Supplementary Materials for "Institutional Design and Elite Support for Climate Policies: Evidence from Latin American Countries"

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1 Latin American Elite Survey

From October 1 to December 5, 2018, we ran an elite survey with respondents from ten Latin American countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Panama, and Peru. The survey proceeded in two steps.

We collected information on Latin American elites. The target was:

1. Members of the Executive branch
2. Members of the Legislative branch
3. Civil society
4. Academics

For each profile, in each country, we aimed at surveying:

1. 10 members of the Executive branch
2. 10 members of the Legislative branch
3. 15 Civil society
4. 15 Academics

To do so, we built a prospective respondents dataset with ten times these members for each country. Then, we ran an online and telephone survey where we collected information regarding the climate change agreements and other climate change-related problems.

After finishing this dataset, we started the surveying stage. From November 12 to December 5, we ran the survey by contacting elite members by phone or by email. We had two teams of enumerators, one based in São Paulo and another based in Rio de Janeiro, Brazil, comprised of Portuguese and Spanish native speakers. Although the overall aim of the survey was 500 responses, the teams managed to collect 654 interviews.

2 Conjoint Experiment Analysis: Identification and Estimation

A conjoint experiment is a statistical technique that allows individuals to express their preferences on multiple attributes of a single topic (Hainmueller et al. 2014; Bansak et al. 2016). Individuals are presented with two hypothetical scenarios, A and B, each containing a series of characteristics a researcher wants to evaluate. The individual chooses one of them. As the attributes are randomized and individuals choose between different pairs of hypothetical scenarios, we can estimate how individuals value each of the conjoined elements.

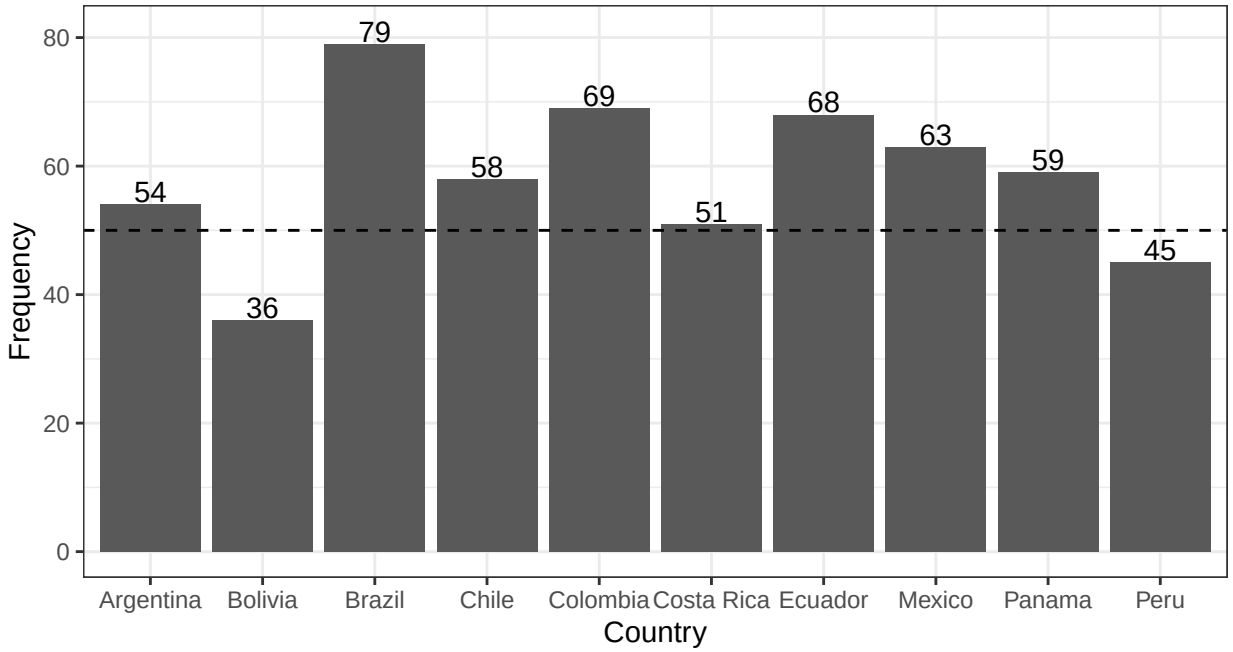
In our research, we ask what features elite members would like to see implemented in a climate change agreement. We ask their opinion on 6 questions: 1) who makes the rules; 2) who enforces the laws; 3) what punishment should be used against lawbreakers; 4) how are repeated violations punished; 5) how are costs distributed, and 6) how often the agreement will be renegotiated. Each of the questions has four to five different attributes. For the first two questions, we ask individuals if they would rather have the community, local governments, federal governments, or international organizations to create or enforce rules. As for punishments, we have options ranging from do nothing to fines and incarceration. We ask whether the costs of climate change agreements should be paid mostly or exclusively by developed countries, by polluter countries regardless of their wealth, or if costs should be allocated according to the history of emissions of a given nation. Individuals also state their preferences for short-term agreements, a proxy we use for flexibility, or for long-term ones, what we see as a proxy for the stability of rules. Lastly, we ask which of the two conjoined choices individuals perceive as more legitimate and more efficient.

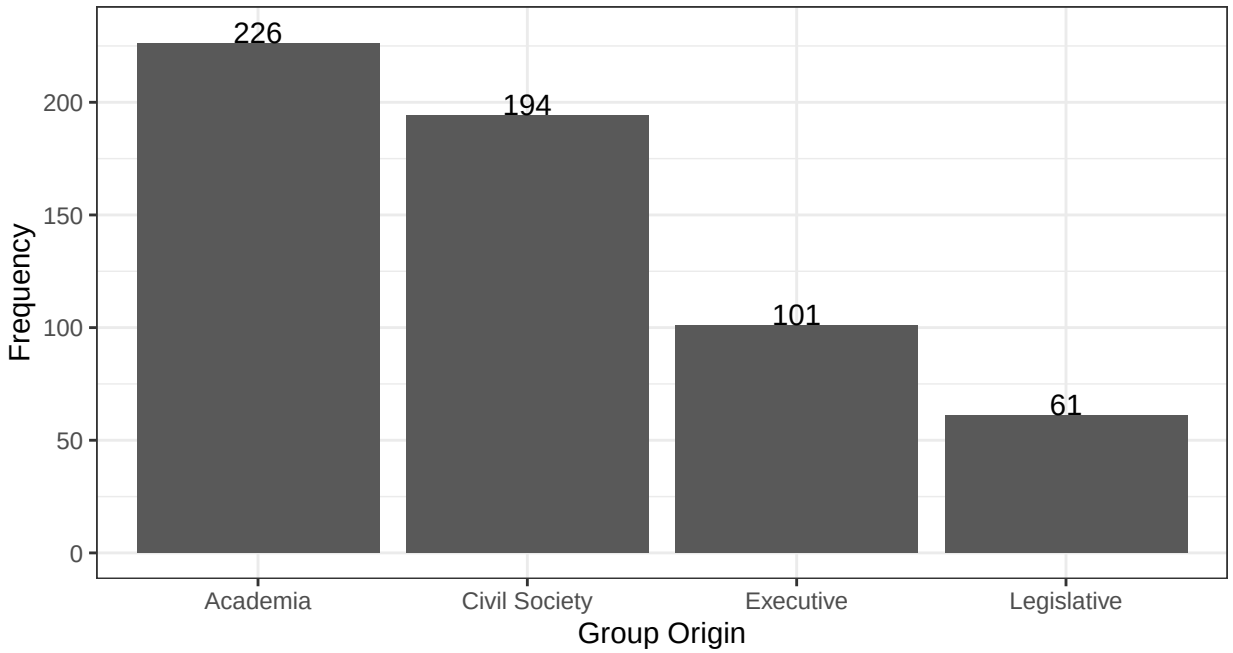
Conjoint experiments have many advantages (Hainmueller et al. 2014). First, as each individual chooses between many pairs of possible climate agreements – seven in our case – we can drastically increase our sample size without incurring in further financial costs. The design thus maximizes our research budget. Second, individuals rarely decide considering one attribute at a time, as presented in other types of survey experiments. In that regard, the conjoint analysis mirrors how people naturally make their choices, that is, by simultaneously taking several characteristics into consideration. Finally, as the experiments consist of a simple choice between A and B, conjoint analyses are easy to understand and to implement. This research design reduces the cognitive load interviewees have

while answering surveys and as a result, we can expect more accurate responses from our sample.

3 Descriptive Statistics

The main demographic statistics collected were the country and elite types, and the geolocation of the respondents. They follow in the graphs below.





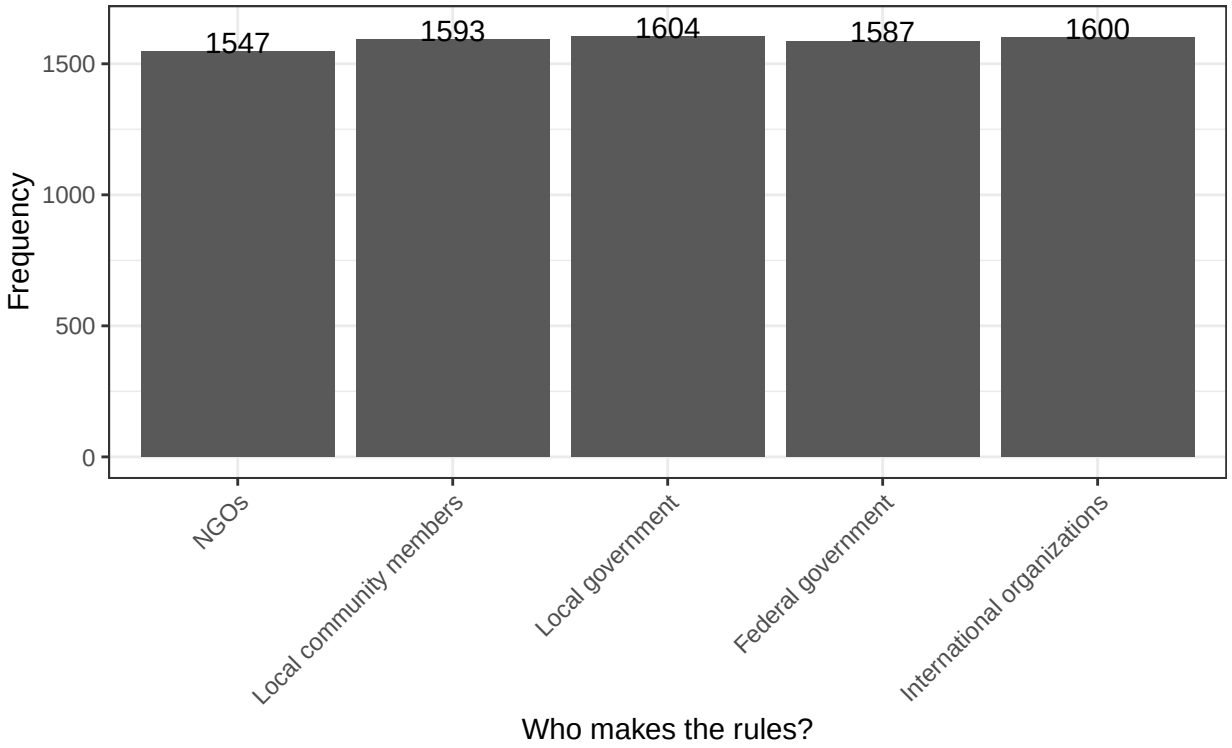
As we can see, we managed to contact more than fifty elite members for all countries but Bolivia and Peru. To compensate for the low collection rates in these two countries, note that we exceeded the sample size in all the remaining states.

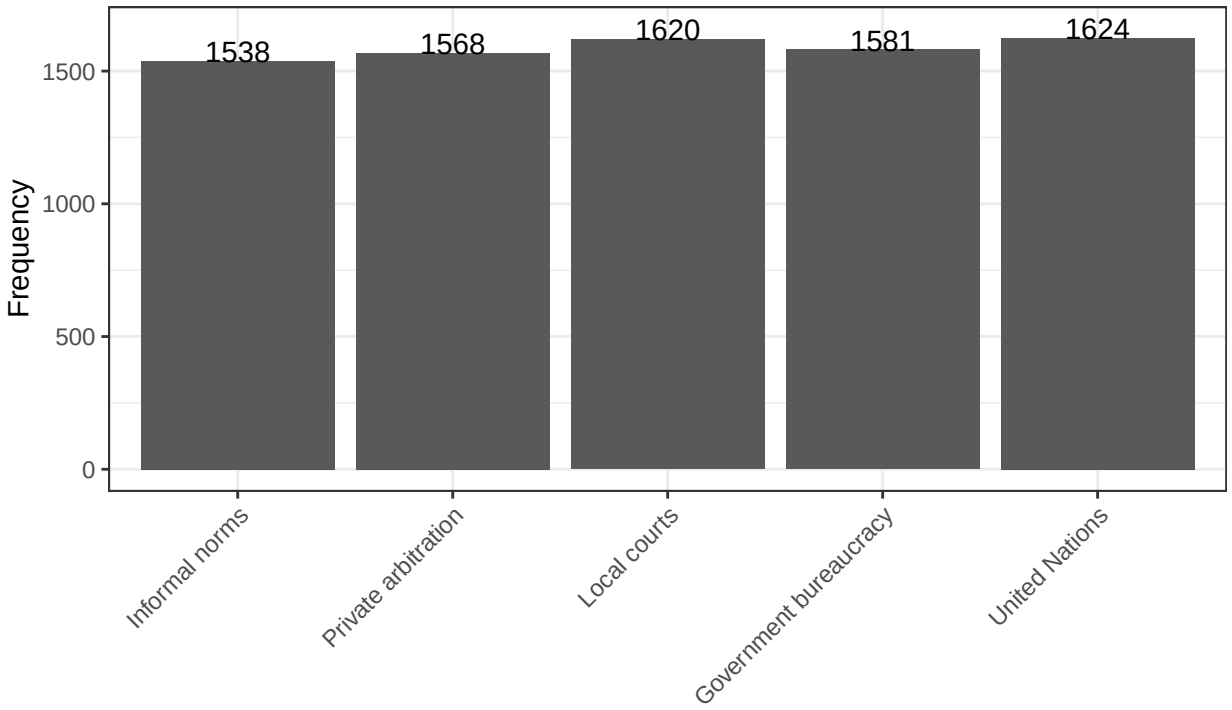
Considering the elite type, note that we have, as expected, more people from academia and the civil society, followed by those from the Executive and Legislative branches. The data collection for members of the Legislative branch was below the original target, but above the minimum mark of 5 for each country. This is expected, given the difficulty of accessing these elite members.

In the map, we can see that the answers concentrate on the country's capitals, with some variation within the state, but with sample concentrated in the largest municipalities. This is also in line with our expectations, as elite members are assumed to gravitate around capital cities and large urban centers.

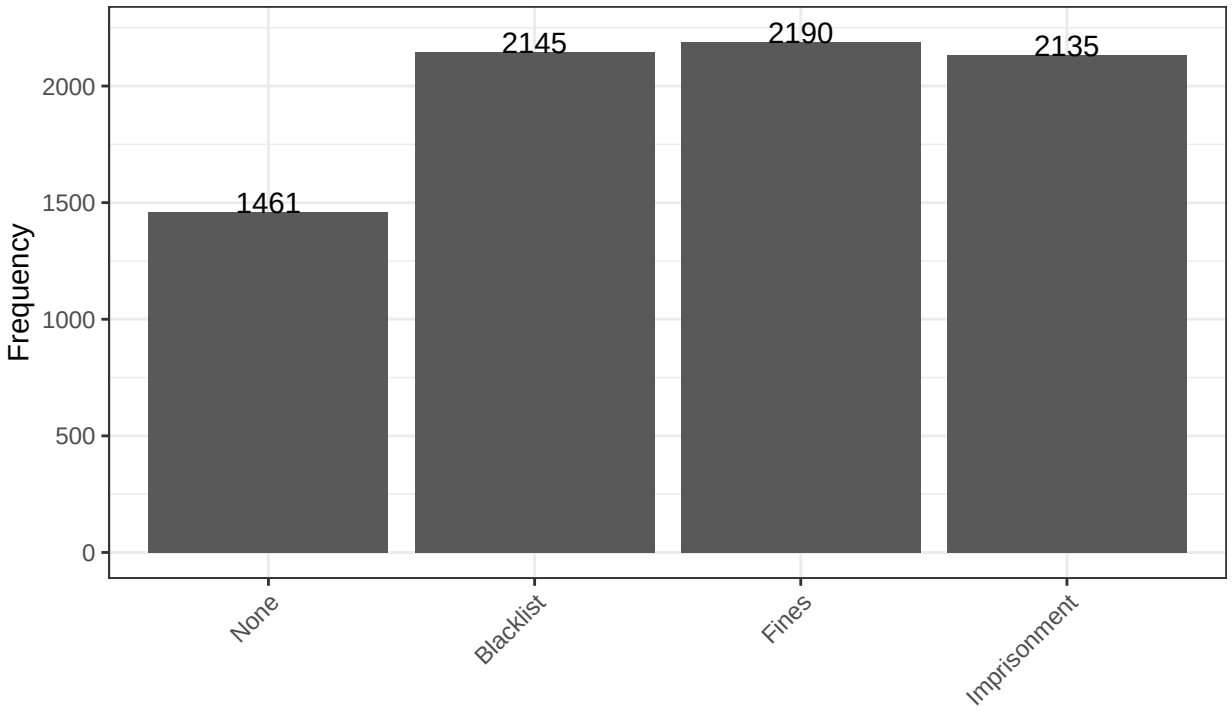
4 Frequency of Features Selected by Each Attribute

The figures below display the feature frequency for each attribute, by each task.

