Dinh Province, Caucus #6, Citizen Treatment

[Article 101] Public pre-schools are overly crowded, ..., non-public schools are massively open without assessment and evaluation, many are not unregistered, teachers are not trained and do not meet standards. Thus, **Article 101** should specify the percentage of the budget for pre-school education, especially in remote and border areas, islands of export processing zones. I request the state to prioritize this education level, allocate budget and make it a policy in order to set the ground for investing budget as well as land allocation ... Secondly, there must also be investment in teachers, preschool teachers must have certain status in the education system, in the system of civil servants, officials and managers of the education sector ... It is also necessary to identify critical areas that the State must invest such as industrial parks and export processing zones where a huge number of young workers at the age of reproduction are working, ... as well as remote areas, where socialization of education is not a practical option.

[Đ101] Các trường [mầm non] công lập quá tải,… trường ngoài công lập mở ồ ạt, không có kiểm định đánh giá, nhiều trường tự lập, giáo viên không được đào tạo, không đạt chuẩn. Theo đó, điều 101 cần ghi rõ phần trăm trong ngân sách đầu tư cho giáo dục mầm non đặc biệt ở vùng sâu, vùng xa, biên giới, hải đảo các khu công nghiệp khu chế xuất. Tôi đề nghị Nhà nước ưu tiên đầu tư cho cấp bậc này, giành một nguồn kinh phí nhất định, vì nếu có chính sách thì ngoài điều đầu tư về tiền bạc thì cũng còn phải quy hoạch đất đai... Thứ hai là cũng phải đầu tư về giáo viên, giáo viên mầm non phải có vị trí nhất định trong hệ thống giáo dục, trong hệ thống cán bộ công chức, viên chức của ngành giáo dục, của cán bộ quản lý giáo dục... Tôi đề nghị Nhà nước phải dành kinh phí thích đáng để đầu tư cấp bậc học này. Phải quy định những chỗ trọng điểm là nhà nước phải đầu tư, các khu công nghiệp, khu chế xuất hiện nay, cơ bản là các thanh niên công nhân đều trong độ tuổi xây dựng gia đình... Hay xã hội hóa nhà trẻ mẫu giáo ở vùng sâu vùng xa thì làm sao xã hội hóa được, cái này nhà nước phải dành ngân sách để đầu tư.

Chau Quang Dao, Kien Giang, Caucus #19, Firm Treatment

We are worried about this number. 67% of firms say that vocational training is low quality and 73% of businesses said that the quality of local labor was not satisfactory. Thus, we have made great efforts in vocational training of rural labor and vocational training. But the businesses cost of labor training accounts for 5% of total costs. As such, we still have many reasons to believe the quality of occupational labor that is not satisfactory.

Con số này chúng ta rất lo. 67% doanh nghiệp cho rằng chất lượng đào tạo nghề còn kém, 73% doanh nghiệp cho rằng chất lượng lao động địa phương chưa đạt yêu cầu. Như vậy chúng ta đã nỗ lực rất nhiều trong việc đào tạo nghề lao động nông thôn rồi đào tạo các ngành nghề. Nhưng mà việc chi phí kinh doanh dành cho đào tạo lao động chiếm 5%. Như vậy, chúng ta còn rất nhiều nguyên nhân dẫn đến chất lượng lao động nghề nghiệp chúng ta chưa đạt yêu cầu.

Le Quang Huy, Nghe An Province, Caucus #14, Firm Treatment

In practice, companies have broadly applied advance technologies, requiring workers to obtain new skills. For instance, pie manufacturers in Soc Trang, including small businesses, and textile enterprises have replaced manual labor with automatic factory.

một thực tế là gần đây doanh nghiệp đã ứng dụng tiến bộ kỹ thuật rất mạnh mẽ, đòi hỏi người lao động phải có rất nhiều kỹ năng mới như bánh pía Sóc Trăng kể cả doanh nghiệp nhỏ đã vào làm, một loạt doanh nghiệp dệt may đã đưa thiết bị vào và toàn bộ lao động thủ công bị sa thải, phải chuyển đổi sang kỹ năng mới.

Ly Tiet Hanh, Binh Dinh Province, Caucus #6, Control Group

[Article 27] From practical experience, we concur that the goals of general education have been reasonably designed; however, it is necessary to ensure the integration and connection between education levels ... **Voters** are also interested in professional orientation for students from general education level ... I suggest that the law emphasizes on and provides specific solutions for this matter.

