

# Appendix

Ratification of Multilateral Environmental Agreements: Civil Society Access to  
International Institutions

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# Descriptive Analyses

Table 1: Descriptive Statistics

Statistic	N	Mean	St. Dev.	Min	Max
action	907,304	0.01	0.09	0	1
subject_energy	907,304	0.09	0.29	0	1
subject_freshwater	907,304	0.03	0.17	0	1
subject_habitat	907,304	0.06	0.24	0	1
subject_nature	907,304	0.25	0.43	0	1
subject_ocean	907,304	0.37	0.48	0	1
subject_pollution	907,304	0.28	0.45	0	1
subject_species	907,304	0.44	0.50	0	1
obligations	907,168	0.68	0.47	0	1
mon_and_enf	773,884	0.23	0.42	0	1
dispute_settlement	806,810	0.56	0.50	0	1
assistance_all	907,168	0.09	0.29	0	1
assistance_developing	907,168	0.06	0.24	0	1
public_good_global	907,168	0.67	0.47	0	1
public_good_mixed	907,168	0.09	0.28	0	1
trade_openness	803,382	-1.08	0.94	-8.87	1.81
igo_membership_count	903,335	51.45	21.62	0	129
polity	784,469	1.00	7.24	-10	10
gdppc	891,272	-0.09	1.25	-3.55	4.92
gdp	891,272	-0.08	2.23	-6.74	6.39
lnso2pc	511,215	2.41	1.56	-2.40	6.06
legislative_approval	903,833	0.73	0.44	0	1
negotiation_party	895,379	0.03	0.18	0	1
ratification_global	907,127	8.89	11.42	0.00	91.59
ratification_same_income_group	856,658	8.65	14.15	0.00	97.44
ratification_in_region	907,127	5.92	14.40	0.00	100.00
t1	907,304	43.21	13.12	0	61
t2	907,304	2,039.29	1,010.03	0	3,721
t3	907,304	101,088.20	65,675.15	0	226,981
tna_access	907,304	0.15	0.36	0	1
intensity	907,304	0.24	0.61	0.00	3.00

Table 2: Correlation Matrix, part I/IV

	action	subject_energy	subject_freshwater	subject_habitat	subject_nature	subject_ocean	subject_pollution
action	1						
subject_energy	-0.01	1					
subject_freshwater	0.01	-0.1	1				
subject_habitat	0.01	-0.1	0.1	1			
subject_nature	-0.000	-0.2	-0.01	0.1	1		
subject_ocean	-0.02	-0.2	-0.1	-0.05	0.1	1	
subject_pollution	0.02	-0.2	0.1	-0.2	-0.3	0.3	1
subject_species	-0.03	-0.3	-0.1	0.1	0.02	-0.1	-0.5
obligations	-0.004	0.2	-0.02	0.02	0.03	0.04	0.1
mon_and_enf	0.01	-0.04	-0.1	-0.04	0.02	0.1	0.1
dispute_settlement	0.02	0.1	-0.1	0.1	0.02	-0.03	0.1
assistance_all	0.03	-0.1	-0.1	0.04	-0.02	0.1	0.2
assistance_developing	0.1	-0.03	-0.05	0.1	0.1	0.1	0.1
public_good_global	-0.003	-0.3	0.03	-0.03	0.1	0.3	0.3
public_good_mixed	-0.01	0.2	-0.1	0.1	-0.1	-0.1	-0.1
trade_openness	0.01	0.001	0.01	0.000	0.03	0.01	0.01
igo_membership_count	0.02	0.004	-0.000	-0.003	0.05	0.04	0.03
polity	0.03	-0.000	-0.001	-0.01	0.03	0.02	0.02
gdppc	0.02	-0.003	0.001	-0.01	0.02	0.01	0.003
gdp	0.02	-0.003	-0.01	-0.01	0.01	0.01	0.001
lnso2pc	0.02	0.001	-0.002	-0.001	0.01	0.01	-0.002
legislative_approval	0.01	-0.003	-0.01	-0.01	-0.002	0.002	-0.01
negotiation_party	0.1	0.04	-0.01	-0.01	0.01	-0.02	-0.004
ratification_global	0.1	-0.05	0.1	0.03	0.03	-0.1	0.1
ratification_same_income_group	0.1	-0.05	0.1	0.01	0.03	-0.1	0.1
ratification_in_region	0.1	-0.04	0.05	0.01	0.03	-0.03	0.1
t1	-0.02	0.02	0.03	0.02	0.1	0.1	0.1
t2	-0.02	0.02	0.03	0.01	0.1	0.04	0.1
t3	-0.02	0.02	0.03	0.004	0.1	0.03	0.1
tna_access	0.1	-0.1	-0.02	0.1	0.2	0.04	-0.04
intensity	0.1	-0.1	-0.02	0.1	0.2	0.1	-0.03
range	0.1	-0.1	-0.01	0.1	0.2	0.05	-0.03
depth	0.1	-0.1	-0.02	0.1	0.2	0.1	0.03
permanence	0.1	-0.1	-0.01	0.1	0.2	0.1	-0.1

Table 3: Correlation Matrix, part II/IV

	subject_species	obligations	mon_and_enf	dispute_settlement	assistance_all	assistance_developing	public_good_global
action							
subject_energy							
subject_freshwater							
subject_habitat							
subject_nature							
subject_ocean							
subject_pollution							
subject_species	1						
obligations	-0.2	1					
mon_and_enf	-0.3	0.2	1				
dispute_settlement	-0.1	0.1	0.2	1			
assistance_all	-0.2	-0.03	0.1	0.1	1		
assistance_developing	-0.1	0.04	0.2	0.2	-0.1	1	
public_good_global	-0.01	0.2	-0.1	-0.1	0.1	0.1	1
public_good_mixed	-0.1	0.2	0.1	0.2	-0.1	0.02	-0.4
trade_openness	-0.02	0.03	0.02	0.02	0.01	0.03	0.02
igo_membership_count	-0.04	0.1	0.04	0.03	0.02	0.1	0.1
polity	-0.02	0.04	0.03	0.03	0.01	0.04	0.04
gdppc	-0.01	0.03	0.02	0.02	0.01	0.02	0.01
gdp	0.003	0.02	0.01	0.01	-0.002	0.01	0.01
liso2pc	-0.01	0.02	0.01	0.01	0.01	0.005	0.003
legislative_approval	0.01	-0.003	-0.000	0.003	-0.003	0.002	0.002
negotiation_party	-0.1	0.01	0.01	0.05	0.02	0.1	0.005
ratification_global	-0.1	-0.1	-0.03	0.01	0.1	0.1	-0.1
ratification_same_income_group	-0.1	-0.1	-0.02	0.01	0.04	0.1	-0.1
ratification_in_region	-0.1	-0.1	-0.01	0.01	0.1	0.1	-0.03
t1	-0.1	0.1	0.1	0.1	0.1	0.1	0.1
t2	-0.1	0.1	0.1	0.1	0.03	0.1	0.1
t3	-0.1	0.1	0.1	0.1	0.02	0.1	0.1
tna_access	0.1	-0.002	0.1	0.1	0.1	0.2	0.1
intensity	0.1	0.01	0.1	0.1	0.1	0.2	0.1
range	0.1	0.02	0.1	0.1	0.03	0.2	0.1
depth	0.1	0.002	0.1	0.1	0.1	0.2	0.1
permanence	0.1	0.03	0.03	0.1	0.01	0.2	0.1

Table 4: Correlation Matrix, part III/IV

	public_good_mixed	trade_openness	igo_membership_count	polity	gdppc	gdp	lnso2pc
action							
subject_energy							
subject_freshwater							
subject_habitat							
subject_nature							
subject_ocean							
subject_pollution							
subject_species							
obligations							
mon_and_enf							
dispute_settlement							
assistance_all							
assistance_developing							
public_good_global							
public_good_mixed	1						
trade_openness	-0.002	1					
igo_membership_count	0.001	0.2	1				
polity	-0.005	0.3	0.5	1			
gdppc	0.01	0.5	0.3	0.3	1		
gdp	0.01	-0.1	0.6	0.3	0.4	1	
lnso2pc	0.01	0.4	0.1	0.2	0.7	0.3	1
legislative_approval	-0.002	-0.2	0.2	-0.02	-0.2	0.2	-0.2
negotiation_party	0.000	0.03	0.1	0.1	0.1	0.1	0.1
ratification_global	-0.1	0.001	-0.1	-0.04	-0.04	-0.1	-0.04
ratification_same_income_group	-0.1	0.1	-0.04	0.03	0.2	0.03	0.2
ratification_in_region	-0.05	0.04	-0.03	0.02	0.1	-0.02	0.05
t1	0.002	0.3	0.4	0.3	0.1	0.1	0.03
t2	-0.01	0.3	0.4	0.3	0.1	0.1	0.01
t3	-0.01	0.3	0.4	0.3	0.1	0.1	0.002
tna_access	-0.003	0.04	0.1	0.05	0.03	0.01	0.01
intensity	0.02	0.03	0.04	0.03	0.02	0.01	0.02
range	0.000	0.04	0.1	0.04	0.03	0.01	0.01
depth	0.004	0.03	0.03	0.03	0.02	0.01	0.02
permanence	0.03	0.02	0.03	0.02	0.02	0.004	0.02

Table 5: Correlation Matrix, part IV/IV

	legislative_approval	negotiation_party	ratification_global	ratification_same_income_group	ratification_in_region	t1	t2
action							
subject_energy							
subject_freshwater							
subject_habitat							
subject_nature							
subject_ocean							
subject_pollution							
subject_species							
obligations							
mon_and_enf							
dispute_settlement							
assistance_all							
assistance_developing							
public_good_global							
public_good_mixed							
trade_openness							
igo_membership_count							
polity							
gdppc							
gdp							
lnso2pc							
legislative_approval	1						
negotiation_party	0.04	1					
ratification_global	-0.02	0.1	1				
ratification_same_income_group	-0.1	0.1	0.8	1			
ratification_in_region	0.004	0.2	0.5	0.6	1		
t1	-0.04	-0.03	0.1	0.04	0.02	1	
t2	-0.03	-0.03	0.1	0.1	0.02	1.0	1
t3	-0.03	-0.03	0.1	0.1	0.02	0.9	1.0
tna_access	-0.004	0.1	0.1	0.05	0.1	0.1	0.1
intensity	-0.01	0.1	0.1	0.1	0.1	0.1	0.1
range	-0.01	0.1	0.1	0.05	0.1	0.1	0.1
depth	-0.01	0.1	0.1	0.1	0.1	0.1	0.1
permanence	-0.01	0.1	0.1	0.1	0.1	0.1	0.1

Table 6: Correlation Matrix, part IV/IV

	t3	tna_access	intensity	range	depth	permanence
action						
subject_energy						
subject_freshwater						
subject_habitat						
subject_nature						
subject_ocean						
subject_pollution						
subject_species						
obligations						
mon_and_enf						
dispute_settlement						
assistance_all						
assistance_developing						
public_good_global						
public_good_mixed						
trade_openness						
igo_membership_count						
polity						
gdppc						
gdp						
lnso2pc						
legislative_approval						
negotiation_party						
ratification_global						
ratification_same_income_group						
ratification_in_region						
t1						
t2						
t3	1					
tna_access	0.1	1				
intensity	0.1	0.9	1			
range	0.1	1.0	0.9	1		
depth	0.1	0.9	0.9	0.9	1	
permanence	0.1	0.8	0.9	0.8	0.7	1



