Beliefs about Climate Action Consequences under Weak Global Institutions: Sectors, Home Bias, and International Embeddedness

—Supplementary Appendix—

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A1 Descriptive Statistics

Variable	Levels	n	%	∑%
Gender	Male	531	48.0	48.0
(n=1105)	Female	570	51.6	99.6
	Other	4	0.4	100.0
Age	<20 years	38	3.4	3.4
(n=1106)	21-30 years	214	19.4	22.8
	31-40 years	213	19.3	42.1
	41-50 years	193	17.4	59.5
	51-60 years	229	20.7	80.2
	61-70 years	196	17.7	97.9
	>71 years	23	2.1	100.0
Residence	England	937	84.7	84.7
(n=1106)	Wales	55	5.0	89.7
	Scotland	96	8.7	98.4
	Northern Ireland	18	1.6	100.0
GOR region England	North East	40	4.3	4.3
(n=937)	North West	120	12.8	17.1
	Yorkshire and the Humber	112	11.9	29.0
	East Midlands	64	6.8	35.9
	West Midlands	100	10.7	46.5
	East of England	86	9.2	55.7
	London	138	14.7	70.4
	South East	176	18.8	89.2
	South West	101	10.8	100.0
Education	None	19	1.7	1.7
(n=1106)	GCSE	177	16.0	17.7
	A-levels	289	26.1	43.9
	BA/BSc degree	417	37.7	81.5
	MA/MSc degree	140	12.7	94.2
	PhD/MD degree	33	3.0	97.2
	Other	31	2.8	100.0
Income	<£20,000	249	22.5	22.5
(n=1106)	£20,000-30,000	216	19.5	42.0
	£30,001-40,000	192	17.4	59.4
	£40,001-50,000	127	11.5	70.9
	£50,001-60,000	112	10.1	81.0
	£60,001-70,000	68	6.2	87.2
	£70,001-100,000	51	4.6	91.8
	>£100,000	26	2.4	94.1
	Prefer not to say	65	5.9	100.0
Employment sector	Finance/banking	39	3.5	3.5
(n=1106)	IT	81	7.3	10.8
	Construction	30	2.7	13.6
	Energy, oil, and gas	4	0.4	13.9
	Public sector	67	6.1	20.0
	Healthcare	87	7.9	27.9
	Manufacturing	42	3.8	31.6
	Wholesale and retail	73	6.6	38.2
	Transportation/logistics	41	3.7	42.0
	Education	111	10.0	52.0
	Other	237	21.4	73.4
	Unemployed	110	9.9	83.4
	Retired	167	15.1	98.5
	Prefer not to say	17	1.5	100.0

Table A1: *Descriptive Statistics.* Basic information for demographic variables.

Variable	**Levels**	**n**	%	∑%
Political ID	Very left wing	51	4.6	4.6
(n=1106)	Fairly left wing	198	17.9	22.5
	Center left	260	23.5	46.0
	Center	336	30.4	76.4
	Center right	194	17.5	93.9
	Fairly right wing	63	5.7	99.6
	Very right wing	4	0.4	100.0
Voted in 2017 election	Yes	902	81.6	81.6
(n=1106)	No	183	16.6	98.1
	Prefer not to say	21	1.9	100.0
Party in 2017 election	Conservative Party	266	29.5	29.5
(n=901)	Labour	368	40.8	70.4
	SNP	43	4.8	75.1
	Liberal Democrats	104	11.5	86.7
	DUP	6	0.7	87.3
	Green Party	58	6.4	93.8
	UKIP	41	4.5	98.3
	Plaid Cymru	8	0.9	99.2
	Other	7	0.8	100.0
Party close to own attitude	Conservative Party	174	15.7	15.7
(n=1106)	Labour	304	27.5	43.2
	SNP	37	3.4	46.6
	Liberal Democrats	198	17.9	64.5
	Change UK	8	0.7	65.2
	DUP	3	0.3	65.5
	Green Party	118	10.7	76.1
	Brexit	80	7.2	83.4
	UKIP	17	1.5	84.9
	Plaid Cymru	5	0.4	85.3
	Other	7	0.6	86.0
	None	155	14.0	100.0
UK should leave EU	Leave	354	32.0	32.0
(n=1106)	Remain	663	60.0	92.0
	Not sure	89	8.1	100.0
Future of Commonwealth	Weaken ties	56	5.1	5.1
(n=1106)	Neither/nor	289	26.1	31.2
	Strengthen ties	608	55.0	86.2
	Don't know	153	13.8	100.0
International travels during last year	Never	444	40.1	40.1
(n=1106)	Once	315	28.5	68.6
	Twice	206	18.6	87.2
	Three times	68	6.2	93.4
	More travels	73	6.6	100.0

Table A2: *Descriptive Statistics.* Basic information for political variables.

Variable	n	Min	Median	Mean	Max	#NA
Climate change variables						
Climate change is serious problem	1106	1	1	1.5	4	0
Concerned about climate change	1106	1	3	3.0	4	0
UK performance on climate change	1054	1	2	2.3	4	52
Developed countries' performance on climate change	1027	1	2	2.0	4	79
Developing countries' performance on climate change	996	1	2	1.8	4	110
Heard about the Paris Agreement	1106	1	2	1.9	3	0
Outcome variables						
Industry wins from climate action	1106	1	2	2.4	4	0
UK winner from climate action	1106	1	2	2.5	4	0
Germany winner from climate action	1106	1	3	2.7	4	0
India winner from climate action	1106	1	2	2.1	4	0
Support for UK climate action	1106	1	4	3.4	4	0
Support for German climate action	1106	1	4	3.4	4	0
Support for Indian climate action	1106	1	4	3.4	4	0

Table A3: *Descriptive Statistics.* Basic information for climate change and outcome variables.

A2 Balance Table

Here, we present balance statistics for all our variables from section A1 above. We report p-values from difference-in-means tests of all four experimental groups relative to the control group means. For each variable, we correct p-values for multiple comparisons using the Benjamini-Hochberg correction. We show statistical significance in bold. As can be seen from the table, we get very good balance across virtually all variables.

Variable	**T1: UK sector wins**	**T2: UK sector loses**	**T3: German sector wins**	**T4: German sector loses**
DEMOGRAPHIC VARIABLES				
Gender	0.719	0.719	0.719	0.814
Age	0.878	0.879	0.879	0.879
Residence	0.985	0.985	0.985	0.985
GOR region England	0.095	0.095	0.095	0.095
Education	0.538	0.459	0.459	0.404
Income	0.341	0.794	0.341	0.341
Employment sector	0.387	0.361	0.995	**0.033**
POLITICAL VARIABLES				
Political ID	0.258	0.258	0.258	0.258
Voted in 2017 election	0.635	0.533	0.528	0.533
Party in 2017 election	0.805	0.805	0.805	0.805
Party close to own attitude	0.862	0.862	0.862	0.554
UK should leave EU	0.770	0.805	0.204	0.084
Future of Commonwealth	0.371	0.805	0.204	0.084
International travels during last year	0.671	0.671	0.671	0.671
CLIMATE CHANGE VARIABLES				
Climate change is serious problem	0.973	**0.020**	0.973	0.973
Concerned about climate change	0.997	0.595	0.997	0.997
UK performance on climate change	0.884	0.884	0.884	0.884
Developed countries' performance on climate change	0.781	0.781	0.781	0.781
Developing countries' performance on climate change	0.670	0.591	0.098	0.591
Heard about Paris Agreement	0.322	0.322	0.322	0.322

Table A4: *Balance Statistics.* The table shows p-values for difference-in-mean tests for all four experimental conditions relative to the control group. p-values are corrected for multiple comparisons for each variable using the Benjamini-Hochberg correction. Statistical significance is shown in bold.

A3 Main Results Tables

The paper presents our main results graphically, and we present results tables here. The first table A5 shows results for beliefs on climate action and the second table A6 shows results for the subgroup analysis by Brexit stance. We adjust p-values using the Benjamini-Hochberg correction for multiple comparisons (Benjamini and Hochberg, 1995).

