Supplementary Materials

Quality of government and public support for taxation for climate change mitigation: Evidence from 135 European regions

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**Appendix A.** List of observations per country and region.

|  |  |  |
| --- | --- | --- |
| Regions by Country | Observations | Percent |
| **Austria** | 1347 | 6,59 |
| Burgenland | 60 |  |
| Kärnten | 68 |  |
| Niederösterreich | 286 |  |
| Oberösterreich | 221 |  |
| Salzburg | 56 |  |
| Steiermark | 198 |  |
| Tirol | 108 |  |
| Vorarlberg | 61 |  |
| Wien | 289 |  |
| **Belgium** | 1580 | 7,73 |
| Brussels | 154 |  |
| Vlaams Gewest | 964 |  |
| Wallonie | 462 |  |
| **Czech Republic** | 1,488 | 7,28 |
| Jihovýchod | 253 |  |
| Jihozápad | 166 |  |
| Moravskoslezsko | 169 |  |
| Praha | 202 |  |
| Severovýchod | 186 |  |
| Severozápad | 172 |  |
| Střední Morava | 195 |  |
| Střední Čechy | 145 |  |
| **Finland** | 1,736 | 8,5 |
| Etelä-Suomi | 351 |  |
| Helsinki-Uusimaa | 487 |  |
| Länsi-Suomi | 455 |  |
| Pohjois- ja Itä-Suomi | 443 |  |
| **France** | 1,693 | 8,29 |
| Alsace | 60 |  |
| Aquitaine | 97 |  |
| Auvergne | 51 |  |
| Basse-Normandie | 48 |  |
| Bourgogne | 49 |  |
| Bretagne | 102 |  |
| Centre | 71 |  |

|  |  |  |
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| **Appendix A.** (continued) |  |  |
| Regions by Country | Observations | Percent |
| Champagne-Ardenne | 46 |  |
| Franche-Comté | 31 |  |
| Haute-Normandie | 52 |  |
| Ile-de-France | 206 |  |
| Languedoc-Roussillon | 76 |  |
| Lorraine | 82 |  |
| Midi-Pyrénées | 86 |  |
| Nord - Pas-de-Calais | 91 |  |
| Pays de la Loire | 113 |  |
| Picardie | 53 |  |
| Poitou-Charentes | 41 |  |
| Provence-Alpes-Côte d'Azur | 139 |  |
| Rhône-Alpes | 199 |  |
| **Germany** | 2340 | 11,45 |
| Baden-Württemberg | 246 |  |
| Bavaria | 324 |  |
| Berlin | 111 |  |
| Brandenburg | 140 |  |
| Hessen | 163 |  |
| Lower Saxony | 186 |  |
| Mecklenburg-Vorpommern | 104 |  |
| North Rhine Westphalia | 413 |  |
| Rhineland-Palatinate | 89 |  |
| Saxony | 244 |  |
| Saxony-Anhalt | 123 |  |
| Schleswig-Holstein | 75 |  |
| Thuringia | 122 |  |
| **Hungary** | 700 | 3,43 |
| Dél-Alföld | 117 |  |
| Dél-Dunántúl | 43 |  |
| Közép-Dunántúl | 67 |  |
| Közép-Magyarország | 190 |  |
| Nyugat-Dunántúl | 45 |  |
| Észak-Alföld | 136 |  |
| Észak-Magyarország | 102 |  |
| **Ireland** | 1,617 | 7,91 |
| Border, Midland and Western | 562 |  |
| Southern and Eastern | 1,055 |  |

**Appendix A.** (continued)

|  |  |  |
| --- | --- | --- |
| Regions by Country | Observations | Percent |
| **Italy** | 801 | 3,92 |
| Basilicata | 27 |  |
| Campania | 82 |  |
| Lazio | 58 |  |
| Lombardia | 155 |  |
| Piemonte | 63 |  |
| Puglia | 112 |  |
| Sardegna | 32 |  |
| Sicilia | 70 |  |
| Toscana | 57 |  |
| Umbria | 27 |  |
| Veneto | 118 |  |
| **Netherlands** | 1328 | 6,5 |
| Drenthe | 47 |  |
| Flevoland | 28 |  |
| Friesland | 74 |  |
| Gelderland | 186 |  |
| Groningen | 42 |  |
| Limburg | 97 |  |
| Noord-Brabant | 211 |  |
| Noord-Holland | 194 |  |
| Overijssel | 100 |  |
| Utrecht | 92 |  |
| Zeeland | 26 |  |
| Zuid-Holland | 231 |  |
| **Poland** | 942 | 4,61 |
| Dolnoslaskie | 87 |  |
| Kujawsko-Pomorskie | 47 |  |
| Lodzkie | 58 |  |
| Lubelskie | 65 |  |
| Malopolskie | 117 |  |
| Mazowieckie | 124 |  |
| Podkarpackie | 69 |  |
| Podlaskie | 35 |  |
| Pomorskie | 63 |  |
| Slaskie | 123 |  |
| Swietokrzyskie | 27 |  |
| Warmińsko-Mazurskie | 32 |  |
| Wielkopolskie | 60 |  |
| Zachodniopomorskie | 35 |  |

|  |  |  |
| --- | --- | --- |
| **Appendix A.** (continued) |  |  |
| Regions by Country | Observations | Percent |
| **Portugal** | 981 | 4,8 |
| Alentejo | 99 |  |
| Algarve | 35 |  |
| Centro | 209 |  |
| Lisboa | 284 |  |
| Norte | 354 |  |
| **Spain** | 1130 | 5,53 |
| Andalucía | 260 |  |
| Aragón | 37 |  |
| Canarias | 51 |  |
| Castilla y León | 68 |  |
| Castilla-La Mancha | 46 |  |
| Cataluña | 168 |  |
| Comunidad Valenciana | 138 |  |
| Comunidad de Madrid | 156 |  |
| Extremadura | 40 |  |
| Galicia | 91 |  |
| País Vasco | 50 |  |
| Principado de Asturias | 25 |  |
| **Sweden** | 1,299 | 6,36 |
| Northern Sweden | 281 |  |
| Southern Sweden | 552 |  |
| Eastern Sweden | 466 |  |
| **United Kingdom** | 1,451 | 7,1 |
| East Midland England | 127 |  |
| East of England | 138 |  |
| London | 129 |  |
| N. Ireland | 50 |  |
| North East England | 55 |  |
| North West England | 205 |  |
| Scotland | 117 |  |
| South East England | 170 |  |
| South West England | 129 |  |
| Wales | 104 |  |
| West Midland England | 117 |  |
| Yorkshire-Humber | 110 |  |
| Total | 20433 | 100 |

Source: European Social Survey 2016; European Quality of Government Index 2017.

# **Appendix B.** European Quality of Government Index (EQI) micro items.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **EQI items 2017** | **Indicator** | **Question** | **Question wording** | **Response categories1** |
| **Quality pillar** | edqual | q4 | How would you rate the quality of public education in your area? | 1-10, 1 ‘very poor,’ 10 ‘excellent quality’ |
|  | helqual | q5 | How would you rate the quality of the public health care system in your area? | 1-10, 1 ‘very poor,’ 10 ‘excellent quality’ |
|  | lawqual | q6 | How would you rate the quality of the police force in your area? | 1-10, 1 ‘very poor,’ 10 ‘excellent quality’ |
| **Impartiality pillar** | edimpart1 | q7 | Certain people are given special advantages in the public education system in my area. | 1-10, 1 ‘strongly disagree,’ 10 ‘strongly agree’ |
|  | helimpart1 | q8 | Certain people are given special advantages in the public health care system in my area. | 1-10, 1 ‘strongly disagree,’ 10 ‘strongly agree’ |
|  | lawimpart1 | q9 | The police force gives special advantages to certain people in my area | 1-10, 1 ‘strongly disagree,’ 10 ‘strongly agree’ |
|  | edimpart2 | q10 | All citizens are treated equally in the public education system in my area. | 1-4, 1 ‘agree,’ 2 ‘rather agree,’ 3 ‘rather  disagree,’ 4 ‘disagree’ |
|  | helimpart2 | q11 | All citizens are treated equally in the public health care system in my area | 1-4, 1 ‘agree,’ 2 ‘rather agree,’ 3 ‘rather  disagree,’ 4 ‘disagree’ |
|  | lawimpart2 | q12 | All citizens are treated equally by the police force in my area | 1-4, 1 ‘agree,’ 2 ‘rather agree,’ 3 ‘rather  disagree,’ 4 ‘disagree’ |
|  | taximpart | q20 | The tax authorities in my area treat all people equally | 1-10, ‘strongly disagree,’ 10 ‘strongly agree’ |
| **Corruption pillar** |  |  |  |  |
| *Perception sub-pillar* | edcorr | q13 | Corruption is prevalent in my area’s local public school system | 1-10, 1 ‘strongly disagree,’ 10 ‘strongly agree’ |
|  | helcorr | q14 | Corruption is prevalent in the public health care system in my area | 1-10, 1 ‘strongly disagree,’ 10 ‘strongly agree’ |
|  | lawcorr | q15 | Corruption is prevalent in the police force in my area | 1-10, 1 ‘strongly disagree,’ 10 ‘strongly agree’ |
|  | needcorr | q16a | People in my area must use some form of corruption to just to get some basic public services | 1-10, 1 ‘strongly disagree,’ 10 ‘strongly agree’ |
|  | greedcorr | q16b | Corruption in my area is used to get access to special unfair privileges and wealth. | 1-10, 1 ‘strongly disagree,’ 10 ‘strongly agree’ |
|  | eleccorr | q19 | Corruption is NOT present in elections in my area. | 1-10, 1 ‘strongly disagree,’ 10 ‘strongly agree’ |
| *Experience sub-pillar* | noaskbribe | q17 | In the last 12 months, have you or anyone in your family been asked by a public official to give an informal gift or bribe in: Education services? Health or medical services? Police? Any other government-run agency? | (1 yes/ 2 no) |
|  | nopaybribe | q18 | In the last 12 months, have you or anyone in your family given an informal gift or bribe to Education services?  Health or medical services? Police? Any other government-run agency? | (1 yes/ 2 no) |

1These are the response categories of the original variables, before recoding some of them so that higher values on each scale mean higher quality of government. Source: European Quality of Government Index (EQI) Survey Micro Data Codebook: 2017 DATA. See also Charron et al. (2014) for an overview of the EQI micro data.

