

ONLINE APPENDIX

Supplementary Explanations, Enhanced Versions of Text Tables, and Additional Tables and Figures

to accompany

Distal order effects in stated preference surveys

Attitudes as a function of list position for policy issues and responsible groups

Table A.1 is an enhanced version of Table 1 in the text of the paper. This table summarizes both the attitudinal responses to each question and the positions of each issue in Appendix Figure 1 or each group in Appendix Figure 3 on the survey screens containing these randomly ordered attitudinal questions. In this auxiliary analysis, we investigate how the relative positions of the attitudinal questions at the beginning of the survey affect responses to these same attitudinal questions, controlling for a wide variety of individual respondent characteristics. The question order is randomized, so it will be uncorrelated with any of these individual characteristics. However, these additional controls serve to reduce the unexplained variance in the estimated specification and thus to increase the precision with which these order effects can be estimated.

Note that if order effects upon attitudinal responses do exist, the response to any given question may vary with the placement of that question among the others on the survey screen. However, it may also vary with the relative placement of other questions on the same screen. These placements also implicitly frame the context within which individuals will consider later questions on subsequent screens of the survey, include the key question concerning policy choice and thus willingness-to-pay. The ordering decisions made by the survey's designer can lead the respondent to rethink his or her attitudes, either consciously or unconsciously. This behavior can be referred to as a "context effect," as in Colasanto et al. (1992).

To examine how a question's position in a list affects stated attitudes, we estimate some simplified probit models, where each "attitude" is converted into a binary indicator, either 1(*high*) in the case of the different global policy problems (presented in Figure 1), or 1(*agree*) in the case of statements about responsibility for the costs of climate change mitigation (as

presented in Figure 3). These binary indicators are used as dependent variables. Generically, these models can be specified as follows:

$$ATTITUDE_i^* = \alpha + \sum_{j=1}^m \beta_j POSITION_j + \beta_i Z_i + \varepsilon_i \quad (1)$$

The implicit dependent variable in this equation, $ATTITUDE_i^*$, is a continuous latent variable capturing the respondent's propensity to rate the global policy problem in question as a high priority (equivalently, his/her propensity to agree with the responsibility of the group in question to bear the costs of climate change mitigation). The corresponding observable variables are the 1(*high*) indicator for the policy priority question and the 1(*agree*) indicator for each of the statements about the responsibility of different groups to bear the costs of climate change mitigation. $POSITION_j$ is a simple integer count variable which denotes the position in the relevant list of global policy problem j or payer group j (where a value of 1 indicates the first position and higher values indicate that the item was further down the list). The vector Z_i includes a selection of respondent characteristics as summarized in Appendix Table A.2.¹

1. *The global policy priorities questions*

Table A.3 reveals evidence of order effects in respondents' answers to the question concerning the extent to which the respondent believe that climate change is a policy priority. Recall that each of these models includes the long list of individual sociodemographic characteristics listed in Table A.2 as additional controls. "Preventing wars" is the omitted category among the list of global policy issues. We concentrate here on only the "preventing climate change" issue, since it is most important to this research.

¹ Each characteristic enters in a simple linear additive form as a control; the slope coefficients on these variables are not reported here. Results are available from the authors. Note, however, that since the positions in each of the three lists were randomly assigned, there should be no correlation between any of the position variables and any individual characteristics, and thus no omitted variables bias even if these controls were to be omitted.

The positions in the list of three different global policy problems appear to have a significant effect on responses. Most importantly, when “preventing climate change” is placed earlier on the list (i.e. when its “position” takes on a smaller value), respondents are significantly more likely to indicate that climate change is a high policy priority for them (indicated in bold). This result is hardly surprising. Less intuitive, however, is the fact that climate change also appears to be more likely to be rated as a high policy priority when “improving food safety” and “improving education” are placed earlier in the list. Although we do not have a ready explanation for this pattern of behavior, it is an important question how the context of questions about climate change can influence people’s opinions about the issue.²

2. *Questions about responsibility to bear mitigation costs*

We estimate an analogous set of probit models to explain respondents’ propensities to agree with assertions about the responsibility of different categories of domestic payers to bear the costs of climate change mitigation. Again, Figure 3 shows an example of this survey screen, where these questions appear in the top section. Table A.4 presents the results for six models are shown, since we are interested in the effects of order on each of the six different ratings of responsibility (a key to the categories of payers is included at the bottom of the table).³ Many coefficients are significant, which suggest the presence of order effects. The “own-effects” are indicated in bold. When a statistically significant “own-effects” coefficient is negative, this implies that an earlier placement makes respondents more likely to “agree” with this payer’s responsibility. For instance, an earlier placement of “industry” (Group B) increases the chance that the respondent will “agree” that industry should be responsible for paying the cost of climate

² Order effects from the initial global policy priority question may subside during the course of the survey, especially since it became apparent to respondents after the initial “global policy question” that this particular survey would be entirely about climate change.

