Online appendix for "Enforcing Boundaries: China's Overseas NGO Law and Operational Constraints for Global Civil Society"

Meng Ye[1] and Andrew Heiss[1]

[1]Georgia State University

Author note

Meng Ye, https://orcid.org/0000-0002-6552-8338
Andrew Heiss, https://orcid.org/0000-0002-3948-3914

Online appendix for "Enforcing Boundaries: China's Overseas NGO Law and Operational Constraints for Global Civil Society"

Model details and results

We use Stan (Stan Development Team, 2023b, p. v2.26.1; 2023a, p. v2.3.1) through R (R Core Team, 2023, p. v4.3.1) and **brms** (Bürkner, 2017, p. v2.20.5) to estimate our ordered Beta regression models (Kubinec, 2022). We simulate 4 MCMC chains with 2,000 draws in each chain, 1,000 of which are used for warmup, resulting in 4,000 (1,000 × 4) draws per model parameter. We assess convergence with visual inspection, and all chains converge. Complete results from all the models, along with posterior predictive checks, goodness-of-fit measures, and model diagnostics—as well as our code and data—are available `ANONYMIZED_URL`. We include the formal definition and priors for our model below.

Registered provinces for INGO i

$$\text{Count of provinces} \sim \text{Ordered Beta}(\mu_i, \phi_y, k_{1_y}, k_{2_y})$$

Model of outcome average

$$
\begin{aligned}
\mu_i = \ & \beta_0 + \beta_1 \, \text{Issue[Arts and culture]} + \beta_2 \, \text{Issue[Education]} + \\
& \beta_3 \, \text{Issue[Industry association]} + \beta_4 \, \text{Issue[Economy and trade]} + \\
& \beta_5 \, \text{Issue[Charity and humanitarian]} + \beta_6 \, \text{Issue[General]} + \\
& \beta_7 \, \text{Issue[Health]} + \beta_8 \, \text{Issue[Environment]} + \\
& \beta_9 \, \text{Issue[Science and technology]} + \beta_{10} \, \text{Local connections} + \\
& \beta_{11} \, \text{Time since January 2017} + \beta_{12} \, \text{Year registered}
\end{aligned}
$$

Priors

$\beta_0 \sim$	Student $t(\nu = 3, \mu = 0, \sigma = 2.5)$	Intercept
$\beta_{1..12} \sim$	$\mathcal{N}(0, 5)$	Coefficients
$\phi_y \sim$	Exponential$(1/100)$	Variability in province count
$k_{1_y}, k_{2_y} \sim$	Induced Dirichlet$(1, 1, 1)$,	0–continuous and continuous–1 cutpoints
	or $\left[P(\alpha_1), P(\alpha_1 + \alpha_2) \right]$	(boundaries between 3 Dirichlet columns)

Table 1: Complete model coefficients

	(1)	(2)
Intercept	-0.23	-0.24
	[-0.80, 0.37]	[-0.81, 0.39]
Issue [Arts and culture]	1.30	1.30
	[0.52, 2.11]	[0.52, 2.13]
Issue [Education]	-1.12	-1.1
	[-1.75, -0.43]	[-1.8, -0.5]
Issue [Industry association]	0.46	0.471
	[-0.16, 1.00]	[-0.067, 1.096]
Issue [Economy and trade]	-0.15	-0.15
	[-0.68, 0.42]	[-0.75, 0.37]
Issue [Charity and humanitarian]	-0.25	-0.25
	[-0.80, 0.33]	[-0.84, 0.31]
Issue [General]	0.083	0.097
	[-0.492, 0.711]	[-0.519, 0.679]
Issue [Health]	-0.23	-0.21
	[-0.88, 0.39]	[-0.80, 0.43]
Issue [Environment]	0.26	0.27
	[-0.36, 0.90]	[-0.35, 0.88]
Issue [Science and technology]	0.29	0.30
	[-0.38, 0.92]	[-0.34, 0.92]
Local connections	-1.7	-1.9
	[-2.2, -1.2]	[-2.7, -1.0]
Years since law	0.13	0.13
	[-0.26, 0.50]	[-0.27, 0.49]
Year registered [2018]	-0.19	-0.20
	[-0.61, 0.25]	[-0.63, 0.23]
Year registered [2019]	-0.28	-0.30
	[-1.15, 0.51]	[-1.13, 0.54]
Year registered [2020]	-0.38	-0.41
	[-1.65, 0.85]	[-1.61, 0.87]
Year registered [2021]	-0.052	-0.12
	[-1.690, 1.501]	[-1.69, 1.49]
Local connections × years since law		0.095
		[-0.216, 0.407]
φ	2.2	2.2
	[1.8, 2.6]	[1.8, 2.6]
Num.Obs.	593	593
R2	0.202	0.202

Estimates are median posterior log odds from ordered Beta regression models; 95% credible intervals (highest density posterior interval, or HDPI) in brackets.

Coding rules for issue ares

Author 1 assigned each organization to one of the issue areas defined in Article 3 of the ONGO Law, and Author 2 cross-checked the coding for ambiguous cases. Organizations with multiple ROs are coded based on the overall issue area of the INGO, not the specific RO, so to ensure the issue area coding is consistent across ROs.

We followed these rules for categorizing INGOs' stated missions into issue areas:

- **Education vs. Charity and humanitarian**: If charitable activities are all education related (e.g., building schools, donating education facilities and books), code as *Education*. If activities include other community support (e.g., building bridges, roads, medical facilities), code as *Charity and humanitarian*.

- **Economy and trade vs. Industry association**: If the trade promoted is focused on a particular industry (e.g., poultry, grains, etc.), code as *Industry association*.

- **Arts and culture**: Include sports organizations.

- **Industry association vs. Health & Science and technology & Arts and culture**: There are professional associations for health providers, scientific associations, and artistic industries. If activities go beyond only serving members only, code as *Health* or *Science and technology* or *Arts and culture*; if activities are limited to member-only service, code as *Industry association*.

- **Health vs. Charity and humanitarian**: If activities only provide medical assistance to underprivileged communities, code as *Health*.

- **Charity and humanitarian vs. General**: If there are overlapping issue areas (e.g., poverty alleviation, education, health), code as *General*, then code the apparent primary issue area as a second work area.

References

Bürkner, P.-C. (2017). brms : An R package for Bayesian multilevel models using Stan. *Journal of Statistical Software*, *80*(1). https://doi.org/10.18637/jss.v080.i01

Kubinec, R. (2022). Ordered beta regression: A parsimonious, well-fitting model for continuous data with lower and upper bounds. *Political Analysis*, 1–18. https://doi.org/10.1017/pan.2022.20

R Core Team. (2023). *R: A Language and Environment for Statistical Computing* (Version 4.3.1). R Foundation for Statistical Computing. https://www.r-project.org/

Stan Development Team. (2023a). *CmdStan: The shell interface to Stan* (Version 2.3.1). https://mc-stan.org/users/interfaces/cmdstan

Stan Development Team. (2023b). *Stan Modeling Language* (Version 2.26.1). https://mc-stan.org