# Missing Values

Table 7: Missing Values

	Variable	missing (%)	last obs.	Note
1	lnso2pc	43.7	2005	no information for 2006-2011
2	mon_and_enf	14.7	2000	observation from 2000 carried over to 2001-2011
3	polity	13.5	2011	
4	trade_openness	11.5	2011	
5	dispute_settlement	11.1	2000	observation from 2000 carried over to 2001-2011
6	ratification_same_income_group	5.6	2011	Not available for 1950
7	gdppc	1.8	2011	
8	gdp	1.8	2011	
9	negotiation_party	1.3	2000	Assumption: time invariance of observed treaty-country dyads
10	igo_membership_count	0.4	2005	observed in 5-year intervals, gaps interpolated, 2005 obs. carried over
11	legislative_approval	0.4	2007	Only observed in 2007, assumption: time invariance
12	action	0.0	2011	
13	subject_energy	0.0	2011	
14	subject_freshwater	0.0	2011	
15	subject_habitat	0.0	2011	
16	subject_nature	0.0	2011	
17	subject_ocean	0.0	2011	
18	subject_pollution	0.0	2011	
19	subject_species	0.0	2011	
20	obligations	0.0	2000	observation from 2000 carried over to 2001-2011
21	assistance_all	0.0	2000	observation from 2000 carried over to 2001-2011
22	assistance_developing	0.0	2000	observation from 2000 carried over to 2001-2011
23	public_good_global	0.0	2000	observation from 2000 carried over to 2001-2011
24	public_good_mixed	0.0	2000	observation from 2000 carried over to 2001-2011
25	ratification_global	0.0	2011	
26	ratification_in_region	0.0	2011	
30	tna_access	0.0	2011	
31	intensity	0.0	2011	
32	range	0.0	2011	
33	depth	0.0	2011	
34	permanence	0.0	2011	

## Plots and Tables not Included in the Main Text

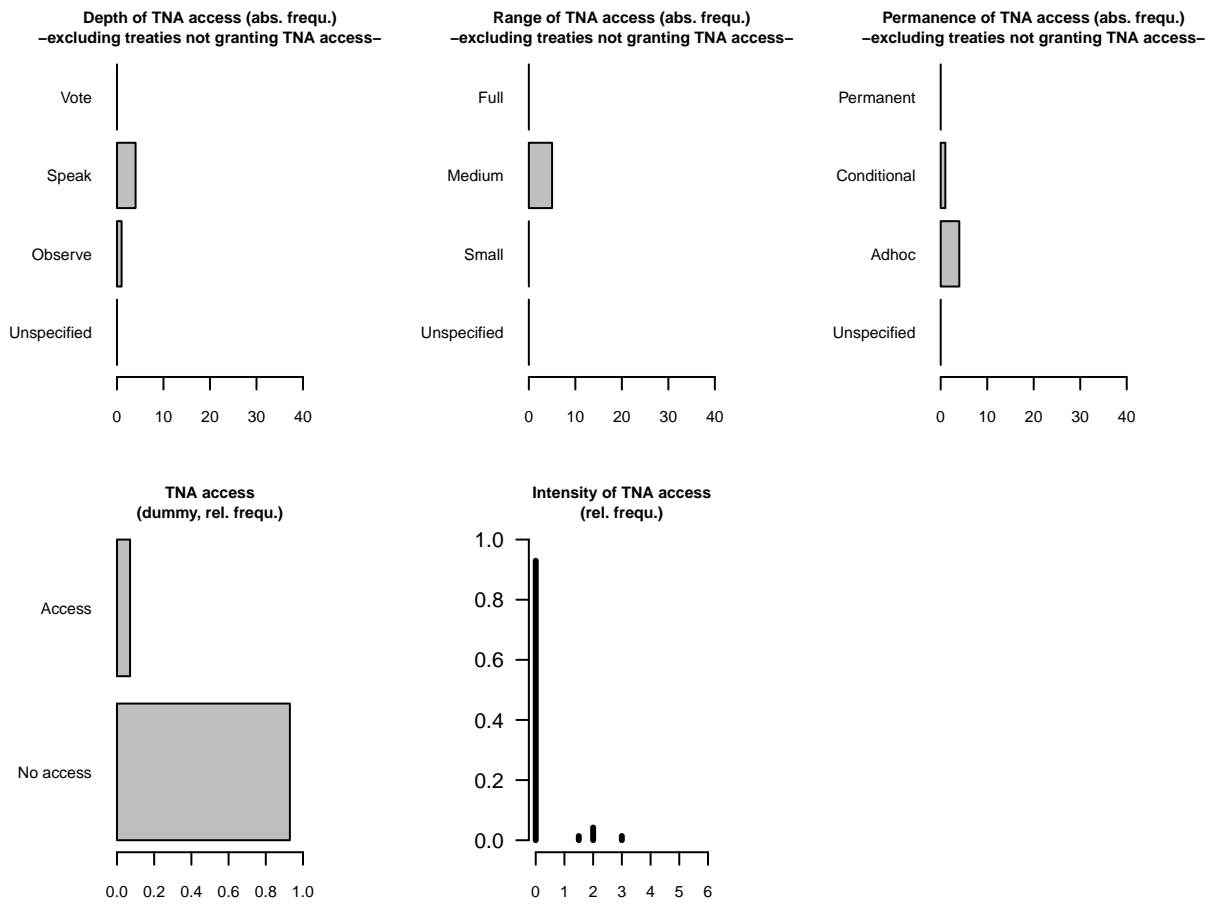


Figure 1: Dimensions of TNA access (relative frequencies, including treaties observed in 1980 that were included in the analysis of model (1) reported in Table 2)

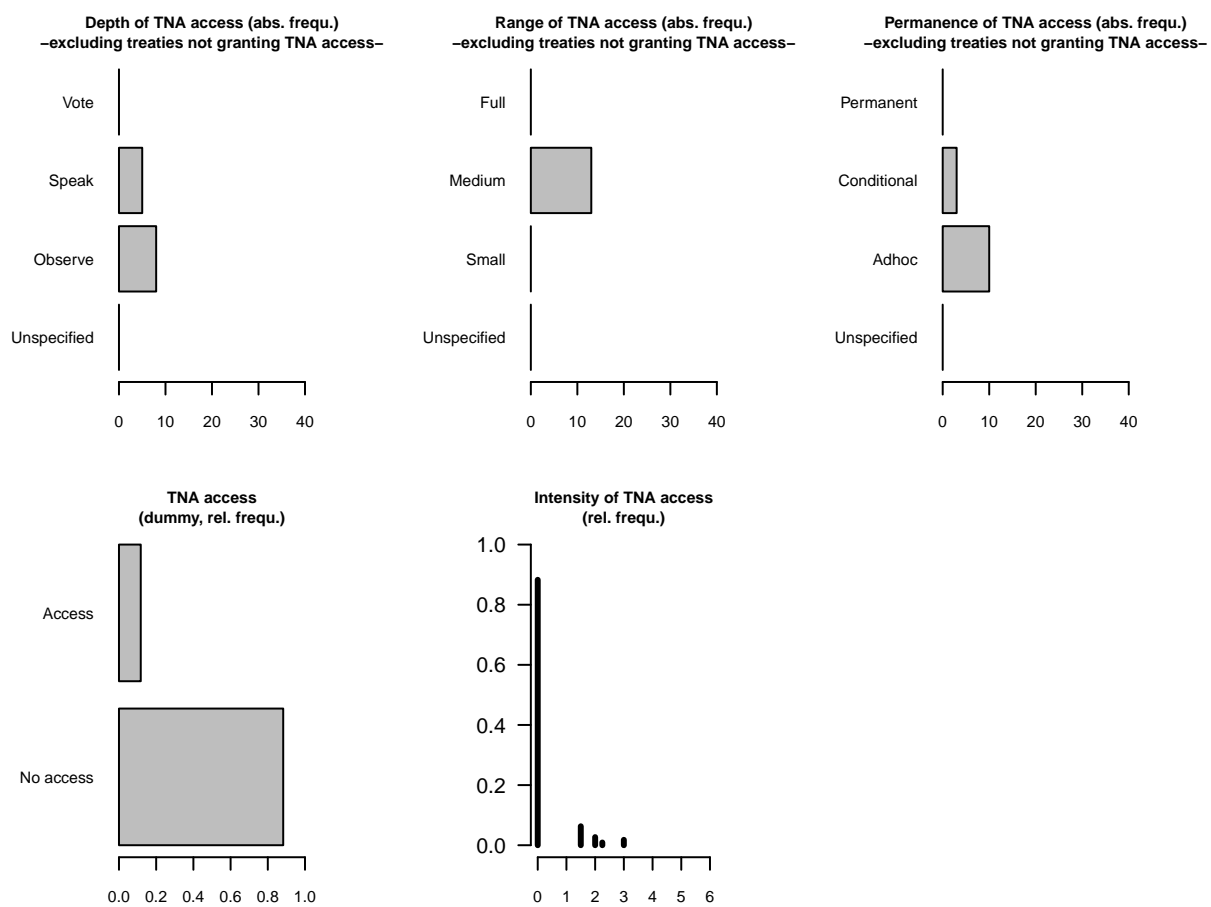


Figure 2: Dimensions of TNA access (relative frequencies, including treaties observed in 1990 that were included in the analysis of model (1) reported in Table 2)

Table 8: Cumulative expected ratification probabilities over time for low- and high-intensity scenario (see Figure 3 in the main text)

Year	Year nr.	p1	p2	p2-p1
1950	1	0.125	0.283	0.158
1951	2	0.214	0.453	0.240
1952	3	0.279	0.562	0.284
1953	4	0.327	0.635	0.308
1954	5	0.365	0.686	0.321
1955	6	0.395	0.724	0.329
1956	7	0.418	0.752	0.333
1957	8	0.438	0.773	0.336
1958	9	0.454	0.790	0.337
1959	10	0.467	0.804	0.337
1960	11	0.479	0.815	0.337
1961	12	0.489	0.825	0.336
1962	13	0.497	0.833	0.335
1963	14	0.505	0.839	0.334
1964	15	0.512	0.845	0.334
1965	16	0.518	0.850	0.333
1966	17	0.523	0.855	0.332
1967	18	0.528	0.859	0.331
1968	19	0.532	0.863	0.330
1969	20	0.536	0.866	0.329

p1: expected prob. of treaty ratif. up to a given year (low-intensity scenario)

p2: expected prob. of treaty ratif. up to a given year (high-intensity scenario)

```

##
## =====
##                               Median  2.5th quantile 97.5th quantile
## -----
## assistance_developing  0.182    -0.018    0.456
##   ratification_global  0.142    -0.016    0.377
##   igo_membership_count  0.131     0.001    0.363
##     range Medium      0.042    -0.078    0.175
##   subject_pollution    0.037    -0.112    0.210
##   assistance_all        0.032    -0.115    0.207
##   permanence Adhoc     0.031    -0.067    0.166
##     polity             0.031    -0.089    0.174
##   dispute_settlement    0.025    -0.075    0.158
## ratification_in_region  0.021    -0.124    0.186
##   subject_species       0.015    -0.123    0.156
##   subject_nature        0.012    -0.130    0.166
##     mon_and_enf        0.009    -0.129    0.150
##   subject_habitat       0.006    -0.130    0.144
##   trade_openness        0.005    -0.131    0.148
##     gdp                 0.004    -0.137    0.146
##   obligations           0.0004   -0.140    0.139
## legislative_approval    -0.006   -0.150    0.135
##     gdppc               -0.013   -0.142    0.106
##   public_good_global    -0.017   -0.153    0.100
##   public_good_mixed     -0.025   -0.156    0.088
##     depth Observe      -0.044   -0.302    0.114
##   subject_ocean         -0.053   -0.183    0.015
##   subject_energy        -0.078   -0.207   -0.025
##   subject_freshwater    -0.082   -0.213   -0.029
## -----
## Thu Jul 20 14:09:07 2017, probabilities rounded to 3 digits