³ One must remember that one of the positions is completely defined once the other positions are set (i.e. “government” is the left-out category).

change mitigation; an earlier placement of “individual taxpayers” (Group C) increases the probability that the respondent would “agree” that individual taxpayers should be responsible for the cost of climate change mitigation.

There are also four cases where the position of some *other* group in the list appears to have a statistically significant effect in the respondents’ propensity to agree with a given group’s responsibility. Again, it is an open question why these other patterns emerge. However, the default implicit assumption in almost every nonmarket study involving survey methods would be that these effects, as well as the own-effects, are all zero. Clearly, this is not the case.

Finally, in Table A.5, we consider the effects of list position on the propensity of respondents to agree with the responsibility of each of seven types of international country groups to bear the cost of climate change mitigation. These questions appear at the bottom of Figure 3. Negative estimates along the bold-faced diagonal again convey that an earlier position for the country group in question increases the respondent’s propensity to agree that the group in question bears a responsibility, and such negative coefficients would be what we expect.

Here, however, we find statistically significant *positive* estimates for the own-order effects for the US and its major trading partners (Group I), developing countries (Group J), and densely populated countries, like India and China (Group K). A number of other position variables for these international country groups can also be seen to have significant effects on attitudes about their responsibility to bear climate change mitigation costs.. For instance, a later position for “industrialized countries” (Group H) makes respondents more likely to “agree” that the US and its major trade partners (Group I) should bear the cost. These patterns again raise interesting psychological questions.⁴ They may also suggest that proximal order effects in this

⁴ In Table A.5, “smaller developing countries” (Group M) is the left-out category.

case could have a countervailing effect on estimated cost share coefficients in the eventual policy-choice questions later in the survey.

3. *The climate change mitigation policy choice questions*

Table A.6 reviews some of the qualitative findings from Cai et al. (2009). Table A.7 provides an enhanced version of Table 2 in the paper, where the featured climate impact in the additional Model 3 is Ecosystems and in Model 4 is Equity. The interaction term the cost share paid by “India and China” with the position of India and China among the attitude elicitation questions,” is significant only in the specification in Model 3, which features the anticipated Ecosystems impacts of climate change. The positive sign on its coefficient again suggests the presence of order effects. Interestingly, however, this positive sign implies that if a person sees an earlier placement of “India and China” among the attitude questions about responsibility for costs in Figure 3, he/she would derive *less* utility from policies that require “India and China” to pay a higher share. As noted with respect to the attitude models in Table A.4, the evidence suggests that an earlier placement of “densely populated countries like India and China” (Group K) would less likely lead to a response of “agree” with respect to whether these countries (Group K) should bear the cost. Our previous work shows that those who “agree” that these countries should pay the cost seem to derive a higher utility when higher cost shares are actually borne by these countries. Therefore, if the ordering of international payers in preliminary questions alter people’s subjective attitudes toward the responsibility of these payers it is not surprising that those who saw a later placement of “densely populated countries” derive higher utility when greater shares are paid by these countries. Given these patterns, the estimated coefficient is consistent with our expectations. However, this effect is significant only at the 10% level, and is not robust across Models 1 and 4 in Table A.7.