**Appendix C.** Descriptive statistics.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variable | Construct | Mean | Min | Max | Std. dev. |
| Support for climate taxes (*inctxff*) | To what extent are you in favor or against the following policies in (country) to reduce climate change? ‘Increasing taxes on fossil fuels, such as oil, gas and coal,’ ‘Strongly against,’ ‘Somewhat against,’ ‘Neither in favor nor against,’ ‘Somewhat in favor,’  ‘Strongly in favor’ (reversed scale) | 2.82 | 1 | 5 | 1.24 |
| Political trust (*trstprl+trstplt+ trstprt*) | Please tell me on a score of 0-10 how much you personally trust each of the institutions I read out. ‘Parliament,’ ‘Politicians,’ ‘Political parties’ | 4.11 | 0 | 10 | 2.17 |
| Institutional trust (*trstlgl+trstplc*) | Please tell me on a score of 0-10 how much you  personally trust each of the institutions I read out.  ‘The legal system,’ ‘The police’ | 6.12 | 0 | 10 | 2.10 |
| Generalized trust (*ppltrst+pplfair*) | Generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people? ‘You can’t be too careful,’ ‘Most people can be trusted.’ Do you think that most people would try to take advantage of you if they got the chance, or would they try to be fair? ‘Most people try  to take advantage of me,’ ‘Most people try to be fair’ | 5.67 | 0 | 10 | 1.91 |
| Ideology/left-right placement (*lrscale*) | In politics people sometimes talk of ‘left’ and ‘right.’ Using this card, where would you place yourself on this scale, where 0 means the right and 10 means the left? (reversed scale) | 4.96 | 0 | 10 | 2.18 |
| Environmental values (*impenv*) | Tell me how much each person is or is not like you. She/he strongly believes that people should care for nature. Looking after the environment is important to her/him. ‘Not like me at all,’ ‘Not like me,’ ‘A little like me,’ ‘Somewhat like me,’ ‘Like me,’ ‘Very much like me’ (reversed scale) | 4.87 | 1 | 6 | 1.01 |
| Climate change concern (*wrclmch*) | How worried are you about climate change? ‘Not at all worried,’ ‘Not very worried,’ ‘Somewhat worried,’ ‘Very worried,’ ‘Extremely worried’ | 3.11 | 1 | 5 | 0.91 |
| Fossil fuel dependency (*wrdpfos*) | How worried are you about [country] being too dependent on using energy generated by fossil fuels such as oil, gas and coal? ‘Not at all worried,’ ‘Not very worried,’ ‘Somewhat worried,’ ‘Very worried,’  ‘Extremely worried’ | 3.06 | 1 | 5 | 0.97 |
| Energy too costly for most people (*wrenexp*) | How worried are you that energy may be too expensive for many people in [country]? ‘Not at all worried,’ ‘Not very worried,’ ‘Somewhat worried,’ ‘Very worried,’ ‘Extremely worried’ | 3.14 | 1 | 5 | 0.98 |
| Interest in politics (*polintr*) | How interested would you say you are in politics - are you… ‘Not at all interested,’ ‘Hardly interested,’ ‘Quite interested,’ ‘Very interested’ (reversed scale) | 2.55 | 1 | 4 | 0.90 |
| Satisfied with national government (*stfgov*) | Now, thinking about the [country] government, how satisfied are you with the way it is doing its job? ‘Extremely dissatisfied,’ ‘Extremely satisfied’ | 4.36 | 0 | 10 | 2.37 |
| Satisfaction with current state of economy (*stfeco*) | Now thinking about the [country] government, how satisfied are you with the way it is doing its job? ‘Extremely dissatisfied,’ ‘Extremely satisfied’ | 4.95 | 0 | 10 | 2.25 |
| Gender (*gndr*) | ‘Male,’ ‘Female’ (recoded). |  | 0 | 1 |  |
| Age (*agea*) | ‘15-29,’ ‘30-60,’ ‘61-105’ (recoded) |  | 0 | 2 |  |
| Household income (*hinctnta*) | ‘1st decile’- ‘10th decile’ |  | 1 | 10 |  |
| Education (*eisced*) | ‘Primary,’ ‘Secondary,’ ‘Tertiary’ (recoded) |  | 0 | 2 |  |
| Regional institutional quality (*eqi\_score*) | European Quality of Government Index (EQI) (2017) (raw scores) | 0.53 | -1.88 | 1.49 | 0.78 |
| Corruption dimension (*zcorruption*) | European Quality of Government index (EQI) (2017) | 0.52 | -2.17 | 1.68 | 0.85 |
| Impartiality dimension (*zimpartiality*) | European Quality of Government index (EQI) (2017) | 0.50 | -2.00 | 1.43 | 0.79 |
| Quality dimension (*zquality*) | European Quality of Government index (EQI) (2017) | 0.52 | -1.77 | 1.92 | 0.71 |
| Economic development (*logGDPinPPS*) | Gross domestic product (GDP) at purchasing power per inhabitant (2017) (log transformed) | 10.26 | 9.49 | 11.03 | 0.31 |
| Population density (*logpopdensity*) | Population density (2017) (log transformed) | 5.09 | 0.64 | 8.91 | 1.33 |
| Employment (*coalmining*) | Number of persons employed in mining and quarrying (thousands) (2017) | 173.31 | 2 | 656 | 145.35 |

Source: European Social Survey 2016, 2018; European Quality of Government Index 2017; Eurostat 2017.

# **Appendix D.** Multilevel linear models with country-fixed effects: Regional QoG, value orientations and climate tax support.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
| *Fixed effects* |  |  |  |  |  |  |
| *Level 1* |  |  |  |  |  |  |
| Environmental values |  | 0.12\*\*\* | 0.10\*\*\* | 0.12\*\*\* | 0.07\*\*\* | 0.12\*\*\* |
| (strong) |  | [0.09,0.15] | [0.07,0.13] | [0.09,0.14] | [0.04,0.11] | [0.09,0.14] |
| Left-right placement (left) |  | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* |
|  |  | [0.03,0.06] | [0.03,0.06] | [0.03,0.05] | [0.03,0.06] | [0.02,0.05] |
| Fossil fuel dependency |  | 0.15\*\*\* | 0.15\*\*\* | 0.15\*\*\* | 0.15\*\*\* | 0.15\*\*\* |
|  |  | [0.12,0.18] | [0.12,0.18] | [0.12,0.18] | [0.12,0.18] | [0.12,0.18] |
| Energy too costly |  | -0.19\*\*\* | -0.19\*\*\* | -0.19\*\*\* | -0.19\*\*\* | -0.19\*\*\* |
|  |  | [-0.22,-0.17] | [-0.21,-0.16] | [-0.22,-0.17] | [-0.21,-0.16] | [-0.22,-0.17] |
| Political interest |  | 0.08\*\*\* | 0.08\*\*\* | 0.08\*\*\* | 0.08\*\*\* | 0.08\*\*\* |
|  |  | [0.05,0.11] | [0.05,0.12] | [0.05,0.11] | [0.05,0.11] | [0.05,0.11] |
| Gender (female) |  | 0.06\*\* | 0.06\*\* | 0.06\*\* | 0.06\*\* | 0.06\*\* |
|  |  | [0.02,0.10] | [0.02,0.10] | [0.02,0.10] | [0.02,0.10] | [0.02,0.10] |
| Agea |  | -0.23\*\*\* | -0.25\*\*\* | -0.23\*\*\* | -0.25\*\*\* | -0.23\*\*\* |
| 30-60 years |  |  |  |  |  |  |
|  |  | [-0.32,-0.15] | [-0.33,-0.16] | [-0.32,-0.14] | [-0.33,-0.16] | [-0.32,-0.14] |
| 61-105 years |  | -0.26\*\*\* | -0.27\*\*\* | -0.25\*\*\* | -0.28\*\*\* | -0.25\*\*\* |
|  |  | [-0.34,-0.17] | [-0.36,-0.19] | [-0.34,-0.17] | [-0.36,-0.19] | [-0.33,-0.16] |
| Educationb |  |  |  |  |  |  |
| Secondary |  | 0.06\* | 0.06\* | 0.06\* | 0.06\* | 0.06\* |
|  |  | [0.00,0.12] | [0.00,0.12] | [0.01,0.12] | [0.00,0.12] | [0.01,0.12] |
| Tertiary |  | 0.22\*\*\* | 0.22\*\*\* | 0.22\*\*\* | 0.22\*\*\* | 0.22\*\*\* |
|  |  | [0.16,0.29] | [0.15,0.29] | [0.16,0.29] | [0.15,0.29] | [0.16,0.29] |
| Household income |  | 0.02\*\*\* | 0.02\*\*\* | 0.02\*\*\* | 0.02\*\*\* | 0.02\*\*\* |
|  |  | [0.01,0.03] | [0.01,0.03] | [0.01,0.03] | [0.01,0.04] | [0.01,0.03] |
| *Level 2* |  |  |  |  |  |  |
| Regional QoG |  |  | 0.04 | -0.02 | 0.06 | -0.41\*\*\* |
|  |  |  | [-0.09,0.18] | [-0.16,0.11] | [-0.08,0.19] | [-0.64,-0.18] |
| *Cross-level interactions* |  |  |  |  |  |  |
| Environmental values\* |  |  |  |  | 0.09\*\*\* |  |
| Regional QoG |  |  |  |  | [0.05,0.13] |  |
| Left-right placement\* |  |  |  |  |  | 0.02\*\*\* |
| Regional QoG |  |  |  |  |  | [0.01,0.03] |
| Constant | 2.80\*\*\* | 1.78\*\*\* | 1.95\*\*\* | 1.76\*\*\* | 2.08\*\*\* | 1.79\*\*\* |
|  | [2.55,3.04] | [1.51,2.05] | [1.67,2.22] | [1.48,2.04] | [1.79,2.36] | [1.51,2.06] |
| *Random effects* |  |  |  |  |  |  |
| Var(Constant) | -1.76\*\*\* | -1.97\*\*\* | -2.21\*\*\* | -3.38\*\*\* | -2.61\*\*\* | -3.50\*\*\* |
|  | [-1.97,-1.56] | [-2.17,-1.76] | [-2.59,-1.84] | [-3.79,-2.97] | [-3.17,-2.05] | [-3.94,-3.05] |
| Var(Residual) | 0.17\*\*\* | 0.13\*\*\* | 0.13\*\*\* | 0.13\*\*\* | 0.13\*\*\* | 0.13\*\*\* |
|  | [0.15,0.18] | [0.11,0.15] | [0.11,0.14] | [0.11,0.15] | [0.11,0.14] | [0.11,0.15] |
| Var(Slopes) | -0.74\*\* | -1.98\*\*\* | -1.17\*\* | -2.01\*\*\* | -0.74\*\* | -1.98\*\*\* |
|  | [-1.29,-0.19] | [-2.56,-1.40] | [-1.93,-0.40] | [-2.61,-1.41] | [-1.29,-0.19] | [-2.56,-1.40] |
| Cov(Constant and Slope) | -1.99\*\*\* | -0.65\* | -1.58\*\*\* | -0.55 | -1.99\*\*\* | -0.65\* |
|  | [-2.47,-1.51] | [-1.26,-0.03] | [-2.27,-0.90] | [-1.21,0.11] | [-2.47,-1.51] | [-1.26,-0.03] |
| *N (individuals)* | 20433 | 20433 | 20433 | 20433 | 20433 | 20433 |
| *N (regions)* | 135 | 135 | 135 | 135 | 135 | 135 |
| *AIC* | 90977.51 | 88819.72 | 88738.08 | 88781.39 | 88699.26 | 88765.40 |
| *BIC* | 91112.23 | 89049.54 | 88983.75 | 89027.06 | 88952.86 | 89018.99 |

Comments: Multilevel linear models estimated using Stata’s *mixed* command. a Reference category: ‘15-29 years,’

b Reference category: ‘Primary.’ Models include country dummies. 95% confidence intervals in brackets. Source: European Social Survey 2016; European Quality of Government Index 2017. \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001.

