Heterogenous Treatment Effects & Policy Views Decomposition

Countries: US, France, Denmark, Germany

October 2021

Heterogenous Treatment Effects

Main Results

- Negative effect of Climate Treatment on right-wing respondents for support on policies, but policy treatment has positive effect on willingness to adopt climate friendly behavior.
- Both treatment have a negative effect on left-leaning people.
- Policy treatment has a negative effect on both right- and left-leaning people on thinking that rich people are responsible for CC

- Climate treatment has strong effects on the main origin/race of the country.

- Also strong effects of both treatments on retired people and older people.

	Knowledge Index	Index main policies	Index all policies	Index willing to change	Index global policies	Trust government	Companies Responsible	Rich responsible
Control group mean	0	-0.103	-0.055	0.002	-0.028	0.27	0.721	0.433
Center	0.136***	0.404***	0.513***	0.137*	0.333***	0.046	0.086***	0.032
	(0.031)	(0.069)	(0.069)	(0.071)	(0.070)	(0.032)	(0.032)	(0.036)
Left	0.150***	0.723***	0.937***	0.492***	0.768***	0.081**	0.172***	0.227***
	(0.034)	(0.075)	(0.075)	(0.077)	(0.077)	(0.035)	(0.034)	(0.039)
Right	−0.004	0.169**	0.227***	−0.074	0.042	0.023	−0.039	0.002
	(0.034)	(0.074)	(0.074)	(0.076)	(0.076)	(0.035)	(0.034)	(0.038)
Center × Treatment Climate	−0.045	−0.088	−0.102	0.011	0.073	0.059	−0.022	−0.025
	(0.046)	(0.103)	(0.102)	(0.105)	(0.104)	(0.048)	(0.047)	(0.053)
Left × Treatment Climate	−0.018	−0.090	−0.175	−0.146	−0.011	0.052	−0.030	−0.101*
	(0.052)	(0.115)	(0.115)	(0.117)	(0.117)	(0.053)	(0.053)	(0.059)
Right × Treatment Climate	−0.094*	−0.173	−0.205*	−0.053	−0.023	0.031	−0.030	−0.060
	(0.051)	(0.113)	(0.112)	(0.115)	(0.115)	(0.052)	(0.051)	(0.058)
Center × Treatment Policy	−0.002	0.106	−0.042	0.173*	0.028	0.011	−0.056	−0.049
	(0.046)	(0.102)	(0.102)	(0.104)	(0.104)	(0.047)	(0.047)	(0.053)
Left × Treatment Policy	0.006	0.038	−0.181	0.067	−0.173	0.002	−0.051	−0.149**
	(0.051)	(0.112)	(0.112)	(0.115)	(0.114)	(0.052)	(0.051)	(0.058)
Right × Treatment Policy	−0.017	−0.081	−0.170	0.224**	−0.017	−0.004	−0.083	−0.136**
	(0.050)	(0.111)	(0.111)	(0.113)	(0.113)	(0.052)	(0.051)	(0.057)
Center × Treatment Both	0.009	−0.094	−0.091	0.008	0.066	0.001	0.035	0.019
	(0.044)	(0.097)	(0.097)	(0.099)	(0.099)	(0.045)	(0.045)	(0.050)
Left × Treatment Both	0.035	−0.174	−0.163	−0.192*	−0.006	0.021	0.016	−0.111**
	(0.049)	(0.109)	(0.109)	(0.112)	(0.111)	(0.051)	(0.050)	(0.057)
Right × Treatment Both	−0.001	−0.161	−0.140	−0.028	0.140	0.059	0.102**	−0.036
	(0.049)	(0.108)	(0.108)	(0.110)	(0.110)	(0.050)	(0.049)	(0.056)
Observations	8,010	8,010	8,010	8,010	8,010	8,010	8,010	8,010

Note: Controls include categorical variables for having dominant origin in the country, gender, having children, college education, income quartiles, employment tatus, age, political affiliation, living in an urban area, and the respondent's country.

Table 1: Heterogenous Treatment Effects – Origin

	Knowledge Index	Index main policies	Index all policies	Index willing to change	Index global policies	Trust government	Companies Responsible	Rich responsible
Control group mean	0	-0.103	-0.055	0.002	-0.028	0.27	0.721	0.433
origin: largest group	0.043*	−0.194***	−0.135**	−0.094	−0.168***	−0.034	−0.038	−0.016
	(0.026)	(0.057)	(0.057)	(0.058)	(0.058)	(0.027)	(0.026)	(0.030)
origin: largest group × Treatment Climate	0.002	0.238***	0.173**	0.289***	0.152*	0.030	0.071*	0.005
	(0.038)	(0.085)	(0.085)	(0.087)	(0.086)	(0.040)	(0.039)	(0.044)
origin: largest group × Treatment Policy	−0.019	0.108	0.077	0.105	0.109	0.024	0.030	0.044
	(0.038)	(0.084)	(0.084)	(0.086)	(0.085)	(0.039)	(0.038)	(0.043)
origin: largest group × Treatment Both	0.038	0.272***	0.231***	0.297***	0.220**	0.018	0.104***	0.076*
	(0.039)	(0.086)	(0.085)	(0.087)	(0.087)	(0.040)	(0.039)	(0.044)
Observations	8,010	8,010	8,010	8,010	8,010	8,010	8,010	8,010