[Đ27] Thực tế công tác tình hình địa phương, chúng tôi thấy mục tiêu giáo dục phổ thông chúng ta đề ra tương đối sát, tuy nhiên cần bảo đảm có sự liên thông, liên kết giữa cấp học ... **Cử tri** quan tâm vấn đề định hướng nghề nghiệp cho học sinh, trong đây chỉ có đến cấp học trung học phổ thông thì mới đề cập vấn đề kĩ thuật và hướng nghiệp ..., tôi đề nghị trong luật cần nhấn mạnh và có giải pháp cụ thể.

Ngo Thi Kim Yen, Da Nang City, Caucus #4, Control Group

[Article 77] Currently there is a circular regulating maximum number of pupils per class at general education levels; however, the average numbers, especially those of big cities, are in fact much higher. It is therefore recommended that the Drafting Board take this factor into account to train a sufficient number of qualified teachers. Besides, it is suggested to consider whether the standardized educational qualifications for teachers in subjects such as art and music at the elementary level must necessarily be at the university level.

[Đ77] Hiện nay có một thông tư quy định sĩ số học sinh ở các cấp giáo dục phổ thông; song thực tế sĩ số trung bình, đặc biệt ở các đô thị lớn, cao hơn nhiều so với mức quy định. Do đó đề nghị Ban soạn thảo tính đến yếu tố này để có lộ trình đào tạo đủ lượng giáo viên có trình độ chuẩn được đào tạo. Bên cạnh đó, đề nghị cân nhắc trình độ chuẩn được đào tạo của giáo viên các môn như mỹ thuật, âm nhạc cấp tiểu học có nhất thiết phải là trình độ đại học không.

Nguyen Thi Xuan, Dac Lac, Query, Control Group

Many voters were concerned about Official Letter No. 4612 issued by the Ministry on October 3, 2017, which prohibit teaching of contents beyond textbooks. Is this a ban, and whether such ban on teaching non-textbook content contradicts the spirit of educational innovation, when the Ministry is designing open textbooks for general education?

Nhiều cử tri băn khoăn về Công văn số 4612 do bộ ban hành ngày 03/10/2017, trong đó quy định không được dạy những nội dung ngoài sách giáo khoa. Thưa Bộ trưởng, đây có phải là một lệnh cấm và lệnh cấm dạy những nội dung ngoài sách giáo khoa có mâu thuẫn với tinh thần đổi mới giáo dục, khi chính Bộ đang xây dựng một chương trình sách giáo khoa phổ thông theo hướng mở.

12 Relationship between delegates' comments and VLOE changes

Issue in Debate	Comments Made by Delegates	Change from Debated Draft to Final VLOE
Budget Prioritization: Delegates requested that the law commit to a specific amount of resources, and prioritize budget to areas in where educational resources were urgent. Article 96 was amended to reflect these requests.	**Nguyen Phi Long, Binh Duong, Caucus #7, Citizen Treatment: "**Public pre-schools are overly crowded, ..., non-public schools are massively open without assessment and evaluation, many are not unregistered, teachers are not trained and do not meet standards. Thus, the law should specify the percentage of the budget for pre-school education, especially in remote and border areas, islands of export processing zones. I request the state to prioritize this education level, allocate budget and make it a policy in order to set the ground for investing budget as well as land allocation ... Secondly, there must also be investment in teachers, preschool teachers must have certain status in the system of civil servants, officials and managers of the education sector ... It is also necessary to identify critical areas that the State must invest such as industrial parks and export processing zones where a huge number of young workers at the age of reproduction are working, ... as well as remote areas, where socialization of education is not a practical option."	Underlined sections added to *Article 96, "Article 96. State Budget Invested in Education"* 1. The State gives top priority to the allocation of education budget, ensuring that the State budget spent on education and training is at least **20% of the total state budget expenditure**. 2. State budget expenditures on education shall be allocated according to the principles of openness and democracy; Based on the education scale and socio-economic development conditions of each region; **ensure budgets for the universalization of education and educational development in ethnic minority areas and areas with exceptionally difficult socio-economic conditions. The State is responsible for allocating adequate and timely funding to implement universal education and in accordance with the progress of the school year.** 3. Educational management agencies and educational establishments shall have to effectively manage and use the assigned education budget and other revenue sources according to law provisions.
Preschool Education: Delegates and voters raised concerns on critical problems in preschool education and called for the government to prioritize investment and resources into this education level. Article 27 on development policies for preschool education was added	**- Truong Thi Bich Hanh, Binh Duong, Caucus #7, Citizen Treatment:** There is a serious shortage of preschool education service, especially in industrial provinces that attract workers such as Binh Duong, Dong Nai, Ho Chi Minh City etc. In Binh Duong, an enterprise has opened kindergartens at their premises to look after workers' children. This model is of good service, comparable to public service - teachers' salary is paid by the company, parents only have to pay for children's meals, and the children can stay there in accordance with their parents' shifts. However, government policies to support such models have merely been established, and companies have to arrange all by themselves, from finding teachers, managers etc, not to mention the administrative bureaucracy they face to establish the kindergarten as it is not an area in their business registration. In conclusion, regulations related to preschool education need to be clearer, more specific and address urgent practical problems. If the state is not able to provide preschool education services, then it must have mechanisms to support private sector and promote socialization to ensure preschool institutions meet certain requirements. **- Dang Thuan Phong, Ben Tre, Query Control Group,** The Education Minister mentioned that our preschool education is highly evaluated by UNICEF, ... but having followed this whole process I would like to reiterate the limitations of our preschool education, which is currently causing a lot of concerns. Firstly, the scale of development is not equal in all regions; the quality of preschool education is not stable; policy network is inconsistent; it receives the lowest investment compared to other education levels; facilities, schools, teachers and management did not meet the demands. The rate of spending on preschool education by the government is only 39%, which means families contribute 61%, the highest contribution compared to other fields of education.	*New Article 27, "Development Policies for Pre-School Education"* Policies for early childhood education development 1. The State adopts policies on investment in preschool education development; give priority to developing preschool education in mountainous areas, islands, ethnic minority areas, areas with extremely difficult socio-economic conditions, and areas with industrial parks. 2. The State adopts policies to encourage organizations and individuals to invest in developing preschool education to meet social needs. 3. The Government shall detail this Article.