# **Appendix E.** Multilevel ordered logit models with country-fixed effects: Climate change concern as alternative measure of pro-environmental value orientation.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
| *Fixed effects* |  |  |  |  |  |  |
| *Level 1* |  |  |  |  |  |  |
| Climate change concern |  | 1.73\*\*\* | 1.71\*\*\* | 1.73\*\*\* | 1.59\*\*\* | 1.73\*\*\* |
| (strong) |  | [1.57,1.90] | [1.54,1.91] | [1.58,1.89] | [1.41,1.81] | [1.58,1.89] |
| Left-right placement (left) |  | 1.42\*\*\* | 1.42\*\*\* | 1.39\*\*\* | 1.42\*\*\* | 1.32\*\*\* |
|  |  | [1.32,1.52] | [1.32,1.52] | [1.27,1.51] | [1.32,1.52] | [1.20,1.46] |
| Fossil fuel dependency |  | 1.25\*\*\* | 1.25\*\*\* | 1.25\*\*\* | 1.25\*\*\* | 1.25\*\*\* |
|  |  | [1.19,1.31] | [1.19,1.31] | [1.19,1.31] | [1.19,1.31] | [1.19,1.31] |
| Energy too costly |  | 0.71\*\*\* | 0.71\*\*\* | 0.71\*\*\* | 0.71\*\*\* | 0.72\*\*\* |
|  |  | [0.68,0.74] | [0.68,0.74] | [0.69,0.75] | [0.69,0.74] | [0.69,0.75] |
| Political interest |  | 1.13\*\*\* | 1.13\*\*\* | 1.13\*\*\* | 1.13\*\*\* | 1.13\*\*\* |
|  |  | [1.08,1.18] | [1.07,1.18] | [1.08,1.18] | [1.07,1.18] | [1.08,1.18] |
| Gender (female) |  | 1.09\*\* | 1.09\*\* | 1.09\*\* | 1.09\*\* | 1.09\*\* |
| Agea |  | [1.03,1.17] | [1.02,1.16] | [1.02,1.17] | [1.02,1.16] | [1.02,1.17] |
| 30-60 years |  | 0.74\*\*\* | 0.74\*\*\* | 0.75\*\*\* | 0.74\*\*\* | 0.75\*\*\* |
|  |  | [0.65,0.85] | [0.66,0.83] | [0.65,0.86] | [0.66,0.83] | [0.65,0.86] |
| 61-105 years |  | 0.74\*\*\* | 0.75\*\*\* | 0.75\*\*\* | 0.75\*\*\* | 0.75\*\*\* |
| Educationb |  | [0.65,0.85] | [0.66,0.84] | [0.66,0.86] | [0.66,0.84] | [0.66,0.86] |
| Secondary |  | 1.09 | 1.10 | 1.09\* | 1.10 | 1.10\* |
|  |  | [0.99,1.20] | [0.99,1.21] | [1.00,1.20] | [0.99,1.21] | [1.00,1.20] |
| Tertiary |  | 1.41\*\*\* | 1.42\*\*\* | 1.42\*\*\* | 1.42\*\*\* | 1.42\*\*\* |
|  |  | [1.27,1.56] | [1.29,1.56] | [1.29,1.56] | [1.29,1.56] | [1.29,1.56] |
| Household income |  | 1.04\*\*\* | 1.04\*\*\* | 1.04\*\*\* | 1.04\*\*\* | 1.04\*\*\* |
|  |  | [1.02,1.05] | [1.02,1.05] | [1.02,1.05] | [1.02,1.05] | [1.02,1.05] |
| *Level 2* |  |  |  |  |  |  |
| Regional QoG |  | 1.12 | 1.07 | 1.10 | 0.97 | 1.03 |
|  |  | [0.90,1.38] | [0.85,1.34] | [0.92,1.31] | [0.79,1.18] | [0.85,1.25] |
| Environmental values\* Regional QoG |  |  |  |  | 1.25\*\* |  |
|  |  |  |  |  | [1.09,1.44] |  |
| Left-right placement\* |  |  |  |  |  | 1.15\*\* |
| Regional QoG |  |  |  |  |  | [1.03,1.28] |
| Cut 1 | 0.19\*\*\* | 0.29\*\*\* | 0.27\*\*\* | 0.28\*\*\* | 0.26\*\*\* | 0.28\*\*\* |
|  | [0.14,0.27] | [0.19,0.44] | [0.18,0.40] | [0.20,0.40] | [0.18,0.38] | [0.19,0.39] |
| Cut 2 | 0.78 | 1.24 | 1.17 | 1.21 | 1.13 | 1.18 |
|  | [0.55,1.10] | [0.83,1.86] | [0.81,1.70] | [0.86,1.71] | [0.79,1.64] | [0.84,1.66] |
| Cut 3 | 2.00\*\*\* | 3.37\*\*\* | 3.21\*\*\* | 3.29\*\*\* | 3.10\*\*\* | 3.22\*\*\* |
|  | [1.40,2.85] | [2.24,5.09] | [2.20,4.67] | [2.33,4.64] | [2.14,4.49] | [2.29,4.53] |
| Cut 4 | 12.77\*\*\* | 23.99\*\*\* | 23.10\*\*\* | 23.49\*\*\* | 22.36\*\*\* | 23.02\*\*\* |
|  | [8.78,18.57] | [15.42,37.31] | [15.58,34.26] | [16.27,33.90] | [15.15,33.00] | [16.01,33.10] |
| *Random effects* |  |  |  |  |  |  |
| Var(Constant) | 1.06\*\*\* | 1.05\*\*\* |  |  |  |  |
| Var(Climate change | [1.04,1.09] | [1.03,1.06] | 1.08\*\*\* |  | 1.07\*\*\* |  |
| concern) |  |  | [1.05,1.11] | 1.05\*\*\* | [1.04,1.10] | 1.04\*\*\* |
| Var(Left-right placement) |  |  |  | [1.02,1.07] |  | [1.02,1.06] |
| *N (individuals)* | 20231 | 20231 | 20231 | 20231 | 20231 | 20231 |
| *N (regions)* | 135 | 135 | 135 | 135 | 135 | 135 |
| *AIC* | 85391.88 | 82943.67 | 82889.61 | 82970.60 | 82871.04 | 82961.94 |
| *BIC* | 85542.26 | 83189.04 | 83134.98 | 83215.97 | 83124.32 | 83215.22 |

Comments: Multilevel ordered logit models estimated using Stata’s *meologit* command. Reported estimates are odd ratios. Left-right placement and climate change concern are dummy variables. a Reference category: ‘15-29 years,’ b Reference category: ‘Primary.’ Models include country dummies, not reported in the table. 95% confidence intervals in brackets. Source: European Social Survey 2016; European Quality of Government Index 2017. \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001.