		Belief: UK wins			Belief: Germany wins		
Condition	N	Mean	p-value	Effect	Mean	p-value	Effect
Control	221	2.43	—	—	2.76	—	—
T1: UK sector wins	223	2.79	**0.000**	+14.8%	3.00	**0.001**	+8.7%
T2: UK sector loses	220	2.29	0.143	−5.7%	2.55	**0.007**	−7.6%
T3: German sector wins	220	2.42	0.886	−0.4%	3.14	**0.000**	+13.7%
T4: German sector loses	222	2.36	0.504	−2.9%	2.13	**0.000**	−22.8%

Table A5: *Beliefs about Collective Economic Consequences from Climate Action for the UK and Germany.* The table shows group means for the belief that the UK and Germany win from climate action for each experimental condition. Adjusted p-values (Benjamini-Hochberg correction for multiple comparisons) are reported for testing the difference between the control group mean and each treatment group mean. Statistically significant differences at the 5% level are indicated in bold. The table also shows sample size by group and reports substantive effects of mean changes relative to the control group mean in percent.

	Leavers		Remainers		Difference	
Condition	N	Mean	N	Mean	Effect	p-value
Control	63	2.25	141	2.55	+13.3%	**0.030**
T1: UK sector wins	70	2.61	133	2.92	+11.8%	**0.030**
T2: UK sector loses	73	2.01	130	2.44	+21.3%	**0.003**
T3: German sector wins	73	2.30	131	2.46	+6.9%	0.244
T4: German sector loses	75	2.31	128	2.45	+6.0%	0.253

Table A6: *Beliefs about Collective Economic Consequences from Climate Action for the UK: Subgroup Analysis by International Embeddedness.* The table shows group means for the belief that the UK wins from climate action for each experimental condition, separately for Leavers (low international embeddedness) and Remainers (high international embeddedness). Adjusted p-values (Benjamini-Hochberg correction for multiple comparisons) are reported for testing the difference between the control group mean and each treatment group mean. Statistically significant differences at the 5% level are indicated in bold. The table also shows sample size by group and reports substantive effects of mean changes relative to the control group mean in percent.

A4 Results: Support for Climate Action

In the main paper, we discuss the effects of our experimental treatments on UK respondents' *beliefs*. Here, we present results for effects on *support* for climate action. Specifically, we asked respondents "How supportive are you of `country` taking strong climate action?", where `country` in each case was "the UK" and "another developed country like Germany".

As can be seen from Table A7 and Figure A1, baseline support for climate action is already high for the UK and Germany and does not really change much as a result of the treatments, except for the treatment text that portrays UK sectors as losers. This means that the observed changes we see in beliefs which we report in the main paper do not automatically translate into changes to support for ambitious climate action. This insight warrants future research on the conditions under which changes in beliefs map onto changes in policy support.

		Support: UK climate action			Support: German climate action		
Condition	N	Mean	p-value	Effect	Mean	p-value	Effect
Control	221	3.49	—	—	3.45	—	—
T1: UK wins	223	3.51	0.841	+0.5%	3.50	0.542	+1.4%
T2: UK loses	220	3.23	**0.001**	−7.4%	3.25	**0.018**	−5.8%
T3: Germany wins	220	3.44	0.615	−1.4%	3.49	0.542	+1.1%
T4: Germany loses	222	3.43	0.615	−1.7%	3.38	0.542	−2.0%

Table A7: *Policy Support from Climate Action in the UK and Germany.* The table shows group means for support for strong UK and German climate action for each experimental condition. Adjusted p-values (Benjamini-Hochberg correction for multiple comparisons) are reported for testing the difference between the control group mean and each treatment group mean. Statistically significant differences at the 5% level are indicated in bold. The table also shows sample size by group and reports substantive effects of mean changes relative to the control group mean in percent.

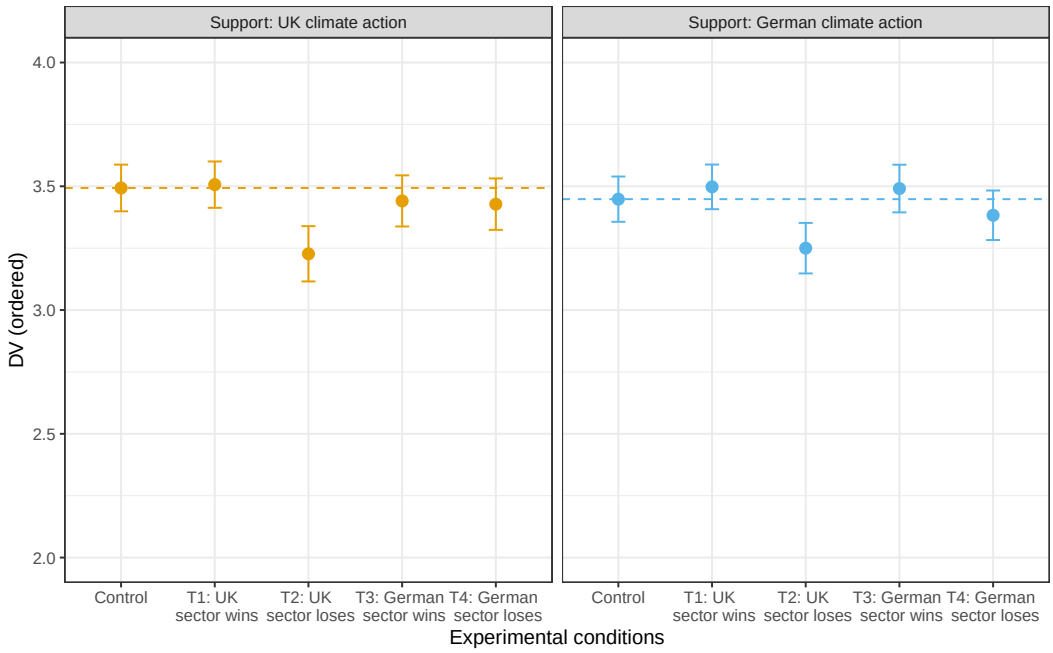

Figure A1: *Results Plot for Policy Support for Climate Action in the UK and Germany.* The plot shows point estimates and 95% confidence intervals for treatment effects of informational vignettes on policy support in the UK (left panel)/Germany (right panel). Dashed lines indicate control group means. Outcome variable: $1 - 4$ scale.

A5 Results: Analysis for Developing Countries

Our analysis in the main text focuses on beliefs about winners and losers in the UK and another developed country, such as Germany. In our survey, we also ask respondents whether they think *developing* countries, such as India, would win or lose from climate action. We offer a brief discussion of these results. There are two main take-away messages from Figure A2:

First, baseline support that India benefits from strong climate action (mean=2.10) is considerably smaller than for the UK (mean=2.43) and Germany (mean=2.76), with differences amounting to 14% and 24% lower levels. Second, our informational treatments do not affect whether respondents think of India as a winner or loser of climate action. The Benjamini-Hochberg adjusted p-values for the treatment means against the baseline are all above the 5% level of statistical significance.