	Knowledge Index	Index main policies	Index all policies	Index willing to change	Index global policies	Trust government	Companies Responsible	Rich responsible
Control group mean	0	-0.103	-0.055	0.002	-0.028	0.27	0.721	0.433
Retired	−0.020	−0.039	−0.060	−0.079	−0.083	0.025	−0.016	0.031
	(0.033)	(0.073)	(0.073)	(0.075)	(0.075)	(0.034)	(0.034)	(0.038)
Student	0.158***	0.080	0.090	0.023	0.074	0.056	0.081*	−0.032
	(0.046)	(0.102)	(0.101)	(0.104)	(0.104)	(0.047)	(0.047)	(0.053)
Working	0.021	0.023	0.023	−0.066	0.030	0.071**	−0.012	−0.061*
	(0.029)	(0.065)	(0.065)	(0.066)	(0.066)	(0.030)	(0.030)	(0.034)
	(0.039)	(0.087)	(0.087)	(0.089)	(0.088)	(0.040)	(0.040)	(0.045)
Retired × Treatment Climate	0.032	0.087	0.186*	0.104	0.237**	0.033	0.022	−0.082
	(0.046)	(0.102)	(0.101)	(0.104)	(0.104)	(0.047)	(0.046)	(0.053)
Student × Treatment Climate	−0.047	−0.034	0.053	0.054	0.173	0.051	−0.019	−0.033
	(0.069)	(0.152)	(0.152)	(0.155)	(0.155)	(0.071)	(0.070)	(0.079)
Working × Treatment Climate	−0.007	0.019	0.081	0.092	0.121	0.005	0.021	0.013
	(0.043)	(0.096)	(0.096)	(0.098)	(0.098)	(0.045)	(0.044)	(0.050)
Retired × Treatment Policy	0.039	0.144	0.083	0.048	0.098	0.009	−0.045	−0.090*
	(0.046)	(0.102)	(0.102)	(0.104)	(0.104)	(0.048)	(0.047)	(0.053)
Student × Treatment Policy	−0.058	−0.072	−0.050	−0.110	−0.031	0.085	−0.140**	−0.113
	(0.065)	(0.143)	(0.143)	(0.146)	(0.145)	(0.067)	(0.065)	(0.074)
Working × Treatment Policy	0.025	0.021	−0.053	0.021	−0.018	−0.054	−0.098**	−0.036
	(0.043)	(0.096)	(0.096)	(0.098)	(0.098)	(0.045)	(0.044)	(0.050)
Retired × Treatment Both	−0.026	0.323***	0.301***	0.360***	0.209**	−0.011	0.076	0.023
	(0.047)	(0.103)	(0.103)	(0.106)	(0.105)	(0.048)	(0.047)	(0.053)
Student × Treatment Both	−0.075	0.125	0.177	0.044	0.016	0.006	−0.044	−0.092
	(0.067)	(0.148)	(0.148)	(0.151)	(0.151)	(0.069)	(0.068)	(0.077)
Working × Treatment Both	−0.070	0.140	0.170*	0.237**	0.089	−0.011	0.060	0.079
	(0.043)	(0.096)	(0.096)	(0.098)	(0.097)	(0.045)	(0.044)	(0.049)
Observations	8,010	8,010	8,010	8,010	8,010	8,010	8,010	8,010