```

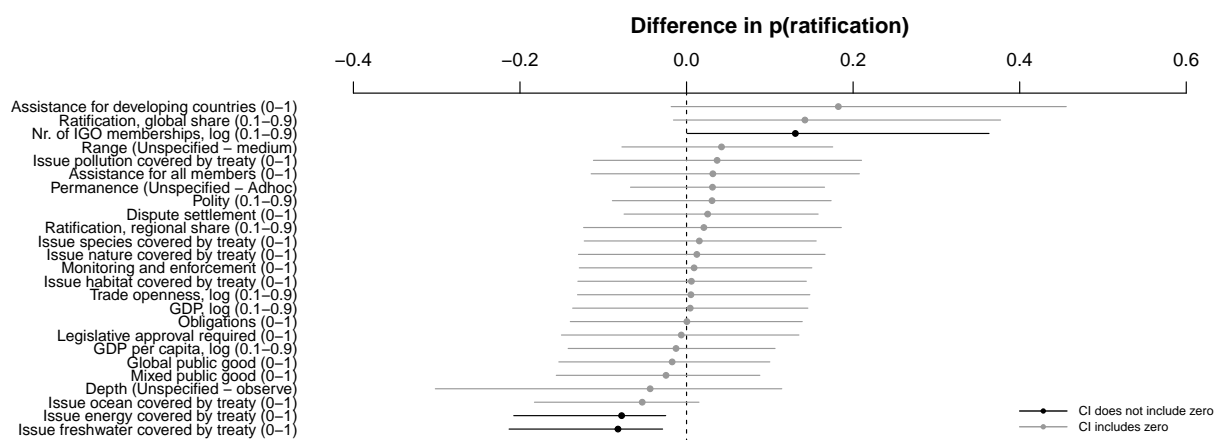


Figure 3: Simulated differences in the probability of treaty ratification when input variables of model 3 (panel c) are, one by one, changed from a low value to a high value, that is, from 0 to 1 for dummy variables (indicated below as 0-1) and from the 10th to the 90th percentile for the other variables (indicated below as 0.1-0.9). The remaining variables are held constant either at their median or another meaningful value (time variables are set to the year 1960, the public good variables indicate that no public good is addressed). Each confidence interval summarizes 20,000 simulations (median and 2.5th and 97.5th quantile).

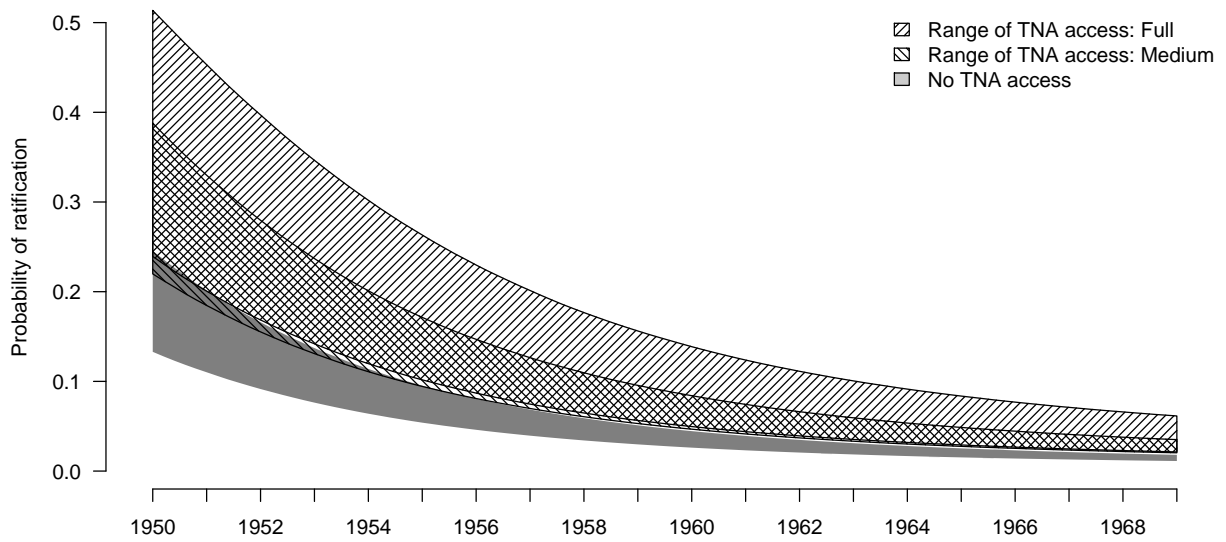


Figure 4: Probability of treaty ratification over time. We compare ratification trends for average treaties by average countries differing in whether no TNA access, medium range, or full range of TNA access is granted (model 4). For each scenario, the bands indicate 95-percent confidence intervals based on 20,000 simulated expected values.



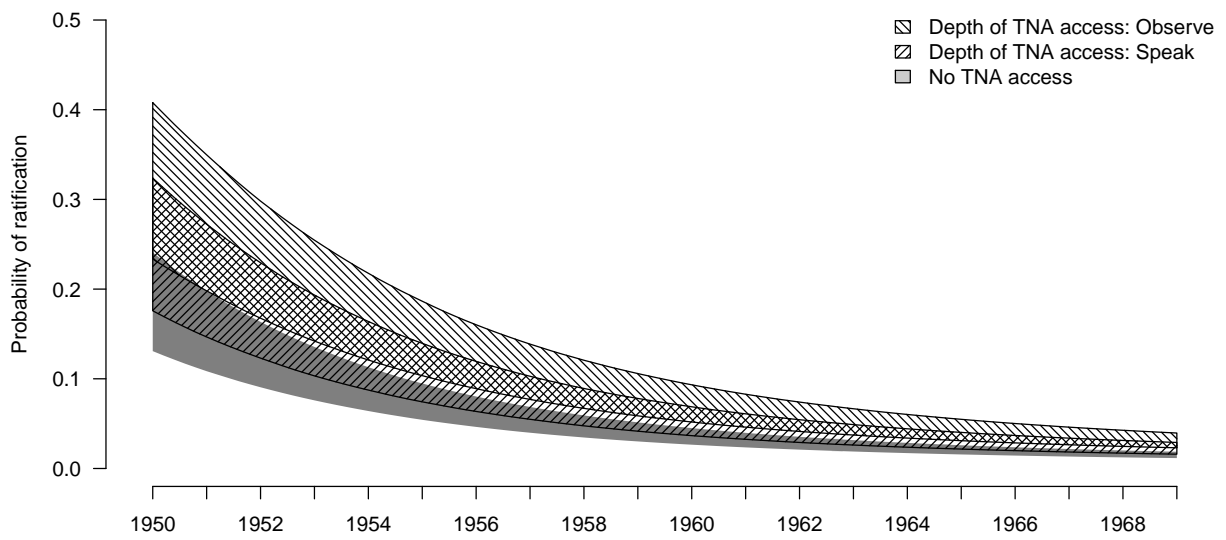


Figure 5: Probability of treaty ratification over time. We compare ratification trends for average treaties by average countries differing in whether no TNA access is granted, or whether TNAs have shallow access (observers) or deeper access (right to speak; model 5). For each scenario, the bands indicate 95-percent confidence intervals based on 20,000 simulated expected values.

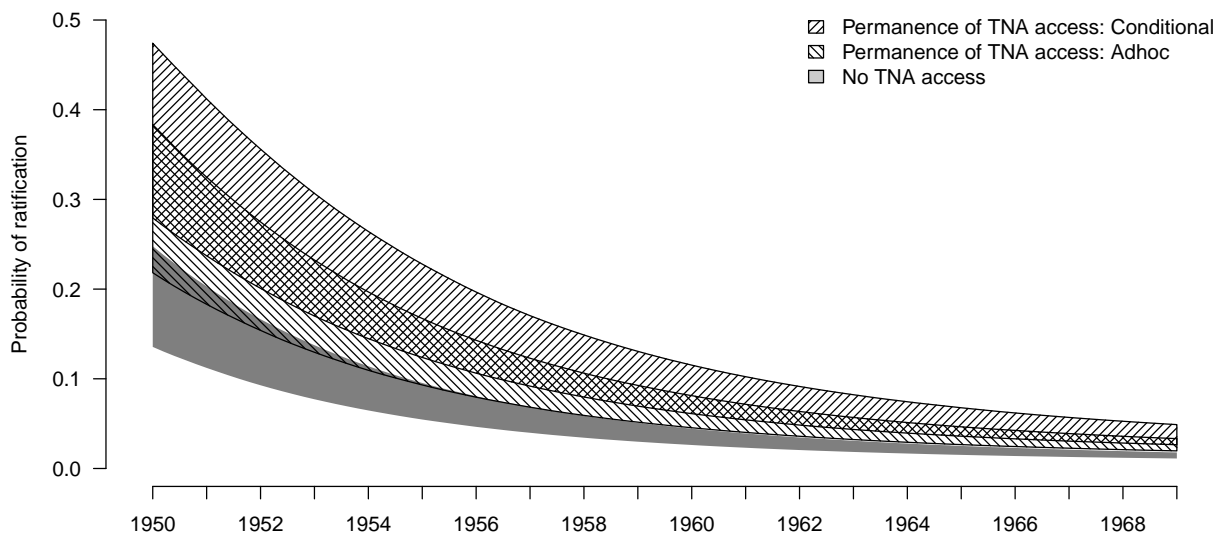


Figure 6: Probability of treaty ratification over time. We compare ratification trends for average treaties by average countries differing in whether no access, or a more or less permanent access is granted to TNAs. For each scenario, the bands indicate 95-percent confidence intervals based on 20,000 simulated expected values.

## Robustness Checks

Unless specified differently, the following tables summarize logistic regression models with robust standard errors clustered by country.

### Controlling for Additional Covariates

The following robustness checks add additional covariates to the regression models shown in the text in order to demonstrate that the main findings are not biased from omitting these variables.

First, we add a dummy variable for whether or not a country participated in a treaty's negotiation (*negotiation\_party*). This variable is taken from Spilker and Koubi (2016).

Second, we use the log of a country's sulfur dioxide (SO<sub>2</sub>) emissions per capita as an approximation for its environmental quality (*lnso2pc*) (Smith, van Aardenne, Klimont, Andres, et al. 2011b; Smith, van Aardenne, Klimont, Andres, et al. 2011a). Environmentally more challenged countries are equally expected to ratify MEAs with a greater probability to improve their environment, and to be less likely to ratify MEAs because of higher abatement costs (Bernauer et al. 2010; Sprinz and Vahtoranta 1994). This per capita SO<sub>2</sub> emission data covers 137 countries until 2005. As an alternative source for countries' annual per capita SO<sub>2</sub> emissions, we use the variable *lnso2pc\_stern2005*, which Spilker and Koubi (2016) computed based on emission data from Stern (2005). Their variable covers less years but more countries than ours.