Teacher Qualification: Delegates questioned the need for a pedagogical degree and asked that degrees in other disciplines be recognized for employment in higher level education. Article 27 was amended to provide criteria for recognizing other disciplines.	- **Phan Thai Binh, Quang Nam, Caucus #15, Citizen Treatment**: Through meetings with teacher constituents in Quang Nam province, they expressed objection that teachers may possess bachelor degree in relevant disciplines with a pedagogic training certificate. I also agreed to review the standardized educational qualifications for teachers as well as the reality and unemployment. - **Bui Thanh Tung, Hai Phong, Caucus #6, Firm Treatment:** The draft revised law requires that primary and lower secondary teachers without a bachelor's degree in pedagogy training must possess a bachelor's degree of suitable specialization and a certificate of pedagogy training. Many educational constituents, especially those at managerial level, shared that this would not meet the pedagogical requirements ... In my opinion, it is not necessary that university-level lecturers must possess a Master degree, particularly for assisting lecturers, practical teachers or visiting lecturers. There are excellent graduates who are offered teaching assistant positions by their universities; many bachelors, engineers working in private sector with years of working experience. If we can take advantage of this group to be visiting lecturers, we could develop practical experience and knowledge and avoid isolated academic environment - **Ngo Thi Kim Yen, Da Nang, Caucus #4, Control Group**: Currently there is a circular regulating maximum number of pupils per class at general education levels; however, the average numbers, especially those of big cities, are in fact much higher. It is therefore recommended that the Drafting Board take this factor into account to train a sufficient number of qualified teachers. Besides, it is suggested to consider whether the standardized educational qualifications for teachers in subjects such as art and music at primary schools must necessarily be at the university level.	Amendments made to *Article 72*, *"Standard Qualifications of Teachers' training."* 1. The standard qualifications of teachers' training are prescribed as follows: a) Holding a bachelor's degree **in pedagogy college or higher for preschool teachers;** b) Holding a bachelor's **degree in teacher training major or higher for elementary, junior high and high school teachers. If the subject does not have enough teachers with bachelor's degrees in teacher training disciplines, they must have an appropriate bachelor's degree and certificate of pedagogic training;** c) Holding a master's degree for university-level teachers; hold a doctorate degree for teachers who teach, guide master's theses, and doctoral theses; d) The standard qualifications of the teachers who teach at vocational training institutions shall comply with the Law on Vocational Education. 2. **The Government shall prescribe the roadmap for raising the standard level of preschool, elementary and junior secondary teachers prescribed at Points a and b, Clause 1 of this Article. The Minister of Education and Training and the Minister of Labor, War Invalids and Social Affairs shall, within their duties and powers, stipulate the use of teachers in cases where they do not meet the provisions of Clause 1.** New *Article 73* on *"Teacher Training"* added to Final LOE. 1. The State adopts policies on training and fostering to raise the political, professional and professional qualifications for teachers; Teachers who are sent for training and retraining shall enjoy salaries and allowances according to the Government's regulations. 2. Educational institutions have the responsibility to create conditions for teachers to be trained and fostered to meet the standards prescribed by law.