	Knowledge Index	Index main policies	Index all policies	Index willing to change	Index global policies	Trust government	Companies Responsible	Rich responsible
Age: 25-34	−0.063*	−0.026	0.064	−0.023	0.163**	0.028	0.014	−0.036
	(0.036)	(0.080)	(0.080)	(0.082)	(0.081)	(0.037)	(0.037)	(0.041)
Age: 35-49	−0.040	−0.116	0.007	−0.217***	0.053	0.029	−0.024	−0.027
	(0.035)	(0.077)	(0.077)	(0.079)	(0.078)	(0.036)	(0.035)	(0.040)
Age: 50-64	0.030	−0.125	−0.025	−0.209***	−0.010	0.032	0.007	−0.068*
	(0.034)	(0.076)	(0.076)	(0.078)	(0.078)	(0.036)	(0.035)	(0.039)
Age: 65+	0.056	−0.269***	−0.106	−0.446***	−0.040	0.030	−0.019	−0.066
	(0.037)	(0.082)	(0.082)	(0.084)	(0.083)	(0.038)	(0.037)	(0.042)
Age: 25-34 × Treatment Climate	−0.039	−0.136	−0.207*	−0.035	−0.350***	0.003	−0.031	−0.027
	(0.053)	(0.118)	(0.118)	(0.121)	(0.120)	(0.055)	(0.054)	(0.061)
Age: 35-49 × Treatment Climate	−0.021	−0.064	−0.140	0.096	−0.178	0.010	0.032	−0.002
	(0.050)	(0.110)	(0.110)	(0.112)	(0.112)	(0.051)	(0.050)	(0.057)
Age: 50-64 × Treatment Climate	−0.028	−0.222**	−0.254**	−0.067	−0.206*	−0.012	0.006	−0.059
	(0.049)	(0.109)	(0.108)	(0.111)	(0.111)	(0.051)	(0.050)	(0.056)
Age: 65+ × Treatment Climate	0.019	−0.020	−0.072	0.099	−0.128	0.031	0.001	−0.107*
	(0.049)	(0.108)	(0.108)	(0.111)	(0.110)	(0.051)	(0.050)	(0.056)
Age: 25-34 × Treatment Policy	0.100*	−0.051	−0.089	−0.031	−0.171	−0.048	0.069	0.006
	(0.051)	(0.113)	(0.112)	(0.115)	(0.115)	(0.053)	(0.052)	(0.058)
Age: 35-49 × Treatment Policy	0.110**	0.075	−0.023	0.097	−0.042	−0.077	0.069	−0.063
	(0.048)	(0.107)	(0.107)	(0.109)	(0.109)	(0.050)	(0.049)	(0.055)
Age: 50-64 × Treatment Policy	0.053	−0.014	−0.093	−0.096	−0.065	−0.107**	0.017	−0.046
	(0.047)	(0.104)	(0.104)	(0.107)	(0.106)	(0.049)	(0.048)	(0.054)
Age: 65+ × Treatment Policy	0.132***	0.127	0.074	0.080	0.070	−0.088*	0.078*	−0.068
	(0.047)	(0.104)	(0.104)	(0.106)	(0.106)	(0.048)	(0.048)	(0.054)
Age: 25-34 × Treatment Both	0.039	−0.070	−0.093	−0.019	−0.185	−0.018	0.024	0.089
	(0.052)	(0.115)	(0.115)	(0.117)	(0.117)	(0.054)	(0.053)	(0.059)
Age: 35-49 × Treatment Both	−0.023	−0.002	−0.010	0.075	0.022	0.017	0.103**	0.078
	(0.049)	(0.108)	(0.107)	(0.110)	(0.110)	(0.050)	(0.049)	(0.056)
Age: 50-64 × Treatment Both	0.052	0.039	0.026	0.057	0.120	0.008	0.052	0.086
	(0.048)	(0.106)	(0.106)	(0.109)	(0.108)	(0.050)	(0.049)	(0.055)
Age: 65+ × Treatment Both	0.096**	0.270**	0.203*	0.298***	0.199*	−0.030	0.113**	0.074
	(0.049)	(0.108)	(0.108)	(0.111)	(0.110)	(0.051)	(0.050)	(0.056)
Observations	8,010	8,010	8,010	8,010	8,010	8,010	8,010	8,010

Decomposition of Policy Views

Main Results

- Political leaning and age are important drivers of support.

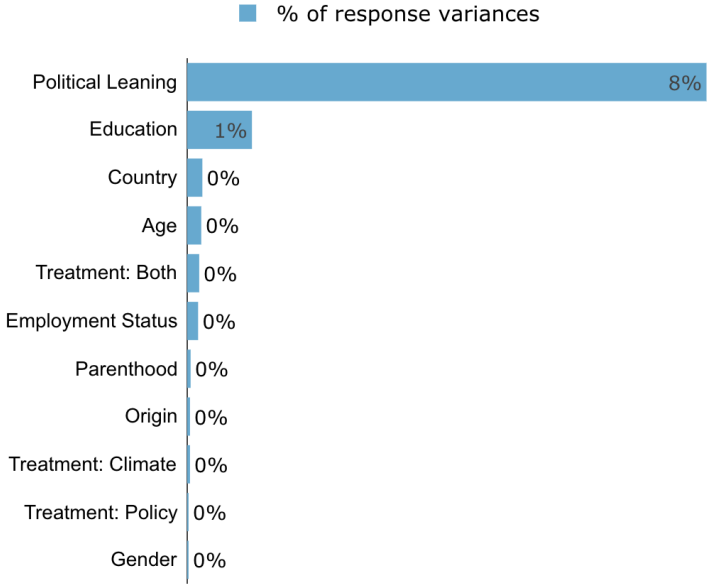
- Belief in efficiency and fairness are key.
- Thinking that climate change will/is affect(ing) oneself is much more important than being actually vulnerable to climate change.