Table A.1. (Enhanced version of Table 1 in the paper). Descriptive statistics for responses to preliminary attitudinal questions; randomly assigned list positions of issues or groups across respondents; voting choices (n=)

	<u>Responses to preliminary attitudinal questions</u>		<u>Number of position in order of issues or groups</u>	
<i>Society cannot afford to fix all policy problems, so we have to decide upon priorities. What are your personal relative priorities?</i>	Proportion	Proportion	Mean	Std. Dev.
	<u>1(high)^a</u>	<u>1(low)</u>	<u>Range: from 1st to 11th</u>	
Preventing climate change	0.453	0.308	6.055	3.169
Reducing poverty and hunger	0.668	0.151	5.984	3.168
Improving education	0.817	0.071	5.961	3.193
Reducing violent crime	0.681	0.133	6.087	3.187
Protecting endangered species	0.549	0.229	6.028	3.152
Reducing nuclear threats	0.551	0.254	5.907	3.164
Improving food safety	0.478	0.277	6.052	3.166
Improving health	0.707	0.112	6.019	3.174
Reducing race/ethnic tensions	0.547	0.228	5.988	3.152
Cleaning up the environment	0.747	0.090	5.928	3.182
Preventing wars	0.622	0.186	5.991	3.082
<i>In your own country, responsibility for prevention costs should belong to:</i>	<u>1(agree)^a</u>	<u>1(disagree)</u>	<u>Range: from 1st to 6th</u>	
Consumers	0.688	0.166	3.529	1.729
Industry (investors)	0.849	0.078	3.539	1.720
Individual taxpayers	0.432	0.078	3.510	1.685
Energy users	0.810	0.087	3.545	1.702
Energy producers	0.863	0.064	3.496	1.722
Government	0.799	0.010	2.929	1.393
<i>Internationally, responsibility for prevention costs should belong to:</i>	<u>1(agree)^a</u>	<u>1(disagree)</u>	<u>Range: from 1st to 7th</u>	
Countries in proportion to their contribution to the problem	0.881	0.064	4.047	1.980
Industrialized countries, regardless of their responsibility	0.582	0.264	3.976	2.006
The United States and its major trading partners	0.747	0.131	4.035	2.011
Developing countries that are beginning to pollute heavily	0.763	0.133	3.869	2.004

Densely populated developing countries, like India and China	0.597	0.233	4.016	2.016
The countries of former Soviet Union	0.431	0.318	3.483	1.667
Smaller developing countries	0.278	0.512	4.102	2.016

If these were the ONLY policy alternatives, what would be your choice? I would vote for:

	<u>1(yes)</u>
Business-as-usual (BAU)	0.275
Partial prevention (PM, if offered)	0.219
Maximum prevention (CM)	0.506

^a This indicator will be used in subsequent analyses. Given the varying number of answer options provided to different respondents, we aggregate “strongly agree” and “agree” when this category is split. The alternative is an aggregate of one or more “disagree” categories and the “neutral” category (if it is explicitly offered).

Table A.2. Descriptive statistics for individual characteristics. These variables are used as additional controls in the probit model in Table A.3, A.4, and A.5

Variables	Min	Max	Mean	Std. Dev.
<i>Demographic information</i>				
Family income (in levels)*	0	6	3.854	1.735
Money qualified to borrow (in levels)**	0	6	2.733	1.172
Female	0	1	0.496	0.500
Age in years	18	69	22.301	5.474
<i>Education</i>				
Years of college study completed	0	6	2.712	1.674
Major in physics science	0	1	0.106	0.307
Major in life science	0	1	0.140	0.347
Major in social science	0	1	0.301	0.459
Major in art	0	1	0.082	0.275
Major in English	0	1	0.079	0.269
Major in business	0	1	0.349	0.477
<i>Knowledge about Environment & Economics</i>				
Have taken class on climate change	0	1	0.517	0.500
Have taken courses on economics	0	1	0.880	0.325
# of participating environment groups	0	6	0.399	0.832
Number right of nine climate quiz questions	0	9	5.274	1.760
<i>Work status</i>				
Work status=work full-time	0	1	0.068	0.251
Work status=work part-time	0	1	0.363	0.481
Work status=student	0	1	0.928	0.258
Work status=non-paid work	0	1	0.041	0.199
Work status=retired	0	1	0.003	0.053
Work status=childcare/eldercare provider	0	1	0.013	0.115
<i>Other information</i>				
Maximum time (seconds) spent on Socio module	0.37	110.73	3.291	4.185
# of lottery tickets bought per year	0	6	1.655	1.052

Note: * Family annual income were described in levels from 0 to 6, where the income brackets were: 0 (< \$10,000); 1 (\$10,000 - \$20,000); 2 (\$20,000- \$30,000); 3 (\$30,000 - \$50,000); 4 (\$50,000 - \$75,000); 5 (\$75,000 - \$100,000); 6 (> \$100,000).