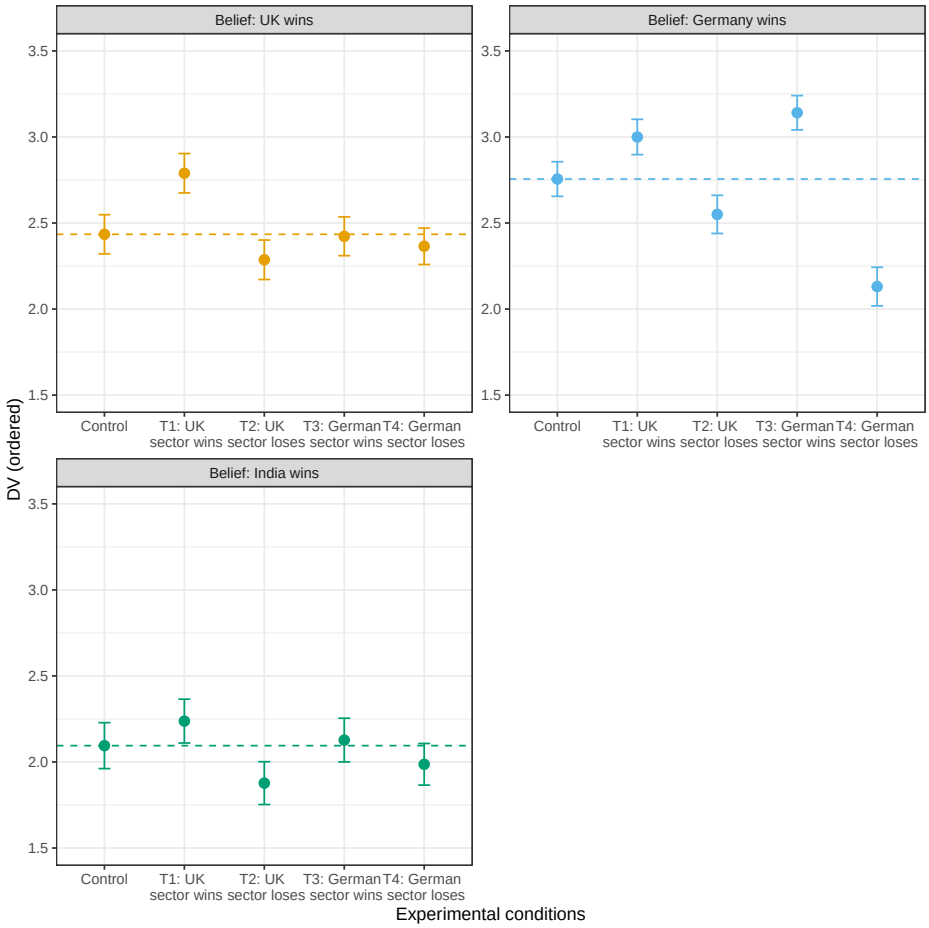

Figure A2: *Results Plot for Beliefs about Collective Economic Consequences from Climate Action for the UK, Germany, India.* The plot shows point estimates and 95% confidence intervals for treatment effects of informational vignettes on the belief that the UK (top left panel), Germany (top right panel), and India (bottom left panel) will win from ambitious climate policy. Dashed lines indicate control group means. Outcome variable: $1-4$ scale.

In terms of policy support, support for climate action is similar across the UK (3.23-3.51), Germany (3.25-3.50), and India (3.32-3.44), with no statistically significant differences.

A6 Results: Beliefs about Germany by Leavers/Remainers

In the main text, we focus on the effect of the respondents' Brexit stance on beliefs about the UK. This makes sense as Brexit is obviously the most divisive issue in British society for at least a decade. For completeness, we also report results from how someone's position on Brexit shapes beliefs about whether Germany wins or loses. These results are shown in the Table A8 and Figure A3 below. Findings are similar to those for beliefs about the UK in that Remainers consistently hold more positive beliefs. Differences across groups are however only significantly different for the control and T1 experimental groups.

	Leavers		Remainers		Difference	
Condition	N	Mean	N	Mean	Effect	p-value
Control	63	2.54	141	2.89	+13.7%	**0.006**
T1: UK wins	70	2.76	133	3.17	+14.8%	**0.002**
T2: UK loses	73	2.40	130	2.61	+8.7%	0.101
T3: Germany wins	73	3.04	131	3.23	+6.2%	0.101
T4: Germany loses	75	2.01	128	2.23	+10.9%	0.101

Table A8: *Beliefs about Collective Economic Consequences from Climate Action for Germany: Subgroup Analysis by International Embeddedness.* The table shows group means for the belief that Germany wins from climate action for each experimental condition, separately for Leavers (low international embeddedness) and Remainers (high international embeddedness). Adjusted p-values (Benjamini-Hochberg correction for multiple comparisons) are reported for testing the difference between the control group mean and each treatment group mean. Statistically significant differences at the 5% level are indicated in bold. The table also shows sample size by group and reports substantive effects of mean changes relative to the control group mean in percent.

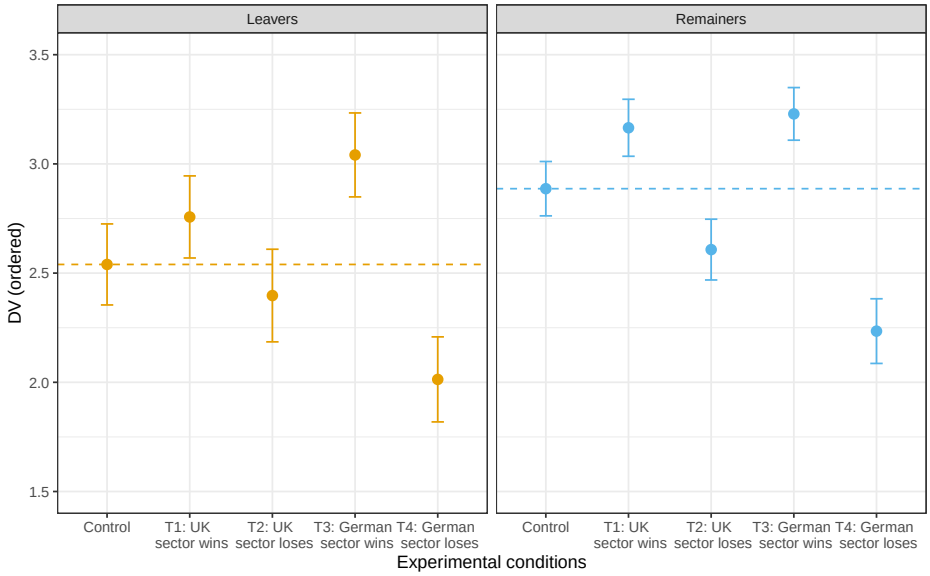

Figure A3: *Results Plot for Beliefs about Collective Economic Consequences from Climate Action for Germany: Subgroup Analysis by International Embeddedness.* The plot shows point estimates and 95% confidence intervals for treatment effects of informational vignettes on the belief that the UK will win from ambitious climate policy, separately for Leavers (low levels of embeddedness, left panel) and Remainers (high levels of embeddedness, right panel). Dashed lines indicate control group means. Outcome variable: $1-4$ scale.

A7 Heterogeneous Treatment Effects

In the following sections, we show additional analyses by subgroup. We provide results for these heterogeneous treatment effects separately when splitting the data by:

- sector employment;
- extractive industries;
- geography;
- wealth and income;
- party identification;
- sector attitudes;
- climate attitudes;
- education; and
- country performance on climate change

Notably, we are not so much interested whether the main treatment effects are statistically significant, that is, whether the mean of a particular treatment group is statistically different from the control group mean, but rather whether the *interaction* effect across groups is statistically significant. This gets at the question of whether responses to the treatment vignettes are statistically different across subgroups. These results cannot be read off the graphs we provide directly, but we report statistically significant interaction effects in each of the section texts.

A7.1 Subgroup: Sector Employment

Our main analysis finds that preferences around Brexit condition how respondents react to our informational treatments. An alternative explanation could be that the pattern we find is not driven by Brexit preferences but by material concerns about how well sectors perform in which respondents are employed once climate policy becomes more ambitious. To test for this relationship we use respondents' sectoral employment information and group them in high and low carbon intensive sectors. We place respondents in the highly carbon intensive sectors when they work in construction; energy, oil, and gas; manufacturing; or transportation. All other sectors, such as finance and banking; IT; public sectors; health care; wholesale and retail; and education are classified as low carbon intensive sectors. We exclude respondents not working in any of these sectors ($n = 237$), who are unemployed ($n = 110$), or retired ($n = 167$). Aside from this reduction in sample size to $n = 575$ observations, only few respondents work in highly carbon intensive sectors ($n = 117, 20\%$), which reduces the observations available per experimental condition for this subgroup.