- Partisan gap is also explained by different views on the efficiency of climate policies, as well as the importance of addressing poverty and inequalities, and not so much by objective characteristics (e.g., being vulnerable to CC or financially constrained).
- The geographical gap is largely explained by feeling affected by CC.
- Being concerned about climate change only plays a secondary role.

- Support is largely idiosyncratic: political leaning explains 8% of the variance, socio-demographics less than 2%

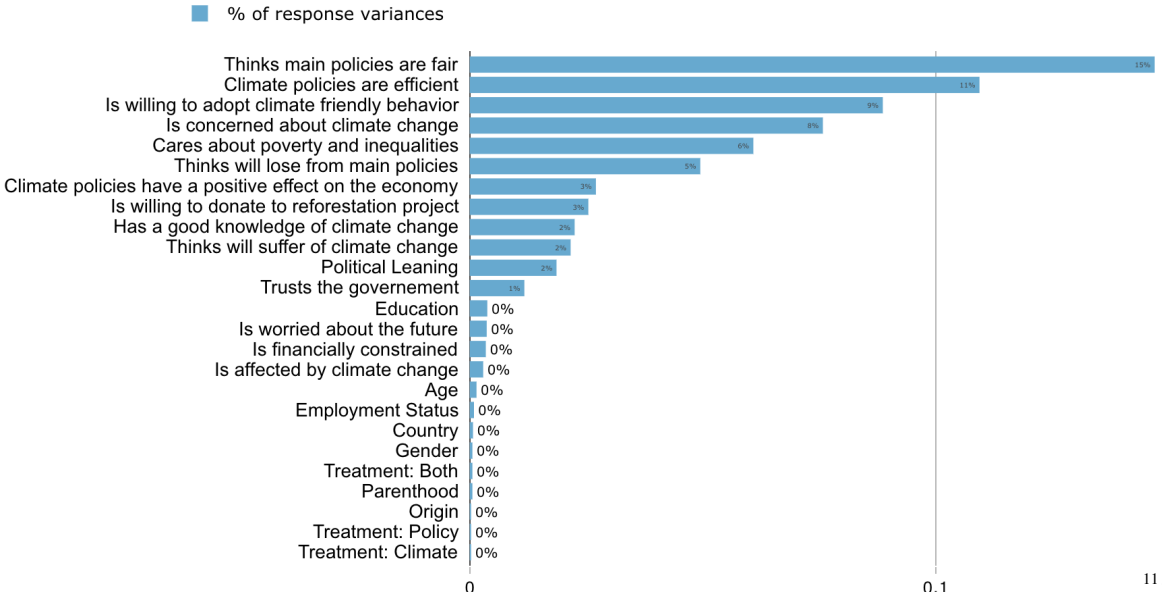
Variance Decomposition of Policy Support – Individual Characteristics

R^2 = 10%



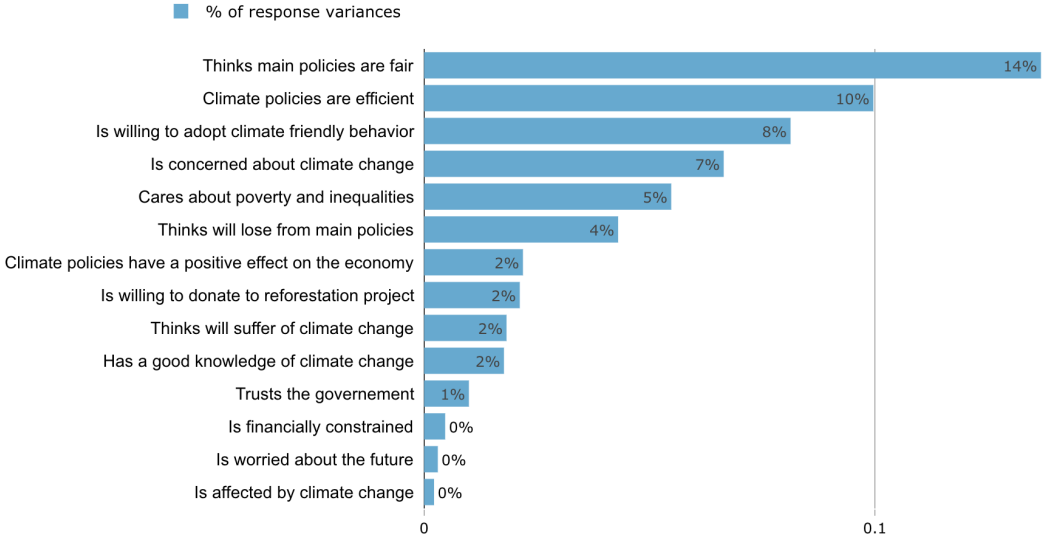
Variance Decomposition of Policy Support – Individual Characteristics and Indices