Pedagogical Credit: There was general support for changes of policy for pedagogical students, from tuition exemption to (refundable) subsidies. Many opined that financial subsidies were however, not the key issue to attract talented students into pedagogy. Article 85 was amended to allow for pedagogical credit to attract better teachers.	- **Nguyen Thanh Phuong, Can Tho, Floor, Citizen Treatment:** Pedagogical credit ... facilitates people who have difficulties in learning conditions as well as free training if they serve in pedagogy in a certain time. However, there will be cases where if pedagogical students do not need to use pedagogical credit but work in education sector after graduation. In my opinion, salary and recruitment policies are the root of the problem as well as of attracting quality people to work in pedagogical field, through which can the quality of the pedagogical training be solved. - **Bui Ngoc Chuong, Ca Mau, Floor, Control Group:** Subsidies for pedagogical students ... might note deliver the expected impact should graduate students be unemployed, then how they can pay back the loans. Many shared the view that financial subsidies are not the key issue but appealing policies to attract quality pupils into pedagogical institutions as well as quality teachers ... It is necessary to identify demands in order to plan for adequate training of teacher and avoiding underemployment.	*Article 85. "Scholarships, Social Allowances, Tuition Exemptions, Reductions, Payment of School Fees and Living Expenses,"* 4. Pupils and pedagogical students **will be supported with tuition fee and living expenses** for the whole course. Those who are supported with tuition fee and living expenses after 02 years from graduation, if they do not work in education or do not work for a prescribed time, they must reimburse the State-supported expenses. support. **Maximum time for repayment is equal to the time of training.** Pupils and pedagogical students are entitled to scholarship policies to encourage learning, social allowances, tuition exemption and reduction prescribed in Clauses 1 and 2 of this Article.
Certificate of Completion: Delegates called for certifications for learners who complete upper secondary education level at both general education institution or vocational training institutions. With such certificates, they would be recognized and able to proceed to more advanced education when it is possible. Article 34 was amended to provide a pathway for conversion of a certificate to receive more advanced education.	- **Tran Kim Yen, HCMC, Caucus #2, Citizen Treatment:** Voters are of the view that the whole learning process be assessed to decide if a pupil should get an upper secondary school diploma. It is expensive to organize an exam to determine high school graduation qualifications. I propose that upper secondary school students who meet the requirement would receive the diplomas without having to take graduation exams.	*Article 34, "Certification of Completion of Elementary, Upper Secondary, and Secondary School Diplomas"* Clause 3 was amended and Clause 4 added. 3. Students who have completed high school are eligible to take the exam according to the regulations of the Minister of Education and Training but fail to take the exam or fail the exam, they will be granted a certificate of completion by the school principal. general education curriculum. The certificate of completion of the general education program is used to register for the high school graduation exam when the learner needs it or to attend vocational education and use it in specific cases according to provisions of law. 4. Students who have a junior high school diploma and attend an intermediate level education in a vocational education institution, after having studied and passed the required high enough level of high school cultural knowledge as prescribed. of the Minister of Education and Training, the head of the educational institution organizing the teaching of a volume of high school cultural knowledge shall grant a certificate of sufficient quantity of high school cultural knowledge. The certificate fully meets the required high school cultural knowledge used to pursue higher education levels and to be used in specific cases as prescribed by law.