While none of the differences across groups are statistically significant at conventional levels, Figure A4 also shows that respondents in highly carbon intensive sectors tend to respond negatively to any treatment, no matter whether it emphasizes the UK being on the winning or losing end. Obviously, standard errors are large. For the low carbon intensive sectors, we find that the produced pattern in the data is similar to the one we find for Brexit supporters rather than Remainers. This is reassuring for our argument as it rules out the possibility that the results which we attribute to Brexit preferences are simply driven by employment in low carbon sectors. This is despite a positive correlation between support for Brexit and employment in a carbon intensive sector ($\rho = 0.109, p < 0.0115$); the correlation is however not as strong as one might think initially.

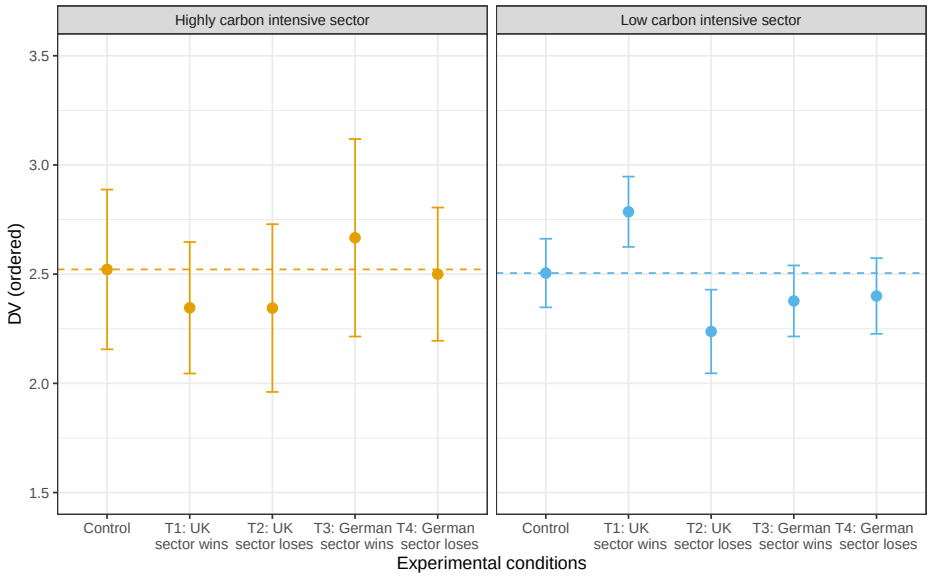

Figure A4: *Results Plot for Beliefs about Collective Economic Consequences from Climate Action for the UK: Subgroup Analysis by Sectoral Attitudes.* The plot shows point estimates and 95% confidence intervals for treatment effects of informational vignettes on the belief that the UK will win from ambitious climate policy, separately for those employed in high carbon intensive sectors (left panel) and those employed in low carbon intensive sectors (right panel). Dashed lines indicate control group means. Outcome variable: $1 - 4$ scale.

A7.2 Subgroup: Extractive Industries

As a next check, we test if respondents from former coal-mining regions (Figure A5) or oil/gas-extracting regions (Figure A6) respond differently to our informational treatments. Based on current and historic production, we classified the following regions, North East, North West, Yorkshire and the Humber, East Midlands, West Midlands, as well as Wales and Scotland, as coal-producing regions. For the oil and gas producing regions, we classified all regions on the UK's east coast, i.e., North East, East Midlands, East of England, for their importance to UK oil industry, together with the North West region for its gas deposits and Scotland as regions involved in the extractive industries.

Regions dependent on extractive industries, such as a coal, oil, and gas are likely to be hit much harder by ambitious climate policy, so these respondents may react more strongly to our informational treatments. We do however not find evidence that this expectation bears out. Except for T4 ($p < 0.026$), no group differences for the coal mining subgroup analysis exist, while none of the differences for the oil/gas producing subgroup analysis are statistically significant.

Based on descriptive patterns, however, it seems that respondents from regions that are vulnerable to ambitious climate policy show less home bias and respond to the foreign country treatments (T3/T4) in a similar way to the home country treatments (T1/T2), although effect sizes (as expected) are smaller.

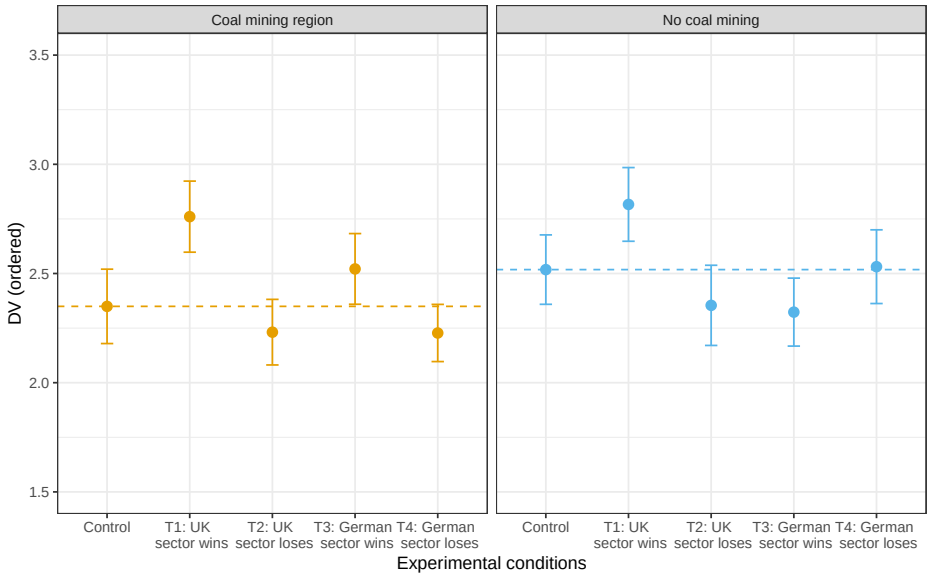

Figure A5: *Results Plot for Beliefs about Collective Economic Consequences from Climate Action for the UK: Subgroup Analysis by Coal Producing Regions.* The plot shows point estimates and 95% confidence intervals for treatment effects of informational vignettes on the belief that the UK will win from ambitious climate policy, separately for respondents living in coal producing regions (left panel) and those not living in coal producing regions (right panel). Dashed lines indicate control group means. Outcome variable: $1-4$ scale.

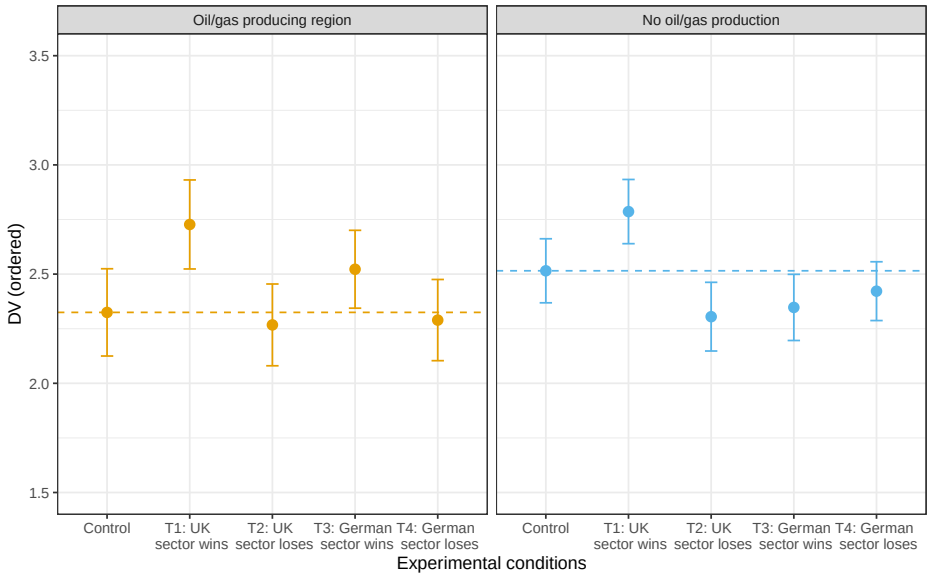

Figure A6: *Results Plot for Beliefs about Collective Economic Consequences from Climate Action for the UK: Subgroup Analysis by Oil/Gas Producing Regions.* The plot shows point estimates and 95% confidence intervals for treatment effects of informational vignettes on the belief that the UK will win from ambitious climate policy, separately for respondents living in oil/gas producing regions (left panel) and those not living in oil/gas producing regions (right panel). Dashed lines indicate control group means. Outcome variable: $1-4$ scale.