# **Appendix F.** Multilevel ordered logit models with country-fixed effects, including additional controls: Regional QoG, value orientations and climate tax support.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
| *Fixed effects* |  |  |  |  |  |  |
| *Level 1* |  |  |  |  |  |  |
| Environmental |  | 1.32\*\*\* | 1.28\*\*\* | 1.32\*\*\* | 1.23\*\*\* | 1.33\*\*\* |
| values (strong) |  | [1.21,1.44] | [1.16,1.43] | [1.21,1.45] | [1.10,1.38] | [1.21,1.45] |
| Left-right |  | 1.41\*\*\* | 1.42\*\*\* | 1.39\*\*\* | 1.42\*\*\* | 1.36\*\*\* |
| placement (left) |  | [1.28,1.57] | [1.28,1.56] | [1.26,1.53] | [1.29,1.57] | [1.22,1.51] |
| Fossil fuel |  | 1.30\*\*\* | 1.30\*\*\* | 1.30\*\*\* | 1.30\*\*\* | 1.30\*\*\* |
| dependency |  | [1.21,1.41] | [1.22,1.39] | [1.22,1.39] | [1.21,1.39] | [1.22,1.39] |
| Energy too costly |  | 0.76\*\*\*  [0.72,0.80] | 0.76\*\*\*  [0.72,0.80] | 0.76\*\*\*  [0.72,0.80] | 0.76\*\*\*  [0.72,0.81] | 0.76\*\*\*  [0.72,0.81] |
| Political interest |  | 1.15\*\*\* | 1.15\*\*\* | 1.15\*\*\* | 1.15\*\*\* | 1.15\*\*\* |
|  |  | [1.08,1.23] | [1.08,1.24] | [1.08,1.23] | [1.07,1.23] | [1.08,1.23] |
| Satisfaction |  | 1.06\*\*\* | 1.06\*\*\* | 1.06\*\*\* | 1.06\*\*\* | 1.06\*\*\* |
| with national  government |  | [1.03,1.09] | [1.03,1.08] | [1.04,1.09] | [1.03,1.08] | [1.04,1.09] |
| Satisfaction with |  | 1.06\*\*\* | 1.06\*\*\* | 1.06\*\*\* | 1.06\*\*\* | 1.06\*\*\* |
| current economy |  | [1.03,1.09] | [1.03,1.09] | [1.02,1.09] | [1.03,1.09] | [1.02,1.09] |
| Gender (female) |  | 1.11\*\* | 1.11\* | 1.11\* | 1.11\* | 1.10\* |
|  |  | [1.03,1.20] | [1.02,1.20] | [1.02,1.20] | [1.02,1.20] | [1.02,1.20] |
| Agea |  |  |  |  |  |  |
| 30-60 years |  | 0.75\*\* | 0.75\*\*\* | 0.76\*\* | 0.75\*\*\* | 0.76\*\* |
|  |  | [0.62,0.91] | [0.64,0.87] | [0.63,0.90] | [0.64,0.87] | [0.63,0.90] |
| 61-105 years |  | 0.73\*\*\* | 0.73\*\*\* | 0.74\*\*\* | 0.73\*\*\* | 0.75\*\*\* |
|  |  | [0.61,0.88] | [0.63,0.85] | [0.63,0.88] | [0.63,0.84] | [0.63,0.88] |
| Educationb |  |  |  |  |  |  |
| Secondary |  | 1.16\* | 1.16\*\* | 1.17\*\* | 1.16\*\* | 1.17\*\* |
|  |  | [1.03,1.30] | [1.04,1.30] | [1.04,1.30] | [1.04,1.30] | [1.04,1.30] |
| Tertiary |  | 1.46\*\*\* | 1.46\*\*\* | 1.46\*\*\* | 1.46\*\*\* | 1.46\*\*\* |
|  |  | [1.27,1.67] | [1.27,1.67] | [1.29,1.66] | [1.28,1.67] | [1.29,1.65] |
| Household income |  | 1.03\*\* | 1.03\*\*\* | 1.03\*\*\* | 1.03\*\*\* | 1.03\*\*\* |
|  |  | [1.01,1.05] | [1.01,1.05] | [1.01,1.05] | [1.01,1.05] | [1.01,1.05] |
| *Level 2* |  |  |  |  |  |  |
| Regional QoG |  | 0.93 | 0.89 | 0.92 | 0.80 | 0.87 |
|  |  | [0.73,1.17] | [0.69,1.14] | [0.74,1.15] | [0.61,1.04] | [0.70,1.09] |
| Regional GDP (PPS per inhabitant) (log) |  | 1.34  [0.89,2.01] | 1.28  [0.88,1.86] | 1.34  [0.94,1.91] | 1.28  [0.89,1.83] | 1.34  [0.94,1.91] |
| Population |  | 1.07 | 1.07 | 1.07\* | 1.07\* | 1.07\* |
| density (log) |  | [0.99,1.15] | [1.00,1.14] | [1.01,1.15] | [1.00,1.14] | [1.01,1.14] |
| Employment mining and |  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| quarrying |  | [1.00,1.00] | [1.00,1.00] | [1.00,1.00] | [1.00,1.00] | [1.00,1.00] |
| *Cross-level* |  |  |  |  |  |  |
| *interactions* |  |  |  |  |  |  |
| Environmental values\* Regional QoG |  |  |  |  | 1.22\*\* [1.07,1.39] |  |
| Left-right placement\*  Regional QoG |  |  |  |  |  | 1.14\* [1.01,1.29] |
| Cut 1 | 0.20\*\*\* | 22.15 | 13.33 | 22.71 | 12.71 | 21.96 |
|  | [0.14,0.28] | [0.41,1186.16] | [0.37,485.85] | [0.71,721.66] | [0.40,401.51] | [0.69,699.95] |
| Cut 2 | 0.77 | 90.19\* | 54.43\* | 92.54\* | 51.84\* | 89.41\* |
|  | [0.54,1.09] | [1.65,4936.63] | [1.47,2013.67] | [2.85,3010.15] | [1.62,1662.29] | [2.74,2918.54] |
| Cut 3 | 1.97\*\*\* | 244.82\*\* | 148.15\*\* | 251.55\*\* | 141.05\*\* | 243.03\*\* |
|  | [1.36,2.85] | [4.43,13521.30] | [3.98,5515.68] | [7.69,8231.98] | [4.38,4544.96] | [7.40,7982.67] |
| Cut 4 | 11.83\*\*\* | 1613.00\*\*\* | 982.62\*\*\* | 1665.22\*\*\* | 935.98\*\*\* | 1610.80\*\*\* |
|  | [7.82,17.88] | [28.25,92097.85] | [26.08,37025.18] | [49.68,55813.35] | [28.67,30551.59] | [47.86,54212.43] |

**Appendix F.** (continued)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
| *Random effects* |  |  |  |  |  |  |
| Var(Constant) | 1.07\*\*\* | 1.03\*\* |  |  |  |  |
|  | [1.04,1.10] | [1.01,1.05] |  |  |  |  |
| Var(Environmental values) |  |  | 1.05\*\*  [1.02,1.08] |  | 1.04\*  [1.01,1.07] |  |
| Var(Left-right placement) |  |  |  | 1.04\*\*  [1.01,1.06] |  | 1.03\*\*  [1.01,1.06] |
| *N (individuals)* | 12788 | 12788 | 12788 | 12788 | 12788 | 12788 |
| *N (regions)* | 104 | 104 | 104 | 104 | 104 | 104 |
| *AIC* | 50631.28 | 49209.62 | 49198.22 | 49211.69 | 49186.90 | 49206.74 |
| *BIC* | 50750.58 | 49455.68 | 49459.19 | 49472.66 | 49455.33 | 49475.17 |

Comments: Multilevel ordered logit models estimated using Stata’s *meologit* command. Reported estimates are odds ratios. Regional GDP and population density are log-transformed. Left-right placement and environmental values are dummy variables.

a Reference category: ‘15-29 years,’ b Reference category: ‘Primary.’ Models include country dummies, not reported in the table. 95% confidence intervals in brackets. Source: European Social Survey 2016, 2018; European Quality of Government Index 2017; Eurostat 2017. \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001.

# **Appendix G.** Multilevel ordered logit structural equation models with country-fixed effects, exploring mediated moderation: Trust, value orientations and regional QoG.

Model 1 Model 2

|  |  |  |  |
| --- | --- | --- | --- |
| *Environmental values* | | *Left-right placement* | |
| *Fixed effects* |  | *Fixed effects*  Social trust  Left-right placement\* Regional QoG Constant | 0.63\*\*\* [0.58,0.68]  5.57\*\*\* [5.54,5.59] |
| Social trust |  |
| Environmental values\* Regional QoG | 0.67\*\*\* [0.64,0.71] |
| Constant | 5.42\*\*\* |
|  | [5.39,5.45] |
| Political trust |  | Political trust  Left-right placement\* Regional QoG  Constant | 0.70\*\*\* [0.64,0.76]  3.99\*\*\* [3.96,4.02] |
| Environmental values\* Regional QoG | 0.72\*\*\*  [0.68,0.76] |
| Constant | 3.84\*\*\* |
|  | [3.81,3.87] |
| Institutional trust |  | Institutional trust Left-right placement\* Regional QoG  Constant | 0.52\*\*\* [0.46,0.58]  6.04\*\*\* [6.01,6.07] |
| Environmental values\* | 0.61\*\*\* |
| Regional QoG |  |
|  | [0.57,0.65] |
| Constant | 5.90\*\*\* |
|  | [5.87,5.93] |
| Support for climate taxes |  | Support for climate taxes  Left-right placement\*Regional QoG  *Level 1*  Social trust Political trust Institutional trust  Left-right placement (left)  Environmental values (strong) | 0.15\*\*\* [0.08,0.23]  0.02\*\* [0.01,0.04]  0.12\*\*\* [0.10,0.13]  0.03\*\*\* [0.01,0.05]  0.25\*\*\* [0.18,0.33]  0.27\*\*\*  [0.22,0.33] |
| Environmental values\*Regional QoG | 0.21\*\*\* |
|  | [0.11,0.30] |
| *Level 1* |  |
| Social trust | 0.03\*\* |
|  | [0.01,0.04] |
| Political trust | 0.12\*\*\* |
|  | [0.10,0.13] |
| Institutional trust | 0.03\*\*\* |
|  | [0.01,0.05] |
| Left-right placement (left) | 0.34\*\*\* |
|  | [0.29,0.40] |
| Environmental values (strong) | 0.13\*\* |
|  | [0.05,0.22] |

Fossil fuel dependency 0.27\*\*\* [0.24,0.30]

Energy too costly -0.27\*\*\*

[-0.30,-0.24]

Political interest 0.08\*\*\*

[0.05,0.12]

Gender (female) 0.13\*\*\*

[0.08,0.18]

Agea

30-60 years -0.26\*\*\*

[-0.34,-0.19]

61-105 years -0.33\*\*\*

[-0.41,-0.25]

Educationb

Secondary 0.05

[-0.02,0.12]

Tertiary 0.29\*\*\*

[0.22,0.36]

Household income 0.03\*\*\*

Fossil fuel dependency 0.28\*\*\* [0.25,0.31]

Energy too costly -0.27\*\*\*

[-0.30,-0.24]

Political interest 0.08\*\*\*

[0.05,0.11]

Gender (female) 0.12\*\*\* [0.07,0.18]

Agea

30-60 years -0.25\*\*\*

[-0.32,-0.18]

61-105 years -0.31\*\*\*

[-0.39,-0.23]

Educationb

Secondary 0.06

[-0.01,0.13]

Tertiary 0.29\*\*\*

[0.22,0.36]

Household income 0.03\*\*\*

|  |  |  |  |
| --- | --- | --- | --- |
| [0.02,0.04] | | [0.02,0.04] | |
| *Level 2* |  |  |  |
| Regional QoG | -0.13 | Regional QoG | 0.02 |
|  | [-0.33,0.07] |  | [-0.18,0.22] |
| Cut 1 | -0.28 | Cut 1 | -0.14 |
|  | [-0.58,0.02] |  | [-0.44,0.16] |
| Cut 2 | 1.15\*\*\* | Cut 2 | 1.28\*\*\* |
|  | [0.85,1.44] |  | [0.98,1.58] |
| Cut 3 | 2.13\*\*\* | Cut 3 | 2.27\*\*\* |
|  | [1.83,2.43] |  | [1.97,2.57] |
| Cut 4 | 4.13\*\*\* | Cut 4 | 4.26\*\*\* |
|  | [3.83,4.43] |  | [3.96,4.57] |
| *Random effects* |  | *Random effects*  Random intercept  Random slope (Left-right placement) Var(Constant)  Var(Slope)  Covariance (Constant and Slope) Var(Residual Social trust) Var(Residual Political trust) Var(Residual Institutional trust) | 1.00  [1.00,1.00]  1.00  [1.00,1.00]  0.04\*\*\* [0.02,0.06]  0.01  [-0.01,0.04]  0.02  [-0.00,0.04]  3.57\*\*\* [3.50,3.63]  4.57\*\*\* [4.48,4.66]  4.34\*\*\*  [4.26,4.43] |
| Random intercept | 1.00 |
|  | [1.00,1.00] |
| Random slope (Environmental values) | 1.00 |
|  | [1.00,1.00] |
| Var(Constant) | 0.03\* |
|  | [0.01,0.06] |
| Var(Slope) | 0.06\*\*\* |
|  | [0.03,0.09] |
| Covariance (Constant and Slope) | -0.00 |
|  | [-0.03,0.02] |
| Var(Residual Social trust) | 3.44\*\*\* |
|  | [3.38,3.51] |
| Var(Residual Political trust) | 4.44\*\*\* |
|  | [4.35,4.52] |
| Var(Residual Institutional trust) | 4.23\*\*\* |
|  | [4.15,4.31] |
| *N (individuals)*  *N (regions)* | 20433  135 | *N (individuals)*  *N (regions)* | 20433  135 |

Comments: Two-level multilevel generalized structural equation models with country-fixed effects estimated with Stata’s *gsem* command. Left-right placement and climate change concern are dummy variables. a Reference category: ‘15-29 years,’ b Reference category: ‘Primary.’ Country dummies are included in both models but are not reported in the table. 95% confidence intervals in brackets. Source: European Social Survey 2016; European Quality of Government Index 2017. \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001.