Table 9: Controlling for whether a country participated in agreement negotiations before the agreement was opened for ratification

	(1)	(2)	(3)
tna_access	0.55* (0.05)		
intensity		0.27* (0.03)	
range Medium			0.41 (0.55)
range Full			0.82 (0.56)
depth Observe			-0.83 (0.50)
depth Speak			-0.96 (0.51)
permanence Adhoc			0.63* (0.21)
permanence Conditional			0.97* (0.22)
negotiation_party	1.73* (0.06)	1.71* (0.06)	1.16* (0.10)
subject_energy	0.18* (0.08)	0.20* (0.08)	-3.16* (0.58)
subject_freshwater	0.11 (0.11)	0.07 (0.11)	-13.04* (0.19)
subject_habitat	0.51* (0.07)	0.58* (0.07)	0.44* (0.13)
subject_nature	0.24* (0.07)	0.24* (0.07)	0.24 (0.13)
subject_ocean	-0.51* (0.06)	-0.56* (0.06)	-1.08* (0.14)
subject_pollution	0.85* (0.08)	0.89* (0.08)	0.87* (0.20)
subject_species	0.24* (0.05)	0.25* (0.05)	0.58* (0.14)
subject_weapons	-0.04 (0.12)	-0.02 (0.12)	
obligations	-0.02 (0.05)	-0.03 (0.04)	-0.05 (0.13)
mon_and_enf	0.20* (0.04)	0.23* (0.04)	0.42* (0.12)
dispute_settlement	0.04 (0.05)	0.02 (0.05)	0.06 (0.12)
assistance_all	0.53* (0.06)	0.56* (0.06)	0.35* (0.09)
assistance_developing	0.91* (0.06)	0.99* (0.07)	1.19* (0.11)
public_good_global	-0.61* (0.06)	-0.60* (0.06)	-0.71* (0.10)
public_good_mixed	-0.66* (0.07)	-0.74* (0.07)	-0.88* (0.19)
trade_openness	0.03 (0.06)	0.03 (0.06)	0.03 (0.06)
igo_membership_count	0.01* (0.004)	0.01* (0.004)	0.02* (0.004)
polity	0.02* (0.01)	0.02* (0.01)	0.02* (0.01)
gdppc	0.13* (0.05)	0.13* (0.05)	-0.05 (0.05)
gdppc_squared	-0.07* (0.02)	-0.07* (0.02)	-0.05 (0.03)
gdp	0.03 (0.04)	0.03 (0.04)	0.02 (0.04)
legislative_approval	0.12 (0.11)	0.12 (0.11)	-0.03 (0.10)
ratification_global	0.04* (0.002)	0.04* (0.002)	0.05* (0.002)
ratification_in_region	0.01* (0.002)	0.01* (0.002)	0.003 (0.002)
t1	-0.23* (0.02)	-0.23* (0.02)	-0.23* (0.10)
t2	0.01* (0.001)	0.01* (0.001)	0.01* (0.002)
t3	-0.0001* (0.0000)	-0.0001* (0.0000)	-0.0001* (0.0000)
Constant	-3.16* (0.29)	-3.11* (0.29)	-2.70 (1.48)
Treaties	178	178	42
Countries	154	154	153
Years	62	62	49
Observations	610,152	610,152	94,201
Log Likelihood	-23,529.60	-23,539.01	-6,970.49

Note:

\*p<0.05

Model (3) excludes treaties not granting any TNA access.  
Model (3) uses 'Unspecified' as baseline category for range, depth, and permanence.

Table 10: Controlling for sulfur dioxide emissions per capita as a proxy for a country's environmental quality. Adding this variable reduces the number of countries and years included in the analysis.

	(1)	(2)	(3)
tna_access	0.67* (0.05)		
intensity		0.36* (0.03)	
range Medium			1.31* (0.58)
range Full			1.53* (0.60)
depth Observe			-0.84 (0.49)
depth Speak			-1.06* (0.51)
permanence Adhoc			0.10 (0.22)
permanence Conditional			0.17 (0.25)
lnso2pc	0.12* (0.04)	0.12* (0.04)	0.01 (0.05)
subject_energy	0.36* (0.08)	0.36* (0.08)	-3.53* (0.72)
subject_freshwater	-0.21 (0.14)	-0.23 (0.14)	-12.97* (0.22)
subject_habitat	0.44* (0.08)	0.52* (0.08)	0.01 (0.17)
subject_nature	0.30* (0.06)	0.27* (0.06)	0.34* (0.13)
subject_ocean	-0.57* (0.06)	-0.61* (0.06)	-1.32* (0.15)
subject_pollution	0.80* (0.08)	0.83* (0.08)	0.36 (0.21)
subject_species	0.10* (0.05)	0.10 (0.05)	0.11 (0.14)
subject_weapons	0.50* (0.13)	0.53* (0.13)	
obligations	-0.16* (0.05)	-0.17* (0.05)	-0.05 (0.14)
mon_and_enf	0.16* (0.04)	0.19* (0.04)	0.26* (0.13)
dispute_settlement	0.19* (0.05)	0.17* (0.05)	0.55* (0.14)
assistance_all	0.48* (0.07)	0.51* (0.07)	0.22* (0.11)
assistance_developing	1.03* (0.08)	1.10* (0.08)	1.20* (0.13)
public_good_global	-0.50* (0.06)	-0.49* (0.06)	-0.20 (0.11)
public_good_mixed	-0.68* (0.07)	-0.76* (0.07)	-0.43* (0.20)
trade_openness	-0.01 (0.06)	-0.01 (0.06)	-0.01 (0.07)
igo_membership_count	0.02* (0.004)	0.02* (0.004)	0.03* (0.004)
polity	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)
gdppc	0.01 (0.05)	0.01 (0.05)	-0.07 (0.06)
gdppc_squared	-0.003 (0.02)	-0.002 (0.02)	0.01 (0.03)
gdp	0.01 (0.04)	0.01 (0.04)	-0.01 (0.05)
legislative_approval	0.10 (0.13)	0.10 (0.13)	-0.07 (0.11)
ratification_global	0.04* (0.002)	0.04* (0.002)	0.05* (0.003)
ratification_in_region	0.02* (0.002)	0.02* (0.002)	0.01* (0.002)
t1	-0.21* (0.02)	-0.22* (0.02)	0.54* (0.19)
t2	0.01* (0.001)	0.01* (0.001)	-0.02* (0.005)
t3	-0.0001* (0.0000)	-0.0001* (0.0000)	0.0001* (0.0000)
Constant	-3.79* (0.36)	-3.71* (0.35)	-11.57* (2.44)
Treaties	178	178	41
Countries	126	126	126
Years	56	56	43
Observations	394,237	394,237	57,355
Log Likelihood	-19,862.22	-19,855.54	-5,478.91

Note:

\*p<0.05

Model (3) excludes treaties not granting any TNA access.

Model (3) uses 'Unspecified' as baseline category for range, depth, and permanence.

Table 11: Controlling for an alternative measure for sulfur dioxide emissions per capita as a proxy for a country's environmental quality (Stern 2005). Adding this variable limits the analysis to 1950-2000.

	(1)	(2)	(3)
tna_access	0.70* (0.06)		
intensity		0.38* (0.03)	
range Medium			0.94 (0.58)
range Full			1.41* (0.62)
depth Observe			-0.76 (0.53)
depth Speak			-0.65 (0.55)
permanence Adhoc			-0.003 (0.28)
permanence Conditional			0.05 (0.34)
lnso2pc_stern2005	0.06 (0.03)	0.06 (0.03)	0.01 (0.04)
subject_energy	0.41* (0.09)	0.43* (0.09)	-2.22* (0.57)
subject_freshwater	-0.20 (0.14)	-0.23 (0.13)	-12.73* (0.28)
subject_habitat	0.61* (0.07)	0.70* (0.07)	0.36 (0.21)
subject_nature	0.31* (0.06)	0.29* (0.06)	0.02 (0.14)
subject_ocean	-0.41* (0.07)	-0.46* (0.07)	-1.12* (0.17)
subject_pollution	0.83* (0.08)	0.88* (0.08)	0.43 (0.28)
subject_species	0.06 (0.05)	0.06 (0.05)	-0.09 (0.21)
subject_weapons	0.70* (0.13)	0.75* (0.13)	
obligations	-0.17* (0.05)	-0.19* (0.05)	0.16 (0.18)
mon_and_enf	-0.07 (0.05)	-0.05 (0.05)	-0.48* (0.16)
dispute_settlement	0.25* (0.05)	0.23* (0.05)	0.63* (0.21)
assistance_all	0.52* (0.06)	0.55* (0.06)	0.33 (0.18)
assistance_developing	1.09* (0.08)	1.16* (0.08)	1.18* (0.20)
public_good_global	-0.61* (0.07)	-0.61* (0.07)	-0.21 (0.12)
public_good_mixed	-0.71* (0.07)	-0.80* (0.07)	-0.58* (0.22)
trade_openness	0.07 (0.06)	0.06 (0.06)	0.07 (0.06)
igo_membership_count	0.02* (0.003)	0.02* (0.003)	0.02* (0.003)
polity	0.03* (0.01)	0.03* (0.01)	0.02* (0.01)
gdppc	0.07 (0.05)	0.07 (0.05)	-0.14* (0.06)
gdppc_squared	-0.05* (0.02)	-0.05* (0.02)	-0.05 (0.03)
gdp	0.10* (0.03)	0.10* (0.03)	0.10* (0.03)
legislative_approval	-0.003 (0.11)	-0.002 (0.11)	-0.21* (0.10)
ratification_global	0.04* (0.002)	0.04* (0.002)	0.04* (0.003)
ratification_in_region	0.02* (0.002)	0.02* (0.002)	0.004* (0.002)
t1	-0.26* (0.02)	-0.26* (0.02)	-0.27 (0.19)
t2	0.01* (0.001)	0.01* (0.001)	0.01 (0.01)
t3	-0.0001* (0.0000)	-0.0001* (0.0000)	-0.0001* (0.0001)
Constant	-1.94* (0.44)	-1.91* (0.44)	-2.34 (2.15)
Treaties	178	178	41
Countries	147	147	147
Years	51	51	38
Observations	373,162	373,162	48,570
Log Likelihood	-18,197.63	-18,187.09	-4,861.78

Note:

\*p<0.05

Model (3) excludes treaties not granting any TNA access.  
Model (3) uses 'Unspecified' as baseline category for range, depth, and permanence.

Table 12: Controlling for an additional lag of the dependent variable: lagged share of ratifications by income bracket (quintiles).