Tuition Exemptions: Many representatives expressed their and voters' calls for tuition exemption for kindergarten, primary and lower secondary education. Three new clauses were added to Article 99 to provide for tuition exemptions for poor students.	- **Lam Dinh Thang, HCMC, Caucus #2, Firm Treatment**: "Regarding tuition exemption for lower secondary education level, it was mentioned in previous versions of the law and was well received by the public. However, this was removed in the last fifth draft. I suggested to keep such idea as in previous drafts with implementation timeline such as from 2020 when the Resolution 29 of nine years of compulsory education takes effect." **- Huynh Thanh Phuong, Caucus #4, Tay Ninh, Control**: "Constituents expect the National Assembly to consider tuition exemption for lower secondary education. Ministry of Education and Training submitted to the Government but the Government has yet agreed to include it." - **Nguyen Van Than, Query, Thai Binh, Firm Treatment: "**Private schools, in my opinion, should be allowed to decide their tuitions based on the basic tuition fees and by agreement. The People's Council does not need to decide this."	Sub-Clauses 3 through 5 added to *Article 99, "Tuition and Costs of Education and Training Services."* 3. Primary pupils in public education establishments are not required to pay tuition fees; In areas where there are not enough public schools, primary pupils in private educational establishments are supported by the State with school fee payment and the level of support shall be decided by the provincial People's Councils. 4. Preschool children of 05 years old in extremely difficult hamlets and villages, ethnic minority areas, deep-lying and remote areas, coastal areas and islands will be exempted from school fees. 5. 05-year-old preschool children who are not defined in Clause 4 of this Article and lower secondary students are exempted from school fees according to the Government's prescribed schedule.

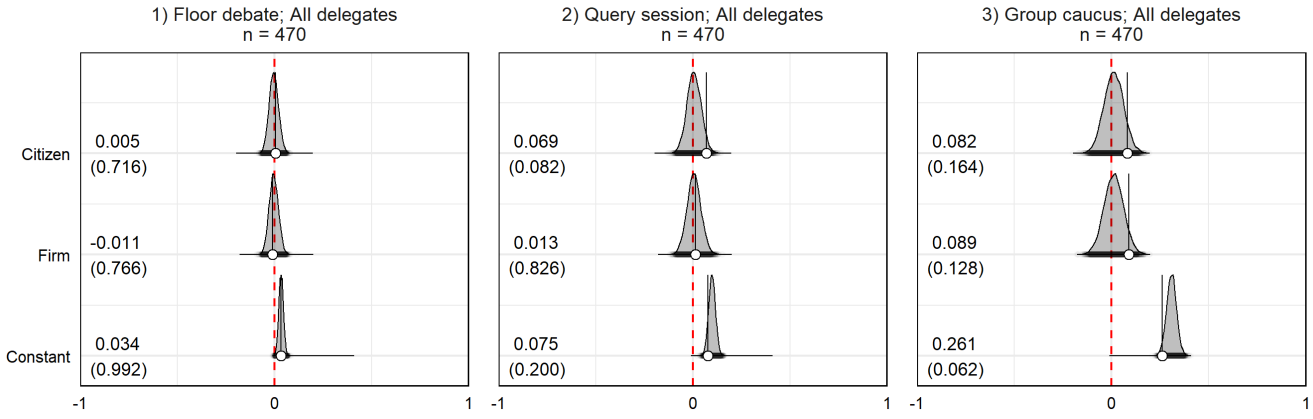

Figure 13.1: **Most speaking occurred in group caucuses.** Figure displays density plots of 10,000 replicate coefficients from RI, with OLS coefficients and parenthetical p-values at left.

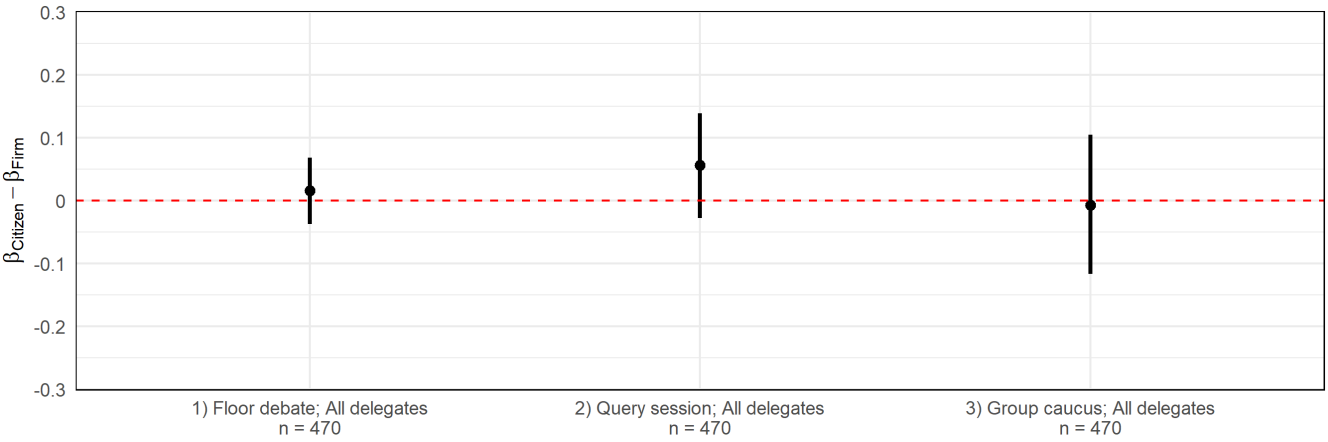

Figure 13.2: **Firm- and citizen-treated delegates spoke at equal rates in group caucuses.** Figure displays difference in citizen and firm coefficients, with RI-derived confidence intervals.