# **Appendix H.** Multilevel ordered logit models, country-fixed effects: Interactions between environmental values and EQI micro-items.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 | Model 9 |
| *Fixed effects* | *Edqual* | *Helqual* | *LawQual* | *Edimpart1* | *Edimpart2* | *Helimpart1* | *Helimpart2* | *Lawimpart1* | *Lawimpart2* |
| *Level 1*  Environmental values (strong) | 0.27\*\*\* | 0.21\*\*\* | 0.26\*\*\* | 0.29\*\*\* | 0.28\*\*\* | 0.28\*\*\* | 0.24\*\*\* | 0.27\*\*\* | 0.27\*\*\* |
|  | [0.17,0.37] | [0.10,0.33] | [0.15,0.36] | [0.19,0.38] | [0.18,0.37] | [0.18,0.38] | [0.13,0.35] | [0.17,0.37] | [0.18,0.37] |
| Left-right placement (left) | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* |
|  | [0.29,0.44] | [0.29,0.44] | [0.29,0.44] | [0.29,0.44] | [0.29,0.44] | [0.29,0.44] | [0.29,0.44] | [0.29,0.44] | [0.29,0.44] |
| Fossil fuel dependency | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* |
|  | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] |
| Energy too costly | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* |
|  | [-0.35,-0.27] | [-0.35,-0.27] | [-0.35,-0.27] | [-0.35,-0.27] | [-0.35,-0.27] | [-0.35,-0.27] | [-0.35,-0.27] | [-0.35,-0.27] | [-0.35,-0.27] |
| Political interest | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* |
|  | [0.09,0.18] | [0.09,0.18] | [0.09,0.18] | [0.09,0.18] | [0.09,0.18] | [0.09,0.18] | [0.09,0.18] | [0.09,0.18] | [0.09,0.18] |
| Gender (female) | 0.10\*\*\* | 0.10\*\*\* | 0.10\*\*\* | 0.10\*\*\* | 0.10\*\*\* | 0.10\*\*\* | 0.10\*\*\* | 0.10\*\*\* | 0.10\*\*\* |
|  | [0.04,0.16] | [0.04,0.16] | [0.04,0.16] | [0.04,0.16] | [0.04,0.16] | [0.04,0.16] | [0.04,0.16] | [0.04,0.16] | [0.04,0.16] |
| Agea  30-60 years | -0.35\*\*\* | -0.35\*\*\* | -0.35\*\*\* | -0.35\*\*\* | -0.35\*\*\* | -0.35\*\*\* | -0.35\*\*\* | -0.35\*\*\* | -0.35\*\*\* |
|  | [-0.47,-0.24] | [-0.47,-0.24] | [-0.47,-0.24] | [-0.47,-0.24] | [-0.47,-0.24] | [-0.47,-0.24] | [-0.46,-0.24] | [-0.47,-0.24] | [-0.47,-0.24] |
| 61-105 years | -0.40\*\*\* | -0.40\*\*\* | -0.40\*\*\* | -0.40\*\*\* | -0.40\*\*\* | -0.40\*\*\* | -0.39\*\*\* | -0.40\*\*\* | -0.40\*\*\* |
|  | [-0.51,-0.29] | [-0.51,-0.29] | [-0.51,-0.28] | [-0.51,-0.29] | [-0.51,-0.28] | [-0.51,-0.29] | [-0.51,-0.28] | [-0.51,-0.29] | [-0.51,-0.28] |
| Educationb Secondary | 0.10\* | 0.10\* | 0.10\* | 0.10\* | 0.10\* | 0.10\* | 0.10\* | 0.10\* | 0.10\* |
|  | [0.02,0.19] | [0.02,0.19] | [0.02,0.19] | [0.02,0.19] | [0.02,0.19] | [0.02,0.19] | [0.02,0.19] | [0.02,0.19] | [0.02,0.19] |
| Tertiary | 0.35\*\*\* | 0.35\*\*\* | 0.35\*\*\* | 0.35\*\*\* | 0.35\*\*\* | 0.35\*\*\* | 0.35\*\*\* | 0.35\*\*\* | 0.35\*\*\* |
|  | [0.25,0.45] | [0.25,0.45] | [0.25,0.45] | [0.25,0.45] | [0.25,0.45] | [0.25,0.45] | [0.25,0.45] | [0.25,0.45] | [0.25,0.45] |
| Household income | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* |
|  | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] |
| *Level 2*  Regional GDP | 0.15\*\*\* | 0.15\*\*\* | 0.16\*\*\* | 0.15\*\*\* | 0.15\*\*\* | 0.15\*\*\* | 0.15\*\*\* | 0.15\*\*\* | 0.15\*\*\* |
|  | [0.09,0.22] | [0.09,0.22] | [0.09,0.22] | [0.09,0.22] | [0.09,0.21] | [0.09,0.22] | [0.08,0.21] | [0.09,0.21] | [0.08,0.21] |
| Quality public education | -0.09\* |  |  |  |  |  |  |  |  |
|  | [-0.19,-0.00] |  |  |  |  |  |  |  |  |
| Quality public health care |  | -0.14 |  |  |  |  |  |  |  |
|  |  | [-0.28,0.01] |  |  |  |  |  |  |  |
| Quality police force |  |  | -0.12 |  |  |  |  |  |  |
|  |  |  | [-0.25,0.02] |  |  |  |  |  |  |
| Impartiality public education (1) |  |  |  | 0.03 |  |  |  |  |  |
|  |  |  |  | [-0.10,0.15] |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 | Model 9 |
| Impartiality public education (2) |  |  |  |  | -0.08 |  |  |  |  |
|  |  |  |  |  | [-0.21,0.05] |  |  |  |  |
| Impartiality public health care (1) |  |  |  |  |  | -0.00 |  |  |  |
|  |  |  |  |  |  | [-0.15,0.15] |  |  |  |
| Impartiality public health care (2) |  |  |  |  |  |  | -0.06 |  |  |
|  |  |  |  |  |  |  | [-0.21,0.09] |  |  |
| Impartiality police force (1) |  |  |  |  |  |  |  | -0.00 |  |
|  |  |  |  |  |  |  |  | [-0.16,0.16] |  |
| Impartiality police force (2) |  |  |  |  |  |  |  |  | -0.10 |
|  |  |  |  |  |  |  |  |  | [-0.23,0.04] |
| *Cross-level interactions* |  |  |  |  |  |  |  |  |  |
| Quality education\* | 0.07 |  |  |  |  |  |  |  |  |
| Environmental values | [-0.01,0.14] |  |  |  |  |  |  |  |  |
| Quality health care\* |  | 0.19\*\* |  |  |  |  |  |  |  |
| Environmental values |  | [0.07,0.32] |  |  |  |  |  |  |  |
| Quality police force\* |  |  | 0.09 |  |  |  |  |  |  |
| Environmental values |  |  | [-0.02,0.21] |  |  |  |  |  |  |
| Impartiality education (1)\* |  |  |  | 0.02 |  |  |  |  |  |
| Environmental values |  |  |  | [-0.07,0.11] |  |  |  |  |  |
| Impartiality education (2)\* |  |  |  |  | 0.08 |  |  |  |  |
| Environmental values |  |  |  |  | [-0.00,0.16] |  |  |  |  |
| Impartiality health care (1)\* |  |  |  |  |  | 0.09\* |  |  |  |
| Environmental values |  |  |  |  |  | [0.01,0.16] |  |  |  |
| Impartiality health care (2)\* |  |  |  |  |  |  | 0.14\*\* |  |  |
| Environmental values |  |  |  |  |  |  | [0.05,0.23] |  |  |
| Impartiality police force (1)\* |  |  |  |  |  |  |  | 0.08 |  |
| Environmental values |  |  |  |  |  |  |  | [-0.03,0.18] |  |
| Impartiality police force (2)\* |  |  |  |  |  |  |  |  | 0.06 |
| Environmental values |  |  |  |  |  |  |  |  | [-0.01,0.13] |
| Cut 1 | 0.53 | 0.51 | 0.53 | 0.59 | 0.51 | 0.51 | 0.46 | 0.55 | 0.42 |
|  | [-0.17,1.23] | [-0.15,1.18] | [-0.17,1.23] | [-0.15,1.33] | [-0.22,1.23] | [-0.18,1.21] | [-0.26,1.18] | [-0.14,1.25] | [-0.33,1.17] |
| Cut 2 | 1.98\*\*\* | 1.96\*\*\* | 1.98\*\*\* | 2.04\*\*\* | 1.96\*\*\* | 1.97\*\*\* | 1.91\*\*\* | 2.01\*\*\* | 1.87\*\*\* |
|  | [1.27,2.69] | [1.29,2.64] | [1.27,2.69] | [1.29,2.79] | [1.22,2.69] | [1.26,2.67] | [1.18,2.64] | [1.30,2.71] | [1.12,2.63] |
| Cut 3 | 2.98\*\*\* | 2.96\*\*\* | 2.98\*\*\* | 3.04\*\*\* | 2.96\*\*\* | 2.97\*\*\* | 2.91\*\*\* | 3.01\*\*\* | 2.87\*\*\* |
|  | [2.27,3.70] | [2.28,3.65] | [2.27,3.70] | [2.28,3.80] | [2.21,3.70] | [2.25,3.68] | [2.17,3.65] | [2.29,3.72] | [2.11,3.64] |
| Cut 4 | 4.93\*\*\* | 4.91\*\*\* | 4.93\*\*\* | 4.99\*\*\* | 4.90\*\*\* | 4.91\*\*\* | 4.86\*\*\* | 4.95\*\*\* | 4.82\*\*\* |
|  | [4.21,5.65] | [4.22,5.60] | [4.21,5.65] | [4.22,5.75] | [4.16,5.65] | [4.20,5.63] | [4.12,5.60] | [4.24,5.67] | [4.05,5.59] |
| *Random effects* | 0.06\*\*\* | 0.05\*\*\* | 0.06\*\*\* | 0.06\*\*\* | 0.06\*\*\* | 0.05\*\*\* | 0.05\*\*\* | 0.05\*\*\* | 0.06\*\*\* |
| Var(Environmental values) |  |  |  |  |  |  |  |  |  |
|  | [0.03,0.08] | [0.03,0.07] | [0.03,0.08] | [0.03,0.08] | [0.03,0.08] | [0.03,0.08] | [0.03,0.08] | [0.03,0.08] | [0.03,0.08] |
| *N* | 20433 | 20433 | 20433 | 20433 | 20433 | 20433 | 20433 | 20433 | 20433 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Model 10 | Model 11 | Model 12 | Model 13 | Model 14 | Model 15 | Model 16 | Model 17 | Model 18 |