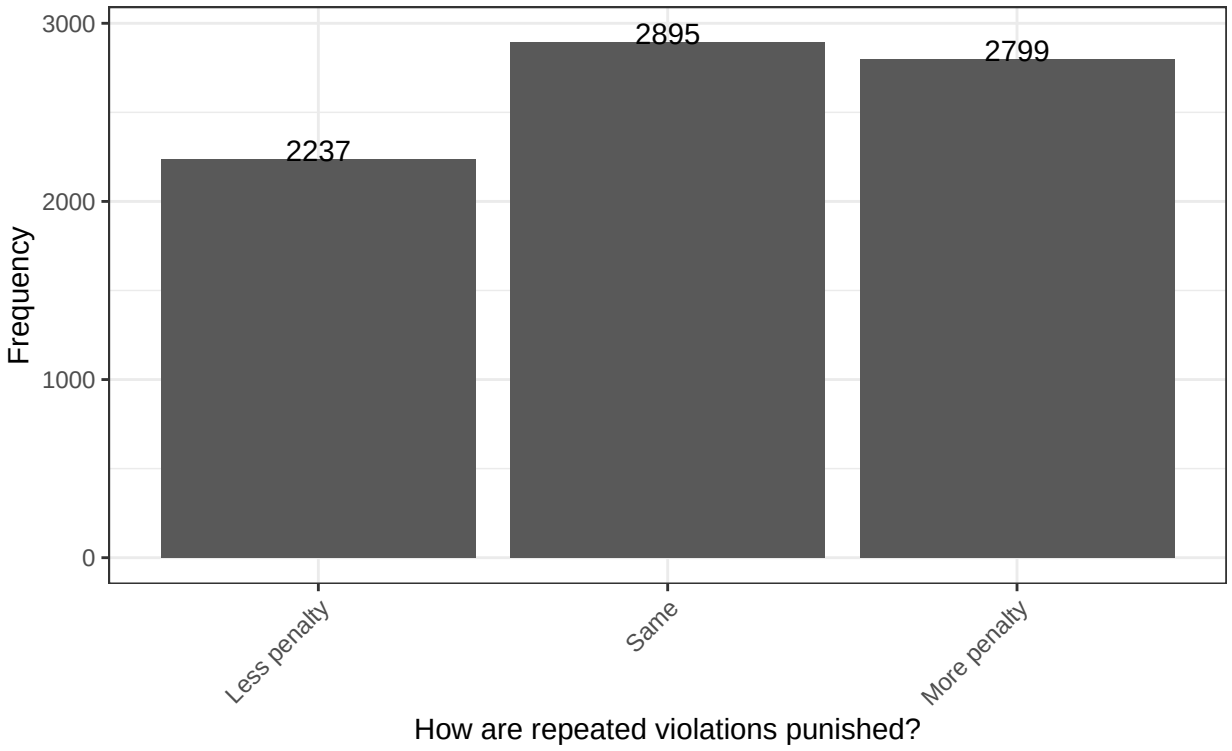


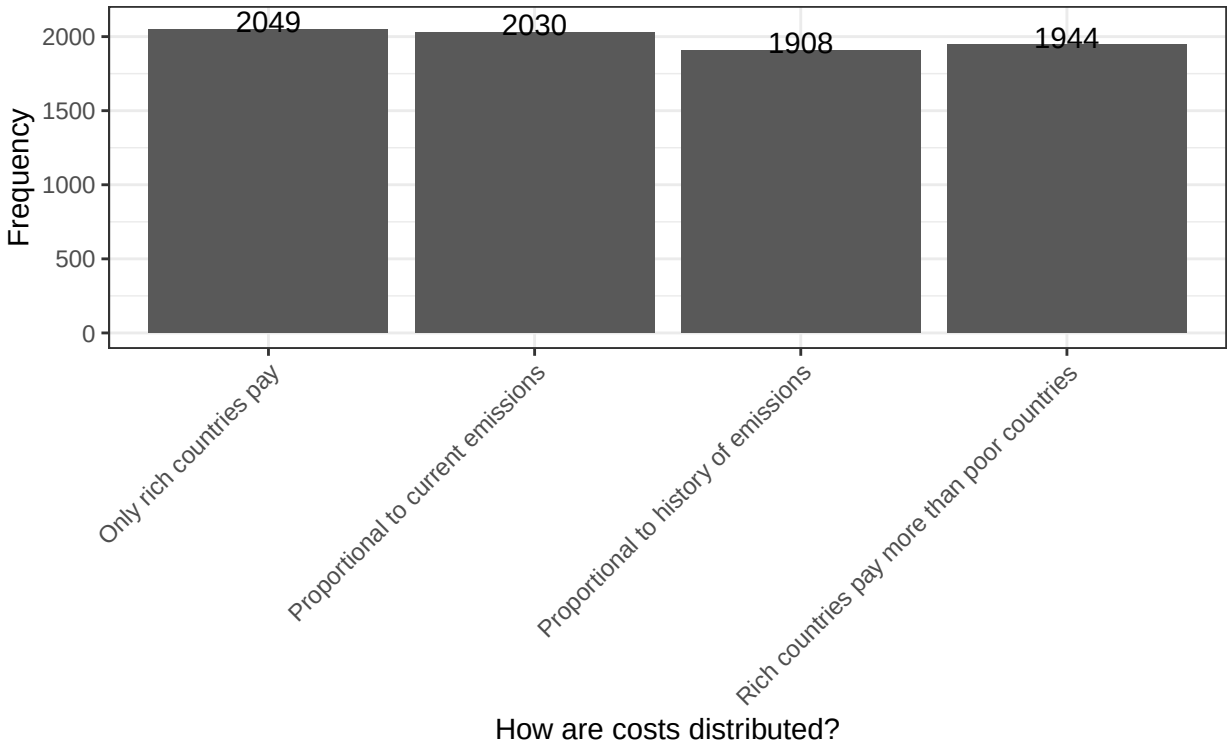


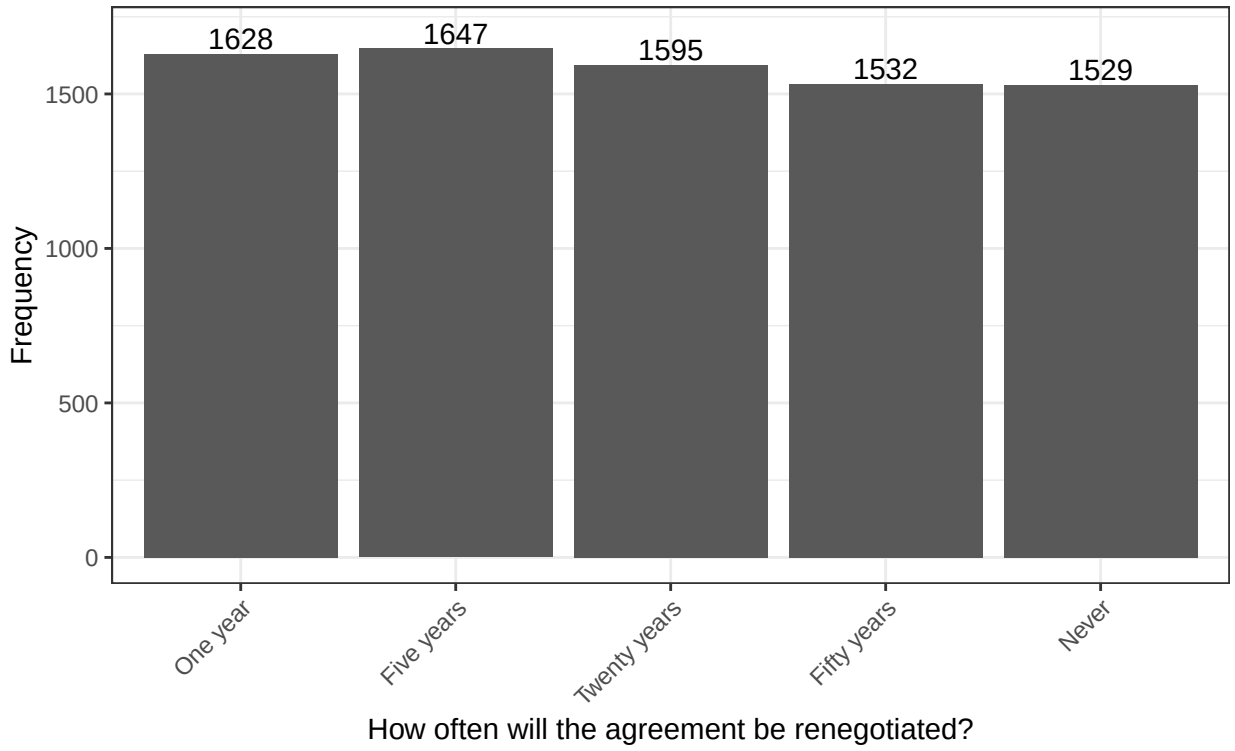
How are conflicts resolved?



What punishments do they use?


3000
2000
1000
0
Frequency
2237
2895
2799
Less penalty
Same
More penalty
How are repeated violations punished?


2000
1500
1000
500
0
Frequency
2049
2030
1908
1944
Only rich countries pay
Proportional to current emissions
Proportional to history of emissions
Rich countries pay more than poor countries
How are costs distributed?



The two remarkable issues are the low frequency of *Less penalty* in the attribute *How are repeated violations punished?* and the low frequency of *None* for the attribute *What punishments do they use?*. This because when we draw the level none for the attribute *What punishments do they use?* or the level less penalty for *How are repeated violations punished?*, then it makes no sense to have less penalty than the minimum possible.

5 Code for the Main Paper

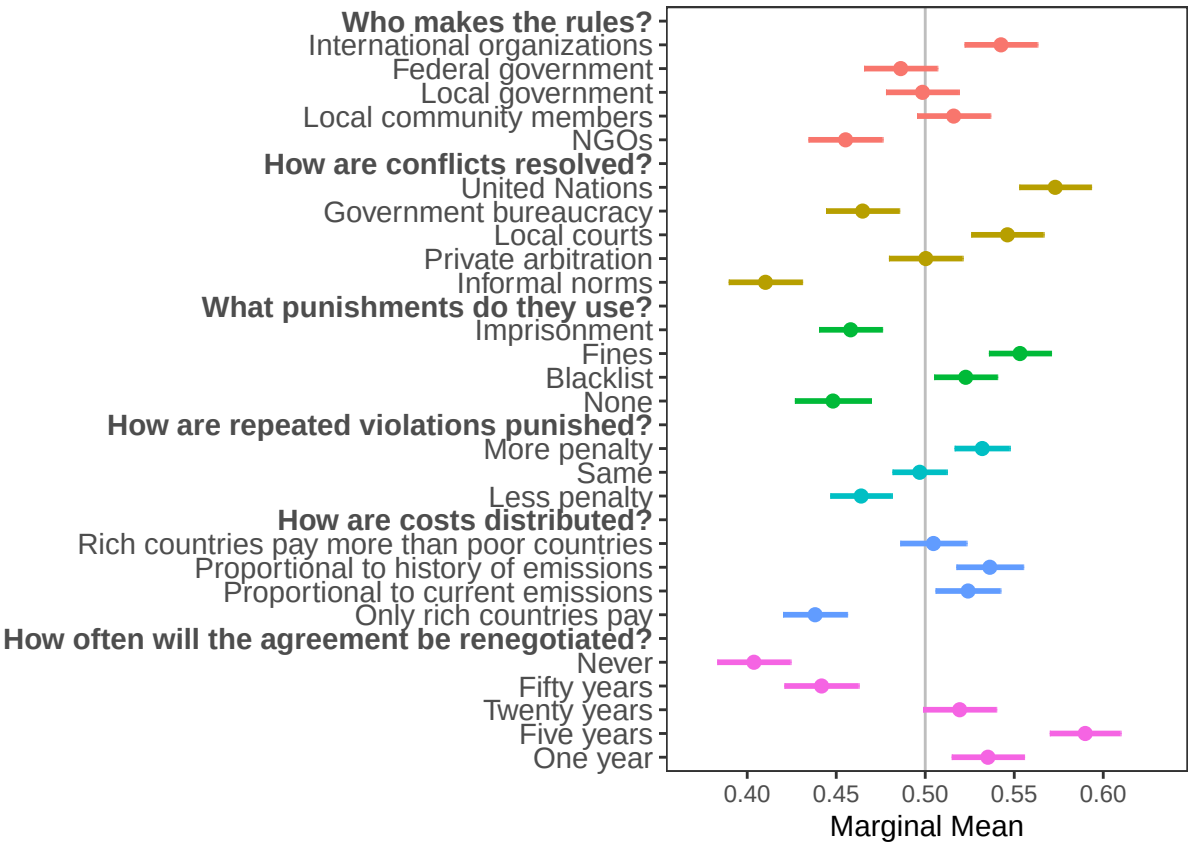
The code for Figure 2 of the paper follows below. We also include the point estimates in companion tables.

```
## Main plot

# Main estimation equation

fm <- selected ~ `Who makes the rules?` +

  `How are conflicts resolved?` +

  `What punishments do they use?` +

  `How are repeated violations punished?` +

  `How are costs distributed?` +
```

```
  `How often will the agreement be renegotiated?`


# Plot
mms <- mm(cj, fm, id = ~Response.ID, alpha = .1, h0 = 0.5)


myFaces <- c(rep('plain', 5), "bold",
             rep('plain', 4), "bold",
             rep('plain', 3), "bold",
             rep('plain', 4), "bold",
             rep('plain', 5), "bold",
             rep('plain', 5), "bold")


p <- plot(mms, vline = 0.5, header_fmt = "%s", size = 2) + ggplot2::theme(
    legend.position = "none",
    panel.grid.major = ggplot2::element_blank(),
    panel.grid.minor = ggplot2::element_blank(),
    axis.text.y = element_text(face=myFaces, size = 11)) +
    ggplot2::geom_errorbarh(ggplot2::aes_string(xmin = "lower",
                                                xmax = "upper"),
                            size = 1, height = 0, na.rm = TRUE,
                            position = ggstance::position_dodgev(height = 1))
```

```
## Warning: Vectorized input to `element_text()` is not officially supported.
## Results may be unexpected or may change in future versions of ggplot2.
```

```
p
```




```
ggsave(filename = 'MM_all.pdf', plot = p, width = 8, height = 6)


# Table
table_mm <- function(mms, capt) {
  dfr <- data.frame(feature = mms[,c(4)],
             round(mms[,c(5,6,8,9,10)], digits=3))
  names(dfr) <- c('Feature', 'Estimate', 'Std.Error',
                'P-Value', 'Lower', 'Upper')
  return(kable(dfr, "latex", caption = capt, booktabs = T) %>%
    kable_styling(font_size = 10) %>%
    group_rows('Who makes the rules?', 1, 5) %>%
    group_rows('How are conflicts resolved?', 6, 10) %>%
    group_rows('What punishments do they use?', 11, 14) %>%
    group_rows('How are repeated violations punished?', 15, 17) %>%
    group_rows('How are costs distributed?', 18, 21) %>%
    group_rows('How often will the agreement be renegotiated?', 22, 26))
```

Table 1: Marginal Means – Full Dataset

Feature	Estimate	Std.Error	P-Value	Lower	Upper
Who makes the rules?					
NGOs	0.455	0.013	0.000	0.434	0.476
Local community members	0.516	0.013	0.202	0.495	0.537
Local government	0.498	0.012	0.901	0.478	0.519
Federal government	0.486	0.013	0.271	0.466	0.507
International organizations	0.543	0.012	0.001	0.522	0.563
How are conflicts resolved?					
Informal norms	0.410	0.013	0.000	0.390	0.431
Private arbitration	0.500	0.013	0.980	0.480	0.521
Local courts	0.546	0.012	0.000	0.526	0.567
Government bureaucracy	0.465	0.013	0.005	0.444	0.485
United Nations	0.573	0.012	0.000	0.553	0.593
What punishments do they use?					
None	0.448	0.013	0.000	0.427	0.470
Blacklist	0.523	0.011	0.035	0.505	0.540
Fines	0.553	0.011	0.000	0.536	0.571
Imprisonment	0.458	0.011	0.000	0.440	0.476
How are repeated violations punished?					
Less penalty	0.464	0.011	0.001	0.447	0.481
Same	0.497	0.009	0.739	0.482	0.512
More penalty	0.532	0.009	0.001	0.517	0.548
How are costs distributed?					
Only rich countries pay	0.438	0.011	0.000	0.420	0.456
Proportional to current emissions	0.524	0.011	0.030	0.506	0.542
Proportional to history of emissions	0.536	0.011	0.001	0.518	0.555
Rich countries pay more than poor countries	0.505	0.011	0.684	0.486	0.523
How often will the agreement be renegotiated?					
One year	0.535	0.012	0.004	0.515	0.556
Five years	0.590	0.012	0.000	0.570	0.610
Twenty years	0.519	0.012	0.121	0.499	0.540
Fifty years	0.442	0.013	0.000	0.421	0.463
Never	0.404	0.013	0.000	0.383	0.424

```
}


table_mm(mms, capt = 'Marginal Means -- Full Dataset')
```

The code for Figure 3 of the paper follows below, with also the point estimates in a companion table.

Table 2: Marginal Means – Argentina Only

Feature	Estimate	Std.Error	P-Value	Lower	Upper
Who makes the rules?					
NGOs	0.417	0.043	0.052	0.346	0.487
Local community members	0.449	0.044	0.246	0.376	0.521
Local government	0.503	0.042	0.933	0.435	0.572
Federal government	0.504	0.045	0.928	0.429	0.579
International organizations	0.619	0.041	0.004	0.551	0.686
How are conflicts resolved?					
Informal norms	0.377	0.043	0.004	0.307	0.447
Private arbitration	0.522	0.047	0.638	0.445	0.599
Local courts	0.574	0.042	0.074	0.506	0.643
Government bureaucracy	0.446	0.044	0.217	0.374	0.518
United Nations	0.568	0.041	0.097	0.501	0.635
What punishments do they use?					
None	0.361	0.043	0.001	0.289	0.432
Blacklist	0.514	0.037	0.710	0.453	0.575
Fines	0.587	0.037	0.019	0.526	0.647
Imprisonment	0.494	0.037	0.882	0.433	0.556
How are repeated violations punished?					
Less penalty	0.465	0.035	0.319	0.406	0.523
Same	0.516	0.032	0.608	0.464	0.569
More penalty	0.514	0.034	0.686	0.458	0.569
How are costs distributed?					
Only rich countries pay	0.408	0.035	0.009	0.350	0.466
Proportional to current emissions	0.534	0.041	0.410	0.466	0.601
Proportional to history of emissions	0.576	0.038	0.045	0.514	0.638
Rich countries pay more than poor countries	0.500	0.041	1.000	0.432	0.568
How often will the agreement be renegotiated?					
One year	0.604	0.039	0.008	0.539	0.669
Five years	0.545	0.043	0.298	0.474	0.616
Twenty years	0.438	0.044	0.157	0.367	0.510
Fifty years	0.438	0.044	0.154	0.365	0.510
Never	0.448	0.046	0.263	0.372	0.524

```
## Marginal means by Country


# Argentina

arg <- mm(subset(cj, countryOrigin=='Argentina'),

        fm, id = ~Response.ID, alpha = 0.1, h0 = 0.5)

table_mm(arg, capt = 'Marginal Means -- Argentina Only')
```

Table 3: Marginal Means – Bolivia Only

Feature	Estimate	Std.Error	P-Value	Lower	Upper
Who makes the rules?					
NGOs	0.421	0.051	0.119	0.338	0.504
Local community members	0.575	0.053	0.159	0.488	0.662
Local government	0.560	0.054	0.272	0.470	0.649
Federal government	0.467	0.048	0.498	0.388	0.547
International organizations	0.494	0.056	0.910	0.401	0.586
How are conflicts resolved?					
Informal norms	0.369	0.053	0.013	0.282	0.456
Private arbitration	0.543	0.051	0.408	0.458	0.627
Local courts	0.538	0.052	0.467	0.453	0.623
Government bureaucracy	0.397	0.055	0.064	0.306	0.489
United Nations	0.612	0.048	0.020	0.533	0.691
What punishments do they use?					
None	0.442	0.054	0.278	0.354	0.530
Blacklist	0.466	0.044	0.431	0.394	0.537
Fines	0.570	0.044	0.108	0.498	0.642
Imprisonment	0.505	0.048	0.923	0.425	0.584
How are repeated violations punished?					
Less penalty	0.451	0.042	0.238	0.382	0.519
Same	0.534	0.038	0.362	0.472	0.597
More penalty	0.507	0.043	0.864	0.437	0.578
How are costs distributed?					
Only rich countries pay	0.424	0.045	0.094	0.349	0.499
Proportional to current emissions	0.593	0.047	0.050	0.515	0.670
Proportional to history of emissions	0.427	0.046	0.112	0.352	0.503
Rich countries pay more than poor countries	0.569	0.047	0.147	0.491	0.647
How often will the agreement be renegotiated?					
One year	0.485	0.050	0.763	0.402	0.567
Five years	0.624	0.048	0.010	0.544	0.703
Twenty years	0.575	0.053	0.159	0.488	0.662
Fifty years	0.385	0.055	0.036	0.294	0.475
Never	0.402	0.053	0.063	0.316	0.489

```r
# Bolivia

bol <- mm(subset(cj, countryOrigin=='Bolivia'),

        fm, id = ~Response.ID, alpha = 0.1, h0 = 0.5)

table_mm(bol, capt = 'Marginal Means -- Bolivia Only')
```

Table 4: Marginal Means – Brazil Only

Feature	Estimate	Std.Error	P-Value	Lower	Upper
Who makes the rules?					
NGOs	0.492	0.036	0.829	0.433	0.551
Local community members	0.495	0.036	0.886	0.436	0.554
Local government	0.456	0.036	0.219	0.397	0.515
Federal government	0.481	0.036	0.610	0.422	0.541
International organizations	0.563	0.033	0.053	0.509	0.617
How are conflicts resolved?					
Informal norms	0.434	0.037	0.079	0.373	0.496
Private arbitration	0.475	0.035	0.477	0.416	0.533
Local courts	0.556	0.035	0.114	0.498	0.615
Government bureaucracy	0.476	0.035	0.485	0.418	0.533
United Nations	0.547	0.033	0.160	0.492	0.601
What punishments do they use?					
None	0.465	0.038	0.356	0.402	0.528
Blacklist	0.523	0.031	0.461	0.472	0.573
Fines	0.569	0.030	0.021	0.520	0.618
Imprisonment	0.434	0.029	0.024	0.386	0.482
How are repeated violations punished?					
Less penalty	0.416	0.029	0.004	0.368	0.464
Same	0.518	0.027	0.490	0.475	0.562
More penalty	0.549	0.026	0.063	0.506	0.592
How are costs distributed?					
Only rich countries pay	0.429	0.033	0.028	0.375	0.482
Proportional to current emissions	0.496	0.031	0.901	0.445	0.547
Proportional to history of emissions	0.546	0.032	0.152	0.493	0.599
Rich countries pay more than poor countries	0.524	0.030	0.431	0.474	0.574
How often will the agreement be renegotiated?					
One year	0.535	0.034	0.305	0.479	0.591
Five years	0.568	0.036	0.064	0.508	0.627
Twenty years	0.537	0.034	0.275	0.481	0.593
Fifty years	0.469	0.035	0.368	0.412	0.526
Never	0.377	0.037	0.001	0.317	0.437

```
# Brazil

bra <- mm(subset(cj, countryOrigin=='Brazil'),

        fm, id = ~Response.ID, alpha = 0.1, h0 = 0.5)

table_mm(bra, capt = 'Marginal Means -- Brazil Only')
```

Table 5: Marginal Means – Chile Only

Feature	Estimate	Std.Error	P-Value	Lower	Upper
Who makes the rules?					
NGOs	0.400	0.043	0.020	0.329	0.471
Local community members	0.630	0.039	0.001	0.566	0.694
Local government	0.538	0.040	0.335	0.473	0.604
Federal government	0.403	0.043	0.025	0.332	0.474
International organizations	0.496	0.043	0.932	0.426	0.567
How are conflicts resolved?					
Informal norms	0.403	0.042	0.022	0.333	0.473
Private arbitration	0.480	0.045	0.652	0.406	0.554
Local courts	0.606	0.039	0.006	0.543	0.670
Government bureaucracy	0.445	0.041	0.183	0.378	0.513
United Nations	0.545	0.042	0.275	0.477	0.614
What punishments do they use?					
None	0.425	0.043	0.081	0.355	0.496
Blacklist	0.607	0.036	0.003	0.547	0.666
Fines	0.512	0.035	0.726	0.455	0.570
Imprisonment	0.435	0.036	0.076	0.376	0.495
How are repeated violations punished?					
Less penalty	0.476	0.036	0.512	0.416	0.536
Same	0.438	0.030	0.041	0.388	0.488
More penalty	0.583	0.031	0.007	0.532	0.634
How are costs distributed?					
Only rich countries pay	0.462	0.040	0.338	0.397	0.527
Proportional to current emissions	0.524	0.037	0.508	0.464	0.585
Proportional to history of emissions	0.497	0.037	0.940	0.436	0.559
Rich countries pay more than poor countries	0.511	0.037	0.768	0.450	0.571
How often will the agreement be renegotiated?					
One year	0.418	0.042	0.050	0.350	0.487
Five years	0.645	0.038	0.000	0.582	0.708
Twenty years	0.503	0.042	0.934	0.435	0.572
Fifty years	0.489	0.043	0.795	0.417	0.560
Never	0.424	0.043	0.078	0.353	0.495

```r
# Chile

chi <- mm(subset(cj, countryOrigin=='Chile'),

        fm, id = ~Response.ID, alpha = 0.1, h0 = 0.5)

table_mm(chi, capt = 'Marginal Means -- Chile Only')
```

Table 6: Marginal Means – Colombia Only

Feature	Estimate	Std.Error	P-Value	Lower	Upper
Who makes the rules?					
NGOs	0.430	0.042	0.090	0.361	0.498
Local community members	0.595	0.038	0.012	0.533	0.658
Local government	0.465	0.038	0.359	0.403	0.528
Federal government	0.463	0.037	0.327	0.402	0.525
International organizations	0.544	0.041	0.285	0.476	0.611
How are conflicts resolved?					
Informal norms	0.410	0.038	0.018	0.347	0.472
Private arbitration	0.510	0.040	0.808	0.443	0.576
Local courts	0.533	0.039	0.394	0.469	0.596
Government bureaucracy	0.466	0.039	0.385	0.401	0.531
United Nations	0.584	0.039	0.031	0.520	0.648
What punishments do they use?					
None	0.497	0.038	0.939	0.434	0.560
Blacklist	0.531	0.034	0.370	0.474	0.587
Fines	0.551	0.033	0.123	0.497	0.606
Imprisonment	0.414	0.035	0.013	0.357	0.471
How are repeated violations punished?					
Less penalty	0.479	0.034	0.537	0.423	0.535
Same	0.492	0.029	0.772	0.444	0.539
More penalty	0.523	0.029	0.417	0.476	0.571
How are costs distributed?					
Only rich countries pay	0.475	0.034	0.459	0.420	0.530
Proportional to current emissions	0.516	0.034	0.633	0.460	0.572
Proportional to history of emissions	0.538	0.035	0.286	0.480	0.596
Rich countries pay more than poor countries	0.468	0.038	0.402	0.406	0.531
How often will the agreement be renegotiated?					
One year	0.547	0.038	0.221	0.484	0.609
Five years	0.558	0.039	0.137	0.494	0.621
Twenty years	0.547	0.039	0.232	0.482	0.612
Fifty years	0.423	0.042	0.069	0.354	0.493
Never	0.417	0.037	0.026	0.356	0.478

```
# Colombia

col <- mm(subset(cj, countryOrigin=='Colombia'),

        fm, id = ~Response.ID, alpha = 0.1, h0 = 0.5)

table_mm(col, capt = 'Marginal Means -- Colombia Only')
```