A7.3 Subgroup: Geography

In the main paper, we find evidence that Remainers and Leavers respond significantly differently to the treatments. While we attribute this difference to differences in Brexit preferences, one might be concerned that geographical differences are driving these results. To address these concerns, we present multiple tests to show that geography does generally not shape treatment effects in the way in which our Brexit subgroup analysis does. This makes us confident that our results on how Brexit preferences condition treatments is not just a result of geographical confounding.

The obvious limitation of this analysis is that it is based on respondents' location by region, so our data is not fine-grained enough to pick up on within regional variation.

A7.3.1 England versus Scotland

We first show in Figure A7 that there are no heterogeneous treatment effects for comparing English ($n = 937$) to Scottish ($n = 96$) respondents. Obviously, in a nationally representative sample (i.e., for respondents from Scotland), variation in estimates increases as group sizes per experimental condition become fairly small in the subgroups.

Descriptive results are nonetheless fascinating: Scottish respondents respond positively to all treatments, which likely reflects a generally more positive stance towards climate action, almost independent of distributional consequences.

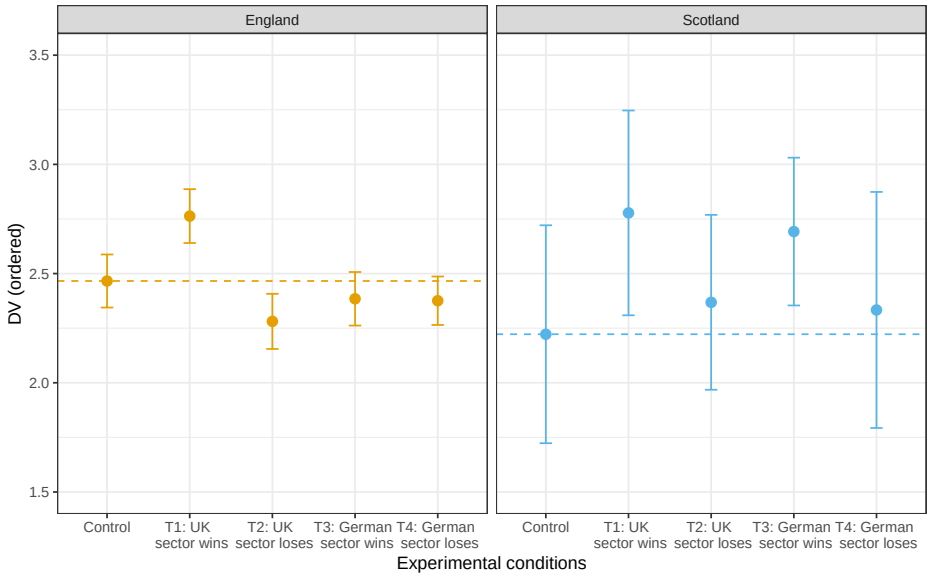

Figure A7: *Results Plot for Beliefs about Collective Economic Consequences from Climate Action for the UK: Subgroup Analysis for English and Scottish Respondents.* The plot shows point estimates and 95% confidence intervals for treatment effects of informational vignettes on the belief that the UK will win from ambitious climate policy, separately for respondents living in England (left panel) and those living in Scotland (right panel). Dashed lines indicate control group means. Outcome variable: $1 - 4$ scale.

A7.3.2 London versus non-London

We also split the sample by those English respondents living in London ($n = 138$) and those living outside of London ($n = 799$) to see if our results are driven by a 'capital' effect. Results in Figure A8 show that this is the case descriptively: for instance, the effect of the negative treatment T2, which is indistinguishable from the control group mean in our main analysis for Remainers, is also not distinguishable in the London subsample. None of the interaction effects of experimental condition and London dummy are however statistically significant.

There is also another interesting, descriptive pattern, which seems compatible with a 'competitive' logic more present in London: respondents respond positively to the treatment in which German sectors lose, but negatively to the treatment in which German sectors win. Notwithstanding large confidence intervals due to small by-group sample size, this is still an intriguing finding, which may reflect London's direct competition against Frankfurt in the financial sector, especially post-Brexit.

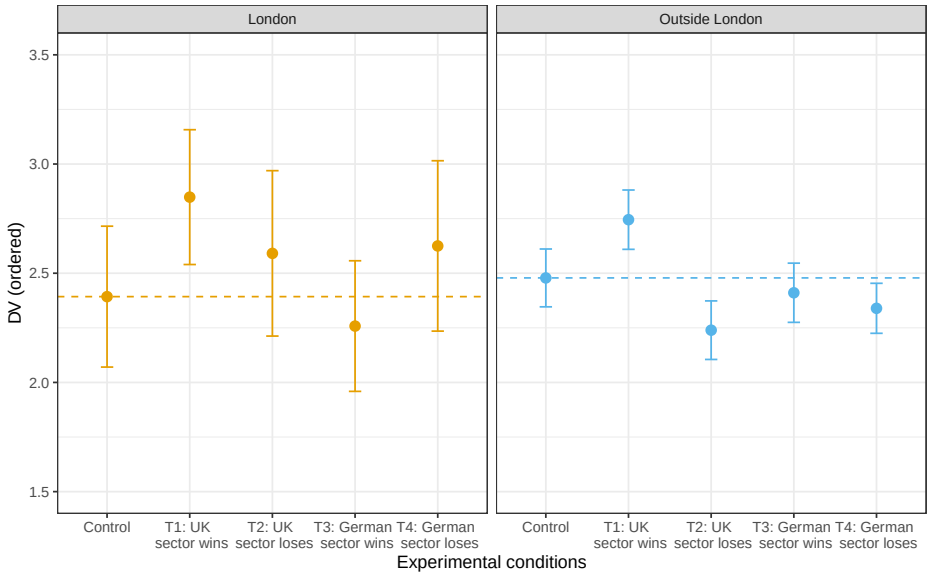

Figure A8: *Results Plot for Beliefs about Collective Economic Consequences from Climate Action for the UK: Subgroup Analysis for Londoners and non-Londoners.* The plot shows point estimates and 95% confidence intervals for treatment effects of informational vignettes on the belief that the UK will win from ambitious climate policy, separately for respondents living in London (left panel) and those not living in London (right panel). Dashed lines indicate control group means. Outcome variable: $1 - 4$ scale.

A7.3.3 North versus South

Additionally, we also checked geographical differences in economic wealth. For this, we split English respondents into those from relatively richer regions in the South of England (i.e., South East, South West, East of England, and London) and in the North of the country (i.e., North East, North West, Yorkshire and the Humber, East Midlands, West Midland). This classification is based on data from the Office for National Statistics (Wealth and Assets Survey), where regions classified as 'South' also fall above the country's median wealth levels and those classified as 'North' fall below it. Figure A9 demonstrates that there are no substantial differences in how treatments affect our outcome variable, except for the "Germany loses" treatment T4 ($p < 0.022$). None of the other differences are however statistically significant.