** The amount of money qualified to borrow was described in levels from 0 to 6, where the levels were interpreted as: 0 (\$0); 1 (\$100); 2 (\$ 1,000); 3 (\$10,000); 4 (\$50,000); 5 (\$100,000); 6 (>\$100,000).

Table A.3. Probit model: Evidence of ordering effect in answers to the question concerning the individual's relative priority attached to prevention of climate change (n=).

Position: (1=first,...,11=last)	1(Climate change is high priority)	
	coefficient ^a	Absolute z-stats
Preventing climate change	-0.027	(3.03)***
Reducing poverty and hunger	-0.014	(1.63)
Improving education	-0.017	(1.89)*
Reducing violent crime	-0.006	(0.74)
Protecting endangered species	-0.014	(1.60)
Reducing nuclear threats	-0.001	(0.13)
Improving food safety	-0.027	(3.13)***
Improving health	-0.008	(0.96)
Reducing race/ethnic tensions	-0.001	(0.07)
Cleaning up environment	-0.006	(0.67)
Preventing wars ^b	-	-
Constant	-0.114	(0.31)
Controls for individual characteristics ^c	yes	

***significant at 10%; ** significant at 5%; *** significant at 1% level.

^a Note that all these coefficients are negative. Statistically insignificant coefficients indicate that the positions of these issues do not alter peoples ratings of the priority of the climate change issue. However, significant coefficients suggest the relative positions of these other issues in the list do seem to matter. Negative signs imply that respondents are more likely to say climate change is a high priority.

^b "Preventing wars" is the omitted category. Once ten of the positions have been established, the eleventh is automatically defined.

^c These include all variables in Table A.2 (Full results are available from the authors)

Table A.4. Probit models: Evidence of ordering effect in questions concerning which domestic payers should bear the mitigation costs of climate change); “government” is the omitted category (its position is predetermined when positions of other groups are specified).

Position of group in list (1 st to 6 th):	1(agree) that responsibility for prevention costs should belong to (see letter key below):					
	A	B	C	D	E	F
A	0.012 (0.78)	-0.038 (2.05)**	-0.013 (0.89)	0.022 (1.27)	-0.039 (2.05)**	0.017 (0.99)
B	0.022 (1.37)	-0.035 (1.84)*	-0.031 (1.99)**	0.017 (0.95)	0.004 (0.21)	0.004 (0.24)
C	-0.015 (0.91)	-0.016 (0.83)	-0.060 (3.95)***	-0.027 (1.53)	-0.008 (0.45)	-0.009 (0.51)
D	0.019 (1.23)	0.000 (0.03)	0.019 (1.26)	-0.012 (0.66)	-0.014 (0.74)	0.023 (1.30)
E	0.017 (1.08)	0.029 (1.60)	-0.028 (1.91)*	0.009 (0.50)	-0.017 (0.92)	0.022 (1.29)
Constant	-0.402 (1.46)	0.665 (2.06)**	0.485 (1.84)*	-0.290 (0.95)	0.714 (2.20)**	1.431 (4.81)***
Controls: other individual characteristics	yes	yes	yes	yes	yes	yes

Absolute value of z statistics in parentheses ***significant at 10%;** significant at 5%; **** significant at 1%

Note: A. consumers
B. industry (investors)
C. individual taxpayers
D. energy users
E. energy producers
F. government

Table A.5. Probit models: Evidence of ordering effect in questions concerning which international country groups should bear prevention costs); “smaller developing countries” is the omitted category (its position is predetermined when positions of other groups are specified).