Table 7: Marginal Means – Costa Rica Only

Feature	Estimate	Std.Error	P-Value	Lower	Upper
Who makes the rules?					
NGOs	0.524	0.044	0.593	0.451	0.597
Local community members	0.439	0.042	0.146	0.370	0.508
Local government	0.565	0.043	0.134	0.494	0.636
Federal government	0.511	0.043	0.798	0.441	0.581
International organizations	0.459	0.048	0.387	0.380	0.537
How are conflicts resolved?					
Informal norms	0.402	0.043	0.021	0.331	0.472
Private arbitration	0.496	0.044	0.930	0.424	0.569
Local courts	0.497	0.042	0.934	0.428	0.565
Government bureaucracy	0.500	0.048	1.000	0.421	0.579
United Nations	0.609	0.043	0.011	0.538	0.680
What punishments do they use?					
None	0.383	0.045	0.010	0.308	0.457
Blacklist	0.477	0.038	0.541	0.414	0.539
Fines	0.588	0.036	0.014	0.529	0.647
Imprisonment	0.506	0.039	0.877	0.442	0.569
How are repeated violations punished?					
Less penalty	0.461	0.035	0.261	0.403	0.518
Same	0.481	0.034	0.584	0.425	0.537
More penalty	0.554	0.033	0.107	0.499	0.608
How are costs distributed?					
Only rich countries pay	0.396	0.039	0.007	0.332	0.460
Proportional to current emissions	0.582	0.040	0.041	0.516	0.647
Proportional to history of emissions	0.515	0.039	0.695	0.451	0.580
Rich countries pay more than poor countries	0.509	0.039	0.816	0.445	0.573
How often will the agreement be renegotiated?					
One year	0.598	0.046	0.034	0.522	0.674
Five years	0.674	0.040	0.000	0.608	0.740
Twenty years	0.471	0.042	0.498	0.402	0.541
Fifty years	0.381	0.042	0.004	0.312	0.450
Never	0.380	0.044	0.007	0.308	0.453

```r
# Costa Rica

cri <- mm(subset(cj, countryOrigin=='Costa Rica'),

        fm, id = ~Response.ID, alpha = 0.1, h0 = 0.5)

table_mm(cri, capt = 'Marginal Means -- Costa Rica Only')
```

Table 8: Marginal Means – Ecuador Only

Feature	Estimate	Std.Error	P-Value	Lower	Upper
Who makes the rules?					
NGOs	0.427	0.038	0.053	0.365	0.489
Local community members	0.548	0.038	0.215	0.484	0.611
Local government	0.518	0.039	0.643	0.454	0.581
Federal government	0.475	0.039	0.529	0.411	0.540
International organizations	0.531	0.038	0.405	0.469	0.593
How are conflicts resolved?					
Informal norms	0.420	0.039	0.039	0.356	0.484
Private arbitration	0.500	0.036	1.000	0.440	0.560
Local courts	0.556	0.037	0.131	0.495	0.617
Government bureaucracy	0.424	0.039	0.053	0.359	0.489
United Nations	0.596	0.039	0.014	0.532	0.661
What punishments do they use?					
None	0.490	0.040	0.810	0.424	0.556
Blacklist	0.572	0.033	0.030	0.517	0.627
Fines	0.544	0.033	0.184	0.490	0.598
Imprisonment	0.397	0.032	0.001	0.345	0.450
How are repeated violations punished?					
Less penalty	0.468	0.032	0.329	0.415	0.522
Same	0.480	0.029	0.490	0.433	0.527
More penalty	0.544	0.029	0.121	0.497	0.591
How are costs distributed?					
Only rich countries pay	0.412	0.033	0.007	0.359	0.466
Proportional to current emissions	0.581	0.034	0.016	0.526	0.637
Proportional to history of emissions	0.546	0.036	0.197	0.487	0.604
Rich countries pay more than poor countries	0.468	0.035	0.363	0.411	0.526
How often will the agreement be renegotiated?					
One year	0.465	0.040	0.379	0.399	0.530
Five years	0.554	0.038	0.149	0.492	0.616
Twenty years	0.531	0.038	0.405	0.469	0.593
Fifty years	0.447	0.038	0.165	0.384	0.510
Never	0.497	0.039	0.938	0.433	0.561

```
# Ecuador

ecu <- mm(subset(cj, countryOrigin=='Ecuador'),

        fm, id = ~Response.ID, alpha = 0.1, h0 = 0.5)

table_mm(ecu, capt = 'Marginal Means -- Ecuador Only')
```

Table 9: Marginal Means – Mexico Only

Feature	Estimate	Std.Error	P-Value	Lower	Upper
Who makes the rules?					
NGOs	0.457	0.042	0.309	0.388	0.526
Local community members	0.470	0.043	0.489	0.399	0.541
Local government	0.438	0.040	0.122	0.372	0.504
Federal government	0.497	0.040	0.937	0.432	0.562
International organizations	0.620	0.038	0.001	0.559	0.682
How are conflicts resolved?					
Informal norms	0.405	0.040	0.019	0.339	0.472
Private arbitration	0.520	0.041	0.626	0.453	0.586
Local courts	0.507	0.042	0.867	0.438	0.576
Government bureaucracy	0.461	0.040	0.329	0.394	0.527
United Nations	0.601	0.039	0.009	0.537	0.665
What punishments do they use?					
None	0.472	0.044	0.534	0.400	0.545
Blacklist	0.478	0.035	0.531	0.421	0.535
Fines	0.571	0.035	0.040	0.514	0.629
Imprisonment	0.470	0.034	0.374	0.414	0.526
How are repeated violations punished?					
Less penalty	0.505	0.035	0.888	0.447	0.563
Same	0.503	0.029	0.908	0.456	0.551
More penalty	0.492	0.031	0.802	0.441	0.544
How are costs distributed?					
Only rich countries pay	0.429	0.036	0.047	0.369	0.488
Proportional to current emissions	0.500	0.035	1.000	0.442	0.558
Proportional to history of emissions	0.620	0.038	0.001	0.559	0.682
Rich countries pay more than poor countries	0.466	0.036	0.348	0.407	0.525
How often will the agreement be renegotiated?					
One year	0.507	0.041	0.871	0.440	0.573
Five years	0.616	0.038	0.002	0.553	0.678
Twenty years	0.487	0.041	0.746	0.420	0.554
Fifty years	0.493	0.043	0.864	0.422	0.563
Never	0.385	0.040	0.004	0.319	0.451

```
# Mexico

mex <- mm(subset(cj, countryOrigin=='Mexico'),

        fm, id = ~Response.ID, alpha = 0.1, h0 = 0.5)

table_mm(mex, capt = 'Marginal Means -- Mexico Only')
```

Table 10: Marginal Means – Panama Only

Feature	Estimate	Std.Error	P-Value	Lower	Upper
Who makes the rules?					
NGOs	0.478	0.040	0.578	0.413	0.543
Local community members	0.526	0.040	0.521	0.460	0.591
Local government	0.477	0.041	0.566	0.409	0.544
Federal government	0.497	0.040	0.936	0.431	0.563
International organizations	0.522	0.040	0.576	0.457	0.588
How are conflicts resolved?					
Informal norms	0.439	0.040	0.127	0.374	0.505
Private arbitration	0.488	0.039	0.756	0.424	0.552
Local courts	0.549	0.041	0.241	0.480	0.617
Government bureaucracy	0.477	0.040	0.571	0.411	0.544
United Nations	0.551	0.040	0.198	0.486	0.617
What punishments do they use?					
None	0.455	0.042	0.275	0.386	0.523
Blacklist	0.522	0.035	0.531	0.465	0.579
Fines	0.531	0.033	0.349	0.476	0.586
Imprisonment	0.475	0.035	0.481	0.417	0.533
How are repeated violations punished?					
Less penalty	0.432	0.033	0.042	0.378	0.487
Same	0.466	0.030	0.253	0.416	0.515
More penalty	0.588	0.030	0.003	0.540	0.637
How are costs distributed?					
Only rich countries pay	0.473	0.035	0.442	0.416	0.531
Proportional to current emissions	0.497	0.036	0.942	0.438	0.557
Proportional to history of emissions	0.513	0.037	0.715	0.453	0.573
Rich countries pay more than poor countries	0.518	0.036	0.614	0.459	0.577
How often will the agreement be renegotiated?					
One year	0.605	0.040	0.008	0.540	0.670
Five years	0.552	0.038	0.170	0.490	0.614
Twenty years	0.573	0.040	0.069	0.507	0.640
Fifty years	0.418	0.041	0.044	0.351	0.485
Never	0.344	0.038	0.000	0.281	0.407

```r
# Panama

pan <- mm(subset(cj, countryOrigin=='Panama'),

        fm, id = ~Response.ID, alpha = 0.1, h0 = 0.5)

table_mm(pan, capt = 'Marginal Means -- Panama Only')
```

Table 11: Marginal Means – Peru Only

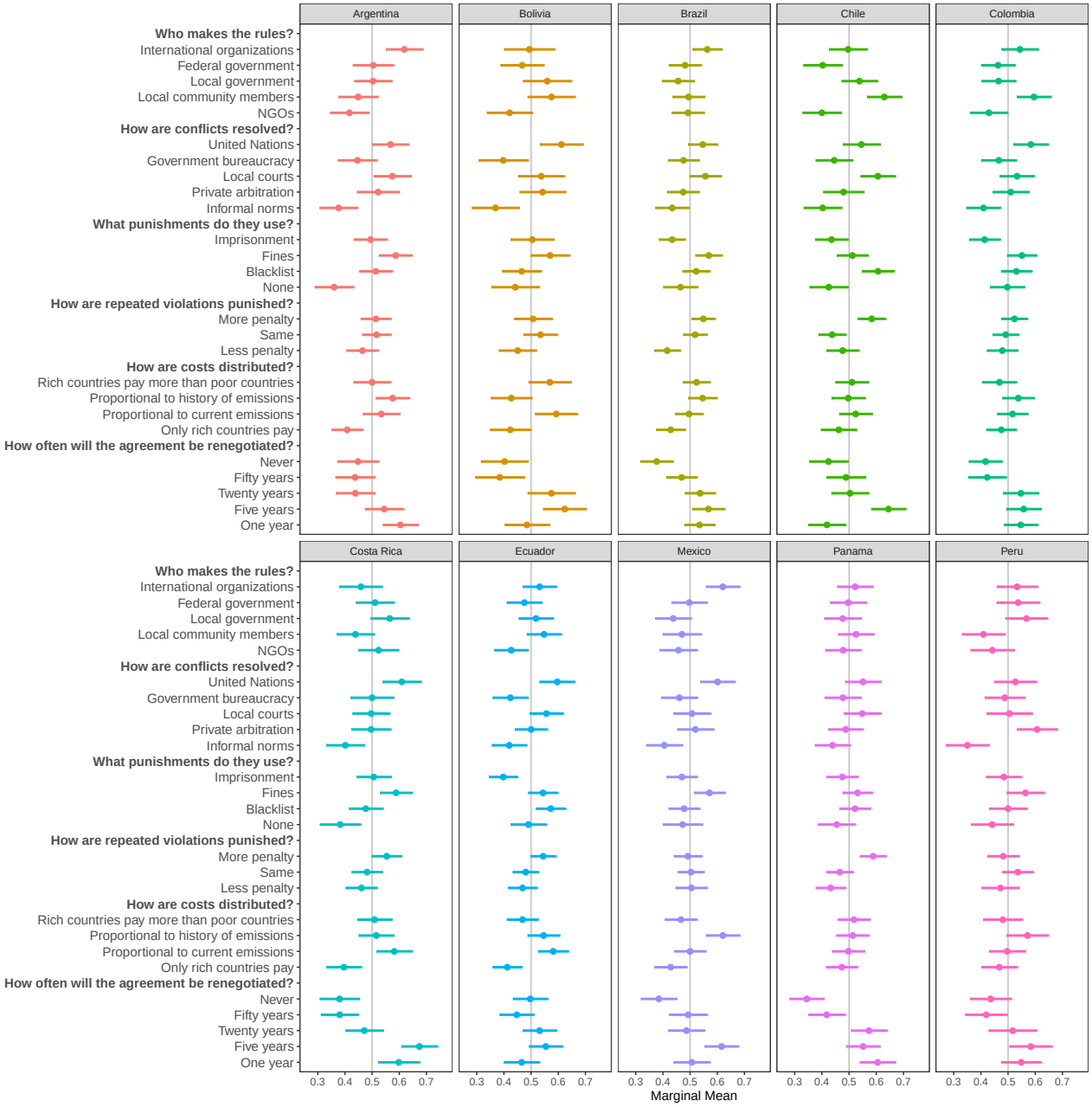
Feature	Estimate	Std.Error	P-Value	Lower	Upper
Who makes the rules?					
NGOs	0.442	0.049	0.236	0.362	0.522
Local community members	0.410	0.048	0.059	0.331	0.488
Local government	0.568	0.047	0.151	0.490	0.645
Federal government	0.537	0.048	0.440	0.458	0.616
International organizations	0.533	0.046	0.464	0.458	0.608
How are conflicts resolved?					
Informal norms	0.351	0.048	0.002	0.271	0.430
Private arbitration	0.607	0.045	0.018	0.533	0.681
Local courts	0.505	0.051	0.919	0.422	0.589
Government bureaucracy	0.488	0.045	0.788	0.414	0.562
United Nations	0.527	0.047	0.570	0.449	0.604
What punishments do they use?					
None	0.441	0.047	0.214	0.364	0.519
Blacklist	0.500	0.043	1.000	0.430	0.570
Fines	0.564	0.042	0.125	0.495	0.633
Imprisonment	0.484	0.040	0.692	0.419	0.549
How are repeated violations punished?					
Less penalty	0.472	0.042	0.501	0.403	0.541
Same	0.536	0.035	0.298	0.479	0.593
More penalty	0.482	0.036	0.618	0.424	0.541
How are costs distributed?					
Only rich countries pay	0.468	0.040	0.419	0.401	0.534
Proportional to current emissions	0.497	0.040	0.936	0.430	0.563
Proportional to history of emissions	0.571	0.047	0.127	0.495	0.648
Rich countries pay more than poor countries	0.481	0.044	0.660	0.408	0.553
How often will the agreement be renegotiated?					
One year	0.548	0.045	0.279	0.475	0.622
Five years	0.583	0.047	0.079	0.505	0.661
Twenty years	0.517	0.054	0.748	0.429	0.605
Fifty years	0.420	0.047	0.085	0.343	0.496
Never	0.436	0.046	0.162	0.360	0.511

```
# Peru

per <- mm(subset(cj, countryOrigin=='Peru'),

        fm, id = ~Response.ID, alpha = 0.1, h0 = 0.5)

table_mm(per, capt = 'Marginal Means -- Peru Only')
```

```r
# Changing country labels
arg$country <- 'Argentina'
bol$country <- 'Bolivia'
bra$country <- 'Brazil'
chi$country <- 'Chile'
col$country <- 'Colombia'
cri$country <- 'Costa Rica'
ecu$country <- 'Ecuador'
mex$country <- 'Mexico'
pan$country <- 'Panama'
per$country <- 'Peru'
# Plot by country
p <- plot(rbind(arg, bol, bra, chi, col,
                cri, ecu, mex, pan, per),
          group = 'country', vline = 0.5, nr = 10,
          header_fmt = "%s", size = 2) +
  facet_wrap( ~ country, ncol = 5) +
  ggplot2::theme(
    axis.text.y = element_text(face=myFaces, size = 11)) +
    ggplot2::geom_errorbarh(ggplot2::aes_string(xmin = "lower",
                                                xmax = "upper"),
                            size = 1, height = 0, na.rm = TRUE,
                            position = ggstance::position_dodgev(height = 1))
```

```
## Warning: Vectorized input to `element_text()` is not officially supported.
## Results may be unexpected or may change in future versions of ggplot2.
```

```
p
```




```
ggsave(filename = 'MM_country.pdf',
       plot = p, width = 12, height = 12)
```

The code for Figure 4 of the paper is available below. Tables displaying the point estimates are also included.

```
## Elite type graphs and estimates


# Table for the Executive branch
```

Table 12: Marginal Means – Executive Only

Feature	Estimate	Std.Error	P-Value	Lower	Upper
Who makes the rules?					
NGOs	0.392	0.034	0.001	0.336	0.447
Local community members	0.516	0.031	0.618	0.464	0.567
Local government	0.502	0.030	0.952	0.452	0.552
Federal government	0.529	0.032	0.365	0.476	0.582
International organizations	0.545	0.031	0.150	0.494	0.596
How are conflicts resolved?					
Informal norms	0.429	0.034	0.037	0.373	0.485
Private arbitration	0.508	0.032	0.797	0.455	0.561
Local courts	0.523	0.031	0.456	0.472	0.574
Government bureaucracy	0.462	0.031	0.214	0.411	0.512
United Nations	0.564	0.030	0.036	0.514	0.614
What punishments do they use?					
None	0.480	0.034	0.545	0.424	0.535
Blacklist	0.541	0.028	0.144	0.495	0.587
Fines	0.568	0.026	0.010	0.524	0.611
Imprisonment	0.406	0.026	0.000	0.363	0.450
How are repeated violations punished?					
Less penalty	0.447	0.026	0.039	0.405	0.489
Same	0.501	0.023	0.963	0.463	0.539
More penalty	0.549	0.025	0.050	0.508	0.590
How are costs distributed?					
Only rich countries pay	0.442	0.029	0.043	0.395	0.489
Proportional to current emissions	0.550	0.028	0.072	0.504	0.596
Proportional to history of emissions	0.524	0.028	0.396	0.478	0.570
Rich countries pay more than poor countries	0.480	0.029	0.491	0.433	0.527
How often will the agreement be renegotiated?					
One year	0.543	0.030	0.159	0.493	0.593
Five years	0.586	0.030	0.005	0.536	0.636
Twenty years	0.500	0.032	1.000	0.448	0.552
Fifty years	0.438	0.032	0.052	0.386	0.490
Never	0.414	0.033	0.009	0.359	0.468

```
res1 <- mm(subset(cj, groupOrigin=='Executive'),
           fm, id = ~Response.ID, alpha = 0.1, h0 = 0.5)
table_mm(res1, capt = 'Marginal Means -- Executive Only')
```

Table 13: Marginal Means – Legislative Only

Feature	Estimate	Std.Error	P-Value	Lower	Upper
Who makes the rules?					
NGOs	0.400	0.038	0.008	0.338	0.462
Local community members	0.519	0.039	0.637	0.454	0.583
Local government	0.549	0.039	0.209	0.485	0.613
Federal government	0.517	0.041	0.680	0.449	0.585
International organizations	0.524	0.042	0.558	0.456	0.593
How are conflicts resolved?					
Informal norms	0.420	0.037	0.032	0.358	0.481
Private arbitration	0.506	0.039	0.876	0.442	0.570
Local courts	0.547	0.039	0.235	0.482	0.611
Government bureaucracy	0.500	0.041	1.000	0.432	0.568
United Nations	0.539	0.042	0.353	0.470	0.608
What punishments do they use?					
None	0.438	0.042	0.143	0.368	0.508
Blacklist	0.546	0.034	0.172	0.491	0.602
Fines	0.581	0.033	0.013	0.528	0.635
Imprisonment	0.403	0.034	0.005	0.347	0.459
How are repeated violations punished?					
Less penalty	0.455	0.033	0.178	0.400	0.510
Same	0.521	0.029	0.481	0.472	0.569
More penalty	0.515	0.030	0.629	0.465	0.564
How are costs distributed?					
Only rich countries pay	0.411	0.033	0.007	0.357	0.465
Proportional to current emissions	0.475	0.035	0.481	0.417	0.533
Proportional to history of emissions	0.552	0.039	0.181	0.488	0.616
Rich countries pay more than poor countries	0.584	0.035	0.017	0.526	0.642
How often will the agreement be renegotiated?					
One year	0.533	0.040	0.416	0.466	0.599
Five years	0.557	0.038	0.139	0.494	0.620
Twenty years	0.526	0.040	0.519	0.460	0.592
Fifty years	0.485	0.039	0.695	0.420	0.549
Never	0.393	0.040	0.007	0.328	0.459

```
# Legislative branch

res2 <- mm(subset(cj, groupOrigin=='Legislative'),

           fm, id = ~Response.ID, alpha = 0.1, h0 = 0.5)

table_mm(res2, capt = 'Marginal Means -- Legislative Only')
```