	(1)	(2)	(3)
tna_access	0.63* (0.05)		
intensity		0.35* (0.03)	
range Medium			1.37* (0.65)
range Full			1.48* (0.67)
depth Observe			-0.44 (0.49)
depth Speak			-0.49 (0.50)
permanence Adhoc			0.53* (0.24)
permanence Conditional			0.74* (0.25)
subject_energy	0.39* (0.08)	0.39* (0.08)	-3.32* (0.58)
subject_freshwater	-0.26* (0.13)	-0.28* (0.13)	-13.37* (0.20)
subject_habitat	0.36* (0.08)	0.43* (0.08)	0.01 (0.14)
subject_nature	0.26* (0.06)	0.21* (0.06)	0.14 (0.13)
subject_ocean	-0.53* (0.06)	-0.56* (0.06)	-1.16* (0.14)
subject_pollution	0.77* (0.08)	0.79* (0.08)	0.32 (0.18)
subject_species	0.22* (0.05)	0.20* (0.05)	0.20 (0.12)
subject_weapons	0.60* (0.12)	0.62* (0.12)	
obligations	-0.14* (0.04)	-0.15* (0.04)	-0.05 (0.12)
mon_and_enf	0.09* (0.04)	0.12* (0.04)	0.15 (0.13)
dispute_settlement	0.19* (0.04)	0.16* (0.04)	0.39* (0.13)
assistance_all	0.47* (0.06)	0.49* (0.06)	0.43* (0.10)
assistance_developing	1.10* (0.07)	1.16* (0.07)	1.48* (0.12)
public_good_global	-0.50* (0.06)	-0.50* (0.06)	-0.27* (0.08)
public_good_mixed	-0.71* (0.06)	-0.79* (0.07)	-0.25 (0.17)
trade_openness	0.04 (0.06)	0.04 (0.06)	0.03 (0.06)
igo_membership_count	0.02* (0.004)	0.02* (0.004)	0.03* (0.004)
polity	0.02* (0.01)	0.02* (0.01)	0.02* (0.01)
gdppc	0.25* (0.05)	0.25* (0.05)	0.02 (0.05)
gdppc_squared	-0.05* (0.02)	-0.05* (0.02)	-0.04 (0.03)
gdp	0.04 (0.04)	0.04 (0.04)	0.03 (0.04)
legislative_approval	0.13 (0.11)	0.13 (0.11)	-0.05 (0.10)
ratification_global	0.06* (0.003)	0.06* (0.003)	0.06* (0.004)
ratification_in_region	0.03* (0.002)	0.03* (0.002)	0.02* (0.003)
ratification_same_income_group	-0.03* (0.003)	-0.03* (0.003)	-0.03* (0.004)
t1	-0.24* (0.02)	-0.24* (0.02)	-0.12 (0.10)
t2	0.01* (0.001)	0.01* (0.001)	0.003 (0.003)
t3	-0.0001* (0.0000)	-0.0001* (0.0000)	-0.0000 (0.0000)
Constant	-3.11* (0.30)	-3.02* (0.30)	-5.13* (1.55)
Treaties	178	178	42
Countries	153	153	153
Years	61	61	49
Observations	601,899	601,899	92,415
Log Likelihood	-23,806.11	-23,786.81	-6,962.61

Note:

\*p<0.05

Model (3) excludes treaties not granting any TNA access.  
Model (3) uses 'Unspecified' as baseline category for range, depth, and permanence.

Table 13: Controlling for replacing the global and regional lag of the dependent variable by its lag within income brackets (quintiles).

	(1)	(2)	(3)
tna_access	0.93* (0.05)		
intensity		0.54* (0.03)	
range Medium			1.45* (0.68)
range Full			1.42* (0.68)
depth Observe			-0.43 (0.46)
depth Speak			-0.25 (0.47)
permanence Adhoc			0.95* (0.28)
permanence Conditional			1.15* (0.29)
subject_energy	-0.03 (0.07)	-0.04 (0.07)	-4.21* (0.58)
subject_freshwater	-0.24* (0.12)	-0.25* (0.12)	-13.61* (0.22)
subject_habitat	0.27* (0.07)	0.36* (0.07)	0.01 (0.12)
subject_nature	0.06 (0.06)	-0.03 (0.07)	-0.13 (0.13)
subject_ocean	-0.64* (0.06)	-0.69* (0.06)	-1.66* (0.15)
subject_pollution	0.66* (0.07)	0.68* (0.07)	0.27 (0.15)
subject_species	0.001 (0.04)	-0.03 (0.04)	0.01 (0.10)
subject_weapons	0.90* (0.12)	0.92* (0.12)	
obligations	-0.15* (0.04)	-0.19* (0.04)	0.04 (0.13)
mon_and_enf	-0.16* (0.04)	-0.11* (0.04)	-0.32* (0.11)
dispute_settlement	0.25* (0.04)	0.21* (0.04)	0.51* (0.12)
assistance_all	0.69* (0.06)	0.70* (0.06)	0.79* (0.10)
assistance_developing	1.60* (0.07)	1.67* (0.07)	2.26* (0.12)
public_good_global	-0.72* (0.05)	-0.71* (0.05)	-0.15 (0.08)
public_good_mixed	-1.05* (0.06)	-1.16* (0.06)	-0.29 (0.17)
trade_openness	0.05 (0.06)	0.05 (0.06)	0.02 (0.06)
igo_membership_count	0.02* (0.004)	0.02* (0.004)	0.03* (0.004)
polity	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)
gdppc	-0.02 (0.04)	-0.02 (0.04)	-0.13* (0.04)
gdppc_squared	-0.06* (0.02)	-0.06* (0.02)	-0.05* (0.03)
gdp	0.01 (0.03)	0.01 (0.03)	0.002 (0.04)
legislative_approval	0.22* (0.11)	0.22* (0.10)	0.001 (0.09)
ratification_same_income_group	0.04* (0.001)	0.03* (0.001)	0.03* (0.002)
t1	-0.25* (0.02)	-0.27* (0.02)	-0.13 (0.11)
t2	0.01* (0.001)	0.01* (0.001)	0.004 (0.003)
t3	-0.0001* (0.0000)	-0.0001* (0.0000)	-0.0000* (0.0000)
Constant	-2.57* (0.28)	-2.38* (0.28)	-5.64* (1.56)
Treaties	178	178	42
Countries	153	153	153
Years	61	61	49
Observations	601,899	601,899	92,415
Log Likelihood	-25,113.07	-25,063.63	-7,252.92

Note:

\*p<0.05

Model (3) excludes treaties not granting any TNA access.

Model (3) uses 'Unspecified' as baseline category for range, depth, and permanence.



## Using Different Subsamples of the Overall Sample

We re-estimate our main model using different subsets of our originally used data in order to show that our findings are no artifacts of the limits of our universe of multilateral environmental treaties or due to specific countries.

First, we show that our main findings remain unchanged if we study only observations including a treaty that can be considered global, that is, open for ratification for all countries. We therefore, limit our observations to those involving one of the 22 treaties studied by Roberts, Parks, and Vasquez (2004). Alternatively, we only include those treaties in the analysis that Spilker and Koubi (2016) report to allow all UN member countries to join.

Second, we drop all observations of treaties of the type “protocol” as defined by the IEA Database (see: <http://iea.uoregon.edu/page.php?query=static&file=definitions.htm>). Usually, international agreements entitled “protocol” are an addition to another international agreement and tend to be of a less formal nature than agreements entitled, for example, “treaty” or “convention”.

Third, we drop five treaties for which Mitchell (2014) reports multiple entries into force within a short period of time (e.g. due to repeated withdrawal and renewed acceptance of the treaty). For these treaties, the value of our dependent variable (ratification) was difficult to determine for particular years. Using this sub-sample does not change our main findings.

Fourth, we exclude 97 countries from our analysis which experienced either democratic regime change (Merkel 2010) or adverse regime change (“Armed Conflict and Intervention (ACI) Datasets: Regime Changes” 2015, downloaded Oct. 20 2016). Our main findings remain unchanged, which is important for two reasons. First, countries experiencing such a regime change are more likely than other countries to change the legislative and constitutional rules for treaty ratification. Our assumption that the variable *legislative\_approval* remains constant throughout the period under study although it has only been observed in 2007 appears least plausible for this group of regime change countries. Second, among such regime change countries there are many states that we consider the continuation of another state, e.g. we treat the Russian Federation as the Soviet Union’s successor state. Such a succession of states leads to difficulties when data from multiple sources is merged by country.

Fifth, we limit our analysis to 1950-2000 since we have not observed some of our variables after 2000 or 2005 but carried forward the last observed value. Results from this robustness test show that our main findings are not due to this naive imputation.

Sixth, we limit our analysis to 1975-2011 since only very few treaties granted TNAs any access to their meetings prior to the mid 1970s. Using this limited sample does not affect our main findings.

Table 14: Controlling for a much smaller sample of treaties, using the 22 global environmental treaties included in Roberts et al. (2004).

	(1)	(2)	(3)
tna_access	0.58* (0.10)		
intensity		0.28* (0.05)	
depth Speak			-5.91* (0.10)
permanence Adhoc			0.22 (0.25)
permanence Conditional			4.78* (0.23)
subject_energy			
subject_freshwater	0.43 (0.23)	0.40 (0.23)	
subject_habitat	1.97* (0.35)	1.85* (0.35)	-5.37* (0.30)
subject_nature	0.74* (0.25)	0.53 (0.27)	-0.83* (0.23)
subject_ocean	-1.45* (0.09)	-1.47* (0.10)	-10.82* (0.19)
subject_pollution	1.33* (0.30)	1.27* (0.32)	-5.82* (0.25)
subject_species	0.13 (0.20)	0.10 (0.21)	-5.52* (0.24)
subject_weapons			
obligations	0.57* (0.13)	0.52* (0.14)	-0.34* (0.12)
mon_and_enf	-1.36* (0.14)	-1.34* (0.14)	
dispute_settlement	-0.77* (0.11)	-0.72* (0.11)	
assistance_all	1.39* (0.15)	1.42* (0.16)	-0.48* (0.12)
assistance_developing	2.02* (0.16)	2.11* (0.18)	
public_good_global	1.18* (0.20)	1.08* (0.20)	
public_good_mixed	2.22* (0.32)	1.79* (0.35)	
trade_openness	0.04 (0.07)	0.04 (0.07)	-0.002 (0.07)
igo_membership_count	0.03* (0.005)	0.03* (0.005)	0.03* (0.005)
polity	0.02* (0.01)	0.02* (0.01)	0.02 (0.01)
gdppc	-0.02 (0.05)	-0.02 (0.05)	-0.17* (0.06)
gdppc_squared	-0.06* (0.03)	-0.06* (0.03)	-0.07* (0.04)
gdp	0.02 (0.04)	0.01 (0.04)	0.01 (0.05)
legislative_approval	-0.07 (0.12)	-0.08 (0.12)	-0.29* (0.12)
ratification_global	0.04* (0.002)	0.04* (0.002)	0.04* (0.003)
ratification_in_region	0.01* (0.002)	0.01* (0.002)	-0.003 (0.002)
t1	-0.05 (0.03)	-0.05 (0.03)	-0.59* (0.29)
t2	0.001 (0.001)	0.001 (0.001)	0.01 (0.01)
t3	-0.0000 (0.0000)	-0.0000 (0.0000)	-0.0001* (0.0001)
Constant	-6.16* (0.48)	-6.00* (0.49)	10.66* (3.64)
Treaties	22	22	11
Countries	154	154	154
Years	62	62	39
Observations	60,517	60,517	17,985
Log Likelihood	-6,262.93	-6,261.96	-3,275.86

Note:

\*p<0.05

Model (3) excludes treaties not granting any TNA access.