| *Fixed effects* | *Taximpart* | *Edcorr* | *Helcorr* | *LawCorr* | *NeedCorr* | *GreedCorr* | *ElecCorr* | *Nopaybribe* | *Noaskbribe* |
| *Level 1*  Environmental values (strong) | 0.29\*\*\* | 0.27\*\*\* | 0.24\*\*\* | 0.27\*\*\* | 0.24\*\*\* | 0.26\*\*\* | 0.29\*\*\* | 0.14\* | 0.22\*\*\* |
|  | [0.19,0.38] | [0.16,0.37] | [0.12,0.35] | [0.17,0.37] | [0.14,0.34] | [0.17,0.36] | [0.19,0.38] | [0.02,0.27] | [0.12,0.31] |
| Left-right placement (left) | 0.36\*\*\* | 0.36\*\*\* | 0.37\*\*\* | 0.37\*\*\* | 0.37\*\*\* | 0.37\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* |
|  | [0.29,0.44] | [0.29,0.44] | [0.29,0.44] | [0.29,0.44] | [0.29,0.44] | [0.29,0.44] | [0.29,0.44] | [0.29,0.44] | [0.29,0.44] |
| Fossil fuel dependency | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.25\*\*\* |
|  | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] |
| Energy too costly | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* |
|  | [-0.35,-0.27] | [-0.35,-0.27] | [-0.35,-0.27] | [-0.35,-0.27] | [-0.35,-0.27] | [-0.35,-0.27] | [-0.35,-0.27] | [-0.35,-0.27] | [-0.35,-0.27] |
| Political interest | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* |
|  | [0.09,0.18] | [0.09,0.18] | [0.09,0.18] | [0.09,0.18] | [0.09,0.18] | [0.09,0.18] | [0.09,0.18] | [0.09,0.18] | [0.09,0.18] |
| Gender (female) | 0.10\*\*\* | 0.10\*\*\* | 0.10\*\*\* | 0.10\*\*\* | 0.10\*\*\* | 0.10\*\*\* | 0.10\*\*\* | 0.10\*\*\* | 0.11\*\*\* |
| Agea | [0.04,0.16] | [0.04,0.16] | [0.04,0.16] | [0.04,0.16] | [0.04,0.16] | [0.04,0.16] | [0.04,0.16] | [0.04,0.16] | [0.05,0.17] |
| 30-60 years | -0.35\*\*\* | -0.35\*\*\* | -0.35\*\*\* | -0.35\*\*\* | -0.35\*\*\* | -0.35\*\*\* | -0.35\*\*\* | -0.35\*\*\* | -0.36\*\*\* |
|  | [-0.47,-0.24] | [-0.47,-0.24] | [-0.47,-0.24] | [-0.47,-0.24] | [-0.47,-0.24] | [-0.47,-0.24] | [-0.47,-0.24] | [-0.46,-0.24] | [-0.47,-0.24] |
| 61-105 years | -0.40\*\*\* | -0.40\*\*\* | -0.40\*\*\* | -0.40\*\*\* | -0.40\*\*\* | -0.40\*\*\* | -0.40\*\*\* | -0.40\*\*\* | -0.40\*\*\* |
| Educationb | [-0.51,-0.28] | [-0.51,-0.29] | [-0.51,-0.29] | [-0.51,-0.29] | [-0.51,-0.29] | [-0.51,-0.29] | [-0.51,-0.28] | [-0.51,-0.28] | [-0.51,-0.29] |
| Secondary | 0.10\* | 0.10\* | 0.10\* | 0.10\* | 0.10\* | 0.10\* | 0.10\* | 0.10\* | 0.10\* |
|  | [0.02,0.19] | [0.02,0.19] | [0.02,0.19] | [0.02,0.19] | [0.02,0.19] | [0.02,0.19] | [0.02,0.19] | [0.02,0.19] | [0.02,0.19] |
| Tertiary | 0.35\*\*\* | 0.35\*\*\* | 0.35\*\*\* | 0.35\*\*\* | 0.35\*\*\* | 0.35\*\*\* | 0.35\*\*\* | 0.35\*\*\* | 0.35\*\*\* |
|  | [0.25,0.45] | [0.25,0.45] | [0.25,0.45] | [0.25,0.45] | [0.25,0.45] | [0.25,0.45] | [0.25,0.45] | [0.25,0.45] | [0.25,0.45] |
| Household income | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* |
|  | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] |
| *Level 2*  Regional GDP | 0.14\*\*\* | 0.14\*\*\* | 0.15\*\*\* | 0.15\*\*\* | 0.13\*\*\* | 0.15\*\*\* | 0.14\*\*\* | 0.15\*\*\* | 0.15\*\*\* |
|  | [0.08,0.21] | [0.08,0.21] | [0.09,0.21] | [0.09,0.22] | [0.07,0.20] | [0.09,0.21] | [0.08,0.21] | [0.09,0.21] | [0.10,0.21] |
| Impartiality tax authorities | 0.10 |  |  |  |  |  |  |  |  |
|  | [-0.07,0.28] |  |  |  |  |  |  |  |  |
| Corruption public school system |  | 0.08 |  |  |  |  |  |  |  |
|  |  | [-0.15,0.31] |  |  |  |  |  |  |  |
| Corruption public health care system |  |  | -0.05 |  |  |  |  |  |  |
|  |  |  | [-0.32,0.21] |  |  |  |  |  |  |
| Corruption police force |  |  |  | 0.08 |  |  |  |  |  |
|  |  |  |  | [-0.17,0.33] |  |  |  |  |  |
| Need corruption |  |  |  |  | 0.06 |  |  |  |  |
|  |  |  |  |  | [-0.15,0.27] |  |  |  |  |
| Greed corruption |  |  |  |  |  | 0.01 |  |  |  |
| Corruption elections |  |  |  |  |  | [-0.20,0.23] | 0.05 |  |  |
|  |  |  |  |  |  |  | [-0.13,0.22] |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Model 10 | Model 11 | Model 12 | Model 13 | Model 14 | Model 15 | Model 16 | Model 17 | Model 18 |
| Corruption elections |  |  |  |  |  |  | 0.05 |  |  |
|  |  |  |  |  |  |  | [-0.13,0.22] |  |  |
| Paid bribe in past 12 months |  |  |  |  |  |  |  | -0.19 |  |
|  |  |  |  |  |  |  |  | [-0.40,0.02] |  |
| Asked to pay bribe in last 12 months |  |  |  |  |  |  |  |  | -0.25\* |
|  |  |  |  |  |  |  |  |  | [-0.46,-0.04] |
| *Cross-level interactions* |  |  |  |  |  |  |  |  |  |
| Impartiality tax authorities\* | 0.02 |  |  |  |  |  |  |  |  |
| Environmental values | [-0.06,0.11] |  |  |  |  |  |  |  |  |
| Corruption school system\* |  | 0.08 |  |  |  |  |  |  |  |
| Environmental values |  | [-0.03,0.20] |  |  |  |  |  |  |  |
| Corruption public health care\* |  |  | 0.17\*\* |  |  |  |  |  |  |
| Environmental values |  |  | [0.04,0.29] |  |  |  |  |  |  |
| Corruption police force\* |  |  |  | 0.07 |  |  |  |  |  |
| Environmental values |  |  |  | [-0.04,0.19] |  |  |  |  |  |
| Need corruption\* |  |  |  |  | 0.16\*\* |  |  |  |  |
| Environmental values |  |  |  |  | [0.06,0.27] |  |  |  |  |
| Greed corruption\* |  |  |  |  |  | 0.19\*\*\* |  |  |  |
| Environmental values |  |  |  |  |  | [0.08,0.31] |  |  |  |
| Corruption elections\* |  |  |  |  |  |  | 0.03 |  |  |
| Environmental values |  |  |  |  |  |  | [-0.06,0.12] |  |  |
| Paid bribe in past 12 months\* |  |  |  |  |  |  |  | 0.35\*\*\* |  |
| Environmental values |  |  |  |  |  |  |  | [0.18,0.51] |  |
| Asked to pay bribe in last 12 months\* |  |  |  |  |  |  |  |  | 0.29\*\*\* |
| Environmental values |  |  |  |  |  |  |  |  | [0.18,0.40] |
| Cut 1 | 0.56 | 0.50 | 0.51 | 0.68 | 0.52 | 0.68 | 0.48 | 0.46 | 0.48 |
|  | [-0.14,1.26] | [-0.19,1.19] | [-0.16,1.18] | [-0.01,1.38] | [-0.15,1.19] | [-0.03,1.38] | [-0.25,1.21] | [-0.19,1.12] | [-0.13,1.09] |
| Cut 2 | 2.01\*\*\* | 1.95\*\*\* | 1.96\*\*\* | 2.14\*\*\* | 1.97\*\*\* | 2.13\*\*\* | 1.93\*\*\* | 1.91\*\*\* | 1.93\*\*\* |
|  | [1.31,2.71] | [1.25,2.65] | [1.29,2.64] | [1.44,2.83] | [1.30,2.64] | [1.42,2.84] | [1.20,2.67] | [1.25,2.58] | [1.32,2.55] |
| Cut 3 | 3.01\*\*\* | 2.95\*\*\* | 2.96\*\*\* | 3.14\*\*\* | 2.97\*\*\* | 3.13\*\*\* | 2.93\*\*\* | 2.91\*\*\* | 2.93\*\*\* |
|  | [2.30,3.72] | [2.25,3.66] | [2.28,3.65] | [2.43,3.84] | [2.29,3.65] | [2.41,3.85] | [2.19,3.67] | [2.24,3.59] | [2.30,3.56] |
| Cut 4 | 4.96\*\*\* | 4.90\*\*\* | 4.91\*\*\* | 5.08\*\*\* | 4.92\*\*\* | 5.08\*\*\* | 4.88\*\*\* | 4.86\*\*\* | 4.88\*\*\* |
|  | [4.24,5.68] | [4.19,5.61] | [4.22,5.60] | [4.37,5.80] | [4.23,5.61] | [4.35,5.80] | [4.13,5.63] | [4.18,5.54] | [4.25,5.52] |
| *Random effects* | 0.06\*\*\* | 0.05\*\*\* | 0.05\*\*\* | 0.05\*\*\* | 0.05\*\*\* | 0.05\*\*\* | 0.06\*\*\* | 0.05\*\*\* | 0.04\*\*\* |
| Var(Environmental values) |  |  |  |  |  |  |  |  |  |
|  | [0.03,0.08] | [0.03,0.08] | [0.03,0.08] | [0.03,0.08] | [0.02,0.07] | [0.03,0.07] | [0.03,0.08] | [0.03,0.07] | [0.02,0.06] |
| N | 20433 | 20433 | 20433 | 20433 | 20433 | 20433 | 20433 | 20433 | 20433 |