$R^2 = 68\%$



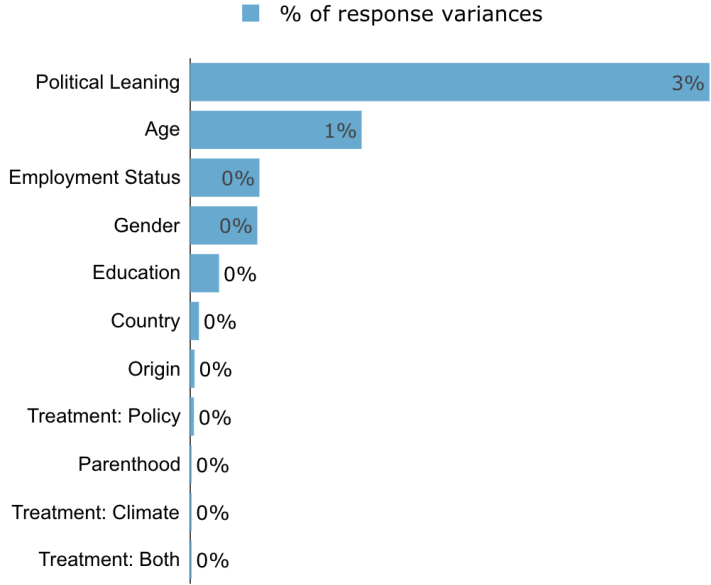
Variance Decomposition of Policy Support – Indices

R^2 = 68% 22 regressors explaining 10% of the variance are always included in the ANOVAs. The remaining variance (58%) decomposes as follows:



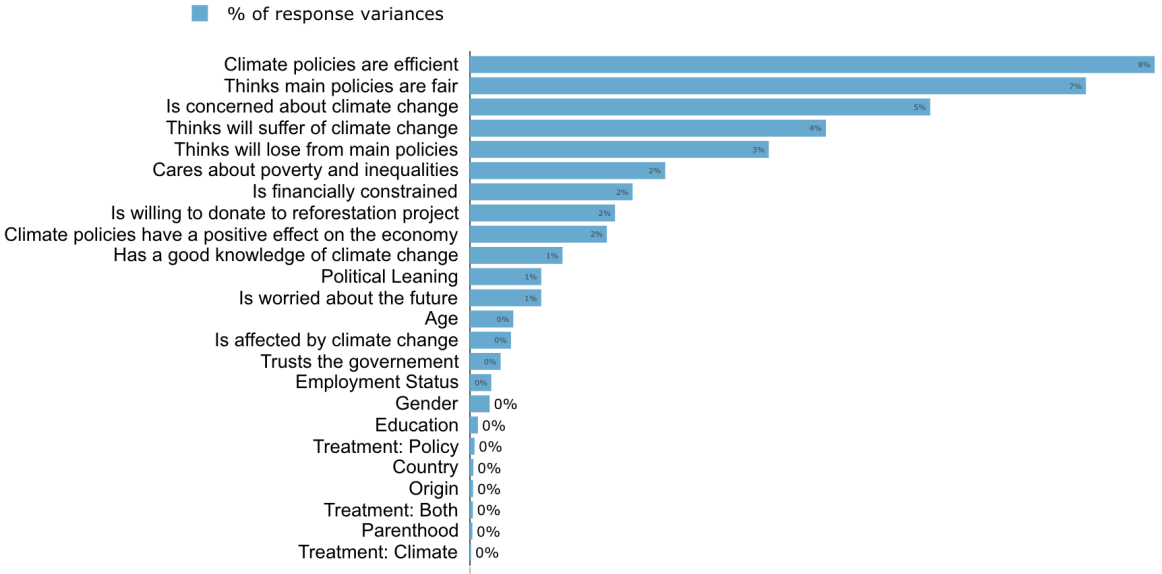
Variance Decomposition of Willingness to Adapt – Individual Characteristics