Model (3) uses 'Observe' (depth) and 'Unspecified' (permanence) as baseline categories.

Model (3) cannot include range as covariate because it does not vary in the smaller sample.

	Name
1	Convention For The Protection Of The Mediterranean Sea Against Pollution
2	Convention For The Protection Of The Ozone Layer
3	Convention For The Protection Of The World Cultural And Natural Heritage
4	Convention On Biological Diversity
5	Convention On Environmental Impact Assessment In A Transboundary Context
6	Convention On Fishing And Conservation Of The Living Resources Of The High Seas
7	Convention On International Trade In Endangered Species Of Wild Fauna And Flora
8	Convention On Long-Range Transboundary Air Pollution
9	Convention On The Conservation Of Migratory Species Of Wild Animals
10	Convention On The High Seas
11	Convention On The Prevention Of Marine Pollution By Dumping Of Wastes And Other Matter
12	Convention On The Prevention Of Marine Pollution From Land-Based Sources
13	Convention On The Transboundary Effects Of Industrial Accidents
14	Convention On Wetlands Of International Importance Especially As Waterfowl Habitat
15	Convention To Combat Desertification In Those Countries Experiencing Serious Drought And/Or Desertification, Particularly In Africa
16	International Convention For The Prevention Of Pollution Of The Sea By Oil
17	International Convention For The Regulation Of Whaling
18	International Convention On Civil Liability For Oil Pollution Damage
19	International Convention On Oil Pollution Preparedness, Response And Cooperation
20	Montreal Protocol On Substances That Deplete The Ozone Layer
21	United Nations Convention On The Law Of The Sea
22	United Nations Framework Convention On Climate Change

Table 15: List of global environmental treaties included in the sample of 22 treaties from Roberts et al. (2004)

Table 16: Controlling for a subset of the original sample only including treaties that any country can become a member of (Spilker and Koubi 2016)

	(1)	(2)	(3)
tna_access	0.50* (0.06)		
intensity		0.19* (0.03)	
depth Speak			-2.76* (0.31)
permanence Adhoc			7.64* (0.53)
permanence Conditional			-0.24 (1.19)
subject_energy	1.52* (0.12)	1.43* (0.12)	
subject_freshwater	-0.17 (0.14)	-0.18 (0.14)	
subject_habitat	1.01* (0.11)	0.95* (0.11)	2.60* (0.41)
subject_nature	0.42* (0.09)	0.35* (0.10)	9.15* (0.88)
subject_ocean	-0.40* (0.06)	-0.47* (0.06)	-1.74* (0.18)
subject_pollution	0.93* (0.10)	0.95* (0.10)	0.54* (0.25)
subject_species	0.12 (0.07)	0.10 (0.07)	0.82* (0.20)
subject_weapons	1.30* (0.13)	1.16* (0.13)	
obligations	-0.32* (0.06)	-0.29* (0.06)	-0.59* (0.14)
mon_and_enf	0.67* (0.06)	0.67* (0.06)	0.82* (0.20)
dispute_settlement	0.01 (0.06)	0.003 (0.06)	5.50* (0.50)
assistance_all	0.63* (0.06)	0.68* (0.06)	-0.10 (0.26)
assistance_developing	1.89* (0.07)	2.01* (0.07)	0.55* (0.25)
public_good_global	-0.44* (0.06)	-0.49* (0.06)	1.43* (0.24)
public_good_mixed	1.20* (0.14)	1.00* (0.16)	11.23* (0.96)
trade_openness	0.02 (0.06)	0.01 (0.06)	0.004 (0.06)
igo_membership_count	0.02* (0.004)	0.02* (0.004)	0.03* (0.004)
polity	0.02* (0.01)	0.02* (0.01)	0.02* (0.01)
gdppc	0.06 (0.04)	0.06 (0.04)	-0.12* (0.06)
gdppc_squared	-0.03 (0.02)	-0.03 (0.02)	-0.04 (0.03)
gdp	0.04 (0.04)	0.04 (0.04)	-0.01 (0.04)
legislative_approval	0.01 (0.10)	0.01 (0.10)	-0.16 (0.10)
ratification_global	0.04* (0.002)	0.04* (0.002)	0.05* (0.003)
ratification_in_region	0.003* (0.002)	0.003* (0.002)	-0.003 (0.002)
t1	-0.28* (0.02)	-0.28* (0.02)	-0.98* (0.17)
t2	0.01* (0.001)	0.01* (0.001)	0.02* (0.004)
t3	-0.0001* (0.0000)	-0.0001* (0.0000)	-0.0002* (0.0000)
Constant	-2.36* (0.31)	-2.33* (0.31)	-5.05* (2.33)
Treaties	53	53	17
Countries	154	154	154
Years	62	62	49
Observations	166,432	166,432	31,593
Log Likelihood	-13,069.95	-13,081.47	-4,265.54

Note:

\*p<0.05

Model (3) excludes treaties not granting any TNA access.

Model (3) uses 'Observe' (depth) and 'Unspecified' (permanence) as baseline categories.

Model (3) cannot include range as covariate because it does not vary in the smaller sample.

Table 17: Controlling for a subset of the original sample containing only agreements and no protocols

	(1)	(2)	(3)
tna_access	0.60* (0.05)		
intensity		0.34* (0.03)	
range Medium			0.42 (0.56)
range Full			0.46 (0.55)
depth Observe			-1.23* (0.53)
depth Speak			-1.29* (0.53)
permanence Adhoc			0.34 (0.21)
permanence Conditional			0.65* (0.21)
subject_energy	0.33* (0.08)	0.32* (0.08)	-3.51* (0.59)
subject_freshwater	-0.22 (0.12)	-0.24 (0.12)	-13.53* (0.20)
subject_habitat	0.52* (0.07)	0.61* (0.07)	0.15 (0.13)
subject_nature	0.26* (0.06)	0.22* (0.06)	0.45* (0.15)
subject_ocean	-0.42* (0.05)	-0.45* (0.05)	-1.33* (0.16)
subject_pollution	0.68* (0.07)	0.72* (0.07)	1.09* (0.26)
subject_species	0.04 (0.05)	0.02 (0.05)	0.23 (0.15)
subject_weapons	0.70* (0.11)	0.74* (0.11)	
obligations	-0.21* (0.04)	-0.24* (0.04)	0.39* (0.16)
mon_and_enf	0.06 (0.04)	0.07 (0.04)	-0.04 (0.16)
dispute_settlement	0.31* (0.04)	0.28* (0.04)	0.53* (0.12)
assistance_all	0.54* (0.06)	0.56* (0.06)	0.07 (0.12)
assistance_developing	1.08* (0.07)	1.14* (0.07)	1.14* (0.11)
public_good_global	-0.53* (0.06)	-0.53* (0.06)	-0.59* (0.14)
public_good_mixed	-0.43* (0.07)	-0.52* (0.07)	-1.09* (0.23)
trade_openness	0.03 (0.06)	0.03 (0.06)	-0.02 (0.06)
igo_membership_count	0.02* (0.004)	0.02* (0.004)	0.03* (0.004)
polity	0.03* (0.01)	0.03* (0.01)	0.02* (0.01)
gdppc	0.10* (0.04)	0.10* (0.04)	-0.03 (0.05)
gdppc_squared	-0.05* (0.02)	-0.05* (0.02)	-0.03 (0.03)
gdp	0.04 (0.04)	0.04 (0.04)	0.004 (0.04)
legislative_approval	0.11 (0.11)	0.11 (0.11)	-0.09 (0.10)
ratification_global	0.04* (0.002)	0.04* (0.002)	0.04* (0.003)
ratification_in_region	0.02* (0.002)	0.02* (0.002)	0.01* (0.002)
t1	-0.26* (0.02)	-0.27* (0.02)	-0.13 (0.11)
t2	0.01* (0.001)	0.01* (0.001)	0.003 (0.003)
t3	-0.0001* (0.0000)	-0.0001* (0.0000)	-0.0000* (0.0000)
Constant	-2.86* (0.27)	-2.75* (0.27)	-3.40* (1.56)
Treaties	132	132	38
Countries	154	154	154
Years	62	62	49
Observations	461,289	461,289	89,456
Log Likelihood	-19,316.78	-19,296.96	-5,948.25

Note:

\*p<0.05

Model (3) excludes treaties not granting any TNA access.  
Model (3) uses 'Unspecified' as baseline category for range, depth, and permanence.

Table 18: Controlling for a subset of the original sample dropping treaties for which Mitchell (2014) reports multiple instances of entry into force

	(1)	(2)	(3)
tna_access	0.66* (0.05)		
intensity		0.37* (0.03)	
range Medium			0.91 (0.55)
range Full			1.02 (0.57)
depth Observe			-0.49 (0.48)
depth Speak			-0.56 (0.49)
permanence Adhoc			0.51* (0.24)
permanence Conditional			0.74* (0.25)
subject_energy	0.17* (0.08)	0.17* (0.08)	-3.48* (0.58)
subject_freshwater	-0.23 (0.12)	-0.24* (0.12)	-13.39* (0.20)
subject_habitat	0.42* (0.07)	0.50* (0.07)	0.08 (0.13)
subject_nature	0.24* (0.06)	0.20* (0.06)	0.15 (0.13)
subject_ocean	-0.54* (0.06)	-0.58* (0.06)	-1.22* (0.14)
subject_pollution	0.79* (0.07)	0.81* (0.07)	0.43* (0.17)
subject_species	0.12* (0.05)	0.10* (0.05)	0.19 (0.11)
subject_weapons	0.57* (0.12)	0.60* (0.12)	
obligations	-0.15* (0.04)	-0.17* (0.04)	0.001 (0.12)
mon_and_enf	0.11* (0.04)	0.14* (0.04)	0.13 (0.12)
dispute_settlement	0.29* (0.04)	0.27* (0.04)	0.41* (0.12)
assistance_all	0.47* (0.06)	0.49* (0.06)	0.39* (0.09)
assistance_developing	1.09* (0.07)	1.16* (0.07)	1.43* (0.12)
public_good_global	-0.52* (0.06)	-0.51* (0.06)	-0.27* (0.08)
public_good_mixed	-0.72* (0.06)	-0.81* (0.07)	-0.40* (0.17)
trade_openness	0.05 (0.06)	0.05 (0.06)	0.03 (0.06)
igo_membership_count	0.02* (0.004)	0.02* (0.004)	0.03* (0.004)
polity	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)
gdppc	0.12* (0.04)	0.12* (0.04)	-0.05 (0.05)
gdppc_squared	-0.05* (0.02)	-0.05* (0.02)	-0.04 (0.03)
gdp	0.03 (0.04)	0.03 (0.04)	0.01 (0.04)
legislative_approval	0.08 (0.11)	0.08 (0.11)	-0.08 (0.10)
ratification_global	0.04* (0.002)	0.04* (0.002)	0.04* (0.002)
ratification_in_region	0.02* (0.002)	0.02* (0.002)	0.01* (0.002)
t1	-0.29* (0.02)	-0.30* (0.02)	-0.14 (0.10)
t2	0.01* (0.001)	0.01* (0.001)	0.004 (0.003)
t3	-0.0001* (0.0000)	-0.0001* (0.0000)	-0.0000* (0.0000)
Constant	-2.53* (0.31)	-2.42* (0.30)	-4.38* (1.49)
Treaties	173	173	41
Countries	154	154	154
Years	60	60	49
Observations	588,090	588,090	93,984
Log Likelihood	-23,642.47	-23,625.82	-7,165.48

Note:

\*p<0.05

Model (3) excludes treaties not granting any TNA access.