Position of:		1(agree) that responsibility for prevention costs should belong to (see letter key below):						
		G	H	I	J	K	L	M
G		-0.048 (2.62)***	0.086 (6.18)***	0.068 (4.46)***	0.046 (3.05)***	0.034 (2.43)**	0.082 (5.91)***	0.061 (4.18)***
H		0.005 (0.30)	-0.008 (0.60)	0.072 (4.78)***	0.004 (0.29)	0.023 (1.67)*	0.069 (5.03)***	-0.005 (0.34)
I		-0.029 (1.61)	0.031 (2.29)**	0.028 (1.90)*	0.017 (1.15)	-0.002 (0.13)	-0.036 (2.63)***	-0.000 (0.03)
J		0.045 (2.53)**	0.033 (2.43)**	-0.009 (0.64)	0.045 (3.05)***	-0.005 (0.38)	0.018 (1.27)	-0.012 (0.83)
K		-0.031 (1.67)*	0.005 (0.34)	0.020 (1.34)	0.042 (2.77)***	0.047 (3.39)***	0.032 (2.29)**	0.025 (1.72)*
L		0.008 (0.40)	-0.002 (0.10)	0.010 (0.62)	0.002 (0.13)	-0.031 (2.03)**	0.018 (1.16)	-0.025 (1.53)
Constant		0.834 (2.09)**	-0.088 (0.29)	-0.361 (1.08)	0.332 (1.00)	0.012 (0.04)	-1.272 (4.08)***	-0.380 (1.18)
Controls: individual characteristics	other							
	yes	yes	yes	yes	yes	yes	yes	yes

Absolute value of z statistics in parentheses ***significant at 10%; ** significant at 5%; *** significant at 1%

Note: G. countries in proportion to their contribution to the problem

H. industrialized countries

I. US and its major trade partners

J. developing countries

K. densely populated countries, like India and China

L. countries of former Soviet Union

M. smaller developing countries

Table A.6. Summary of our findings in Cai et al (2009): consistency between attitudes and policy preferences

Individuals who...	...derive greater utility from a policy that...
Agree that industry should be responsible for mitigation costs	Has a higher share of domestic costs born via decreased investment returns
Agree that energy users should be responsible for mitigation costs	Has a higher share of domestic costs borne via energy taxes
Agree that individual taxpayers should be responsible for mitigation costs	Has a higher share of domestic costs borne via income taxes
Agree that India and China should be responsible for mitigation costs	Has a higher share of international costs borne by India and China
Agree that the US and Japan should be responsible for mitigation costs	Has a higher share of international costs borne by the US and Japan
Believe that policies to prevent climate change are a high priority	Involves maximum prevention (i.e. “complete mitigation”)

Table A.7. (Enhanced version of Table 2 in the paper). Conditional logit models to detect evidence of effects on preference parameters from order of presentation of prior information; symbol “►” denotes an order-related interaction term.

	Model 1 Featured X= Agriculture&Water	Model 2 Parsimonious Featured X= Agriculture&Water	Model 3 Featured X= Ecosystems	Model 4 Featured X= Equity
Cost-related variables:				
Program cost	-0.145 (4.41)***	-0.144 (4.38)***	-0.145 (4.38)***	-0.149 (4.53)***
<i>Domestic cost shares:</i>				
Decreased investment returns	0.785 (1.58)	0.888 (1.89)*	0.767 (1.53)	0.728 (1.46)
► ... × position of “industry”	-0.185 (1.85)*	-0.181 (1.81)*	-0.176 (1.74)*	-0.170 (1.70)*
Increased income taxes	1.368 (2.09)**	1.449 (2.29)**	1.245 (1.90)*	1.456 (2.23)**
► ... × position of “taxpayers”	-0.238 (2.30)**	-0.237 (2.29)**	-0.241 (2.32)**	-0.242 (2.33)**
► ... × position of “energy producers”	-0.223 (2.22)**	-0.216 (2.15)**	-0.202 (2.00)**	-0.235 (2.34)**
Increased energy taxes	-0.214 (0.66)	-	-0.149 (0.46)	-0.182 (0.56)
<i>International cost shares:</i>				
US and Japan (in ‘00s)	0.315 (1.12)	-	0.345 (1.22)	0.360 (1.28)
India and China (in ‘00s)	0.013 (0.05)	-	-0.611 (1.35)	0.048 (0.17)
► ... × position of “India and China”		-	0.147	

