Power of Peers Appendix

Protest Event Analysis

We conducted protest event analysis on the Reuters newswire (general and EU), the Financial Times, and the wire services stories of the Associate Press Worldstream, the Deutsche Presse-Agentur, and Agence France Presse, the online archive of Euractiv.com for stories about ("climate change" or "global warming") and the entirety of the Indymedia Climate and the Rising Tide news for the same time period. We searched using two separate sets of terms: a) (EU or EC or Europe*) AND (climate change or global warming); and b) (climate change or global warming) AND (protest* or strike* or demonstration*), for the dates January 1, 2008-December 31, 2009.

Scholars working with event data point to the potential for description bias and selection bias when working with newspapers.[1] We code only 'hard facts' about the action (e.g. date, target, and form) in order to limit description bias. We coded events as being either 'protest' or 'conventional' using the coding scheme presented below. We follow best practices in this method – including not sampling for press sources, using full text searches, and combining multiple sources – to limit selection bias as much as possible.[2] We include one highly institutionalized press source (Euractiv.com) to ensure that we adequately capture more conventional forms of advocacy. Comparing our results to other studies that have catalogued transnational activism in the European Union, both Imig and Tarrow[3] and Uba and Uggla[4] find very similar percentages of protest events in their event samples, suggesting that our data

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[1] Earl et al. 2004.
[2] Koopmans and Rucht 2002: 2237.
[3] Imig and Tarrow 2001.
[4] Uba and Uggla 2011.

collection procedures are not especially biased towards finding more protest events. While protest event analysis certainly does not produce a complete record of all events that occurred in this period, we are confident that it does produce a record of those events of a scale that would be 'visible' to other actors in the sphere, matching well with our theoretical interest in this study.[5]

To qualify for inclusion in our sample, events had to meet four criteria. First, consistent with our theoretical focus on transnational advocacy networks, we selected only events that were 'transnational' in scope, meaning those that targeted international institutions and/or took place simultaneously in more than one country. Second, they had to qualify as collective action on climate change, meaning that the form of action had to appear in the list of concrete tactics in the codebook below and be organized on the topic of climate. Third, the action itself had to be sponsored by a non-governmental organization working for progressive action on climate change. For our analysis, this includes organizations that are independent of government agencies, make "public interest claims" and "pursue social change" on climate change.[6] Fourth, the action had to take place in one of the member states of the European Union.

In coding we follow the approach outlined in "Codebook for the Analysis of Political Mobilisation and Communication in European Public Spheres," developed by Ruud Koopmans (2002), as well as the "Interview Questionnaire for Interviews with Collective Actors in Claims-making and Political Mobilization," used for the DEMOS project (2007).

Codebook for event data

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[5] While methods involving random sampling can be usefully employed in NGO research (see Tallberg et al. 2015; Mitchell and Schmitz 2013), such data contain too many missing observations to be employed in network studies that measuring structural equivalence.
[6] Andrews and Edwards 2004: 486.

Action Type	Description
"Protest"	Includes: public assembly, march, demonstration (legal and non-violent), vigil/picket, illegal demonstration (if non-violent), boycott, strike, self-mutilation (e.g., hunger strike, suicide), blockade, occupation, disturbance of meetings, symbolic confrontation (e.g., farmers dumping animal dung in front of a government building), threats (e.g., bomb threat), symbolic violence (e.g., burning puppets or flags, throwing eggs or paint), limited destruction of property (e.g., breaking windows), sabotage, violent demonstration (violence initiated by protestors), arson and bomb attacks, and other severe destruction of property, arson and bomb attacks against people (incl. inhabited buildings), physical violence against people (fights, brawls, etc.).
"Conventional"	Includes: press conference/release, public speech, (public) letter, newspaper article, book, research report, leaflet, etc., presentation of survey/poll result, publicity campaign (incl. advertising), conferences/meetings/assemblies, other 'petitioning,' petition/signature collection, letter campaigning.