Model (3) uses 'Unspecified' as baseline category for range, depth, and permanence.

Table 19: Dropping observations of regime change countries

	(1)	(2)	(3)
tna_access	0.58* (0.07)		
intensity		0.32* (0.04)	
range Medium			0.69 (0.75)
range Full			0.75 (0.79)
depth Observe			-1.32* (0.67)
depth Speak			-1.72* (0.68)
permanence Adhoc			0.23 (0.31)
permanence Conditional			0.71* (0.33)
subject_energy	0.43* (0.10)	0.43* (0.10)	-3.14* (0.73)
subject_freshwater	-0.26 (0.16)	-0.28 (0.16)	-13.40* (0.33)
subject_habitat	0.37* (0.11)	0.44* (0.11)	0.21 (0.23)
subject_nature	0.29* (0.09)	0.27* (0.09)	0.40* (0.20)
subject_ocean	-0.63* (0.09)	-0.66* (0.09)	-1.21* (0.21)
subject_pollution	0.88* (0.11)	0.90* (0.11)	0.95* (0.28)
subject_species	0.08 (0.07)	0.07 (0.07)	0.48* (0.18)
subject_weapons	0.37* (0.17)	0.40* (0.16)	
obligations	-0.10 (0.06)	-0.11 (0.06)	-0.04 (0.20)
mon_and_enf	0.11* (0.05)	0.13* (0.05)	0.31 (0.16)
dispute_settlement	0.20* (0.06)	0.18* (0.06)	0.32 (0.20)
assistance_all	0.32* (0.09)	0.34* (0.09)	0.32* (0.13)
assistance_developing	0.99* (0.10)	1.05* (0.10)	1.37* (0.18)
public_good_global	-0.40* (0.08)	-0.40* (0.08)	-0.44* (0.13)
public_good_mixed	-0.71* (0.10)	-0.78* (0.11)	-0.56 (0.31)
trade_openness	0.27* (0.09)	0.26* (0.09)	0.16 (0.10)
igo_membership_count	0.01* (0.005)	0.01* (0.005)	0.02* (0.004)
polity	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)
gdppc	-0.05 (0.06)	-0.05 (0.06)	-0.19* (0.07)
gdppc_squared	-0.04 (0.03)	-0.03 (0.03)	-0.003 (0.04)
gdp	0.17* (0.04)	0.17* (0.04)	0.10 (0.05)
legislative_approval	0.10 (0.14)	0.10 (0.14)	-0.02 (0.12)
ratification_global	0.04* (0.003)	0.04* (0.003)	0.04* (0.004)
ratification_in_region	0.02* (0.002)	0.02* (0.002)	0.01* (0.002)
t1	-0.26* (0.02)	-0.26* (0.02)	-0.001 (0.15)
t2	0.01* (0.001)	0.01* (0.001)	0.001 (0.004)
t3	-0.0001* (0.0000)	-0.0001* (0.0000)	-0.0000 (0.0000)
Constant	-2.49* (0.35)	-2.43* (0.34)	-4.99* (2.41)
Treaties	178	178	42
Countries	64	64	64
Years	62	62	49
Observations	245,241	245,241	38,355
Log Likelihood	-11,515.67	-11,512.25	-3,064.65

Note:

\*p<0.05

Model (3) excludes treaties not granting any TNA access.  
Model (3) uses 'Unspecified' as baseline category for range, depth, and permanence.

Table 20: List of regime change countries included in the original analysis that we removed in order to assess the robustness of our main findings. We consider democratic as well as adverse regime changes.

	Country
1	Afghanistan
2	Albania
3	Algeria
4	Angola
5	Argentina
6	Armenia
7	Azerbaijan
8	Bangladesh
9	Belarus
10	Benin
11	Brazil
12	Bulgaria
13	Burkina Faso
14	Burundi
15	Cambodia
16	Central African Republic
17	Chad
18	Chile
19	Comoros
20	Congo, Democratic Republic of
21	Congo, Republic of the
22	Cote d'Ivoire
23	Cuba
24	Cyprus
25	Czechoslovakia
26	Czech Republic
27	Dominican Republic
28	Ecuador
29	El Salvador
30	Equatorial Guinea
31	Ethiopia
32	Fiji
33	France
34	Gambia
35	Georgia
36	Germany
37	Germany, Former GDR
38	Ghana
39	Greece



40 Guinea-Bissau  
41 Guyana  
42 Haiti  
43 Hungary  
44 Indonesia  
45 Iran  
46 Iraq  
47 Jordan  
48 Kenya  
49 Korea, Republic of  
50 Kyrgyzstan  
51 Laos  
52 Lebanon  
53 Lesotho  
54 Liberia  
55 Madagascar  
56 Malaysia  
57 Mauritania  
58 Mexico  
59 Moldova  
60 Morocco  
61 Myanmar  
62 Nepal  
63 Nicaragua  
64 Niger  
65 Nigeria  
66 Pakistan  
67 Panama  
68 Peru  
69 Philippines  
70 Poland  
71 Portugal  
72 Romania  
73 Russian Federation  
74 Rwanda  
75 Senegal  
76 Serbia  
77 Sierra Leone  
78 Singapore  
79 Solomon Islands  
80 Somalia  
81 South Africa  
82 Spain  
83 Sudan  
84 Suriname

85	Swaziland
86	Syria
87	Taiwan
88	Thailand
89	Turkey
90	Uganda
91	Ukraine
92	Uruguay
93	Venezuela
94	Viet Nam
95	Yemen
96	Zambia
97	Zimbabwe

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Table 21: Controlling for a subset of the original sample containing only treaty-country dyads observed before 2001

	(1)	(2)	(3)
tna_access	0.69* (0.06)		
intensity		0.37* (0.03)	
range Medium			1.00 (0.57)
range Full			1.43* (0.62)
depth Observe			-0.77 (0.52)
depth Speak			-0.63 (0.55)
permanence Adhoc			-0.03 (0.27)
permanence Conditional			0.05 (0.32)
subject_energy	0.40* (0.09)	0.42* (0.09)	-2.27* (0.57)
subject_freshwater	-0.21 (0.14)	-0.23 (0.13)	-12.73* (0.27)
subject_habitat	0.61* (0.07)	0.69* (0.07)	0.37 (0.21)
subject_nature	0.30* (0.06)	0.28* (0.06)	0.01 (0.14)
subject_ocean	-0.41* (0.07)	-0.45* (0.07)	-1.14* (0.17)
subject_pollution	0.83* (0.08)	0.88* (0.08)	0.46 (0.28)
subject_species	0.07 (0.05)	0.07 (0.05)	-0.08 (0.20)
subject_weapons	0.71* (0.13)	0.76* (0.12)	
obligations	-0.17* (0.05)	-0.18* (0.04)	0.19 (0.17)
mon_and_enf	-0.09 (0.05)	-0.07 (0.05)	-0.53* (0.15)
dispute_settlement	0.25* (0.05)	0.23* (0.05)	0.62* (0.20)
assistance_all	0.52* (0.06)	0.54* (0.06)	0.37* (0.17)
assistance_developing	1.10* (0.08)	1.16* (0.08)	1.20* (0.20)
public_good_global	-0.63* (0.07)	-0.62* (0.07)	-0.19 (0.12)
public_good_mixed	-0.71* (0.07)	-0.80* (0.07)	-0.59* (0.22)
trade_openness	0.04 (0.07)	0.04 (0.07)	0.04 (0.06)
igo_membership_count	0.02* (0.004)	0.02* (0.004)	0.03* (0.004)
polity	0.03* (0.01)	0.03* (0.01)	0.02* (0.01)
gdppc	0.12* (0.05)	0.12* (0.05)	-0.12* (0.05)
gdppc_squared	-0.06* (0.02)	-0.05* (0.02)	-0.06* (0.03)
gdp	0.08* (0.04)	0.08* (0.04)	0.07 (0.04)
legislative_approval	-0.02 (0.11)	-0.02 (0.11)	-0.21* (0.10)
ratification_global	0.04* (0.002)	0.04* (0.002)	0.04* (0.003)
ratification_in_region	0.02* (0.002)	0.02* (0.002)	0.004* (0.002)
t1	-0.26* (0.02)	-0.26* (0.02)	-0.28 (0.19)
t2	0.01* (0.001)	0.01* (0.001)	0.01 (0.01)
t3	-0.0001* (0.0000)	-0.0001* (0.0000)	-0.0001* (0.0001)
Constant	-2.73* (0.29)	-2.69* (0.29)	-2.70 (2.14)
Treaties	178	178	41
Countries	153	153	153
Years	51	51	38
Observations	389,267	389,267	50,776
Log Likelihood	-18,719.75	-18,708.00	-5,016.55

Note:

\*p<0.05

Model (3) excludes treaties not granting any TNA access.  
 Model (3) uses 'Unspecified' as baseline category for range, depth, and permanence.

Table 22: Controlling for a subset of the original sample containing only treaty-country dyads observed after 1974

	(1)	(2)	(3)
tna_access	0.61* (0.05)		
intensity		0.34* (0.03)	
range Medium			0.88 (0.54)
range Full			0.97 (0.56)
depth Observe			-0.48 (0.48)
depth Speak			-0.66 (0.49)
permanence Adhoc			0.51* (0.22)
permanence Conditional			0.74* (0.23)
subject_energy	0.35* (0.08)	0.35* (0.08)	-3.46* (0.58)
subject_freshwater	-0.39* (0.12)	-0.40* (0.12)	-13.45* (0.20)
subject_habitat	0.40* (0.07)	0.47* (0.07)	0.11 (0.13)
subject_nature	0.13* (0.07)	0.08 (0.07)	0.15 (0.13)
subject_ocean	-0.57* (0.07)	-0.61* (0.07)	-1.20* (0.14)
subject_pollution	0.67* (0.08)	0.69* (0.08)	0.48* (0.17)
subject_species	0.18* (0.05)	0.17* (0.05)	0.25* (0.12)
subject_weapons	0.34* (0.11)	0.37* (0.11)	
obligations	-0.06 (0.04)	-0.08 (0.04)	0.02 (0.12)
mon_and_enf	0.12* (0.04)	0.15* (0.04)	0.12 (0.12)
dispute_settlement	0.22* (0.04)	0.19* (0.04)	0.40* (0.12)
assistance_all	0.47* (0.06)	0.50* (0.06)	0.34* (0.09)
assistance_developing	1.05* (0.07)	1.11* (0.07)	1.35* (0.12)
public_good_global	-0.47* (0.05)	-0.46* (0.05)	-0.25* (0.08)
public_good_mixed	-0.81* (0.07)	-0.92* (0.07)	-0.50* (0.17)
trade_openness	0.03 (0.06)	0.03 (0.06)	0.03 (0.06)
igo_membership_count	0.02* (0.005)	0.02* (0.005)	0.03* (0.004)
polity	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)
gdppc	0.13* (0.05)	0.13* (0.05)	-0.05 (0.05)
gdppc_squared	-0.05* (0.02)	-0.05* (0.02)	-0.05 (0.03)
gdp	0.03 (0.04)	0.03 (0.04)	0.01 (0.05)
legislative_approval	0.17 (0.12)	0.17 (0.12)	-0.09 (0.10)
ratification_global	0.04* (0.002)	0.04* (0.002)	0.04* (0.002)
ratification_in_region	0.02* (0.002)	0.02* (0.002)	0.01* (0.002)
t1	-0.59* (0.14)	-0.61* (0.14)	-0.87* (0.23)
t2	0.01* (0.003)	0.02* (0.003)	0.02* (0.01)
t3	-0.0001* (0.0000)	-0.0001* (0.0000)	-0.0002* (0.0000)
Constant	1.53 (1.84)	1.86 (1.83)	6.08 (3.24)
Treaties	178	178	42
Countries	154	154	154
Years	37	37	37
Observations	566,837	566,837	92,874
Log Likelihood	-22,076.78	-22,060.57	-7,034.74

Note:

\*p<0.05

Model (3) excludes treaties not granting any TNA access.  
Model (3) uses 'Unspecified' as baseline category for range, depth, and permanence.