Table 14: Marginal Means – Civil Society Only

Feature	Estimate	Std.Error	P-Value	Lower	Upper
Who makes the rules?					
NGOs	0.500	0.023	1.000	0.463	0.537
Local community members	0.520	0.022	0.368	0.483	0.557
Local government	0.462	0.023	0.093	0.425	0.499
Federal government	0.478	0.022	0.309	0.441	0.514
International organizations	0.538	0.022	0.080	0.502	0.574
How are conflicts resolved?					
Informal norms	0.410	0.022	0.000	0.373	0.446
Private arbitration	0.503	0.023	0.892	0.466	0.540
Local courts	0.551	0.022	0.021	0.515	0.587
Government bureaucracy	0.430	0.022	0.002	0.393	0.467
United Nations	0.594	0.021	0.000	0.559	0.629
What punishments do they use?					
None	0.453	0.023	0.036	0.416	0.490
Blacklist	0.518	0.020	0.364	0.485	0.550
Fines	0.548	0.019	0.011	0.517	0.579
Imprisonment	0.467	0.019	0.089	0.436	0.499
How are repeated violations punished?					
Less penalty	0.469	0.019	0.112	0.437	0.501
Same	0.479	0.016	0.203	0.452	0.506
More penalty	0.545	0.017	0.007	0.517	0.572
How are costs distributed?					
Only rich countries pay	0.449	0.019	0.008	0.417	0.481
Proportional to current emissions	0.520	0.020	0.315	0.487	0.553
Proportional to history of emissions	0.560	0.020	0.003	0.527	0.593
Rich countries pay more than poor countries	0.476	0.020	0.230	0.443	0.509
How often will the agreement be renegotiated?					
One year	0.548	0.022	0.026	0.513	0.584
Five years	0.595	0.022	0.000	0.559	0.630
Twenty years	0.493	0.022	0.757	0.457	0.530
Fifty years	0.448	0.023	0.026	0.409	0.486
Never	0.404	0.022	0.000	0.368	0.441

```
# Civil society

res3 <- mm(subset(cj, groupOrigin=='Civil Society'),

           fm, id = ~Response.ID, alpha = 0.1, h0 = 0.5)

table_mm(res3, capt = 'Marginal Means -- Civil Society Only')
```

Table 15: Marginal Means – Academia Only

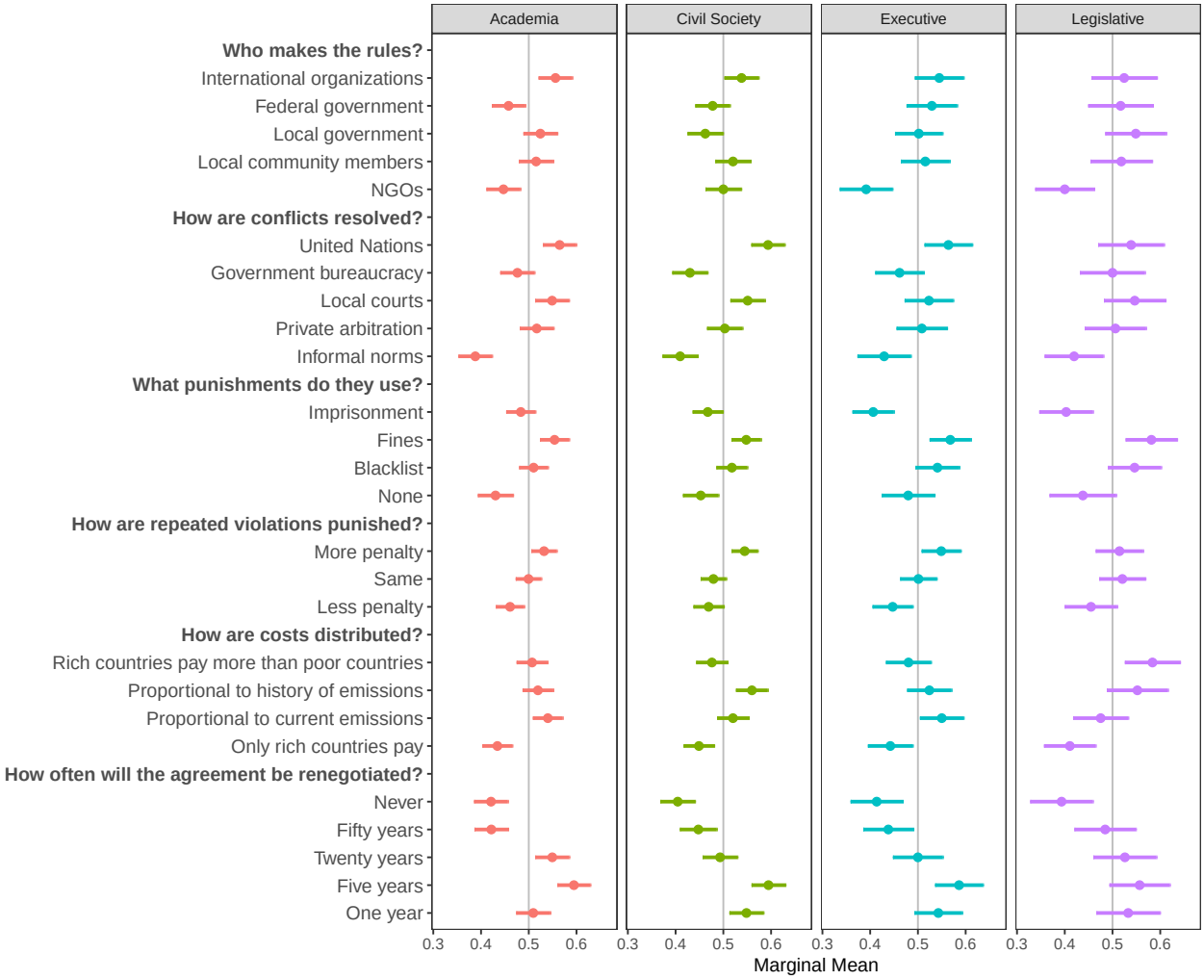
Feature	Estimate	Std.Error	P-Value	Lower	Upper
Who makes the rules?					
NGOs	0.447	0.022	0.014	0.411	0.483
Local community members	0.515	0.022	0.483	0.479	0.551
Local government	0.524	0.022	0.260	0.489	0.560
Federal government	0.458	0.021	0.048	0.423	0.493
International organizations	0.556	0.021	0.009	0.521	0.591
How are conflicts resolved?					
Informal norms	0.388	0.021	0.000	0.353	0.423
Private arbitration	0.517	0.022	0.437	0.481	0.552
Local courts	0.549	0.022	0.023	0.513	0.584
Government bureaucracy	0.476	0.022	0.275	0.440	0.512
United Nations	0.565	0.021	0.002	0.530	0.599
What punishments do they use?					
None	0.430	0.022	0.002	0.393	0.467
Blacklist	0.510	0.018	0.582	0.480	0.540
Fines	0.554	0.019	0.004	0.523	0.585
Imprisonment	0.483	0.019	0.371	0.453	0.514
How are repeated violations punished?					
Less penalty	0.461	0.018	0.030	0.431	0.490
Same	0.499	0.016	0.974	0.473	0.526
More penalty	0.532	0.016	0.048	0.505	0.559
How are costs distributed?					
Only rich countries pay	0.434	0.019	0.001	0.403	0.466
Proportional to current emissions	0.540	0.019	0.036	0.509	0.571
Proportional to history of emissions	0.519	0.020	0.327	0.487	0.551
Rich countries pay more than poor countries	0.507	0.020	0.723	0.475	0.539
How often will the agreement be renegotiated?					
One year	0.509	0.022	0.664	0.474	0.545
Five years	0.595	0.021	0.000	0.560	0.629
Twenty years	0.549	0.022	0.023	0.514	0.585
Fifty years	0.422	0.021	0.000	0.386	0.457
Never	0.421	0.022	0.000	0.386	0.456

```
# Academia

res4 <- mm(subset(cj, groupOrigin=='Academia'),

           fm, id = ~Response.ID, alpha = 0.1, h0 = 0.5)

table_mm(res4, capt = 'Marginal Means -- Academia Only')
```

```r
# Changing labels
res1$MemberType <- 'Executive'
res2$MemberType <- 'Legislative'
res3$MemberType <- 'Civil Society'
res4$MemberType <- 'Academia'


# Plot by Elite Type
p <- plot(rbind(res1, res2, res3, res4),
     group = 'MemberType', vline = 0.5, nr = 4,
        header_fmt = "%s", size = 2) +
  facet_wrap( ~ MemberType, ncol = 4) +
  ggplot2::theme(
    axis.text.y = element_text(face=myFaces, size = 11)) +
    ggplot2::geom_errorbarh(ggplot2::aes_string(xmin = "lower",
                                                xmax = "upper"),
                            size = 1, height = 0, na.rm = TRUE,
                            position = ggstance::position_dodgev(height = 1))
```

```
## Warning: Vectorized input to `element_text()` is not officially supported.
## Results may be unexpected or may change in future versions of ggplot2.
```

```r
p
```




```
ggsave(filename = 'MM_membertype.pdf', plot = p,
       width = 8, height = 6)
```

6 Average Marginal Component Effect (AMCE) Estimator

This estimator fixes one category and look at changes from this baseline category. Below follows the plots for the main model and the country and elite type subsamples.

```
## Main model
rm(cj)
load('freire-mignozzetti-skarbek.RData')


# Set conjoint baselines
baselines <- list()
```

```r
baselines$`How often will the agreement be renegotiated?` <- "One year"
baselines$`What punishments do they use?` <- 'None'
baselines$`How are conflicts resolved?` <- 'Government bureaucracy'
baselines$`How are costs distributed?` <- 'Rich countries pay more than poor countries'
baselines$`Who makes the rules?` <- 'Federal government'

attrs <- c("Who makes the rules?",
           "How are conflicts resolved?",
           "What punishments do they use?",
           "How are repeated violations punished?",
           "How are costs distributed?",
           "How often will the agreement be renegotiated?")

results <- cjoint::amce(fm, data = cj, cluster = TRUE,
                        respondent.id = "Response.ID",
                        design = conjDesign,
                        baselines = baselines, na.ignore = T)

# Table AMCE -- Full Model
tableAMCE <- function(results, capt = 'Main Model') {
  aux <- plotAMCE(results, ci = 0.9, point.size = .8, dodge.size = 1,
     text.size = 10, main = 'AMCE -- Full Model',
     attribute.names = attrs, tblfy = T)
  aux <- aux %>%
    filter(!is.na(group)) %>%
    select(printvar, pe, se, lower, upper)
  indx <- grep('Baseline =', aux$printvar)
  aux$pe <- round(aux$pe, digits = 3)
  aux$se <- round(aux$se, digits = 3)
  aux$lower <- round(aux$lower, digits = 3)
```

```r
  aux$upper <- round(aux$upper, digits = 3)
  aux$pe[indx] = ''
  aux$se[indx] = ''
  aux$lower[indx] = ''
  aux$upper[indx] = ''
  names(aux) <- c('Feature', 'Estimate', 'Std.Error',
                  'Lower', 'Upper')
  return(kable(aux, "latex", caption = capt, booktabs = T, align = c('l', rep('c', 4))) %>%
    kable_styling(font_size = 10) %>%
    group_rows('How are conflicts resolved?', 1, 5) %>%
    group_rows('How are costs distributed?', 6, 9) %>%
    group_rows('How are repeated violations punished?', 10, 12) %>%
    group_rows('How often will the agreement be renegotiated?', 13, 17) %>%
    group_rows('What punishments do they use?', 18, 21) %>%
    group_rows('Who makes the rules?', 22, 26))
}

tableAMCE(results, capt = 'AMCE -- Full Model')
```

Table 16: AMCE – Full Model

Feature	Estimate	Std.Error	Lower	Upper
How are conflicts resolved?				
(Baseline = Government bureaucracy)				
Informal norms	-0.054	0.018	-0.083	-0.025
Private arbitration	0.043	0.018	0.014	0.072
Local courts	0.088	0.017	0.059	0.116
United Nations	0.111	0.019	0.081	0.142
How are costs distributed?				
(Baseline = Rich countries pay more than poor countries)				
Only rich countries pay	-0.071	0.016	-0.098	-0.044
Proportional to current emissions	0.018	0.016	-0.008	0.044
Proportional to history of emissions	0.029	0.017	0.002	0.056
How are repeated violations punished?				
(Baseline = Less penalty)				
Same	0.058	0.015	0.034	0.082
More penalty	0.096	0.015	0.072	0.121
How often will the agreement be renegotiated?				
(Baseline = One year)				
Five years	0.052	0.018	0.023	0.082
Twenty years	-0.012	0.018	-0.041	0.017
Fifty years	-0.093	0.018	-0.124	-0.063
Never	-0.132	0.018	-0.162	-0.102
What punishments do they use?				
(Baseline = None)				
Blacklist	0.102	0.017	0.074	0.13
Fines	0.132	0.016	0.105	0.158
Imprisonment	0.035	0.018	0.006	0.065
Who makes the rules?				
(Baseline = Federal government)				
NGOs	-0.031	0.019	-0.062	0
Local community members	0.024	0.019	-0.008	0.055
Local government	0.011	0.018	-0.019	0.041
International organisations	0.058	0.018	0.029	0.088

```r
# Plot AMCE -- Full Model

plot(results, ci = 0.9, point.size = .8, dodge.size = 1,

     text.size = 10, main = 'AMCE -- Full Model',

     attribute.names = attrs)
```

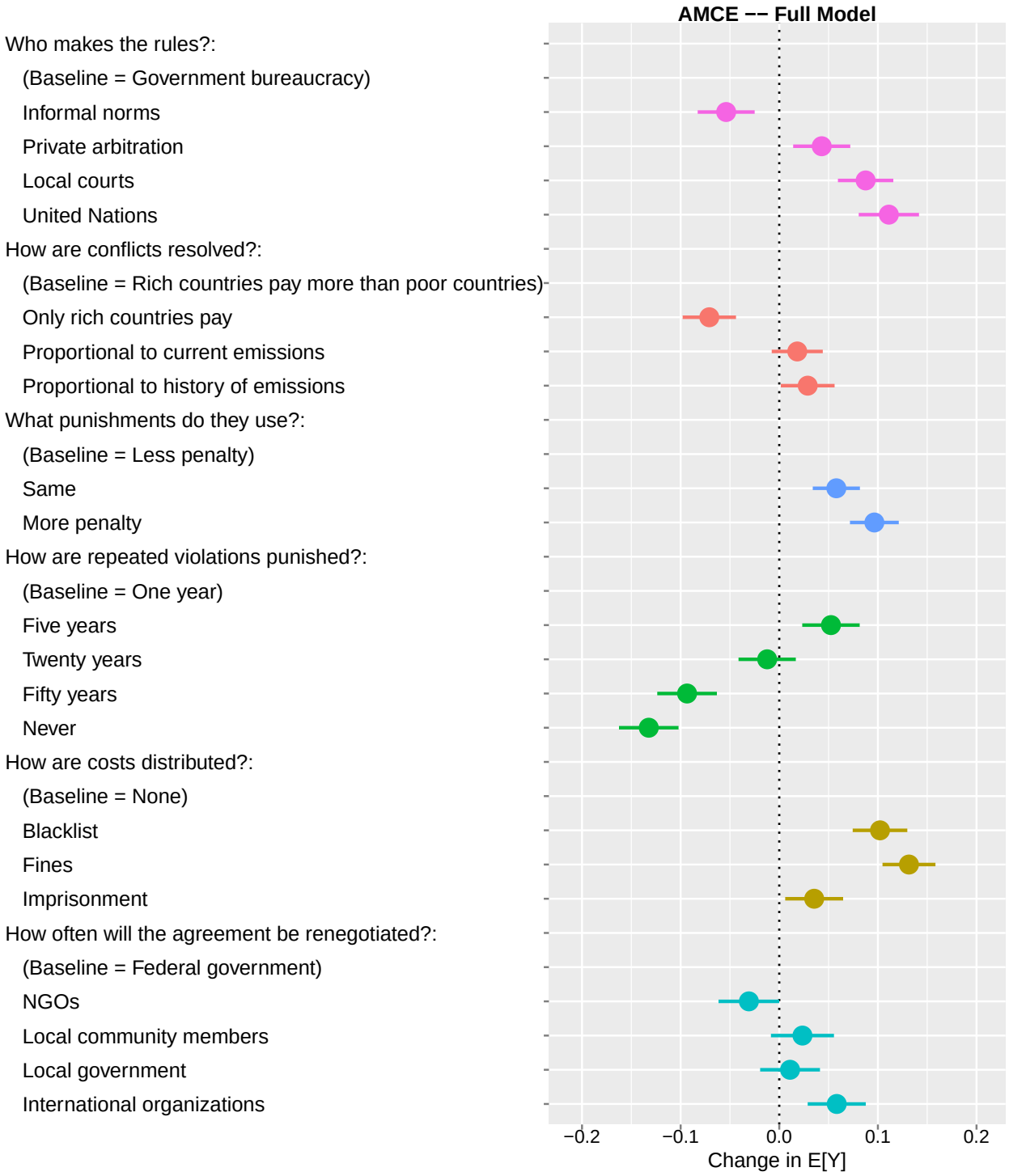


Table 17: AMCE – Argentina Only

Feature	Estimate	Std.Error	Lower	Upper
How are conflicts resolved?				
(Baseline = Government bureaucracy)				
Informal norms	-0.09	0.061	-0.191	0.01
Private arbitration	0.055	0.068	-0.056	0.167
Local courts	0.103	0.062	0.001	0.204
United Nations	0.125	0.067	0.016	0.235
How are costs distributed?				
(Baseline = Rich countries pay more than poor countries)				
Only rich countries pay	-0.078	0.054	-0.166	0.01
Proportional to current emissions	0.031	0.056	-0.062	0.124
Proportional to history of emissions	0.09	0.048	0.011	0.169
How are repeated violations punished?				
(Baseline = Less penalty)				
Same	0.095	0.046	0.018	0.171
More penalty	0.122	0.055	0.031	0.213
How often will the agreement be renegotiated?				
(Baseline = One year)				
Five years	-0.061	0.06	-0.159	0.037
Twenty years	-0.132	0.068	-0.243	-0.021
Fifty years	-0.166	0.068	-0.278	-0.054
Never	-0.171	0.061	-0.271	-0.071
What punishments do they use?				
(Baseline = None)				
Blacklist	0.185	0.056	0.093	0.278
Fines	0.262	0.053	0.174	0.35
Imprisonment	0.154	0.062	0.052	0.256
Who makes the rules?				
(Baseline = Federal government)				
NGOs	-0.118	0.069	-0.23	-0.005
Local community members	-0.074	0.068	-0.185	0.038
Local government	0.003	0.067	-0.108	0.114
International organisations	0.08	0.06	-0.018	0.178

```
## Country subsample


## Argentina

results <- cjoint::amce(fm, data = cj, cluster = TRUE,

                        respondent.id = "Response.ID",

                        design = conjDesign, baselines = baselines,

                        subset = cj$countryOrigin == 'Argentina')

# AMCE -- Argentina Only

tableAMCE(results, capt = 'AMCE -- Argentina Only')
```

```
plot(results, ci=0.9, point.size = .8, dodge.size = 1,
     text.size = 10, main = 'AMCE -- Argentina Only',
     attribute.names = attrs)
```

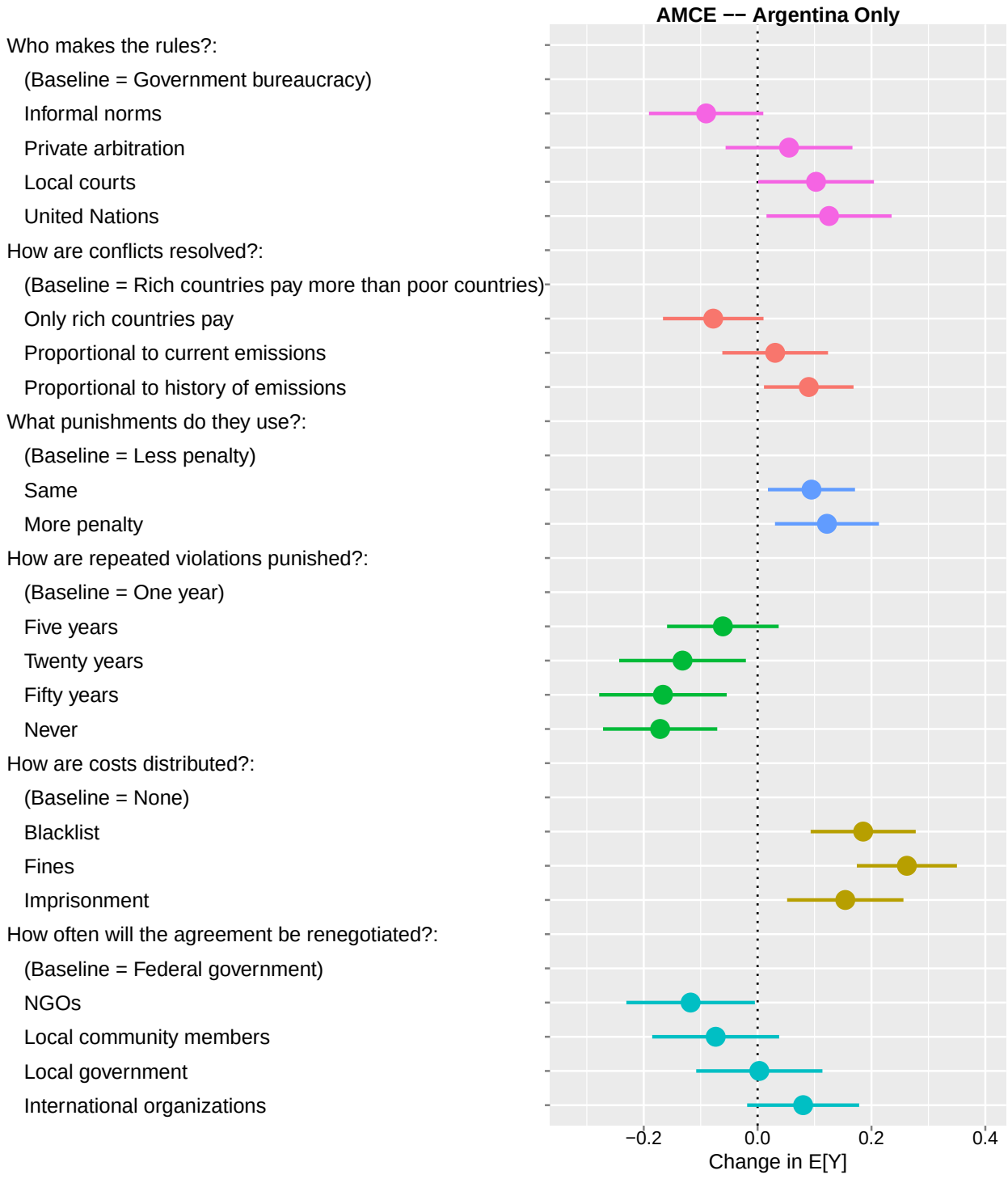


Table 18: AMCE – Bolivia Only

Feature	Estimate	Std.Error	Lower	Upper
How are conflicts resolved?				
(Baseline = Government bureaucracy)				
Informal norms	-0.056	0.067	-0.167	0.054
Private arbitration	0.127	0.074	0.005	0.249
Local courts	0.093	0.057	-0.001	0.186
United Nations	0.17	0.08	0.038	0.302
How are costs distributed?				
(Baseline = Rich countries pay more than poor countries)				
Only rich countries pay	-0.142	0.068	-0.254	-0.029
Proportional to current emissions	0.012	0.066	-0.097	0.12
Proportional to history of emissions	-0.149	0.058	-0.245	-0.054
How are repeated violations punished?				
(Baseline = Less penalty)				
Same	0.126	0.052	0.039	0.212
More penalty	0.117	0.061	0.016	0.218
How often will the agreement be renegotiated?				
(Baseline = One year)				
Five years	0.125	0.072	0.006	0.244
Twenty years	0.075	0.077	-0.052	0.202
Fifty years	-0.116	0.065	-0.223	-0.008
Never	-0.114	0.078	-0.243	0.015
What punishments do they use?				
(Baseline = None)				
Blacklist	0.037	0.075	-0.086	0.16
Fines	0.155	0.056	0.063	0.247
Imprisonment	0.069	0.074	-0.052	0.19
Who makes the rules?				
(Baseline = Federal government)				
NGOs	-0.033	0.071	-0.15	0.084
Local community members	0.122	0.08	-0.009	0.253
Local government	0.061	0.07	-0.055	0.176
International organisations	0.061	0.076	-0.065	0.186

```
## Bolivia

results <- cjoint::amce(fm, data = cj, cluster = TRUE,

                        respondent.id = "Response.ID",

                        design = conjDesign, baselines = baselines,

                        subset = cj$countryOrigin == 'Bolivia')

# Table AMCE -- Full Model

tableAMCE(results, capt = 'AMCE -- Bolivia Only')
```

```
plot(results, ci=0.9, point.size = .8, dodge.size = 1,
     text.size = 10, main = 'AMCE -- Bolivia Only',
     attribute.names = attrs)
```