Correlation between matricies

	Adjacency	Structural Equivalence	Country	Umbrella
Adjacency		0.509***	0.017	0.438***
Structural Equivalence			0.028	0.430***
Country				-0.069***
Umbrella				

*p<.01,**p<.001,***p<.0001. Significance determined using Quadratic Assignment Procedure with 1000 simulations.

Correlations between variables

	Individual Members	Staff	Service	Age	Previous Protest	EU Target	UN Target
Individual Members		-0.190	-0.049	-0.052	0.150	-0.360	0.250
Staff			0.430	0.490	-0.099	0.150	-0.140
Service				0.430	-0.240	-0.089	-0.400
Age					-0.220	0.110	-0.160
Previous Protest						-0.150	-0.130
EU Target							-0.150
UN Target							

Transformation of the Dependent variable

What we are interested in predicting is the likelihood of organizations sponsoring contentious events. Most simply, this could be represented by the proportion of contentious events sponsored. A histogram of these values is shown below on the left side of the figure. Because the proposed dependent variable is a proportion, and thus bounded at (0,1), it violates the linearity assumption of standard regression and might yield fitted values outside of this interval. We employ a Bayesian mixture model to instead model the underlying rate at which organizations engage in contentious events. The observed proportion (number of successes, y, divided by number of trials, n), could be conceived as the product of a binomial distribution where n is the number of events organization i participated in and an underlying rate of contentious participation, θ, for each organization. Thus, our proportion can be represented as

$$x \sim \text{bin}(\theta, n)$$

where x = y*n since y is the number of contentious events each organization participated in. To infer θ from x, we must posit a prior distribution $p(\theta)$ (see Gelman, 2014; p63). We selected the Jeffreys prior because it is a noninformative prior – thus affecting the data as minimally as possible – and is typically considered a "default" option). For the binomial distribution, the Jeffreys prior is beta(½, ½) (Gelman 2014; p53). The posterior distribution of this beta-binomial model is another beta distribution with parameters (y+½, n-y+½). Thus we can then take the mean of the posterior distribution as an estimate of θ (for a derivation of the posterior and the mean of the posterior, see Gill 2015; p50). For each organization, this resolves to $(y_i+½)/(1+n_i)$ where y is the number of contentious events participated in by organization i and n is the total number of events participated in by organization i. We then converted this rate to the log-odds scale (if the rate is r, this is log(r/(1-r)). This yielded a variable representing the log-odds that, given an organization participates in n events, any one particular event is contentious. Unlike our original variable, this product of the beta-binomial model is not bounded at (0,1) and does not place weight on extreme values; thus it satisfies the previously violated conditions for a linear regression model. The R code for this transformation is included with our submission.

See addition references:

Gill, Jeff. 2014. *Bayesian methods: A social and behavioral sciences approach*. Boca Raton, FL: CRC Press.

Gelman, Andrew, et al. 2014. *Bayesian data analysis*. Boca Raton, FL: Chapman & Hall/CRC.

Dependent variable, before (left) and after (right) transformation
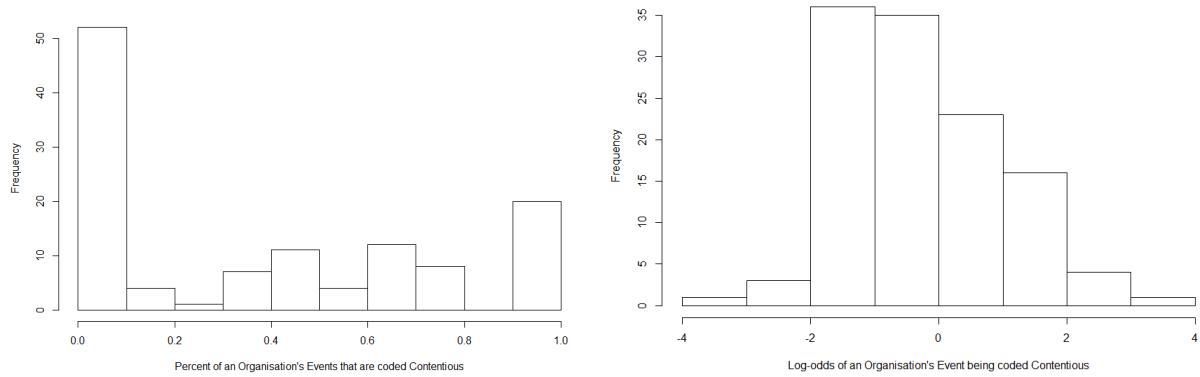
Additional network model, substituting UN target for EU target