## **Controlling for Different Ways of Clustering the Standard Errors**

In our main model, we clustered standard errors by country. If we cluster standard errors by treaty-country or treaty instead, our findings remain unchanged.

Table 23: Main results (logit regression with robust standard errors clustered by treaty-country dyads)

	(1)	(2)	(3)
tna_access	0.63* (0.05)		
intensity		0.35* (0.02)	
range Medium			0.88 (0.53)
range Full			0.99 (0.58)
depth Observe			-0.49 (0.48)
depth Speak			-0.56 (0.48)
permanence Adhoc			0.55* (0.25)
permanence Conditional			0.77* (0.29)
subject_energy	0.31* (0.07)	0.31* (0.07)	-3.48* (0.59)
subject_freshwater	-0.29* (0.13)	-0.31* (0.13)	-13.39* (0.20)
subject_habitat	0.40* (0.07)	0.48* (0.07)	0.08 (0.14)
subject_nature	0.24* (0.05)	0.20* (0.06)	0.15 (0.10)
subject_ocean	-0.53* (0.04)	-0.57* (0.04)	-1.22* (0.11)
subject_pollution	0.77* (0.07)	0.80* (0.07)	0.43* (0.17)
subject_species	0.16* (0.06)	0.14* (0.06)	0.20 (0.13)
subject_weapons	0.54* (0.10)	0.57* (0.10)	
obligations	-0.11* (0.04)	-0.12* (0.04)	0.002 (0.13)
mon_and_enf	0.08 (0.05)	0.11* (0.05)	0.12 (0.12)
dispute_settlement	0.22* (0.04)	0.20* (0.04)	0.42* (0.15)
assistance_all	0.45* (0.06)	0.47* (0.05)	0.38* (0.13)
assistance_developing	1.08* (0.06)	1.15* (0.06)	1.43* (0.12)
public_good_global	-0.52* (0.05)	-0.51* (0.05)	-0.27* (0.11)
public_good_mixed	-0.74* (0.07)	-0.83* (0.08)	-0.40* (0.19)
trade_openness	0.04 (0.03)	0.04 (0.03)	0.03 (0.04)
igo_membership_count	0.02* (0.002)	0.02* (0.002)	0.03* (0.002)
polity	0.03* (0.003)	0.03* (0.003)	0.03* (0.005)
gdppc	0.12* (0.02)	0.12* (0.02)	-0.05 (0.04)
gdppc_squared	-0.05* (0.01)	-0.05* (0.01)	-0.04* (0.02)
gdp	0.04* (0.02)	0.04* (0.02)	0.01 (0.02)
legislative_approval	0.10* (0.05)	0.10* (0.05)	-0.08 (0.07)
ratification_global	0.04* (0.001)	0.04* (0.001)	0.04* (0.002)
ratification_in_region	0.02* (0.001)	0.02* (0.001)	0.01* (0.001)
t1	-0.24* (0.02)	-0.25* (0.02)	-0.15 (0.09)
t2	0.01* (0.001)	0.01* (0.001)	0.004 (0.002)
t3	-0.0001* (0.0000)	-0.0001* (0.0000)	-0.0000* (0.0000)
Constant	-3.09* (0.19)	-3.00* (0.19)	-4.32* (1.34)
Treaties	178	178	42
Countries	154	154	154
Years	62	62	49
Observations	612,429	612,429	94,656
Log Likelihood	-24,805.99	-24,791.34	-7,166.33

Note:

\*p<0.05

Model (3) excludes treaties not granting any TNA access.  
Model (3) uses 'Unspecified' as baseline category for range, depth, and permanence.

Table 24: Main results (logit regression with robust standard errors clustered by treaties)

	(1)	(2)	(3)
tna_access	0.63* (0.17)		
intensity		0.35* (0.09)	
range Medium			0.88 (1.16)
range Full			0.99 (1.14)
depth Observe			-0.49 (0.78)
depth Speak			-0.56 (0.80)
permanence Adhoc			0.55 (1.02)
permanence Conditional			0.77 (1.07)
subject_energy	0.31 (0.39)	0.31 (0.39)	-3.48* (0.18)
subject_freshwater	-0.29 (0.42)	-0.31 (0.40)	-13.39* (1.12)
subject_habitat	0.40* (0.20)	0.48* (0.20)	0.08 (0.38)
subject_nature	0.24 (0.19)	0.20 (0.20)	0.15 (0.32)
subject_ocean	-0.53* (0.15)	-0.57* (0.16)	-1.22* (0.38)
subject_pollution	0.77* (0.25)	0.80* (0.26)	0.43 (0.52)
subject_species	0.16 (0.19)	0.14 (0.20)	0.20 (0.37)
subject_weapons	0.54 (0.35)	0.57 (0.34)	
obligations	-0.11 (0.16)	-0.12 (0.16)	0.002 (0.41)
mon_and_enf	0.08 (0.17)	0.11 (0.17)	0.12 (0.37)
dispute_settlement	0.22 (0.16)	0.20 (0.16)	0.42 (0.54)
assistance_all	0.45* (0.22)	0.47* (0.22)	0.38 (0.49)
assistance_developing	1.08* (0.23)	1.15* (0.23)	1.43* (0.41)
public_good_global	-0.52* (0.20)	-0.51* (0.20)	-0.27 (0.34)
public_good_mixed	-0.74* (0.31)	-0.83* (0.27)	-0.40 (0.55)
trade_openness	0.04 (0.03)	0.04 (0.03)	0.03 (0.06)
igo_membership_count	0.02* (0.002)	0.02* (0.002)	0.03* (0.003)
polity	0.03* (0.004)	0.03* (0.004)	0.03* (0.01)
gdppc	0.12* (0.04)	0.12* (0.04)	-0.05 (0.06)
gdppc_squared	-0.05* (0.01)	-0.05* (0.01)	-0.04 (0.02)
gdp	0.04 (0.02)	0.04 (0.02)	0.01 (0.04)
legislative_approval	0.10 (0.06)	0.10 (0.06)	-0.08 (0.11)
ratification_global	0.04* (0.004)	0.04* (0.004)	0.04* (0.005)
ratification_in_region	0.02* (0.004)	0.02* (0.004)	0.01 (0.01)
t1	-0.24* (0.05)	-0.25* (0.05)	-0.15 (0.16)
t2	0.01* (0.002)	0.01* (0.002)	0.004 (0.004)
t3	-0.0001* (0.0000)	-0.0001* (0.0000)	-0.0000 (0.0000)
Constant	-3.09* (0.57)	-3.00* (0.57)	-4.32 (2.35)
Treaties	178	178	42
Countries	154	154	154
Years	62	62	49
Observations	612,429	612,429	94,656
Log Likelihood	-24,805.99	-24,791.34	-7,166.33

Note:

\*p<0.05

Model (3) excludes treaties not granting any TNA access.  
 Model (3) uses 'Unspecified' as baseline category for range, depth, and permanence.

## Controlling for Different Regression Techniques

Our main results remain unchanged if we use a complementary log-log link function instead of the logit link function. While the logit link function is commonly considered as default, a conditional log-log link function might be a valid alternative if the dependent variable is severely skewed as it is the case with treaty ratification.



Table 25: Complementary log-log regression with robust standard errors clustered by country. Dummy variables for years are included in the regression equation but not reported in this table.

	(1)	(2)	(3)
tna_access	0.59* (0.05)		
intensity		0.34* (0.03)	
range Medium			1.06* (0.54)
range Full			1.11* (0.56)
depth Observe			-0.42 (0.47)
depth Speak			-0.52 (0.48)
permanence Adhoc			0.46* (0.22)
permanence Conditional			0.85* (0.23)
subject_energy	0.31* (0.07)	0.31* (0.07)	-3.42* (0.58)
subject_freshwater	-0.26* (0.13)	-0.28* (0.13)	-13.27* (0.20)
subject_habitat	0.37* (0.08)	0.44* (0.07)	0.18 (0.13)
subject_nature	0.24* (0.06)	0.19* (0.06)	0.07 (0.12)
subject_ocean	-0.48* (0.06)	-0.51* (0.06)	-1.20* (0.13)
subject_pollution	0.72* (0.07)	0.75* (0.07)	0.45* (0.16)
subject_species	0.18* (0.04)	0.16* (0.04)	0.17 (0.11)
subject_weapons	0.56* (0.11)	0.59* (0.11)	
obligations	-0.10* (0.04)	-0.12* (0.04)	0.07 (0.12)
mon_and_enf	0.10* (0.04)	0.13* (0.04)	0.04 (0.11)
dispute_settlement	0.22* (0.04)	0.19* (0.04)	0.33* (0.11)
assistance_all	0.47* (0.06)	0.48* (0.06)	0.47* (0.09)
assistance_developing	1.03* (0.07)	1.08* (0.07)	1.38* (0.11)
public_good_global	-0.52* (0.06)	-0.51* (0.06)	-0.32* (0.08)
public_good_mixed	-0.71* (0.06)	-0.80* (0.06)	-0.51* (0.15)
trade_openness	0.03 (0.06)	0.03 (0.06)	0.02 (0.06)
igo_membership_count	0.02* (0.004)	0.02* (0.004)	0.03* (0.004)
polity	0.03* (0.01)	0.03* (0.01)	0.02* (0.01)
gdppc	0.12* (0.04)	0.12* (0.04)	-0.04 (0.04)
gdppc_squared	-0.04* (0.02)	-0.04* (0.02)	-0.04 (0.03)
gdp	0.03 (0.04)	0.03 (0.04)	0.01 (0.04)
legislative_approval	0.08 (0.11)	0.08 (0.11)	-0.10 (0.09)
ratification_global	0.04* (0.002)	0.04* (0.002)	0.04* (0.002)
ratification_in_region	0.02* (0.002)	0.02* (0.002)	0.01* (0.002)
Constant	-3.52* (0.53)	-3.48* (0.53)	-4.61* (0.81)
Year dummies	Yes	Yes	Yes
Treaties	178	178	42
Countries	154	154	154
Years	62	62	49
Observations	612,429	612,429	94,656
Log Likelihood	-24,801.44	-24,777.32	-7,062.02

Note:

\*p<0.05

Model (3) excludes treaties not granting any TNA access.  
Model (3) uses 'Unspecified' as baseline category for range, depth, and permanence.

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