			(1.68)*	
Benefits (avoided impacts), informedness:				
1(moderate X impacts) ^a	0.319 (2.39)**	0.324 (2.43)**	0.113 (0.70)	0.241 (2.18)**
1(severe X impacts)	0.890 (5.76)***	0.890 (5.77)***	0.943 (5.66)***	0.976 (6.62)***
Program Type and Elicitation Formats				
1(Partial mitigation)	2.210 (7.17)***	2.034 (11.04)***	2.189 (7.05)***	2.148 (6.98)***
► ... × position of “climate change”	-0.027 (0.97)	-	-0.026 (0.92)	-0.020 (0.70)
1(Complete mitigation)	0.702 (2.42)**	0.533 (2.75)***	0.681 (2.24)**	0.760 (2.71)***
► ... × position of “climate change”	-0.026 (1.44)	-	-0.025 (1.37)	-0.020 (1.13)
... × 1(saw partial mitigation alt.)	0.616 (3.96)***	0.613 (3.95)***	0.567 (3.62)***	0.614 (3.94)***
Number of alternatives	4389	4389	4389	4389
Number of two-way choices; three-way choices				
Number of individuals				

Table A.8. (Enhanced version of Table 3 in the paper). Simulated WTP (last row: median, 5th, 95th percentiles) for complete mitigation, based on 1000 random draws from the asymptotically normal joint distribution of the parameter estimates based on Model 2 (median monthly household income in sample = \$5208)

	(a.) Moderate Impact on Agriculture&Water		(b.) Severe Impact on Agriculture&Water	
	Settings for Simulation 1	Settings for Simulation 2	Settings for Simulation 3	Settings for Simulation 4
Cost shares, shifters:				
<i>Domestic cost shares:</i>				
Increased income taxes	0.25	0.25	0.25	0.25
▶ ... × position of “individual taxpayers”	1	4	1	4
▶ ... × position of “energy producers”	2	5	2	5
Decreased investment returns	0.25	0.25	0.25	0.25
▶ ... × position of “industry”	3	6	3	6
Increased energy taxes	0.25	0.25	0.25	0.25
Benefits (avoided impacts)				
1(moderate Agriculture&Water impacts)	1	1	0	0
1(severe Agriculture&Water impacts)	0	0	1	1
Policy type and elicitation format:				
Partial mitigation	0	0	0	0
Complete mitigation	1	1	1	1
...*1(saw partial mitigation)	0	0	0	0
Willingness to pay (WTP)	\$639 [506, 888]	\$365 [259, 502]	\$964 [748, 1395]	\$689 [532, 993]

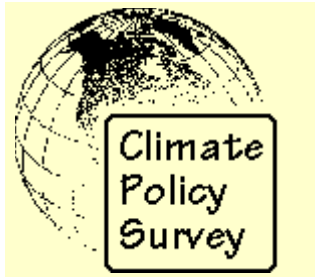


Figure 1



“Global” Problems and Problems around the Globe

Society cannot afford to fix all policy problems, so we have to decide upon priorities. What are your personal *relative* priorities? (Click one button per row.)

FAQ

	low priority	moderate priority	high priority	not sure
Preventing climate change	☐	☐	☐	☐
Improving health	☐	☐	☐	☐
Reducing violent crime	☐	☐	☐	☐
Reducing race/ethnic tensions	☐	☐	☐	☐
Protecting endangered species	☐	☐	☐	☐
Reducing nuclear threats	☐	☐	☐	☐
Improving education	☐	☐	☐	☐
Improving food safety	☐	☐	☐	☐
Cleaning up the environment	☐	☐	☐	☐
Reducing poverty and hunger	☐	☐	☐	☐
Preventing wars	☐	☐	☐	☐
	low priority	moderate priority	high priority	not sure

OK

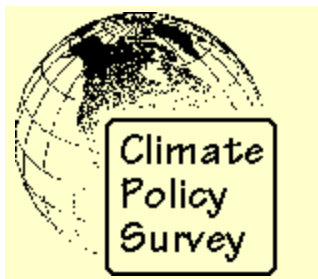


Figure 2



Your current opinion about climate change impacts

Worldwide, how do you think climate change will affect each of the following, by 30 years from now, if a policy of "**Business-as-Usual**" is followed? (Check one or two boxes per row.)