$R^2 = 6\%$



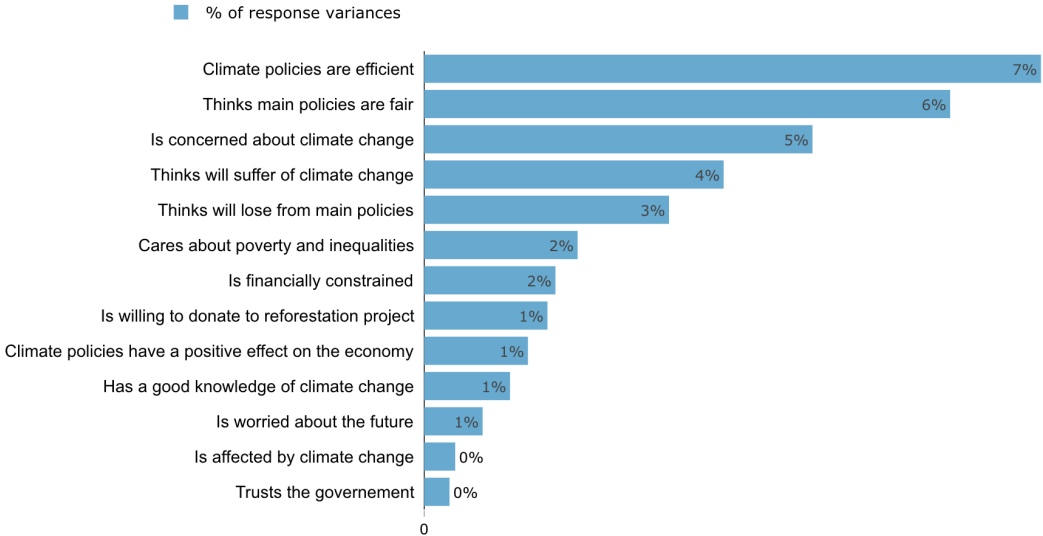
Variance Decomposition of Willingness to Adapt – Indiv. Characteristics and Indices