Comments: Multilevel ordered logit models estimated using Stata’s *meologit* command. All regional QoG items are standardized. Regional-GDP is log-transformed. Left-right placement and environmental values are dummy variables. a Reference category: ‘15-29 years,’ b Reference category: ‘Primary.’ Country dummies are included in all of the models, but they are not reported in the table. 95% confidence intervals in brackets. Source: European Social Survey 2016; European Quality of Government Index 2017. \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001.

# **Appendix I.** Multilevel ordered logit models, country-fixed effects: Interactions between left-right placement and EQI micro-items.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 | Model 9 |
| *Fixed effects* | *Edqual* | *Helqual* | *LawQual* | *Edimpart1* | *Edimpart2* | *Helimpart1* | *Helimpart2* | *Lawimpart1* | *Lawimpart2* |
| *Level 1*  Environmental values (strong) | 0.33\*\*\* | 0.33\*\*\* | 0.33\*\*\* | 0.33\*\*\* | 0.33\*\*\* | 0.33\*\*\* | 0.33\*\*\* | 0.33\*\*\* | 0.33\*\*\* |
|  | [0.26,0.41] | [0.26,0.40] | [0.26,0.41] | [0.26,0.41] | [0.26,0.41] | [0.26,0.41] | [0.26,0.41] | [0.26,0.41] | [0.26,0.41] |
| Left-right placement (left) | 0.34\*\*\* | 0.28\*\*\* | 0.29\*\*\* | 0.34\*\*\* | 0.33\*\*\* | 0.33\*\*\* | 0.30\*\*\* | 0.32\*\*\* | 0.32\*\*\* |
|  | [0.25,0.42] | [0.18,0.38] | [0.20,0.39] | [0.26,0.42] | [0.25,0.41] | [0.24,0.41] | [0.21,0.40] | [0.23,0.40] | [0.23,0.40] |
| Fossil fuel dependency | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* |
|  | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] |
| Energy too costly | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* |
|  | [-0.36,-0.27] | [-0.36,-0.27] | [-0.36,-0.27] | [-0.36,-0.27] | [-0.36,-0.27] | [-0.36,-0.27] | [-0.36,-0.27] | [-0.36,-0.27] | [-0.36,-0.27] |
| Political interest | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* |
|  | [0.09,0.19] | [0.09,0.19] | [0.09,0.19] | [0.09,0.19] | [0.09,0.19] | [0.09,0.19] | [0.09,0.19] | [0.09,0.19] | [0.09,0.19] |
| Gender (female) | 0.10\*\* | 0.10\*\* | 0.10\*\* | 0.10\*\* | 0.10\*\* | 0.10\*\* | 0.10\*\* | 0.10\*\* | 0.10\*\* |
| Agea | [0.03,0.17] | [0.03,0.16] | [0.03,0.17] | [0.03,0.16] | [0.03,0.17] | [0.03,0.16] | [0.03,0.16] | [0.03,0.16] | [0.03,0.17] |
| 30-60 years | -0.34\*\*\* | -0.34\*\*\* | -0.34\*\*\* | -0.34\*\*\* | -0.34\*\*\* | -0.34\*\*\* | -0.34\*\*\* | -0.34\*\*\* | -0.34\*\*\* |
|  | [-0.48,-0.20] | [-0.47,-0.20] | [-0.47,-0.20] | [-0.48,-0.21] | [-0.48,-0.20] | [-0.48,-0.20] | [-0.48,-0.20] | [-0.48,-0.20] | [-0.47,-0.20] |
| 61-105 years | -0.37\*\*\* | -0.37\*\*\* | -0.37\*\*\* | -0.38\*\*\* | -0.37\*\*\* | -0.37\*\*\* | -0.37\*\*\* | -0.37\*\*\* | -0.37\*\*\* |
| Educationb | [-0.50,-0.24] | [-0.50,-0.24] | [-0.50,-0.24] | [-0.51,-0.25] | [-0.50,-0.24] | [-0.50,-0.24] | [-0.50,-0.24] | [-0.50,-0.24] | [-0.50,-0.24] |
| Secondary | 0.11\*\* | 0.11\*\* | 0.11\*\* | 0.11\*\* | 0.11\*\* | 0.11\*\* | 0.11\*\* | 0.11\*\* | 0.11\*\* |
|  | [0.03,0.19] | [0.03,0.19] | [0.03,0.19] | [0.03,0.19] | [0.03,0.19] | [0.03,0.19] | [0.03,0.19] | [0.03,0.19] | [0.03,0.19] |
| Tertiary | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* |
|  | [0.26,0.45] | [0.26,0.45] | [0.27,0.45] | [0.26,0.45] | [0.26,0.45] | [0.26,0.45] | [0.26,0.45] | [0.26,0.45] | [0.26,0.45] |
| Household income | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.03\*\*\* | 0.04\*\*\* |
| *Level 2* | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] |
| Regional GDP | 0.16\*\*\* | 0.16\*\*\* | 0.16\*\*\* | 0.17\*\*\* | 0.16\*\*\* | 0.16\*\*\* | 0.15\*\*\* | 0.16\*\*\* | 0.16\*\*\* |
|  | [0.11,0.22] | [0.11,0.22] | [0.11,0.22] | [0.11,0.22] | [0.11,0.21] | [0.11,0.22] | [0.10,0.21] | [0.11,0.21] | [0.10,0.21] |
| Quality public education | -0.05 |  |  |  |  |  |  |  |  |
|  | [-0.14,0.03] |  |  |  |  |  |  |  |  |
| Quality public health care |  | -0.06 |  |  |  |  |  |  |  |
| Quality police force |  | [-0.21,0.09] | -0.08 |  |  |  |  |  |  |
| Impartiality public education (1) |  |  | [-0.20,0.04] | 0.02 |  |  |  |  |  |
| Impartiality public education (2) |  |  |  | [-0.09,0.13] | -0.05 |  |  |  |  |
|  |  |  |  |  | [-0.17,0.07] |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 | Model 9 |
| Impartiality public health care (1) |  |  |  |  |  | 0.02 |  |  |  |
|  |  |  |  |  |  | [-0.11,0.15] |  |  |  |
| Impartiality public health care (2) |  |  |  |  |  |  | -0.01 |  |  |
|  |  |  |  |  |  |  | [-0.14,0.13] |  |  |
| Impartiality police force (1) |  |  |  |  |  |  |  | 0.02 |  |
|  |  |  |  |  |  |  |  | [-0.11,0.15] |  |
| Impartiality police force (2) |  |  |  |  |  |  |  |  | -0.11 |
|  |  |  |  |  |  |  |  |  | [-0.23,0.01] |
| *Cross-level interactions* |  |  |  |  |  |  |  |  |  |
| Quality education\*  Left-right placement | 0.01  [-0.07,0.08] |  |  |  |  |  |  |  |  |
| Quality health care\*  Left-right placement |  | 0.16\*\* [0.05,0.27] |  |  |  |  |  |  |  |
| Quality police force\*  Left-right placement |  |  | 0.12\* [0.01,0.24] |  |  |  |  |  |  |
| Impartiality education (1)\*  Left-right placement |  |  |  | 0.06  [-0.01,0.14] |  |  |  |  |  |
| Impartiality education (2)\*  Left-right placement |  |  |  |  | 0.07  [-0.01,0.14] |  |  |  |  |
| Impartiality health care (1)\*  Left-right placement |  |  |  |  |  | 0.10\*\* [0.02,0.17] |  |  |  |
| Impartiality health care (2)\*  Left-right placement |  |  |  |  |  |  | 0.11\* [0.02,0.19] |  |  |
| Impartiality police force (1)\*  Left-right placement |  |  |  |  |  |  |  | 0.12\*\* [0.03,0.20] |  |
| Impartiality police force (2)\*  Left-right placement |  |  |  |  |  |  |  |  | 0.09\* [0.02,0.17] |
| Cut 1 | 0.69\* | 0.65\* | 0.65\* | 0.74\* | 0.66\* | 0.65\* | 0.59 | 0.69\* | 0.54 |
|  | [0.09,1.28] | [0.05,1.25] | [0.05,1.25] | [0.11,1.38] | [0.04,1.27] | [0.05,1.26] | [-0.06,1.24] | [0.10,1.28] | [-0.11,1.18] |
| Cut 2 | 2.14\*\*\* | 2.10\*\*\* | 2.10\*\*\* | 2.19\*\*\* | 2.11\*\*\* | 2.10\*\*\* | 2.03\*\*\* | 2.14\*\*\* | 1.98\*\*\* |
|  | [1.53,2.74] | [1.49,2.71] | [1.49,2.71] | [1.55,2.83] | [1.49,2.73] | [1.49,2.71] | [1.38,2.69] | [1.54,2.74] | [1.34,2.63] |
| Cut 3 | 3.13\*\*\* | 3.09\*\*\* | 3.10\*\*\* | 3.19\*\*\* | 3.10\*\*\* | 3.10\*\*\* | 3.03\*\*\* | 3.14\*\*\* | 2.98\*\*\* |
|  | [2.52,3.75] | [2.47,3.72] | [2.48,3.71] | [2.54,3.84] | [2.47,3.73] | [2.48,3.72] | [2.36,3.70] | [2.53,3.74] | [2.33,3.64] |
| Cut 4 | 5.08\*\*\* | 5.04\*\*\* | 5.04\*\*\* | 5.13\*\*\* | 5.05\*\*\* | 5.04\*\*\* | 4.98\*\*\* | 5.08\*\*\* | 4.93\*\*\* |
|  | [4.46,5.70] | [4.41,5.67] | [4.42,5.67] | [4.48,5.79] | [4.41,5.69] | [4.41,5.67] | [4.30,5.65] | [4.47,5.70] | [4.26,5.59] |
| Random effects |  |  |  |  |  |  |  |  |  |
| Var(Left-right placement) | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* |
|  | [0.02,0.06] | [0.02,0.06] | [0.02,0.06] | [0.02,0.06] | [0.02,0.06] | [0.02,0.06] | [0.02,0.06] | [0.02,0.06] | [0.02,0.06] |
| N | 20433 | 20433 | 20433 | 20433 | 20433 | 20433 | 20433 | 20433 | 20433 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Model 10 | Model 11 | Model 12 | Model 13 | Model 14 | Model 15 | Model 16 | Model 17 | Model 18 |