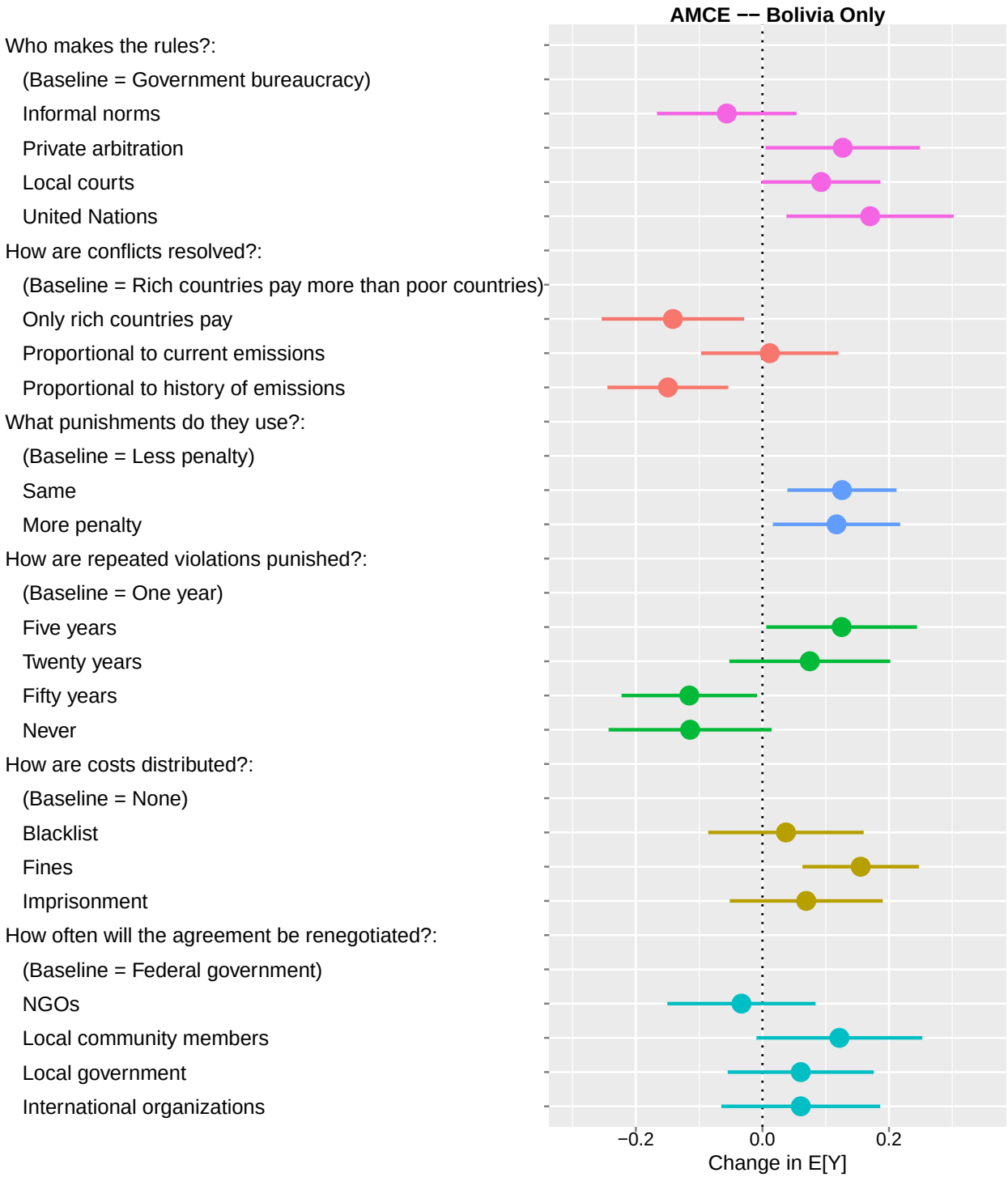


Table 19: AMCE – Brazil Only

Feature	Estimate	Std.Error	Lower	Upper
How are conflicts resolved?				
(Baseline = Government bureaucracy)				
Informal norms	-0.03	0.054	-0.118	0.058
Private arbitration	0.021	0.044	-0.052	0.093
Local courts	0.091	0.05	0.009	0.174
United Nations	0.082	0.047	0.004	0.16
How are costs distributed?				
(Baseline = Rich countries pay more than poor countries)				
Only rich countries pay	-0.107	0.051	-0.191	-0.023
Proportional to current emissions	-0.022	0.05	-0.104	0.06
Proportional to history of emissions	0.021	0.049	-0.059	0.101
How are repeated violations punished?				
(Baseline = Less penalty)				
Same	0.134	0.039	0.069	0.199
More penalty	0.169	0.044	0.097	0.241
How often will the agreement be renegotiated?				
(Baseline = One year)				
Five years	0.025	0.044	-0.048	0.098
Twenty years	-0.012	0.047	-0.09	0.065
Fifty years	-0.087	0.057	-0.181	0.007
Never	-0.166	0.054	-0.256	-0.077
What punishments do they use?				
(Baseline = None)				
Blacklist	0.13	0.045	0.055	0.205
Fines	0.169	0.042	0.1	0.238
Imprisonment	0.032	0.055	-0.058	0.122
Who makes the rules?				
(Baseline = Federal government)				
NGOs	0.001	0.051	-0.083	0.086
Local community members	0.003	0.054	-0.086	0.092
Local government	-0.017	0.053	-0.105	0.071
International organisations	0.087	0.049	0.008	0.167

```
## Brazil

results <- cjoint::amce(fm, data = cj, cluster = TRUE,

                        respondent.id = "Response.ID",

                        design = conjDesign, baselines = baselines,

                        subset = cj$countryOrigin == 'Brazil')

# Table AMCE -- Brazil Only

tableAMCE(results, capt = 'AMCE -- Brazil Only')
```

```
plot(results, ci=0.9, point.size = .8, dodge.size = 1,
     text.size = 10, main = 'AMCE -- Brazil Only',
     attribute.names = attrs)
```

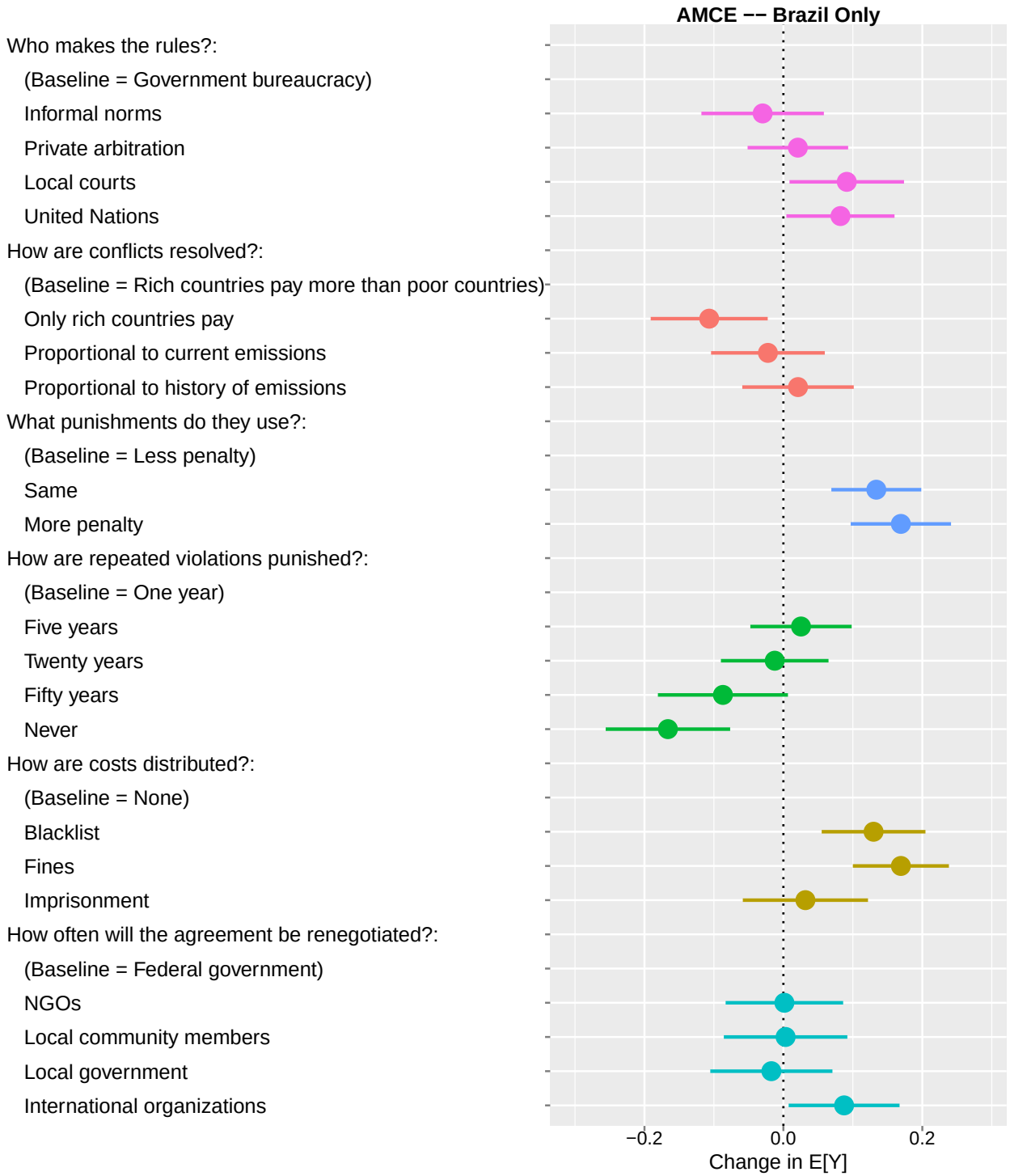


Table 20: AMCE – Chile Only

Feature	Estimate	Std.Error	Lower	Upper
How are conflicts resolved?				
(Baseline = Government bureaucracy)				
Informal norms	-0.021	0.063	-0.125	0.083
Private arbitration	0.055	0.049	-0.026	0.136
Local courts	0.166	0.062	0.064	0.268
United Nations	0.089	0.07	-0.026	0.204
How are costs distributed?				
(Baseline = Rich countries pay more than poor countries)				
Only rich countries pay	0.001	0.052	-0.084	0.086
Proportional to current emissions	0.054	0.045	-0.021	0.128
Proportional to history of emissions	0.003	0.054	-0.086	0.092
How are repeated violations punished?				
(Baseline = Less penalty)				
Same	-0.022	0.045	-0.096	0.052
More penalty	0.106	0.05	0.024	0.188
How often will the agreement be renegotiated?				
(Baseline = One year)				
Five years	0.207	0.053	0.12	0.294
Twenty years	0.083	0.049	0.003	0.163
Fifty years	0.057	0.066	-0.052	0.165
Never	-0.029	0.062	-0.13	0.072
What punishments do they use?				
(Baseline = None)				
Blacklist	0.193	0.049	0.112	0.274
Fines	0.103	0.044	0.03	0.176
Imprisonment	0.013	0.052	-0.073	0.099
Who makes the rules?				
(Baseline = Federal government)				
NGOs	0.001	0.066	-0.107	0.11
Local community members	0.196	0.063	0.092	0.301
Local government	0.119	0.058	0.024	0.215
International organisations	0.069	0.061	-0.03	0.169

```
## Chile

results <- cjoint::amce(fm, data = cj, cluster = TRUE,

                        respondent.id = "Response.ID",

                        design = conjDesign, baselines = baselines,

                        subset = cj$countryOrigin == 'Chile')

# Table AMCE -- Chile Only

tableAMCE(results, capt = 'AMCE -- Chile Only')
```

```
plot(results, ci=0.9, point.size = .8, dodge.size = 1,
     text.size = 10, main = 'AMCE -- Chile Only',
     attribute.names = attrs)
```

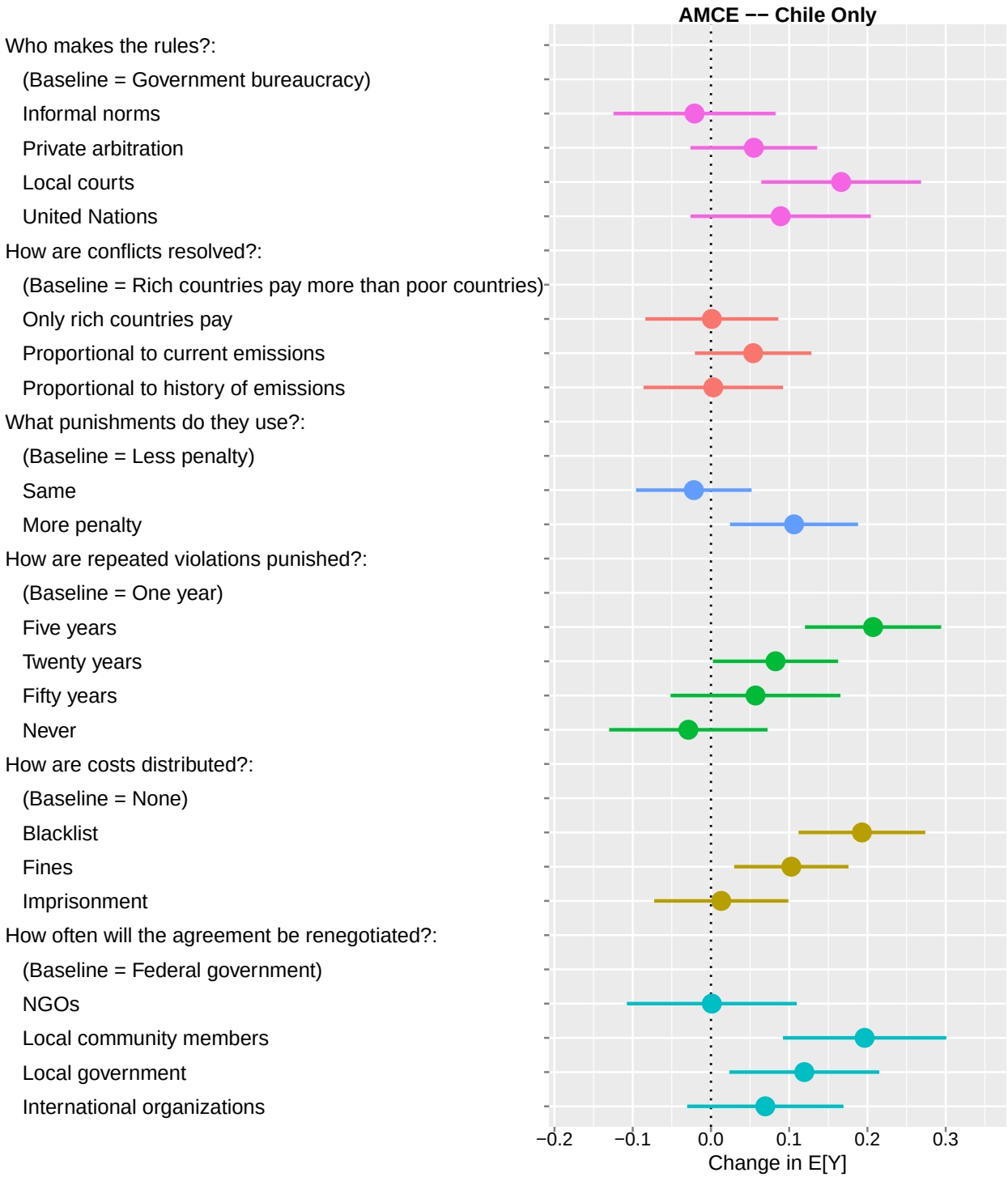


Table 21: AMCE – Colombia Only

Feature	Estimate	Std.Error	Lower	Upper
How are conflicts resolved?				
(Baseline = Government bureaucracy)				
Informal norms	-0.054	0.05	-0.137	0.029
Private arbitration	0.057	0.053	-0.03	0.144
Local courts	0.078	0.051	-0.005	0.162
United Nations	0.132	0.054	0.043	0.221
How are costs distributed?				
(Baseline = Rich countries pay more than poor countries)				
Only rich countries pay	-0.017	0.053	-0.105	0.07
Proportional to current emissions	0.046	0.052	-0.04	0.131
Proportional to history of emissions	0.059	0.06	-0.039	0.158
How are repeated violations punished?				
(Baseline = Less penalty)				
Same	0.014	0.046	-0.06	0.089
More penalty	0.051	0.044	-0.021	0.124
How often will the agreement be renegotiated?				
(Baseline = One year)				
Five years	0.001	0.046	-0.075	0.077
Twenty years	0.005	0.052	-0.081	0.091
Fifty years	-0.126	0.051	-0.21	-0.041
Never	-0.122	0.048	-0.201	-0.043
What punishments do they use?				
(Baseline = None)				
Blacklist	0.037	0.059	-0.059	0.133
Fines	0.068	0.052	-0.019	0.154
Imprisonment	-0.072	0.053	-0.159	0.015
Who makes the rules?				
(Baseline = Federal government)				
NGOs	-0.023	0.059	-0.12	0.074
Local community members	0.131	0.06	0.032	0.229
Local government	-0.003	0.049	-0.083	0.078
International organisations	0.094	0.051	0.009	0.178

```
## Colombia

results <- cjoint::amce(fm, data = cj, cluster = TRUE,

                        respondent.id = "Response.ID",

                        design = conjDesign, baselines = baselines,

                        subset = cj$countryOrigin == 'Colombia')

# Table AMCE -- Colombia Only

tableAMCE(results, capt = 'AMCE -- Colombia Only')
```

```
plot(results, ci=0.9, point.size = .8, dodge.size = 1,
     text.size = 10, main = 'AMCE -- Colombia Only',
     attribute.names = attrs)
```