R^2 = 39%

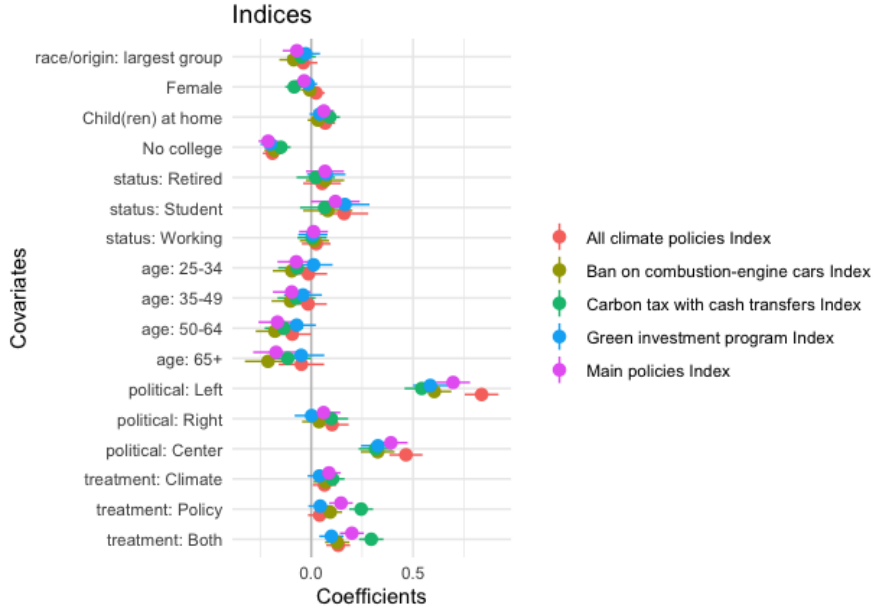


Variance Decomposition of Willingness to Adapt – Indices

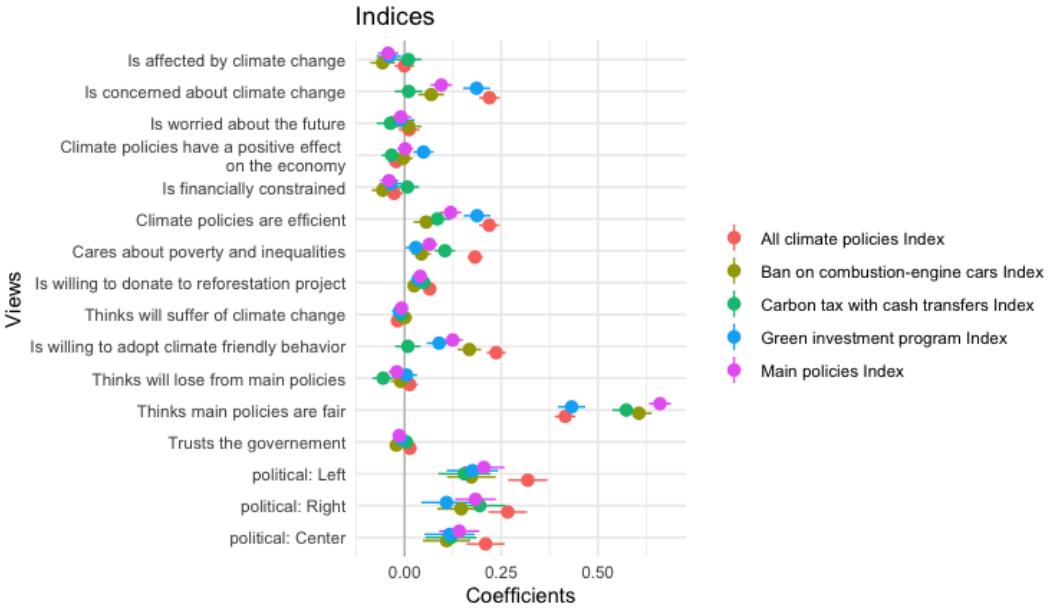
R^2 = 39% 22 regressors explaining 6% of the variance are always included in the ANOVAs. The remaining variance (34%) decomposes as follows:



Decomposing Policy View – Individual Characteristics

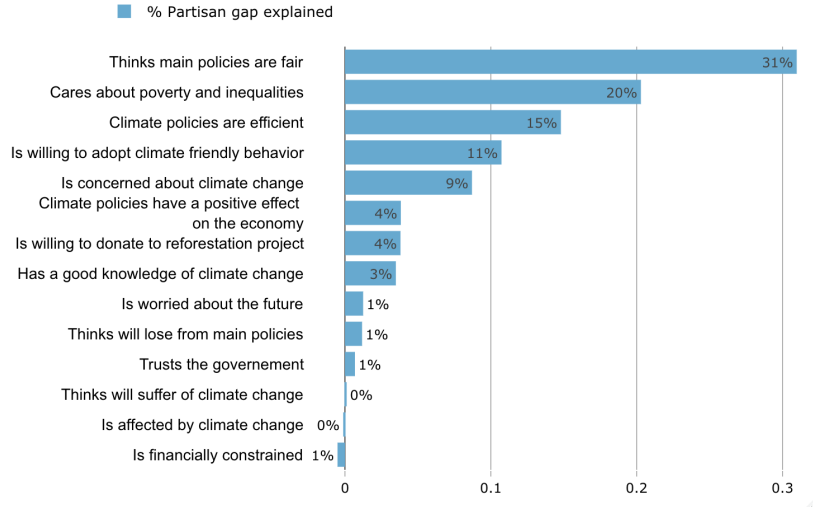


Decomposing Policy View – Mechanisms



Gelbach decomposition of the partisan gap in support for…

… all climate policies

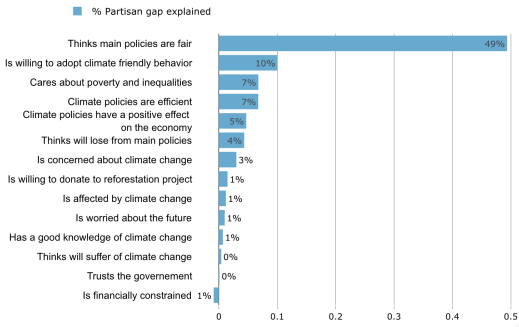


Notes: Each bar indicates the share of the partisan gap explained by each of the factors.

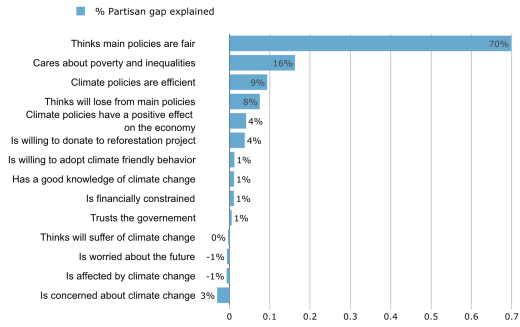
Explaining the Partisan Gap

Gelbach decomposition of the partisan gap in support for:

(a) Ban on combustion-engine cars



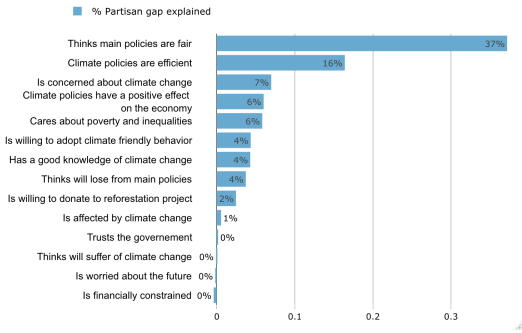
(b) Carbon tax with cash transfers



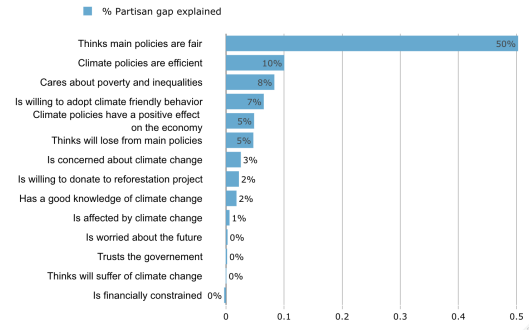
Explaining the Partisan Gap

Gelbach decomposition of the partisan gap in support for:

(a) Green investment program

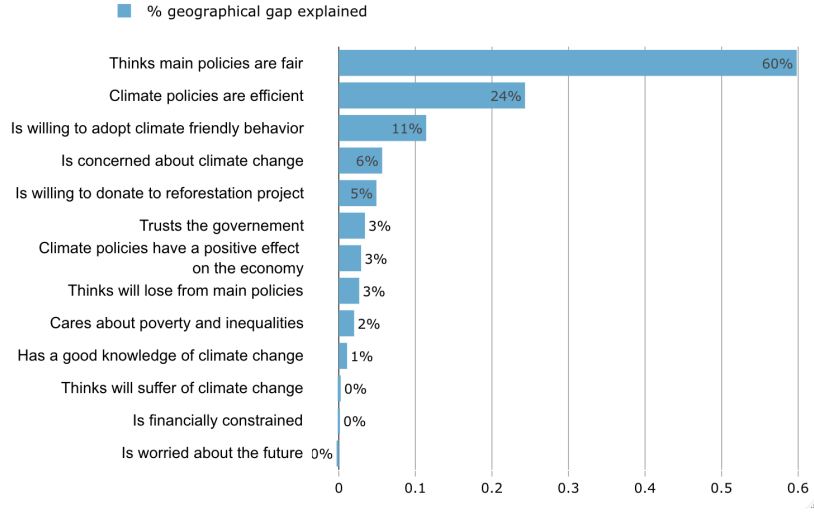


(b) All 3 policies



Gelbach decomposition of the geographical gap (urban vs. rural) in support for...

... all climate policies

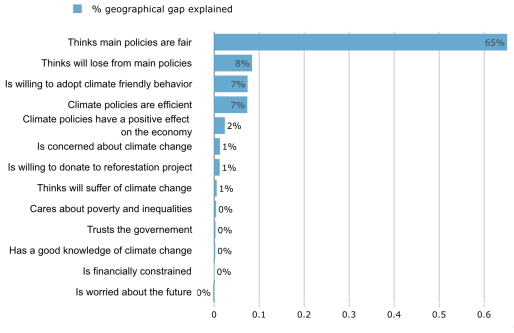


Notes: Each bar indicates the share of the geographical gap explained by each of the factors.

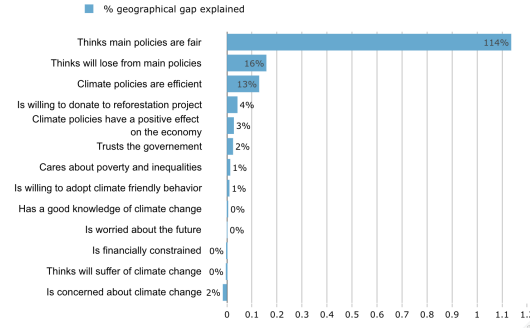
Explaining the Geographical Gap

Gelbach decomposition of the geographical gap (urban vs. rural) in support for:

(a) Ban on combustion-engine cars



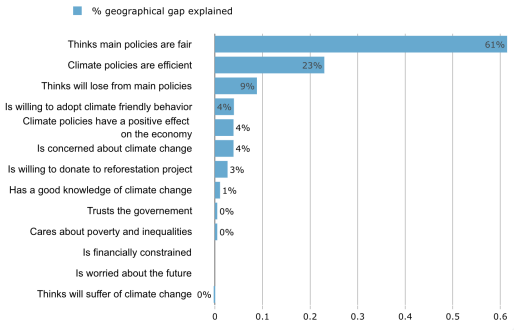
(b) Carbon tax with cash transfers



Explaining the Geographical Gap

Gelbach decomposition of the geographical gap (urban vs. rural) in support for:

(a) Green investment program



(b) All 3 policies