| *Fixed effects* | *Taximpart* | *Edcorr* | *Helcorr* | *LawCorr* | *NeedCorr* | *GreedCorr* | *ElecCorr* | *Nopaybribe* | *Noaskbribe* |
| *Level 1*  Environmental values (strong) | 0.33\*\*\* | 0.33\*\*\* | 0.33\*\*\* | 0.33\*\*\* | 0.33\*\*\* | 0.33\*\*\* | 0.33\*\*\* | 0.33\*\*\* | 0.33\*\*\* |
|  | [0.26,0.41] | [0.26,0.41] | [0.26,0.41] | [0.26,0.41] | [0.26,0.40] | [0.26,0.40] | [0.26,0.41] | [0.26,0.40] | [0.26,0.40] |
| Left-right placement (left) | 0.34\*\*\* | 0.31\*\*\* | 0.30\*\*\* | 0.31\*\*\* | 0.30\*\*\* | 0.33\*\*\* | 0.34\*\*\* | 0.23\*\*\* | 0.31\*\*\* |
|  | [0.26,0.42] | [0.23,0.40] | [0.20,0.39] | [0.23,0.39] | [0.21,0.38] | [0.24,0.41] | [0.26,0.42] | [0.12,0.34] | [0.22,0.40] |
| Fossil fuel dependency | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* | 0.26\*\*\* |
|  | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] | [0.21,0.30] |
| Energy too costly | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* | -0.31\*\*\* |
|  | [-0.36,-0.27] | [-0.36,-0.27] | [-0.36,-0.27] | [-0.36,-0.27] | [-0.36,-0.27] | [-0.36,-0.27] | [-0.36,-0.27] | [-0.36,-0.27] | [-0.36,-0.27] |
| Political interest | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* | 0.14\*\*\* |
|  | [0.09,0.19] | [0.09,0.19] | [0.09,0.19] | [0.09,0.19] | [0.09,0.19] | [0.09,0.19] | [0.09,0.19] | [0.09,0.19] | [0.09,0.19] |
| Gender (female) | 0.10\*\* | 0.10\*\* | 0.10\*\* | 0.10\*\* | 0.10\*\* | 0.10\*\* | 0.10\*\* | 0.10\*\* | 0.10\*\* |
| Agea | [0.03,0.17] | [0.03,0.16] | [0.03,0.16] | [0.03,0.16] | [0.03,0.16] | [0.03,0.16] | [0.03,0.16] | [0.03,0.16] | [0.03,0.17] |
| 30-60 years | -0.34\*\*\* | -0.34\*\*\* | -0.34\*\*\* | -0.34\*\*\* | -0.34\*\*\* | -0.34\*\*\* | -0.34\*\*\* | -0.34\*\*\* | -0.34\*\*\* |
|  | [-0.48,-0.20] | [-0.48,-0.21] | [-0.48,-0.20] | [-0.48,-0.20] | [-0.47,-0.20] | [-0.48,-0.20] | [-0.48,-0.20] | [-0.47,-0.20] | [-0.47,-0.20] |
| 61-105 years | -0.38\*\*\* | -0.38\*\*\* | -0.37\*\*\* | -0.37\*\*\* | -0.37\*\*\* | -0.37\*\*\* | -0.37\*\*\* | -0.37\*\*\* | -0.37\*\*\* |
| Educationb | [-0.50,-0.25] | [-0.51,-0.25] | [-0.50,-0.24] | [-0.50,-0.24] | [-0.50,-0.24] | [-0.50,-0.24] | [-0.50,-0.25] | [-0.50,-0.24] | [-0.50,-0.24] |
| Secondary | 0.11\*\* | 0.11\*\* | 0.11\*\* | 0.11\*\* | 0.11\*\* | 0.11\*\* | 0.11\*\* | 0.11\*\* | 0.11\*\* |
|  | [0.03,0.19] | [0.03,0.19] | [0.03,0.19] | [0.03,0.19] | [0.03,0.19] | [0.03,0.19] | [0.03,0.19] | [0.03,0.19] | [0.03,0.19] |
| Tertiary | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* | 0.36\*\*\* |
|  | [0.26,0.45] | [0.26,0.45] | [0.26,0.45] | [0.27,0.45] | [0.26,0.45] | [0.26,0.45] | [0.26,0.45] | [0.27,0.45] | [0.26,0.45] |
| Household income | 0.03\*\*\* | 0.03\*\*\* | 0.04\*\*\* | 0.03\*\*\* | 0.03\*\*\* | 0.03\*\*\* | 0.03\*\*\* | 0.04\*\*\* | 0.04\*\*\* |
| *Level 2* | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] | [0.02,0.05] |
| Regional GDP | 0.15\*\*\* | 0.15\*\*\* | 0.16\*\*\* | 0.16\*\*\* | 0.14\*\*\* | 0.17\*\*\* | 0.15\*\*\* | 0.16\*\*\* | 0.16\*\*\* |
|  | [0.10,0.21] | [0.10,0.20] | [0.11,0.21] | [0.11,0.22] | [0.09,0.19] | [0.11,0.22] | [0.10,0.21] | [0.10,0.22] | [0.11,0.22] |
| Impartiality tax authorities | 0.12 |  |  |  |  |  |  |  |  |
|  | [-0.02,0.26] |  |  |  |  |  |  |  |  |
| Corruption public school system |  | 0.12 |  |  |  |  |  |  |  |
| Corruption public health care system |  | [-0.10,0.34] | -0.01 |  |  |  |  |  |  |
| Corruption police force |  |  | [-0.25,0.23] | 0.09 |  |  |  |  |  |
| Need corruption |  |  |  | [-0.12,0.29] | 0.12 |  |  |  |  |
| Greed corruption |  |  |  |  | [-0.08,0.32] | 0.09 |  |  |  |
| Corruption elections |  |  |  |  |  | [-0.12,0.30] | 0.06 |  |  |
|  |  |  |  |  |  |  | [-0.10,0.23] |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Model 10 | Model 11 | Model 12 | Model 13 | Model 14 | Model 15 | Model 16 | Model 17 | Model 18 |
| Paid bribe in past 12 months |  |  |  |  |  |  |  | -0.02 |  |
|  |  |  |  |  |  |  |  | [-0.24,0.19] |  |
| Asked to pay bribe in last 12 months |  |  |  |  |  |  |  |  | -0.06 |
|  |  |  |  |  |  |  |  |  | [-0.27,0.16] |
| *Cross-level interactions* |  |  |  |  |  |  |  |  |  |
| Impartiality tax authorities\*  Left-right placement | 0.05  [-0.01,0.11] |  |  |  |  |  |  |  |  |
| Corruption school system\*  Left-right placement |  | 0.12\* [0.02,0.21] |  |  |  |  |  |  |  |
| Corruption public health care\*  Left-right placement |  |  | 0.15\*\* [0.05,0.25] |  |  |  |  |  |  |
| Corruption police force\*  Left-right placement |  |  |  | 0.13\*\* [0.04,0.22] |  |  |  |  |  |
| Need corruption\*  Left-right placement |  |  |  |  | 0.16\*\*\* [0.07,0.24] |  |  |  |  |
| Greed corruption\*  Left-right placement |  |  |  |  |  | 0.12\*\* [0.03,0.20] |  |  |  |
| Corruption elections\*  Left-right placement |  |  |  |  |  |  | 0.06  [-0.02,0.14] |  |  |
| Paid bribe in past 12 months\*  Left-right placement |  |  |  |  |  |  |  | 0.26\*\*\* [0.11,0.42] |  |
| Asked to pay bribe in last 12 months\*  Left-right placement |  |  |  |  |  |  |  |  | 0.10  [-0.01,0.22] |
| Cut 1 | 0.70\* | 0.64\* | 0.66\* | 0.83\* | 0.66\* | 0.84\* | 0.60 | 0.67\* | 0.67\* |
|  | [0.10,1.30] | [0.05,1.22] | [0.06,1.26] | [0.18,1.48] | [0.08,1.25] | [0.19,1.50] | [-0.00,1.20] | [0.07,1.27] | [0.06,1.28] |
| Cut 2 | 2.15\*\*\* | 2.08\*\*\* | 2.11\*\*\* | 2.28\*\*\* | 2.11\*\*\* | 2.29\*\*\* | 2.05\*\*\* | 2.12\*\*\* | 2.12\*\*\* |
|  | [1.54,2.75] | [1.49,2.68] | [1.50,2.71] | [1.63,2.93] | [1.52,2.70] | [1.63,2.95] | [1.44,2.66] | [1.51,2.73] | [1.50,2.73] |
| Cut 3 | 3.14\*\*\* | 3.08\*\*\* | 3.10\*\*\* | 3.27\*\*\* | 3.11\*\*\* | 3.29\*\*\* | 3.05\*\*\* | 3.12\*\*\* | 3.11\*\*\* |
|  | [2.53,3.76] | [2.48,3.68] | [2.48,3.72] | [2.61,3.94] | [2.50,3.71] | [2.62,3.95] | [2.43,3.67] | [2.50,3.74] | [2.49,3.74] |
| Cut 4 | 5.09\*\*\* | 5.03\*\*\* | 5.05\*\*\* | 5.22\*\*\* | 5.05\*\*\* | 5.23\*\*\* | 4.99\*\*\* | 5.06\*\*\* | 5.06\*\*\* |
|  | [4.46,5.71] | [4.41,5.64] | [4.42,5.68] | [4.55,5.89] | [4.44,5.66] | [4.55,5.91] | [4.36,5.62] | [4.44,5.69] | [4.42,5.70] |
| *Random effects* |  |  |  |  |  |  |  |  |  |
| Var(Left-right placement) | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.03\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* | 0.04\*\*\* |
|  | [0.02,0.06] | [0.02,0.06] | [0.02,0.06] | [0.02,0.06] | [0.01,0.05] | [0.02,0.06] | [0.02,0.06] | [0.02,0.05] | [0.02,0.06] |
| *N* | 20433 | 20433 | 20433 | 20433 | 20433 | 20433 | 20433 | 20433 | 20433 |

Comments: Multilevel ordered logit models estimated using Stata’s *meologit* command. All regional QoG items are standardized. Regional-GDP is log-transformed. Left-right placement and environmental values are dummy variables. a Reference category: ‘15-29 years,’ b Reference category: ‘Primary.’ Country dummies are included in all of the models, but they are not reported in the table. 95% confidence intervals in brackets. Source: European Social Survey 2016; European Quality of Government Index 2017. \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001.