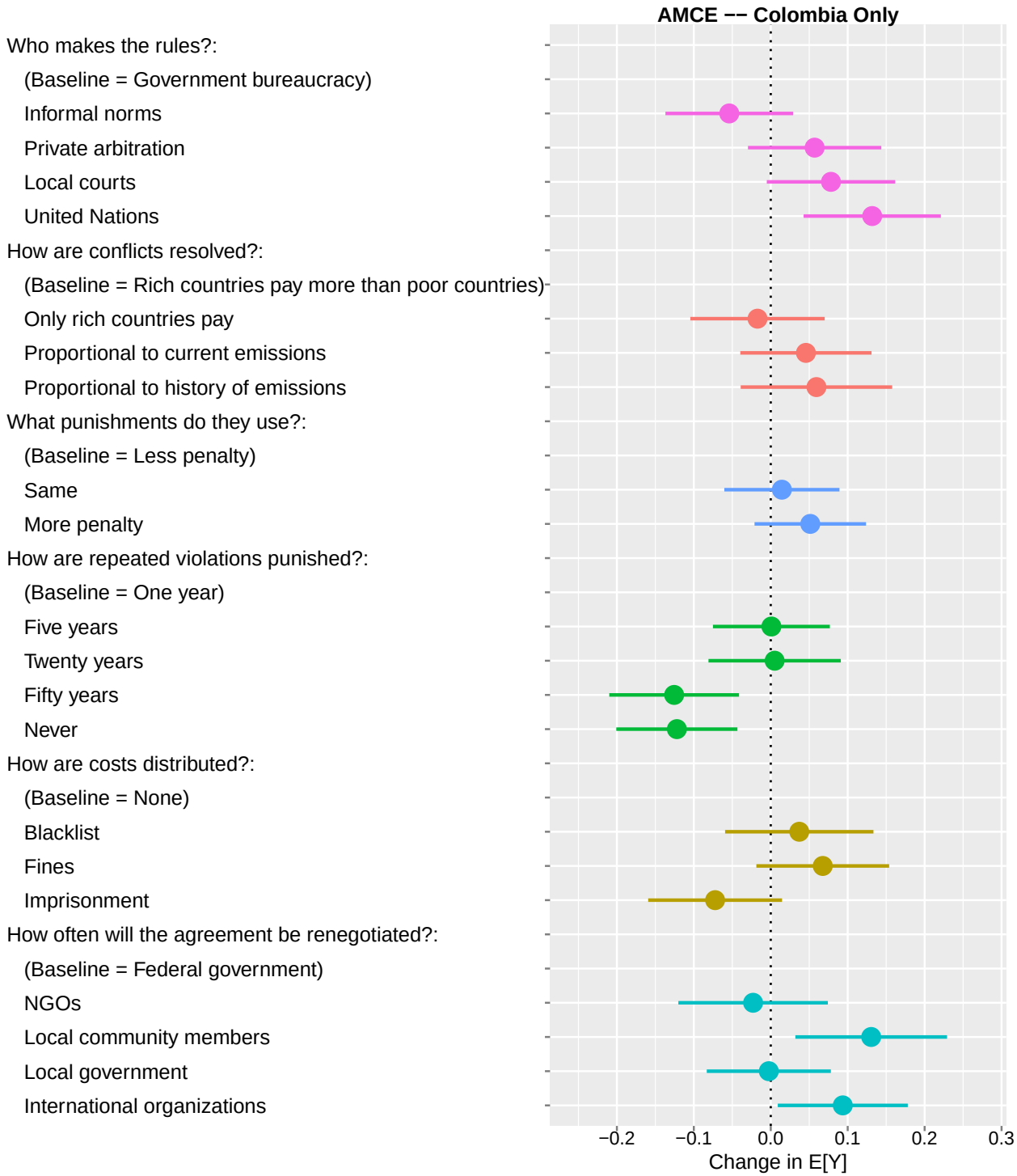


Table 22: AMCE – Costa Rica Only

Feature	Estimate	Std.Error	Lower	Upper
How are conflicts resolved?				
(Baseline = Government bureaucracy)				
Informal norms	-0.085	0.066	-0.193	0.023
Private arbitration	-0.018	0.064	-0.123	0.087
Local courts	0.013	0.066	-0.095	0.121
United Nations	0.094	0.071	-0.022	0.21
How are costs distributed?				
(Baseline = Rich countries pay more than poor countries)				
Only rich countries pay	-0.106	0.06	-0.205	-0.007
Proportional to current emissions	0.058	0.054	-0.031	0.146
Proportional to history of emissions	0.015	0.066	-0.094	0.123
How are repeated violations punished?				
(Baseline = Less penalty)				
Same	0.083	0.044	0.01	0.155
More penalty	0.135	0.042	0.066	0.204
How often will the agreement be renegotiated?				
(Baseline = One year)				
Five years	0.108	0.063	0.004	0.211
Twenty years	-0.115	0.063	-0.219	-0.011
Fifty years	-0.183	0.06	-0.282	-0.084
Never	-0.201	0.061	-0.303	-0.1
What punishments do they use?				
(Baseline = None)				
Blacklist	0.139	0.051	0.055	0.223
Fines	0.245	0.051	0.161	0.328
Imprisonment	0.167	0.057	0.074	0.261
Who makes the rules?				
(Baseline = Federal government)				
NGOs	0.032	0.063	-0.071	0.136
Local community members	-0.081	0.074	-0.203	0.042
Local government	0.087	0.059	-0.01	0.184
International organisations	-0.042	0.068	-0.154	0.069

```
## Costa Rica

results <- cjoint::amce(fm, data = cj, cluster = TRUE,

                        respondent.id = "Response.ID",

                        design = conjDesign, baselines = baselines,

                        subset = cj$countryOrigin == 'Costa Rica')

# Table AMCE -- Costa Rica Only

tableAMCE(results, capt = 'AMCE -- Costa Rica Only')
```

```
plot(results, ci=0.9, point.size = .8, dodge.size = 1,
     text.size = 10, main = 'AMCE -- Costa Rica Only',
     attribute.names = attrs)
```

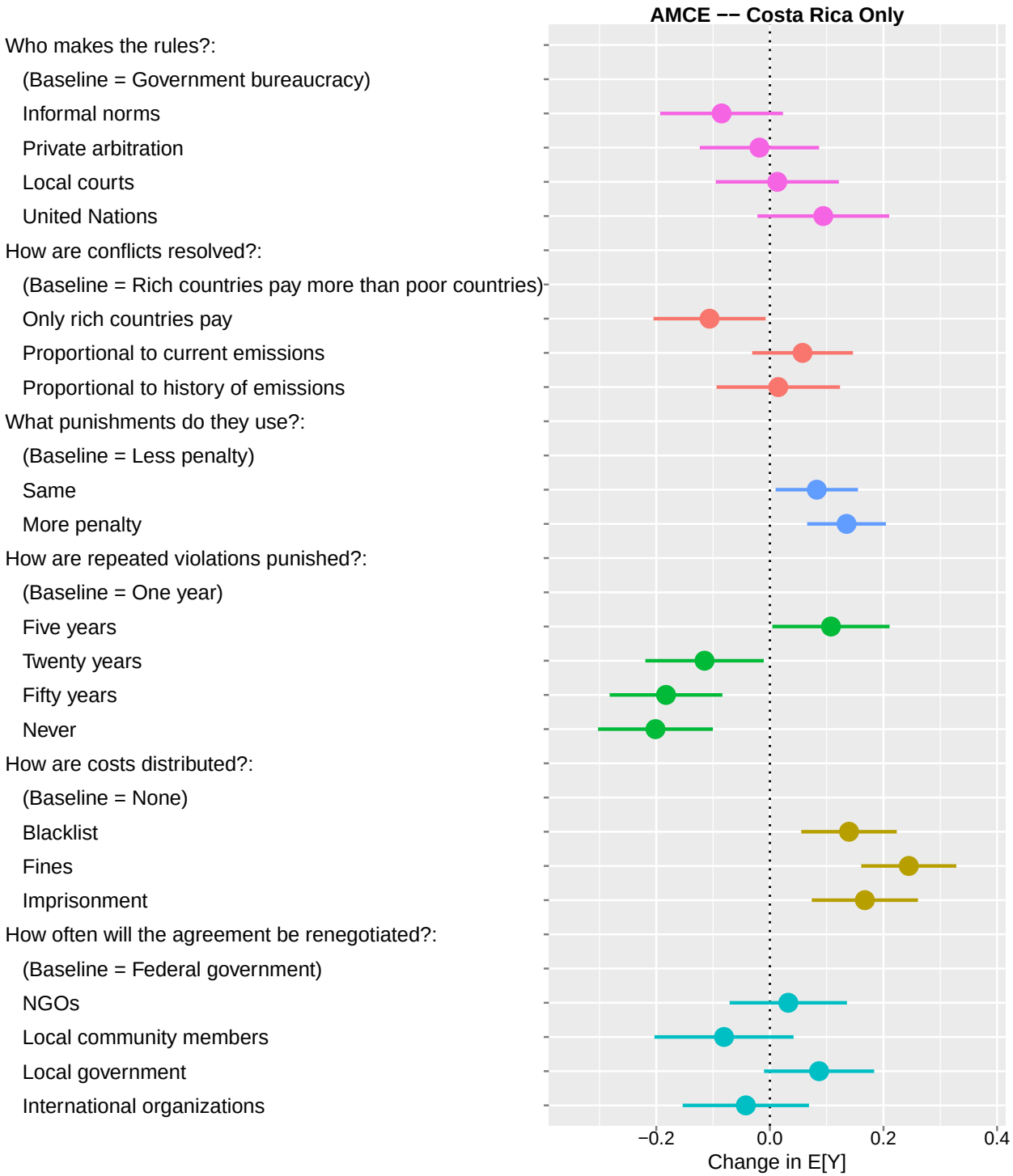


Table 23: AMCE – Ecuador Only

Feature	Estimate	Std.Error	Lower	Upper
How are conflicts resolved?				
(Baseline = Government bureaucracy)				
Informal norms	-0.007	0.055	-0.098	0.084
Private arbitration	0.068	0.052	-0.018	0.154
Local courts	0.122	0.049	0.042	0.203
United Nations	0.151	0.058	0.057	0.246
How are costs distributed?				
(Baseline = Rich countries pay more than poor countries)				
Only rich countries pay	-0.044	0.054	-0.134	0.045
Proportional to current emissions	0.114	0.05	0.032	0.196
Proportional to history of emissions	0.085	0.055	-0.005	0.175
How are repeated violations punished?				
(Baseline = Less penalty)				
Same	0.01	0.052	-0.075	0.095
More penalty	0.085	0.05	0.003	0.167
How often will the agreement be renegotiated?				
(Baseline = One year)				
Five years	0.085	0.063	-0.018	0.188
Twenty years	0.076	0.05	-0.006	0.159
Fifty years	-0.017	0.05	-0.1	0.065
Never	0.036	0.066	-0.073	0.144
What punishments do they use?				
(Baseline = None)				
Blacklist	0.079	0.049	-0.002	0.16
Fines	0.062	0.055	-0.029	0.153
Imprisonment	-0.087	0.055	-0.178	0.003
Who makes the rules?				
(Baseline = Federal government)				
NGOs	-0.037	0.054	-0.125	0.051
Local community members	0.063	0.055	-0.027	0.153
Local government	0.043	0.061	-0.057	0.142
International organisations	0.051	0.055	-0.04	0.141

```
## Ecuador

results <- cjoint::amce(fm, data = cj, cluster = TRUE,

                        respondent.id = "Response.ID",

                        design = conjDesign, baselines = baselines,

                        subset = cj$countryOrigin == 'Ecuador')

# Table AMCE -- Ecuador Only

tableAMCE(results, capt = 'AMCE -- Ecuador Only')
```

```
plot(results, ci=0.9, point.size = .8, dodge.size = 1,
     text.size = 10, main = 'AMCE -- Ecuador Only',
     attribute.names = attrs)
```

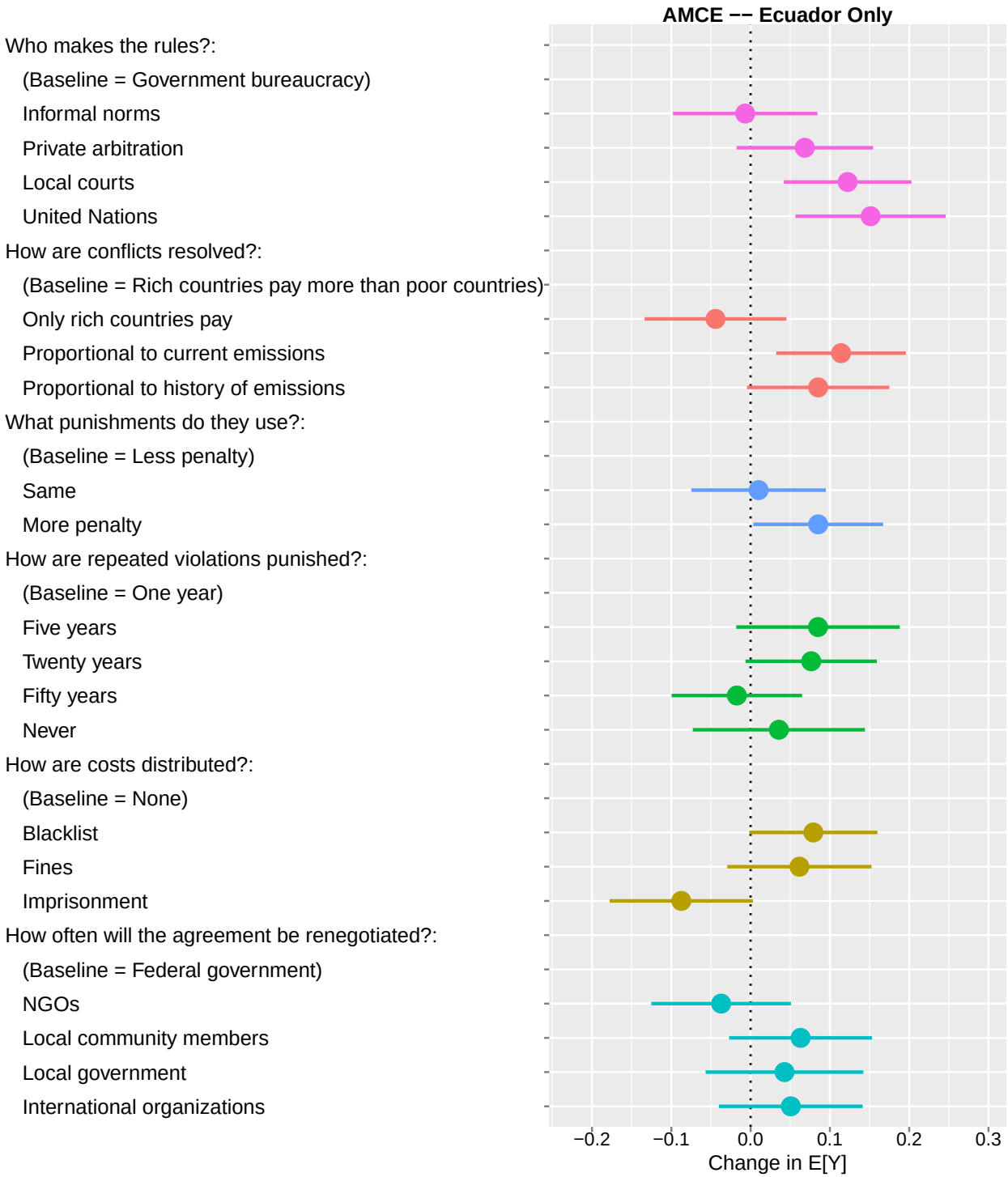


Table 24: AMCE – Mexico Only

Feature	Estimate	Std.Error	Lower	Upper
How are conflicts resolved?				
(Baseline = Government bureaucracy)				
Informal norms	-0.048	0.057	-0.142	0.047
Private arbitration	0.066	0.054	-0.023	0.154
Local courts	0.036	0.056	-0.056	0.127
United Nations	0.137	0.063	0.033	0.242
How are costs distributed?				
(Baseline = Rich countries pay more than poor countries)				
Only rich countries pay	-0.059	0.053	-0.146	0.028
Proportional to current emissions	0.039	0.052	-0.046	0.123
Proportional to history of emissions	0.132	0.057	0.038	0.227
How are repeated violations punished?				
(Baseline = Less penalty)				
Same	0.017	0.055	-0.073	0.107
More penalty	0.011	0.052	-0.074	0.096
How often will the agreement be renegotiated?				
(Baseline = One year)				
Five years	0.107	0.059	0.011	0.204
Twenty years	-0.023	0.06	-0.122	0.077
Fifty years	-0.032	0.058	-0.127	0.063
Never	-0.137	0.062	-0.24	-0.035
What punishments do they use?				
(Baseline = None)				
Blacklist	0.033	0.054	-0.056	0.122
Fines	0.109	0.056	0.018	0.201
Imprisonment	-0.016	0.053	-0.103	0.071
Who makes the rules?				
(Baseline = Federal government)				
NGOs	-0.038	0.068	-0.15	0.074
Local community members	-0.038	0.062	-0.141	0.064
Local government	-0.063	0.065	-0.17	0.043
International organisations	0.136	0.056	0.044	0.229

```
## Mexico

results <- cjoint::amce(fm, data = cj, cluster = TRUE,

                        respondent.id = "Response.ID",

                        design = conjDesign, baselines = baselines,

                        subset = cj$countryOrigin == 'Mexico')

# Table AMCE -- Full Model

tableAMCE(results, capt = 'AMCE -- Mexico Only')
```

```
plot(results, ci=0.9, point.size = .8, dodge.size = 1,
     text.size = 10, main = 'AMCE -- Mexico Only',
     attribute.names = attrs)
```

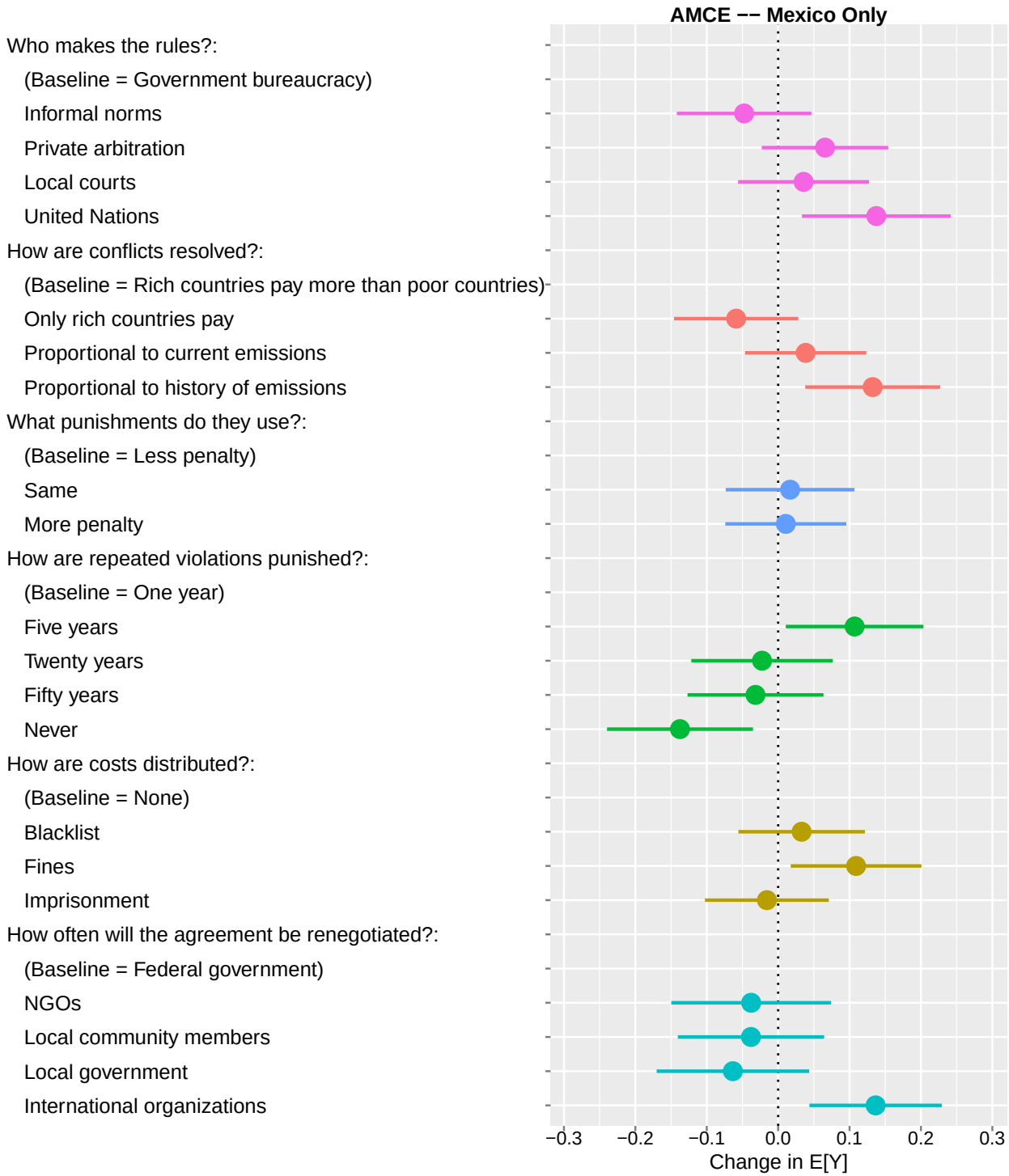


Table 25: AMCE – Panama Only

Feature	Estimate	Std.Error	Lower	Upper
How are conflicts resolved?				
(Baseline = Government bureaucracy)				
Informal norms	-0.049	0.062	-0.151	0.054
Private arbitration	0.013	0.065	-0.095	0.12
Local courts	0.079	0.057	-0.014	0.173
United Nations	0.082	0.065	-0.026	0.189
How are costs distributed?				
(Baseline = Rich countries pay more than poor countries)				
Only rich countries pay	-0.085	0.055	-0.175	0.006
Proportional to current emissions	-0.043	0.05	-0.124	0.039
Proportional to history of emissions	-0.038	0.051	-0.122	0.046
How are repeated violations punished?				
(Baseline = Less penalty)				
Same	0.065	0.05	-0.017	0.147
More penalty	0.189	0.052	0.104	0.274
How often will the agreement be renegotiated?				
(Baseline = One year)				
Five years	-0.067	0.058	-0.162	0.028
Twenty years	-0.045	0.064	-0.151	0.06
Fifty years	-0.196	0.064	-0.301	-0.092
Never	-0.269	0.057	-0.363	-0.175
What punishments do they use?				
(Baseline = None)				
Blacklist	0.112	0.057	0.018	0.205
Fines	0.129	0.051	0.045	0.214
Imprisonment	0.072	0.061	-0.028	0.172
Who makes the rules?				
(Baseline = Federal government)				
NGOs	0.002	0.057	-0.092	0.096
Local community members	0.039	0.06	-0.06	0.137
Local government	-0.001	0.059	-0.099	0.097
International organisations	0.034	0.059	-0.064	0.131

```
## Panama

results <- cjoint::amce(fm, data = cj, cluster = TRUE,

                        respondent.id = "Response.ID",

                        design = conjDesign, baselines = baselines,

                        subset = cj$countryOrigin == 'Panama')

# Table AMCE -- Panama Only

tableAMCE(results, capt = 'AMCE -- Panama Only')
```

```
plot(results, ci=0.9, point.size = .8, dodge.size = 1,
     text.size = 10, main = 'AMCE -- Panama Only',
     attribute.names = attrs)
```