Variables	Model 1
INDIVIDUAL MEMBERS	0.340 (0.188)
STAFF	0.000 (0.001)
SERVICE PROVISION	-0.248 (0.225)
AGE	-0.004(0.006)
UN TARGET	-0.019 (0.235)
ADJACENT PEERS	49.712***(4.948)
EQUIVALENT PEERS	
COUNTRY	
UMBRELLA MEMBERSHIP	18.829*(7.390)
PREVIOUS PROTEST	
Intercept	-0.012 (0.212)
Adj. R Squared	0.092
BIC	341.7

Organizational roster

Africa-Europe Faith and Justice Network
Animal Liberation Front UK
ASEED Europe
Aviation Environment Federation
Biofuelwatch
Birdlife International European Division
Brot fur die Welt
Catholic Agency for Overseas Development
Camp for Climate Action Germany
Camp for Climate Action UK
Campaign Against Climate Change
Climate Action Network Europe
Carbon Trade Watch
Corporate European Observatory
Civil Society Climate Forum
Climate Movement Denmark
Colálectiu Eco-Actiu
Earth Peoples
Ecologistas en Accion
Econexus
European Environmental Bureau
Earth First! Belgium/Netherlands
Earth First! Germany

Earth First! United Kingdom
Earth Liberation Front
European Trade Union Confederation
European Social Platform
European Youth for Action
FoodFirst Information and Action Network
Focus on the Global South
Friends of the Earth Austria
Friends of the Earth Belgium
Friends of the Earth Czech Republic
Friends of the Earth Denmark
Friends of the Earth Finland
Friends of the Earth France
Friends of the Earth Germany
Friends of the Earth Hungary
Friends of the Earth Ireland
Friends of the Earth Italy
Friends of the Earth Latvia
Friends of the Earth Malta
Friends of the Earth Netherlands
Friends of the Earth Poland
Friends of the Earth Scotland
Focus Slovenia
Friends of the Earth Spain
Friends of the Earth Sweden
Friends of the Earth UK
Friends of the Earth Europe
Friends of the Earth International
France Nature Environment
Gegenstrom Berlin
GenderCC - Women for Climate Justice
Greenpeace Austria/Central and Eastern Europe
Greenpeace Belgium
Greenpeace Czech Republic
Greenpeace EU
Greenpeace France
Greenpeace Germany
Greenpeace Greece
Greenpeace Hungary
Greenpeace International
Greenpeace Italy
Greenpeace Luxembourg
Greenpeace Netherlands

Greenpeace Nordic
Greenpeace Poland
Greenpeace Romania
Greenpeace Slovakia
Greenpeace Slovenia
Greenpeace Spain
Greenpeace Switzerland
Greenpeace UK
Health and Environment Alliance
Hyškyaalto Finland
Klimataktion Sweden
Klimax Denmark
Green Action Leeds
Linksjugend Germany
Misereor
Oxfam International
Plane Stupid
Platform UK
Pro Regenwald
Quercus
Rainforest Action Network
Rettet den Regenwald
Rising Tide
Society For Threatened Peoples International
Soya Alliance
Stichting Natuur en Milieu
Transport and Environment
Tearfund
Transnational Institute
Trapese Collective
Via Campesina Europe
Wetlands International
WWF Austria
WWF Belgium
WWF Danube Carpathian
WWF Denmark
WWF Deutschland
WWF European Policy Office
WWF Finland
WWF France
WWF Greece
WWF Hungary
WWF International

WWF Italy
WWF Norway
WWF Poland
WWF Spain
WWF Sweden
WWF Switzerland
WWF UK
WWF Netherlands
Zero Carbon Caravan