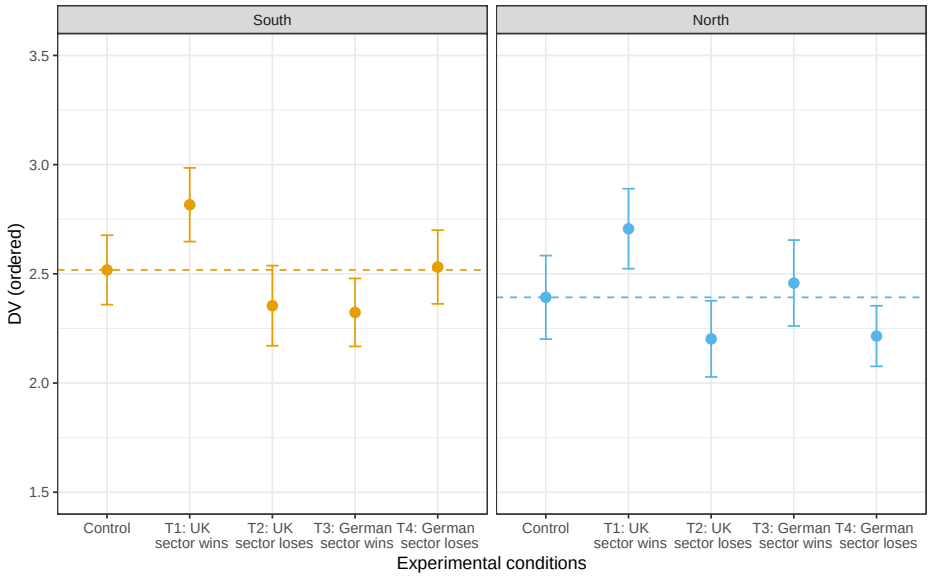

Figure A9: *Results Plot for Beliefs about Collective Economic Consequences from Climate Action for the UK: Subgroup Analysis for Richer Southern and Poorer Northern Regions.* The plot shows point estimates and 95% confidence intervals for treatment effects of informational vignettes on the belief that the UK will win from ambitious climate policy, separately for respondents living in the richer, Southern regions (left panel) and those living in poorer, Northern regions (right panel). Dashed lines indicate control group means. Outcome variable: $1-4$ scale.

A7.4 Subgroup: Income

An alternative consideration for the main results could be that the patterns we find in the data are a result of income differences, so we check whether income conditions our treatment effects. We do not find evidence for this as beliefs about winners and losers from climate action for respondents above and below the median income are not distinguishable from one another (Figure A10). The only statistically significant difference ($p < 0.027$) is in the control group, where richer respondents are more likely to think that the UK can benefit from climate action (mean=2.60) relative to those with below-median income (mean=2.26).

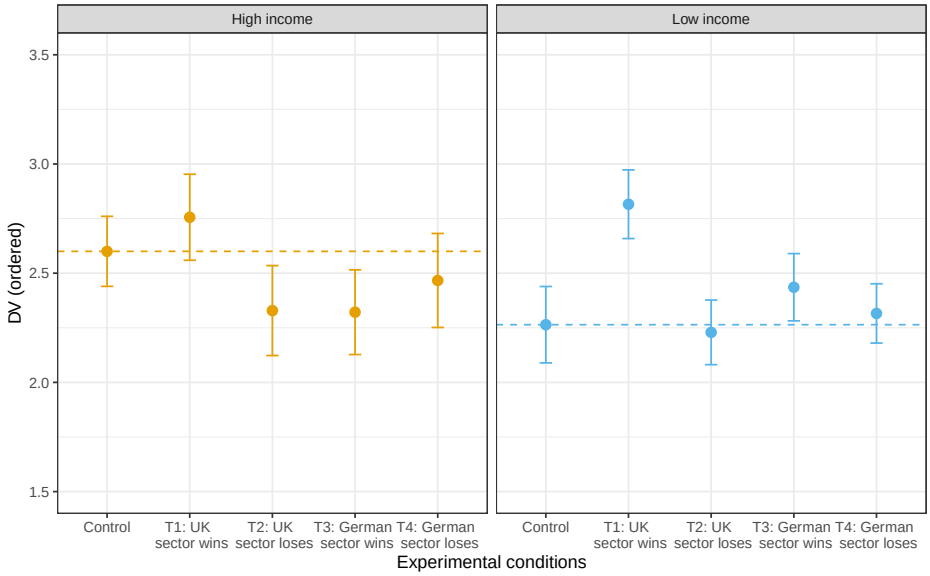

Figure A10: *Results Plot for Beliefs about Collective Economic Consequences from Climate Action for the UK: Subgroup Analysis by Income.* The plot shows point estimates and 95% confidence intervals for treatment effects of informational vignettes on the belief that the UK will win from ambitious climate policy, separately for respondents whose income is below (left panel) and above (right panel) median income levels. Dashed lines indicate control group means. Outcome variable: $1-4$ scale.

A7.5 Subgroup: Party Identification

In the main paper, we present results when splitting our sample by respondents' stance on Brexit. Since Brexit preferences are probably not independent with party affiliation, we present results when splitting respondents along the political spectrum into those who self-identify as left/center and right. Relative to our Brexit results, we see that there is much less discrimination on the left-right dimension. None of the differences between the two groups for each experimental conditions are statistically significant at the $\alpha = 0.05$ level.

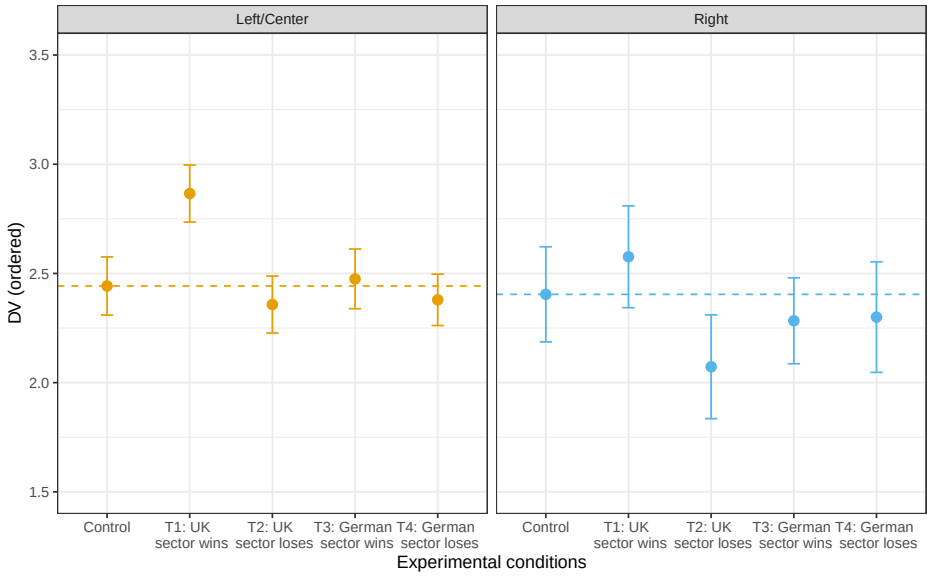

Figure A11: *Results Plot for Beliefs about Collective Economic Consequences from Climate Action for the UK: Subgroup Analysis by Party Identification.* The plot shows point estimates and 95% confidence intervals for treatment effects of informational vignettes on the belief that the UK will win from ambitious climate policy, separately for respondents on the left/center (left panel) and right (right panel) of the political spectrum. Dashed lines indicate control group means. Outcome variable: $1-4$ scale.

We do also not find a statistically significant difference between respondents who think the Conservative Party or Labour Party respectively are closest to their own political attitudes. This makes us confident that distinctions in Brexit stance are not simply another proxy for an underlying left-right dimension.

A7.6 Subgroup: Sector Attitudes

Aside from a respondent's *own* sectoral employment, we also analyze respondents' attitudes towards specific sectors. Before administering treatment, we asked respondents how they think major sectors in the UK, such as energy or transport will do if the government takes stringent climate action. We again use this information to split our respondents in those who think these sectors will do well and will not be severely affected by more stringent climate action and those who think they will do poorly.

Consistent with expectations, we find that respondents who believe that energy and transport sectors will be doing well, have a much more positive take on climate action (Figure A12). This finding holds for all experimental conditions, and the differences are highly significant ($p < 0.000$).