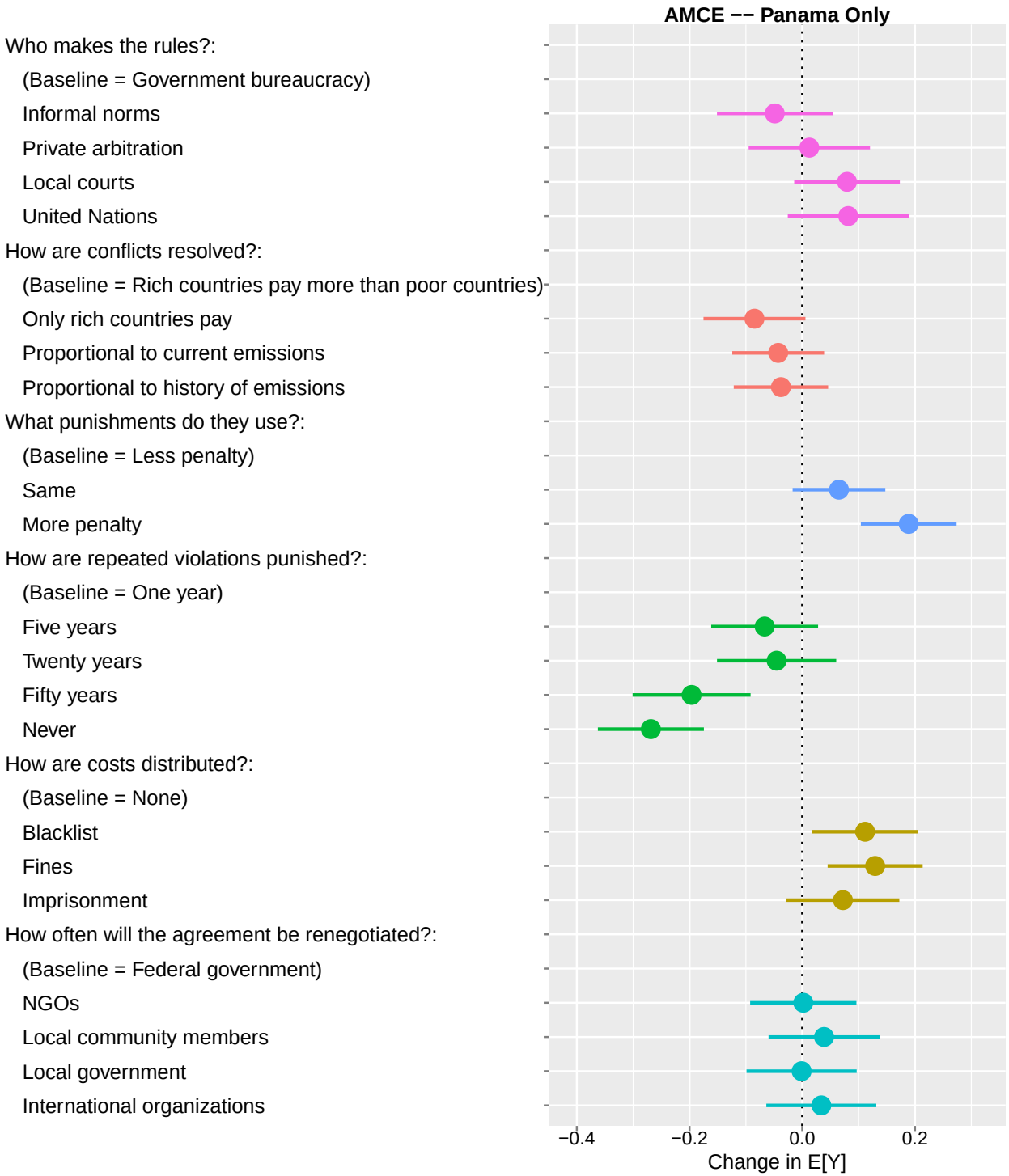


Table 26: AMCE – Peru Only

Feature	Estimate	Std.Error	Lower	Upper
How are conflicts resolved?				
(Baseline = Government bureaucracy)				
Informal norms	-0.121	0.065	-0.228	-0.014
Private arbitration	0.123	0.069	0.01	0.236
Local courts	0.033	0.065	-0.074	0.14
United Nations	0.05	0.066	-0.058	0.158
How are costs distributed?				
(Baseline = Rich countries pay more than poor countries)				
Only rich countries pay	-0.026	0.047	-0.103	0.052
Proportional to current emissions	0.013	0.055	-0.077	0.103
Proportional to history of emissions	0.086	0.057	-0.008	0.18
How are repeated violations punished?				
(Baseline = Less penalty)				
Same	0.079	0.052	-0.006	0.164
More penalty	0.044	0.05	-0.037	0.126
How often will the agreement be renegotiated?				
(Baseline = One year)				
Five years	0.014	0.071	-0.104	0.131
Twenty years	-0.023	0.077	-0.15	0.104
Fifty years	-0.12	0.07	-0.235	-0.006
Never	-0.12	0.062	-0.222	-0.018
What punishments do they use?				
(Baseline = None)				
Blacklist	0.093	0.075	-0.03	0.215
Fines	0.128	0.069	0.014	0.243
Imprisonment	0.075	0.071	-0.042	0.191
Who makes the rules?				
(Baseline = Federal government)				
NGOs	-0.099	0.063	-0.202	0.004
Local community members	-0.119	0.068	-0.232	-0.007
Local government	0.029	0.075	-0.095	0.153
International organisations	0.004	0.067	-0.106	0.114

```
## Peru

results <- cjoint::amce(fm, data = cj, cluster = TRUE,

                        respondent.id = "Response.ID",

                        design = conjDesign, baselines = baselines,

                        subset = cj$countryOrigin == 'Peru')

# Table AMCE -- Peru Only

tableAMCE(results, capt = 'AMCE -- Peru Only')
```

```
plot(results, ci=0.9, point.size = .8, dodge.size = 1,
     text.size = 10, main = 'AMCE -- Peru Only',
     attribute.names = attrs)
```

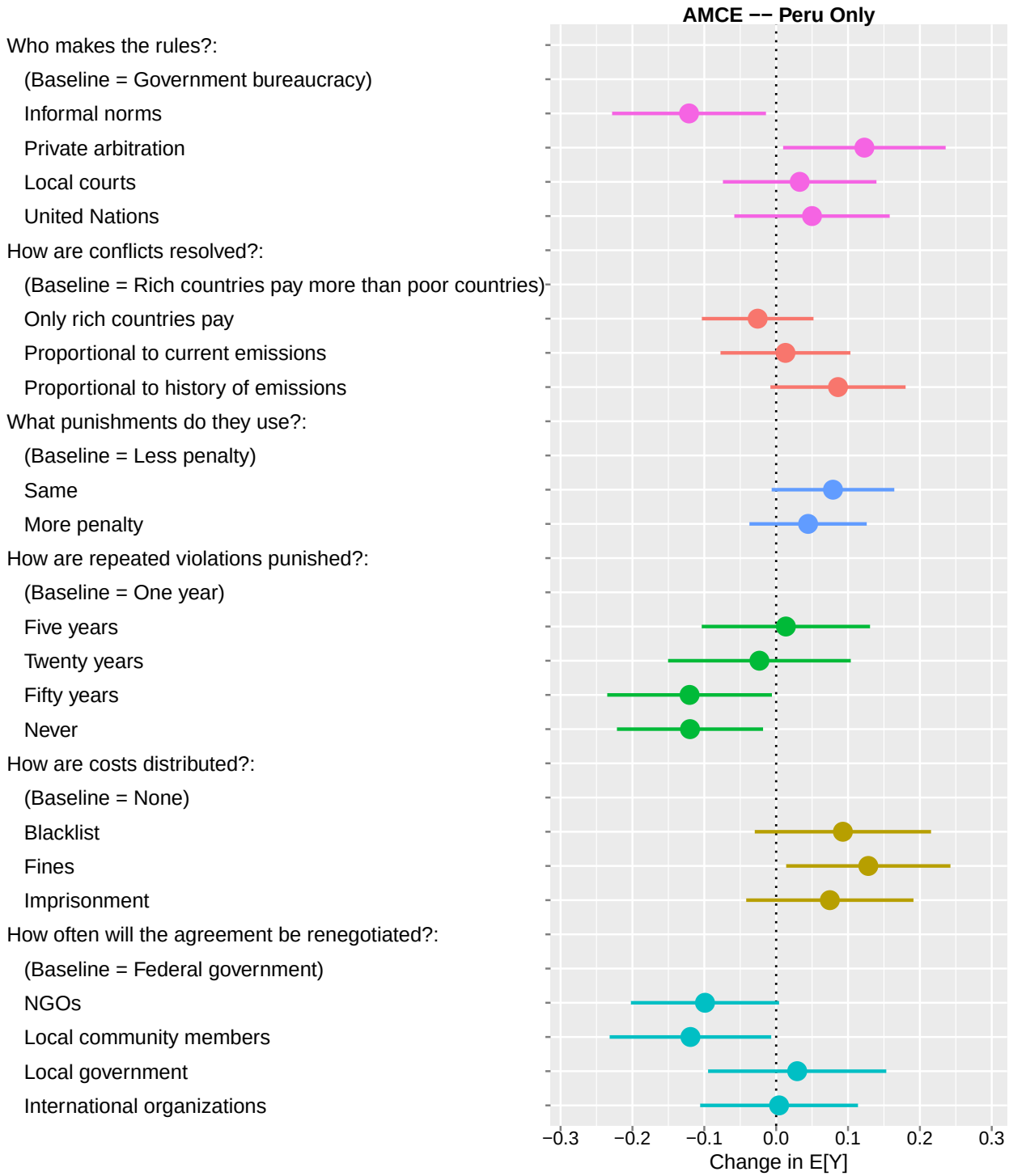


Table 27: AMCE – Executive Branch Only

Feature	Estimate	Std.Error	Lower	Upper
How are conflicts resolved?				
(Baseline = Government bureaucracy)				
Informal norms	-0.034	0.05	-0.116	0.049
Private arbitration	0.057	0.039	-0.008	0.121
Local courts	0.067	0.043	-0.003	0.137
United Nations	0.096	0.047	0.019	0.174
How are costs distributed?				
(Baseline = Rich countries pay more than poor countries)				
Only rich countries pay	-0.036	0.039	-0.101	0.028
Proportional to current emissions	0.08	0.04	0.014	0.146
Proportional to history of emissions	0.055	0.044	-0.017	0.127
How are repeated violations punished?				
(Baseline = Less penalty)				
Same	0.081	0.038	0.018	0.144
More penalty	0.125	0.039	0.061	0.188
How often will the agreement be renegotiated?				
(Baseline = One year)				
Five years	0.06	0.049	-0.02	0.14
Twenty years	-0.023	0.048	-0.102	0.056
Fifty years	-0.096	0.045	-0.171	-0.022
Never	-0.119	0.045	-0.193	-0.045
What punishments do they use?				
(Baseline = None)				
Blacklist	0.103	0.037	0.043	0.163
Fines	0.125	0.044	0.053	0.197
Imprisonment	-0.054	0.04	-0.12	0.013
Who makes the rules?				
(Baseline = Federal government)				
NGOs	-0.159	0.051	-0.243	-0.076
Local community members	-0.027	0.052	-0.113	0.058
Local government	-0.03	0.045	-0.104	0.044
International organisations	0.021	0.043	-0.048	0.091

```
## Elite Subsample


# Executive branch

results <- cjoint::amce(fm, data = cj, cluster = TRUE,

                        respondent.id = "Response.ID",

                        design = conjDesign, baselines = baselines,

                        subset = cj$groupOrigin == 'Executive')

# Table AMCE -- Executive branch only

tableAMCE(results, capt = 'AMCE -- Executive Branch Only')
```

```
plot(results, ci=0.9, point.size = .8, dodge.size = 1,
     text.size = 10, main = 'AMCE -- Executive Branch Only',
     attribute.names = attrs)
```

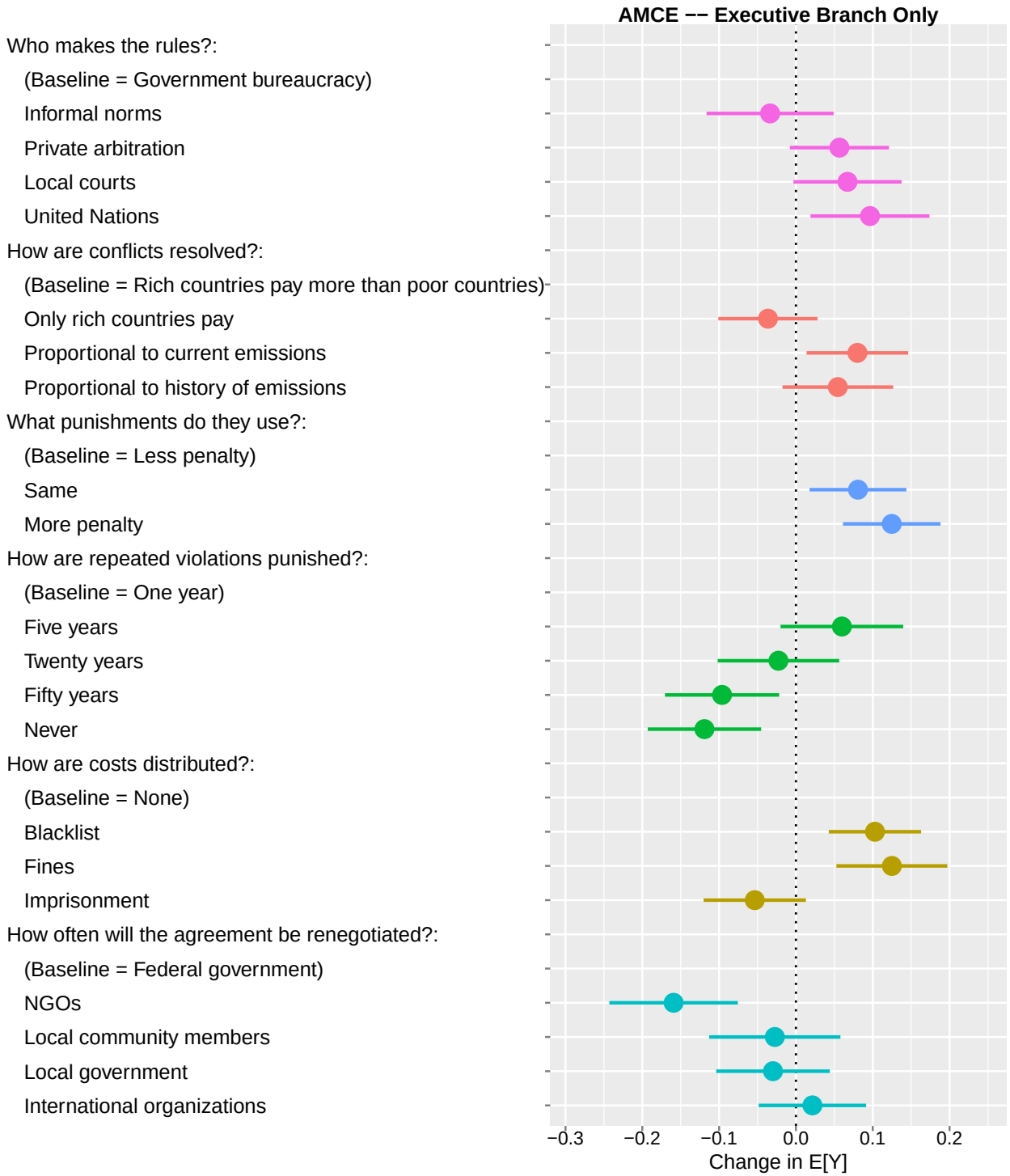


Table 28: AMCE – Legislative Branch Only

Feature	Estimate	Std.Error	Lower	Upper
How are conflicts resolved?				
(Baseline = Government bureaucracy)				
Informal norms	-0.069	0.054	-0.157	0.02
Private arbitration	0.018	0.065	-0.09	0.126
Local courts	0.044	0.062	-0.058	0.147
United Nations	0.065	0.06	-0.034	0.164
How are costs distributed?				
(Baseline = Rich countries pay more than poor countries)				
Only rich countries pay	-0.158	0.052	-0.243	-0.073
Proportional to current emissions	-0.08	0.052	-0.166	0.005
Proportional to history of emissions	-0.019	0.049	-0.099	0.062
How are repeated violations punished?				
(Baseline = Less penalty)				
Same	0.074	0.044	0.002	0.147
More penalty	0.071	0.044	-0.001	0.143
How often will the agreement be renegotiated?				
(Baseline = One year)				
Five years	0.003	0.059	-0.095	0.101
Twenty years	0.002	0.058	-0.093	0.097
Fifty years	-0.043	0.061	-0.143	0.057
Never	-0.129	0.066	-0.237	-0.02
What punishments do they use?				
(Baseline = None)				
Blacklist	0.113	0.055	0.022	0.204
Fines	0.145	0.054	0.056	0.233
Imprisonment	-0.021	0.058	-0.116	0.075
Who makes the rules?				
(Baseline = Federal government)				
NGOs	-0.116	0.064	-0.22	-0.011
Local community members	-0.003	0.068	-0.115	0.108
Local government	0.024	0.063	-0.08	0.128
International organisations	-0.001	0.065	-0.108	0.105

```
## Legislative branch

results <- cjoint::amce(fm, data = cj, cluster = TRUE,

                        respondent.id = "Response.ID",

                        design = conjDesign, baselines = baselines,

                        subset = cj$groupOrigin == 'Legislative')

# Table AMCE -- Legislative branch only

tableAMCE(results, capt = 'AMCE -- Legislative Branch Only')
```

```
plot(results, ci=0.9, point.size = .8, dodge.size = 1,
     text.size = 10, main = 'AMCE -- Legislative Branch Only',
     attribute.names = attrs)
```

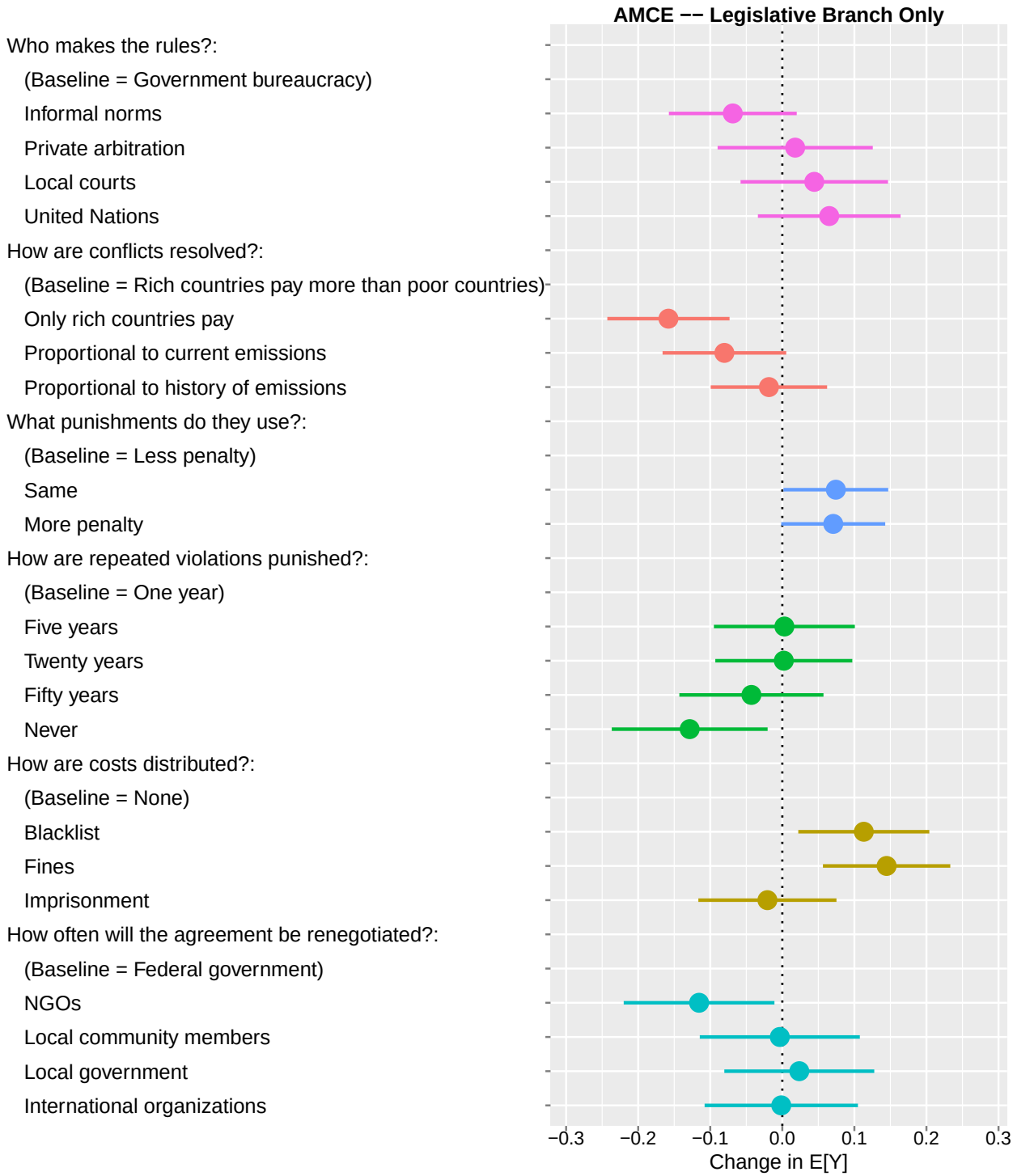


Table 29: AMCE – Civil Society Only

Feature	Estimate	Std.Error	Lower	Upper
How are conflicts resolved?				
(Baseline = Government bureaucracy)				
Informal norms	-0.02	0.031	-0.071	0.032
Private arbitration	0.073	0.032	0.021	0.126
Local courts	0.127	0.031	0.076	0.179
United Nations	0.166	0.031	0.115	0.218
How are costs distributed?				
(Baseline = Rich countries pay more than poor countries)				
Only rich countries pay	-0.043	0.031	-0.093	0.007
Proportional to current emissions	0.038	0.03	-0.011	0.087
Proportional to history of emissions	0.069	0.029	0.022	0.117
How are repeated violations punished?				
(Baseline = Less penalty)				
Same	0.035	0.025	-0.006	0.077
More penalty	0.101	0.026	0.059	0.143
How often will the agreement be renegotiated?				
(Baseline = One year)				
Five years	0.044	0.031	-0.007	0.095
Twenty years	-0.053	0.031	-0.103	-0.003
Fifty years	-0.102	0.034	-0.158	-0.047
Never	-0.147	0.034	-0.203	-0.09
What punishments do they use?				
(Baseline = None)				
Blacklist	0.097	0.03	0.047	0.146
Fines	0.13	0.028	0.085	0.176
Imprisonment	0.049	0.03	-0.002	0.099
Who makes the rules?				
(Baseline = Federal government)				
NGOs	0.026	0.031	-0.025	0.077
Local community members	0.037	0.034	-0.019	0.094
Local government	-0.008	0.033	-0.063	0.047
International organisations	0.066	0.029	0.019	0.113

```
## Civil society

results <- cjoint::amce(fm, data = cj, cluster = TRUE,

                        respondent.id = "Response.ID",

                        design = conjDesign, baselines = baselines,

                        subset = cj$groupOrigin == 'Civil Society')

# Table AMCE -- Civil Society Only

tableAMCE(results, capt = 'AMCE -- Civil Society Only')
```

```
plot(results, ci=0.9, point.size = .8, dodge.size = 1,
     text.size = 10, main = 'AMCE -- Civil Society Only',
     attribute.names = attrs)
```