13 Speaking results by legislative forum

The main results are based on pooling the transcripts from the group caucuses, query sessions, and floor debates; here we present results within each legislative forum separately. Looking at the regression constants in Figure 13.1, it is clear to see that there was considerably more widespread speaking in the group caucuses. Also notable is the total lack of significant treatment effects at the forum level, with the partial exception of the citizen ATE in the query sessions (significant at p=0.10). Although insignificant, the citizen and firm ATEs are largest in the group caucuses, and

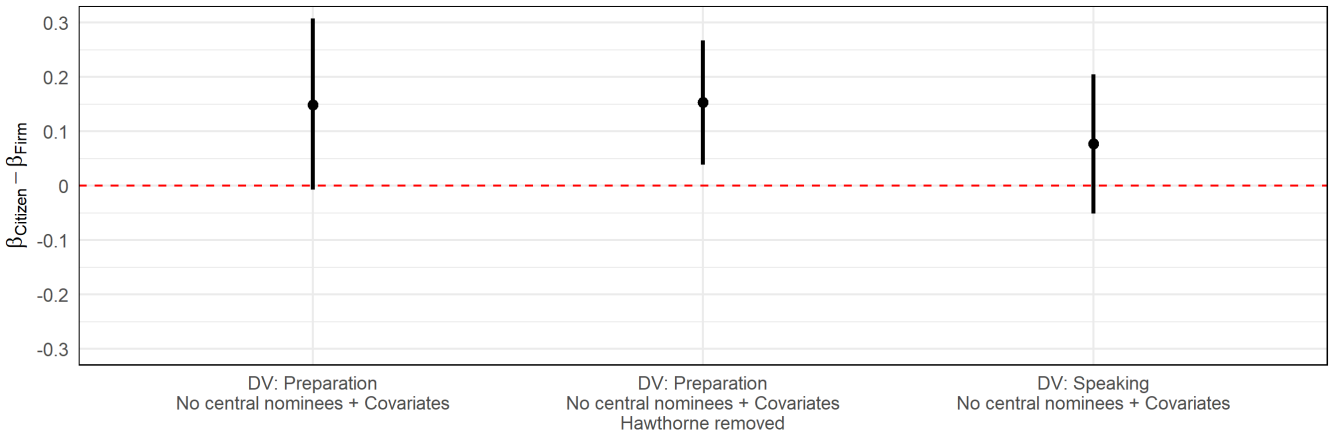

Figure 14.1: **Direct effects of citizen treatment exceed those of firm treatment among local nominees.** Figure displays difference in citizen and firm coefficients, with RI-derived confidence intervals.

appear to be roughly equally-sized at 0.08-0.09.

Figure 13.2 examines the differences in treatment effects across legislative fora. With RI-derived confidence intervals, this figure demonstrates that firm- and citizen-treated delegates spoke at approximately equal rates in the floor debates and group caucuses. The result for treatment effects on speaking in the query session are more ambiguous, but do not attain conventional levels of statistical significance.

14 Citizen-firm differences without central nominees

Figure 8 in the paper presents the differences between the citizen and firm treatment effects for three specifications: debate preparation, debate preparation accounting for the Hawthorne effect, and delegate speaking. Here we utilize the same RI-based confidence interval strategy to examine these treatment effect differences in the absence of central nominees, for whom the effects of the citizen treatment are theoretically attenuated.[6] Figure 14.1 presents these findings, which are qualitatively similar to those in paper Figure 8 but slightly stronger. Again, all three differences

[6]While the caption for Figure 14.1 labels the sample as local nominees, it should be recalled that this is a matter of convenience. Technically, the sample also contains two self-nominated delegates.

are positive. Again, the results for debate preparation are nearly significant in the presence of the Hawthorne effect and strongly significant in its absence. Although the difference in speaking outcome treatment effects does not attain statistical significance, it too is a slightly stronger effect than when central nominees are included.

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