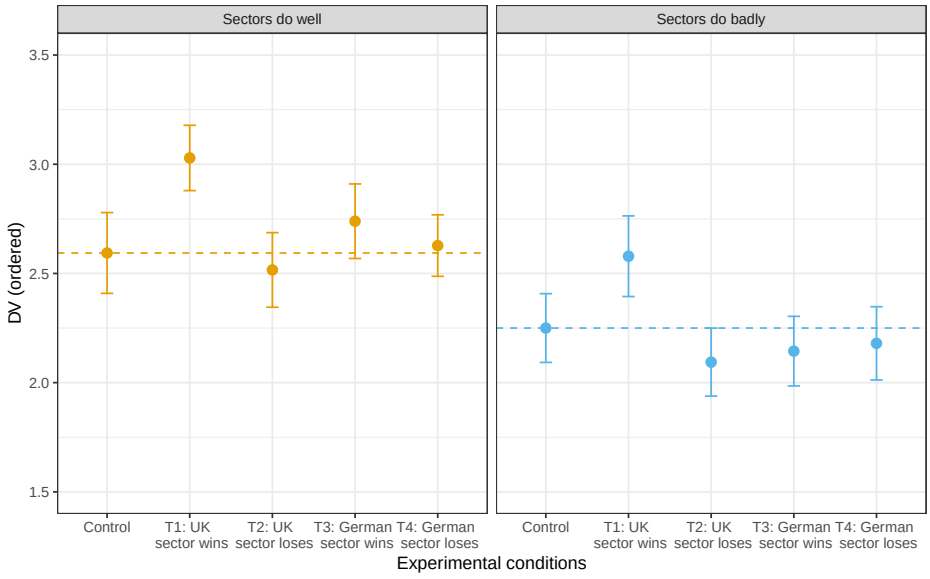

Figure A12: *Results Plot for Beliefs about Collective Economic Consequences from Climate Action for the UK: Subgroup Analysis by Sectoral Attitudes.* The plot shows point estimates and 95% confidence intervals for treatment effects of informational vignettes on the belief that the UK will win from ambitious climate policy, separately for respondents who think that major UK sectors, such as energy and transport, will do well (left panel) or poorly (right panel) if aggressive climate action is taken. Dashed lines indicate control group means. Outcome variable: $1-4$ scale.

We also asked respondents about their public transport use and their understanding of their gas and electricity bill. Grouping respondents into public transport users versus private transportation users and those who understand their gas and electricity bill well compared to those who do not does not produce systematic difference across groups, with one interesting exception: Transport users respond much more negatively to treatment T2 ($p < 0.003$) about the negative effects from climate action on the UK transport sector, highlighting the distributional nature of climate action.

A7.7 Subgroup: Climate Attitudes

Given that our outcome questions focus on distributional effects from climate change, we would expect that respondents' climate attitudes shape how they think about winners and losers. While the basic pattern of treatment effects is the same as in the full sample, group differences persist. Specifically, we find that those who think that climate change is a serious problem (Figure A13) and those who are concerned about the effects from climate change on their communities (Figure A14) have consistently higher beliefs that the UK can benefit from ambitious climate action. All these differences (except for T4 in Figure A14) are statistically significant at the 5% level.

We also checked whether knowing about the Paris Agreement does make a difference in beliefs about winning and losing from ambitious climate action. While we do not find any systematic differences, there is suggestive evidence that having heard about the Paris Agreement and knowing more about it does make respondents more attuned to the upside potential of climate action when they receive the treatment that highlights benefits from climate action (T2).

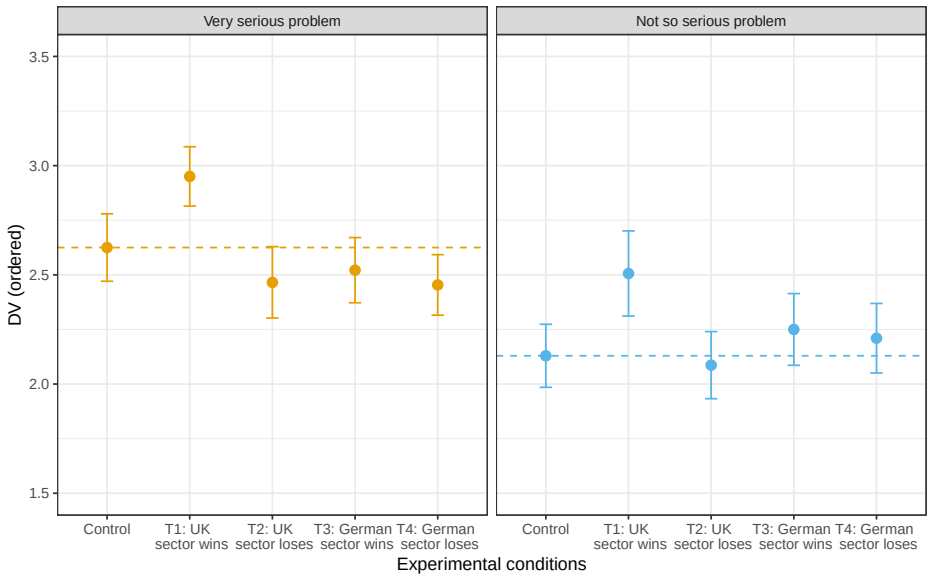

Figure A13: *Results Plot for Beliefs about Collective Economic Consequences from Climate Action for the UK: Subgroup Analysis by Climate Perception.* The plot shows point estimates and 95% confidence intervals for treatment effects of informational vignettes on the belief that the UK will win from ambitious climate policy, separately for respondents who think that climate change is a very serious problem (left panel) and those who think of it as a lesser issue (right panel). Dashed lines indicate control group means. Outcome variable: $1-4$ scale.

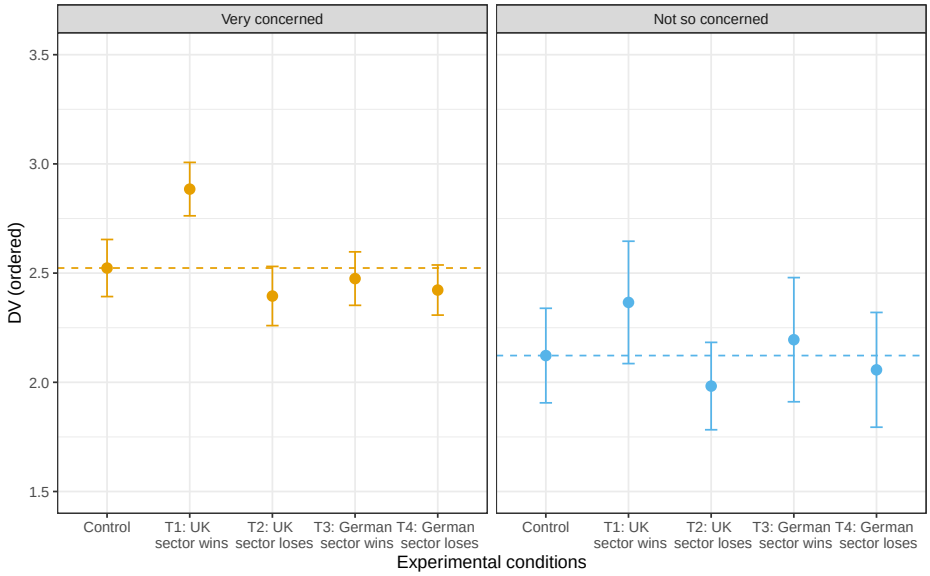

Figure A14: *Results Plot for Beliefs about Collective Economic Consequences from Climate Action for the UK: Subgroup Analysis by Climate Concern.* The plot shows point estimates and 95% confidence intervals for treatment effects of informational vignettes on the belief that the UK will win from ambitious climate policy, separately for respondents who are very/somewhat concerned about impacts from climate change (left panel) and those who are only concerned to a lesser degree, if at all (right panel). Dashed lines indicate control group means. Outcome variable: $1-4$ scale.