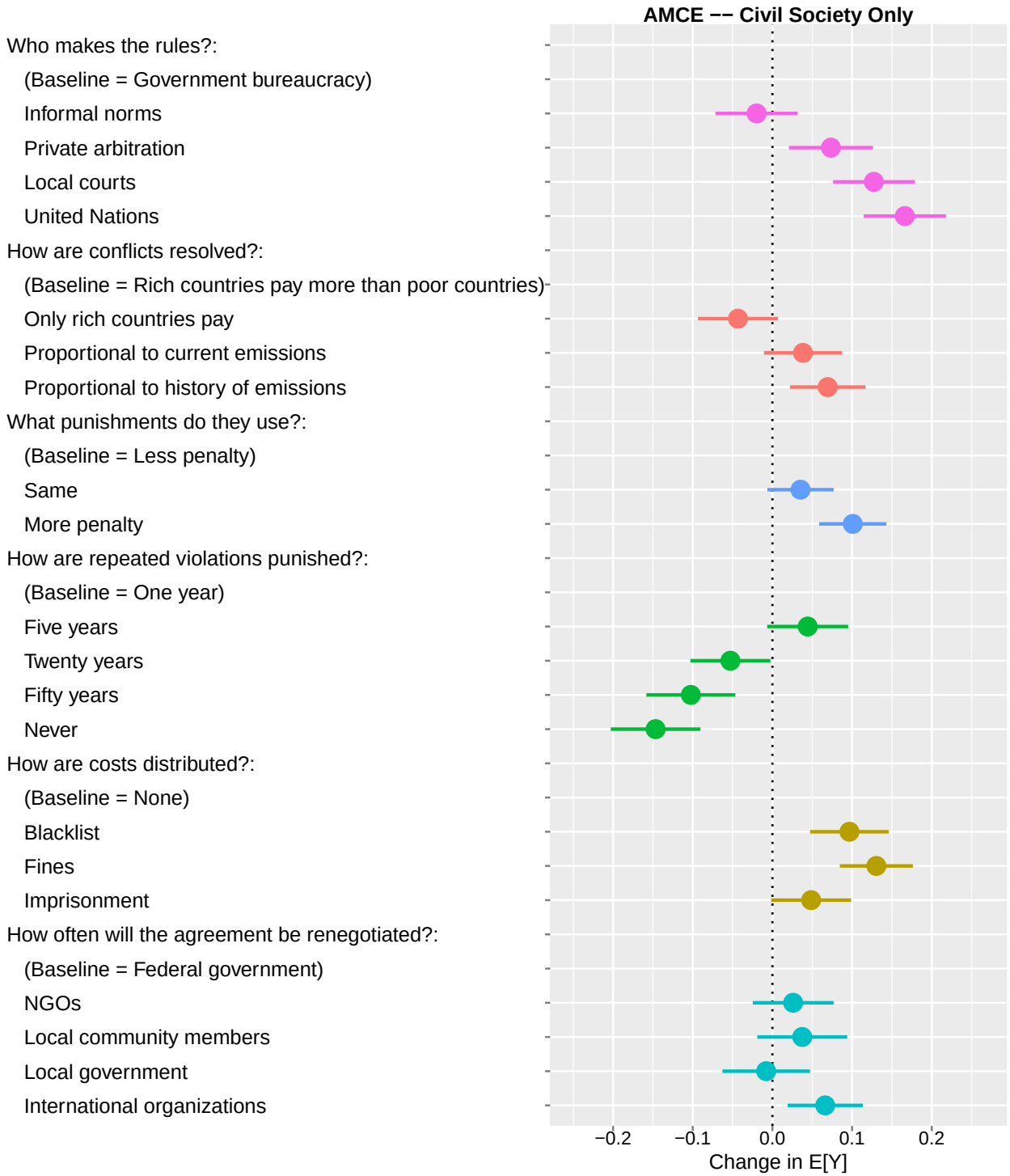
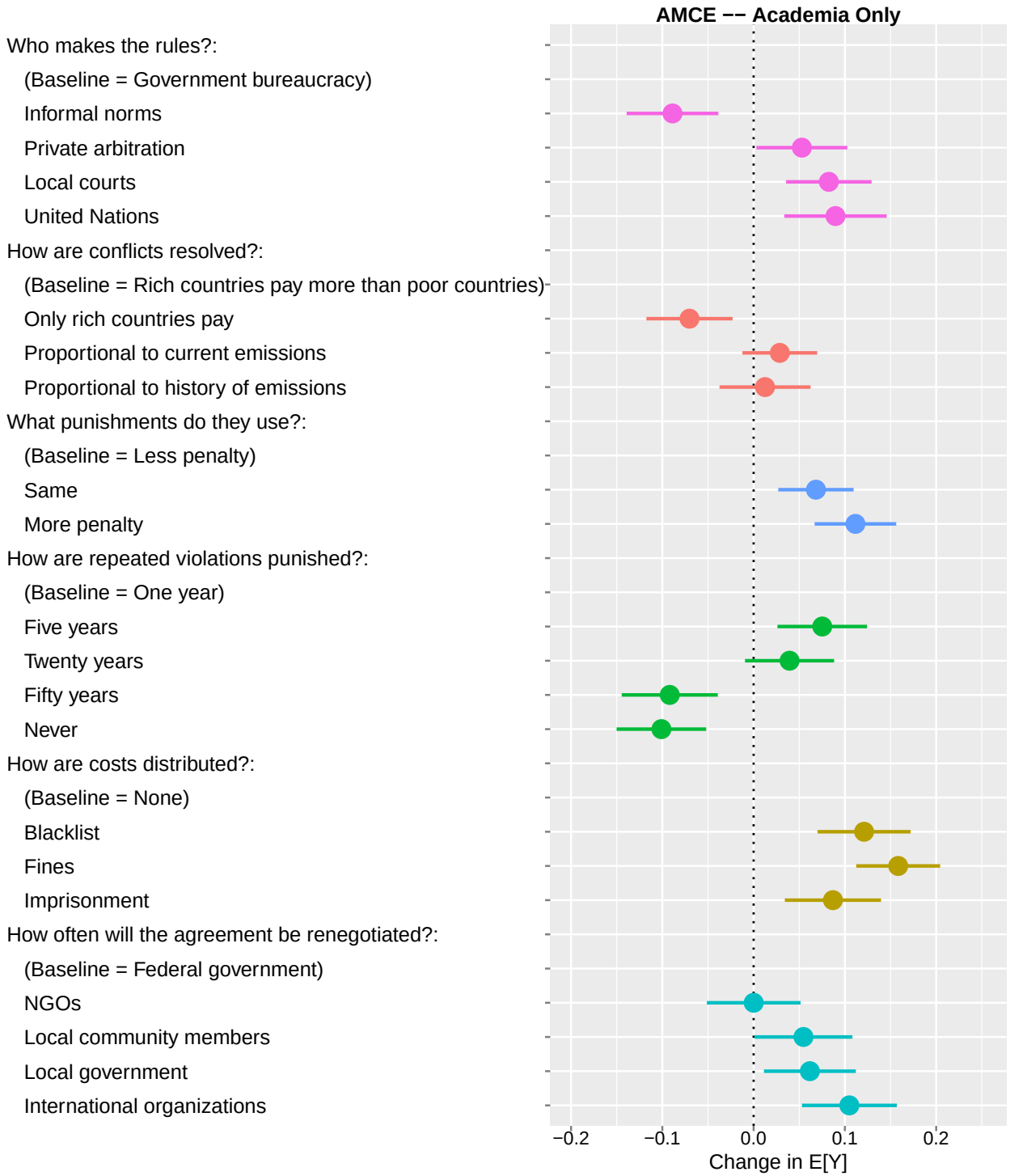


Table 30: AMCE – Academia Only

Feature	Estimate	Std.Error	Lower	Upper
How are conflicts resolved?				
(Baseline = Government bureaucracy)				
Informal norms	-0.089	0.031	-0.139	-0.039
Private arbitration	0.053	0.03	0.003	0.103
Local courts	0.082	0.028	0.036	0.129
United Nations	0.09	0.034	0.034	0.146
How are costs distributed?				
(Baseline = Rich countries pay more than poor countries)				
Only rich countries pay	-0.07	0.029	-0.117	-0.023
Proportional to current emissions	0.029	0.025	-0.012	0.07
Proportional to history of emissions	0.013	0.03	-0.037	0.062
How are repeated violations punished?				
(Baseline = Less penalty)				
Same	0.068	0.025	0.027	0.11
More penalty	0.112	0.027	0.067	0.156
How often will the agreement be renegotiated?				
(Baseline = One year)				
Five years	0.075	0.03	0.026	0.124
Twenty years	0.039	0.03	-0.009	0.088
Fifty years	-0.092	0.032	-0.145	-0.039
Never	-0.101	0.03	-0.15	-0.052
What punishments do they use?				
(Baseline = None)				
Blacklist	0.121	0.031	0.07	0.172
Fines	0.158	0.028	0.112	0.204
Imprisonment	0.087	0.032	0.034	0.14
Who makes the rules?				
(Baseline = Federal government)				
NGOs	0	0.031	-0.051	0.051
Local community members	0.055	0.033	0.001	0.108
Local government	0.062	0.031	0.011	0.112
International organisations	0.105	0.032	0.053	0.157

```
## Academia Only

results <- cjoint::amce(fm, data = cj, cluster = TRUE,

                        respondent.id = "Response.ID",

                        design = conjDesign, baselines = baselines,

                        subset = cj$groupOrigin == 'Academia')

# Table AMCE -- Full Model

tableAMCE(results, capt = 'AMCE -- Academia Only')
```

```
plot(results, ci=0.9, point.size = .8, dodge.size = 1,
     text.size = 10, main = 'AMCE -- Academia Only',
     attribute.names = attrs)
```



7 APSA Experimental Section Standard Report for Experiments

7.1 Hypothesis

The experiment was designed to study the characteristics of the climate change mitigation treaties favored by Latin American elites.

7.2 Subjects and Context

The eligibility criteria for the research was to belong to one of the four elite profiles listed below.

1. **Members of the Executive branch**: members of regulatory agencies, politicians (mayors, governors, presidents), members of ministries and secretaries at the federal and state levels.
2. **Members of the Legislative branch**: legislators and staff officers from the federal and state level in the researched countries.
3. **Civil society**: environmental and energy-related NGO members; oil, renewables, and environmental solutions firm owners in the researched countries.
4. **Academics**: professors from energy and engineering departments of the most prestigious universities in the countries researched.

We decided to include these profiles based on the stakes and influence that such elites have on climate change policies. According to the IR constructivist theories, academics have notable influence on our topic of interest as they form the epistemic community around climate change policies. Civil society members that have stakes on climate policies are also influential, such as oil-extracting companies, lobby groups, and environmental NGOs. Members of the Executive and Legislative branches handle the decisions themselves, so their importance.

We selected ten countries to our sample: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Panama, and Peru. Our selection criteria were the impact of climate change on each nation, their size and regional importance, and natural resources availability. For each country, we built a dataset of potential respondents with at least:

- 150 potential legislative respondents
- 150 potential executive respondents
- 200 potential civil society respondents

- 200 potential academic respondents

These numbers represent ten times the number of respondents we were aiming to interview by the end of the survey. The dataset was build from October 5th to November 12th, 2018. We hired a team of enumerators that searched the internet for people in the countries that fulfilled our pre-determined elite profiles.

We ranked the possible respondents in two tiers. In the first tier we placed people that we had complete information about their profiles: office telephone numbers, emails, social media contacts, and so on. In the second tier we included participants that had incomplete profiles, such as those with only online information available. The dataset including the first-tier respondents was randomly divided between enumerators in Rio de Janeiro and São Paulo to avoid any eventual biases from the collecting stage. Both groups conducted the interviews by phone from November 12th to December 5th, 2018. The second tier dataset was used for an online only version of the survey.

The response rate in each of the enumeration sites and in the online only survey follows in the table below.

Table 31: Survey response rates.

Country	Enumeration Place	Type	Total	Phone	Online
Argentina	Rio de Janeiro	Online and Phone	300	33	17
Bolivia	Rio de Janeiro	Online and Phone	372	31	11
Brazil	Rio de Janeiro	Online and Phone	346	34	12
Chile	Rio de Janeiro	Online and Phone	417	35	12
Colombia	Rio de Janeiro	Online and Phone	445	35	21
Costa Rica	Rio de Janeiro	Online and Phone	409	32	11
Ecuador	Rio de Janeiro	Online and Phone	512	30	12
Mexico	Rio de Janeiro	Online and Phone	468	41	17
Panama	Rio de Janeiro	Online and Phone	291	30	14
Peru	Rio de Janeiro	Online and Phone	243	32	11
TOTAL		Online and Phone	3803	333	138
Argentina	Sao Paulo	Online and Phone	292	48	16

Country	Enumeration Place	Type	Total	Phone	Online
Bolivia	Sao Paulo	Online and Phone	373	50	13
Brazil	Sao Paulo	Online and Phone	344	43	15
Chile	Sao Paulo	Online and Phone	416	41	15
Colombia	Sao Paulo	Online and Phone	448	42	19
Costa Rica	Sao Paulo	Online and Phone	412	44	20
Ecuador	Sao Paulo	Online and Phone	507	43	18
Mexico	Sao Paulo	Online and Phone	464	41	17
Panama	Sao Paulo	Online and Phone	291	50	19
Peru	Sao Paulo	Online and Phone	248	44	9
TOTAL		Online and Phone	3803	446	161
Argentina		Online Only	517		19
Bolivia		Online Only	132		12
Brazil		Online Only	1183		52
Chile		Online Only	470		31
Colombia		Online Only	522		29
Costa Rica		Online Only	325		20
Ecuador		Online Only	460		37
Mexico		Online Only	955		29
Panama		Online Only	319		26
Peru		Online Only	540		25
TOTAL		Online Only	5569		293

The response rate was 10.24 percent of the original population in the telephone survey (779 of 7606 possible respondents). We had an attrition of 61.62 percent from the telephone (779) to the online survey (299). The response rate for the online only survey was 5.26 percent (293 of 5569 invited by email).

The conjoint experiment analyzed in this paper was in the online and online-only dataset. Therefore, the relevant column for our data is the last one.

7.3 Allocation Methods

Random Assignment: We programmed the experiment using a Python application provided by Strezhnev et al. (2013). We translated the original survey questions (as shown in the text) into Portuguese and Spanish, and then embedded the PHP file with the randomization parameters in a Qualtrics survey. The PHP code we used to randomize the values of the attributes is available at the project's GitHub repository: http://github.com/danilofreire/climate-governance.

For each attribute, the probability of selecting a given component follows a uniform distribution function. The table below describes the results.

Table 32: Conjoint experiment attributes and their respective probabilities.

Attribute	Values	Probabilities
Who makes the rules?	International organizations	1/5
	Federal government	1/5
	Local government	1/5
	Local community members	1/5
	Non-governmental organizations	1/5
Conflict resolution mechanism	United Nations	1/5
	Government bureaucracy	1/5
	Local courts	1/5
	Private arbitration	1/5
	Informal norms	1/5
Punishment	Imprisonment	1/4
	Fines	1/4
	Blacklist	1/4
	None	1/4
Punishment for repeated violations	More penalty	1/3
	Same	1/3

Attribute	Values	Probabilities
	Less penalty	1/3
Agreement costs	Rich countries pay more than poor countries	1/4
	Proportional to history of emissions	1/4
	Proportional to current emissions	1/4
	Only rich countries pay	1/4
Renegotiation	Never	1/5
	Fifty years	1/5
	Twenty years	1/5
	Five years	1/5
	One year	1/5

We added one logical restriction to the set climate change treaties: **Punishment** = **None** can never appear together with **Punishment for repeated violations** = **Less penalty**. The number of possible treaties are the product of the attributes ($5 \times 5 \times 4 \times 3 \times 4 \times 5 = 6,000$) minus the number of removed possibilities ($5 \times 5 \times 4 \times 5 = 500$). The total number of possible treaties is $5,500$.

7.4 Treatments

Descriptions of the intervention: Our treatment was the randomization of components in the conjoined climate mitigation treaties. We provided the following description before the conjoint experiment starts, in Spanish and Portuguese:

```
For the following questions, read carefully the instructions below.

Imagine that your country would sign an international treaty to mitigate climate change.
A climate mitigation treaty has, in general, the following attributes:

1. Who defines the rules? Which group will define the parameters for the treaty?
```

2. How are the conflicts that might happen when the treaty begin be resolved?

3. What punishments should be applied to ensure compliance?

4. How will repeated violations be punished?

5. How are costs for implementing the treaty be distributed?

6. How often the treaty has to be renegotiated?

In the following questions, you will see variations in treaties on these six attributes. Please select the treaty that has the characteristics that you believe are best for your country.

The conjoint experiment consisted in comparing two treaties that vary in these six attributes, repeating the application for seven times for each respondent.

Software: To program the PHP randomization device we used the Python application provided by Strezhnev et al. (2013). We used Qualtrics to administer the survey.

Delivery: We repeated the conjoint experiment seven times, to improve test power.

Dataset description: Each line in the dataset represents a given treaty, varying for the selection status (selected versus non-selected) for a given respondent. When a respondent finished an entire response set, this adds 14 rows to the dataset. Seven rows with the selected treaties and other seven rows with the non-selected treaties.

Deception: We used no deception in this survey experiment.

7.5 Results

Outcome measures and covariates: The main outcome is a binary indicator for the selection of a given conjoined package. We added two covariates to measure heterogeneous effects: *Country* and *Elite type*.

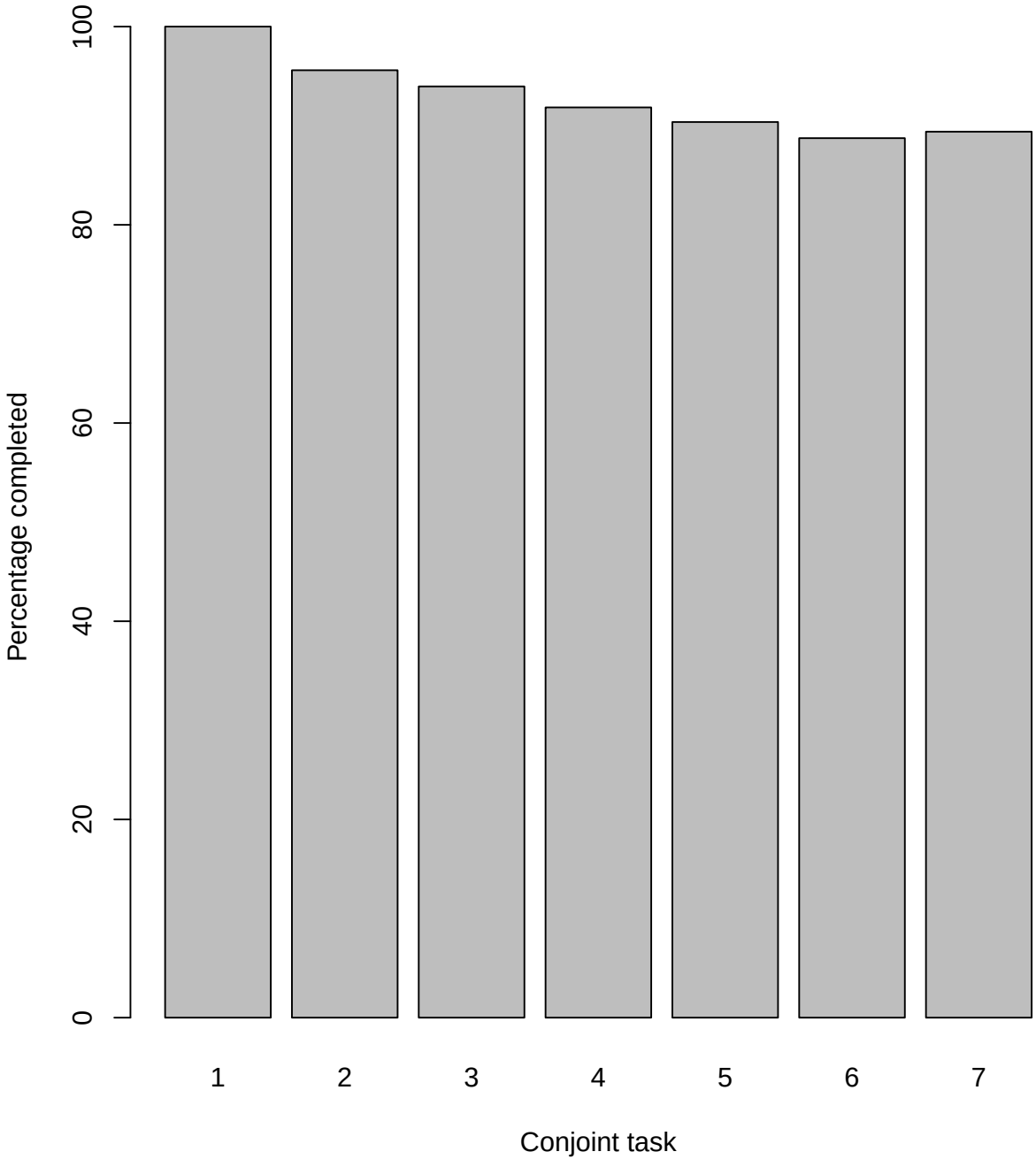
Questionnaire: For the English translation of the entire survey instrument, with both the telephone and the online components, see the attachment below.

Statistical analysis: We fit a marginal means estimator and an AMCE estimator. The estimation conditions the results within subjects and the presented conjoined packages. The results are available in sections 4 and 6.

Missing data and attrition: Conditional on having started the conjoint experiment, for each task

we had the following completion rates:

```
barplot(100*table(cj$task)/max(table(cj$task)), xlab = 'Conjoint task', ylab = 'Percentage comp
```



7.6 Other information

IRB: This research received IRB approval from Brown University (Protocol 2195/2018) and Fundação Getulio Vargas (Protocol 83/2018).

Pre-registration: The result was not pre-registered.

Funding: The research was funded by Konrad Adenauer Stiftung (KAS). KAS provided EUR$ 55,000.00 for this research. They have not interfered in the research design and in the question choices.

Replication materials: Available at http://github.com/danilofreire/climate-governance.

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