A7.8 Subgroup: Education

The economics literature finds that respondents with university degrees are more supportive of free trade, but not so much as a result of material consequences from free trade, but rather because during their studies they are trained to think about international trade in a particular way (Mansfield and Mutz, 2009). A similar argument could apply to climate politics. Maybe respondents with university education are socialized to be supportive of climate action. To tentatively 'test' for this argument, we split our sample into respondents without university degree and those who obtained at least a BA degree or higher. Figure A15 below shows that no statistically significant differences exist across groups. Descriptively, we do however find that respondents without an advanced degree respond more negatively to the "UK loses" treatment (T2) than those having attended higher education.

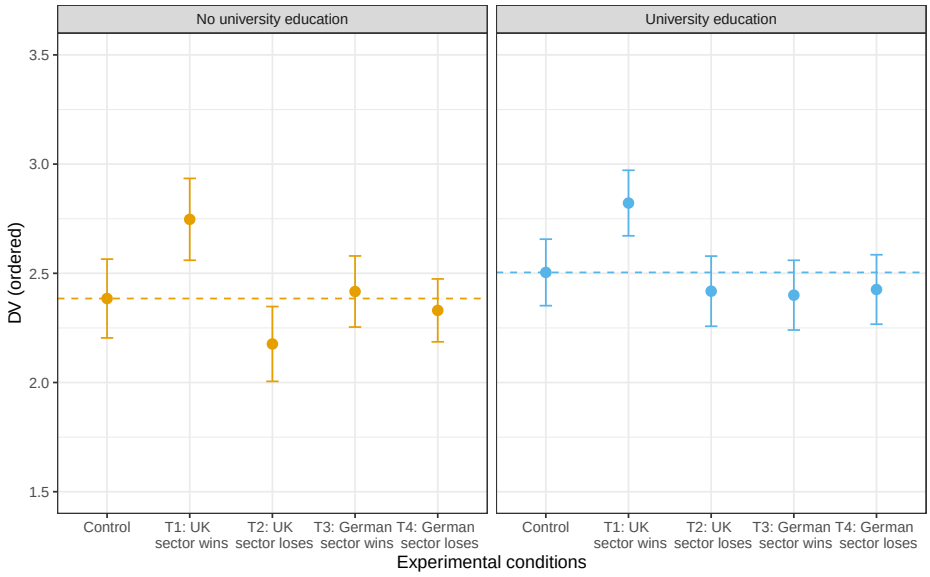

Figure A15: *Results Plot for Beliefs About Collective Economic Consequences from Climate Action for the UK: Subgroup by Education.* The plot shows point estimates and 95% confidence intervals for treatment effects of informational vignettes on the belief that the UK will win from ambitious climate policy, separately for low (left panel) and high education (right panel). Dashed lines indicate control group means. Outcome variable: $1-4$ scale.

A7.9 Subgroup: Country Performance on Climate Action

We do not only look at climate attitudes but also at how well respondents think countries perform when it comes to fighting climate change. We asked separately for the UK and developed countries more generally. We do not find any statistically significant differences across the groups of respondents who think the UK (Figure A16) and other developing countries (Figure A17) currently perform well versus those believing they do not. This may ultimately be a result that few respondents think the UK (40%) and other developing countries (22%) perform well on climate action.

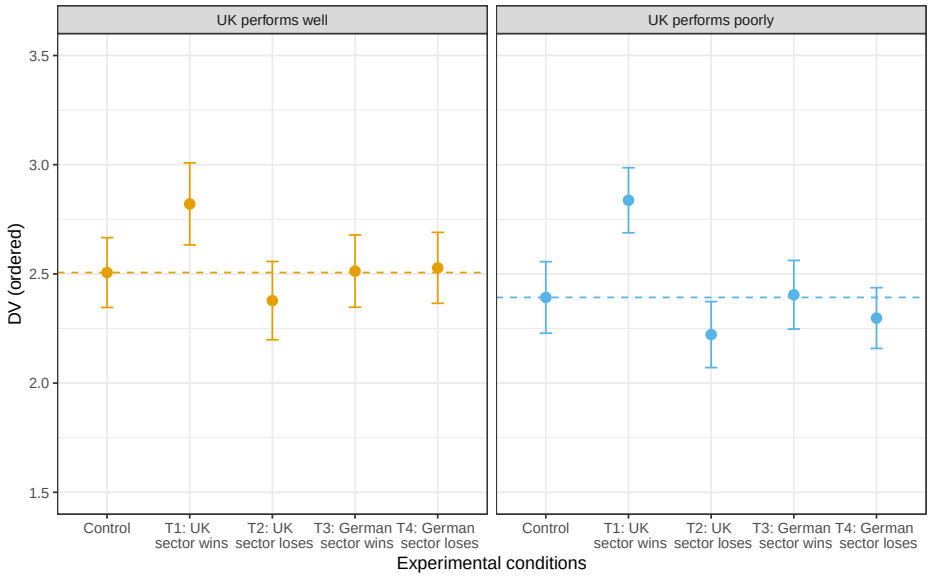

Figure A16: *Results Plot for Beliefs about Collective Economic Consequences from Climate Action for the UK: Subgroup Analysis by UK Performance on Climate Change.* The plot shows point estimates and 95% confidence intervals for treatment effects of informational vignettes on the belief that the UK will win from ambitious climate policy, separately for respondents who think the UK performs well (left panel) and those who think it performs poorly (right panel) on taking measures against climate change. Dashed lines indicate control group means. Outcome variable: $1-4$ scale.

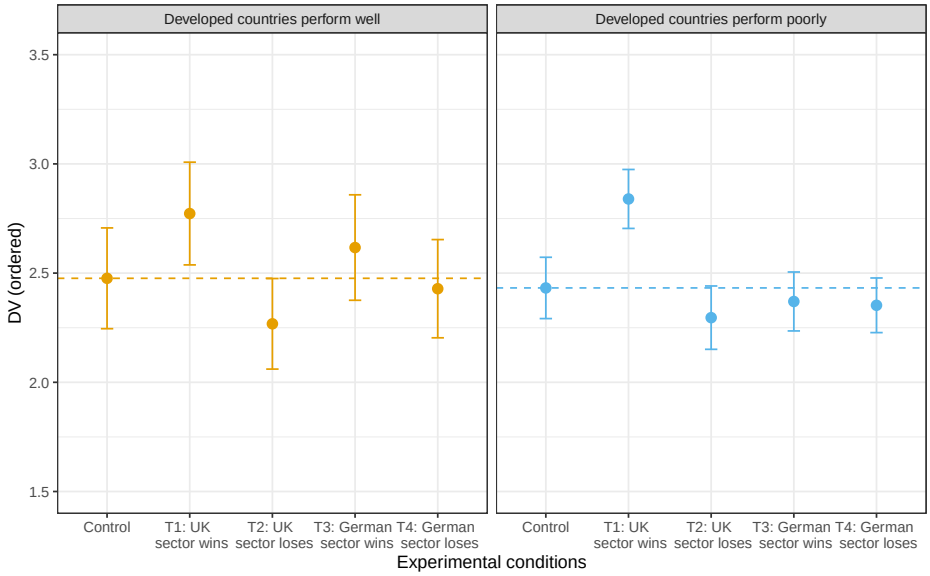

Figure A17: *Results Plot for Beliefs about Collective Economic Consequences from Climate Action for the UK: Subgroup Analysis by Developed Countries' Performance on Climate Change.* The plot shows point estimates and 95% confidence intervals for treatment effects of informational vignettes on the belief that the UK will win from ambitious climate policy, separately for respondents who think developed countries perform well (left panel) and those who think it performs poorly (right panel) on taking measures against climate change. Dashed lines indicate control group means. Outcome variable: $1-4$ scale.

Supplementary Appendix: References

Benjamini, Yoav, and Yosef Hochberg. 1995. "Controlling the False Discovery Rate: A Practical and Powerful Approach to Multiple Testing." *Journal of Royal Statistical Society. Series B (Methodological)* 57 (1): 289–300.

Mansfield, Edward D., and Diana C. Mutz. 2009. "Support for Free Trade: Self-interest, Sociotropic Politics, and Out-Group Anxiety." *International Organization* 63 (3): 425–457.