		Policy: Business-as-Usual								
Details		-4	-3	-2	-1	0	+1	+2	+3	+4
Impacts	↓									
Oceans, Weather - sea levels; freq, and severity of storms	?	☐	☐	☐	☐	☐	☐	☐	☐	☐
		extreme undesir. change			no change		extreme desir. change			
Human health - and well-being, including diseases	?	☐	☐	☐	☐	☐	☐	☐	☐	☐
		extremely harmed			unaffected		extremely improved			
Ecosystems - forests, deserts, rangelands, wetlands, wildlife	?	☐	☐	☐	☐	☐	☐	☐	☐	☐
		extremely harmed			unaffected		extremely improved			
Agriculture, Water - food and fiber, fresh water resources	?	☐	☐	☐	☐	☐	☐	☐	☐	☐
		extremely harmed			unaffected		extremely improved			
Equity, Fairness - share of ill effects borne by poorest 50% of population	?	☐	☐	☐	☐	☐	☐	☐	☐	☐
		more than 80% borne by poor			roughly 50% (equal share)		less than 20% borne by poor			
		-4	-3	-2	-1	0	+1	+2	+3	+4

OK

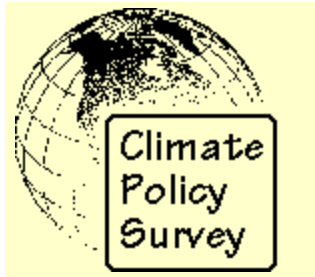


Figure 3



How should the costs of climate change prevention be paid?

If we want to prevent climate change, we will need to make some changes to reduce the quantity of “greenhouse gases” we produce. These changes will typically mean increases in costs. (Click one button per row in sections A and B.)



A. In your own country, responsibility for prevention costs should belong to:	disagree	neutral	agree
- industry (investors)	☐	☐	☐
- energy users	☐	☐	☐
- energy producers	☐	☐	☐
- consumers	☐	☐	☐
- individual tax-payers	☐	☐	☐
- government	☐	☐	☐
B. Internationally, responsibility for prevention costs should belong to:	disagree	neutral	agree
- countries in proportion to their contribution to the problem	☐	☐	☐
- densely populated developing countries like India and China	☐	☐	☐
- the United States and its major trading partners	☐	☐	☐
- industrialized countries, regardless of their responsibility	☐	☐	☐
- smaller developing countries	☐	☐	☐
- developing countries that are beginning to pollute heavily	☐	☐	☐
- the countries of the former Soviet Union	☐	☐	☐
	disagree	neutral	agree

OK



Figure 4

If these were the **ONLY** policy alternatives, what would be your choice?

This is the most important page in the survey. Please take a little extra time to read it carefully. A lot of information about potential climate policies is being presented in the most compact form possible. (Vote for **ONE** policy by clicking **ONE** button at the bottom. Choose carefully. After you move to the next page, no changes will be allowed.)



NOTE: Each column in the table summarizes one possible policy. The checked boxes in the "**Business-as-Usual**" column display the levels and ranges of uncertainty that you chose earlier in the survey.

	POLICY: Maximum Prevention To <i>completely</i> prevent your anticipated changes	POLICY: Business-as-Usual Just leave the effects at the level you anticipate
Consequences for:	-4 -3 -2 -1 0 +1 +2 +3 +4	-4 -3 -2 -1 0 +1 +2 +3 +4
Oceans, Weather	☐ ☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐
Human health	☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐	☐ ☒ ☐ ☐ ☐ ☐ ☐ ☐ ☐
Ecosystems	☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐	☐ ☒ ☒ ☐ ☐ ☐ ☐ ☐ ☐
Agriculture, Water	☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐	☐ ☒ ☐ ☒ ☐ ☐ ☐ ☐ ☐
Equity, Fairness	☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐
Household cost/month:	about \$ 500/mo (\$ 250 to \$ 750)	about \$ 0/mo (\$ 0 to \$ 0)
How these higher household costs will be experienced:	20% via ↑energy taxes 10% via ↑income taxes 60% via ↑prices 10% via ↓invest. returns 25% US and Japan 10% other industrialized 15% India and China 50% other developing	
How global costs will be shared across countries:		
I would vote for:	Maximum Prevention ☐	Business-as-Usual ☐
	☐ I would not vote	

After you click OK, you will not be able to change your voting decision.

OK



Figure 5

If these were the ONLY policy alternatives, what would be your choice?

This is the most important page in the survey. Please take a little extra time to read it carefully. A lot of information about potential climate policies is being presented in the most compact form possible. (Vote for ONE policy by clicking ONE button at the bottom. Choose carefully. After you move to the next page, no changes will be allowed.)



NOTE: Each column in the table summarizes one possible policy. The checked boxes in the "Business-as-Usual" column display the levels and ranges of uncertainty that you chose earlier in the survey.

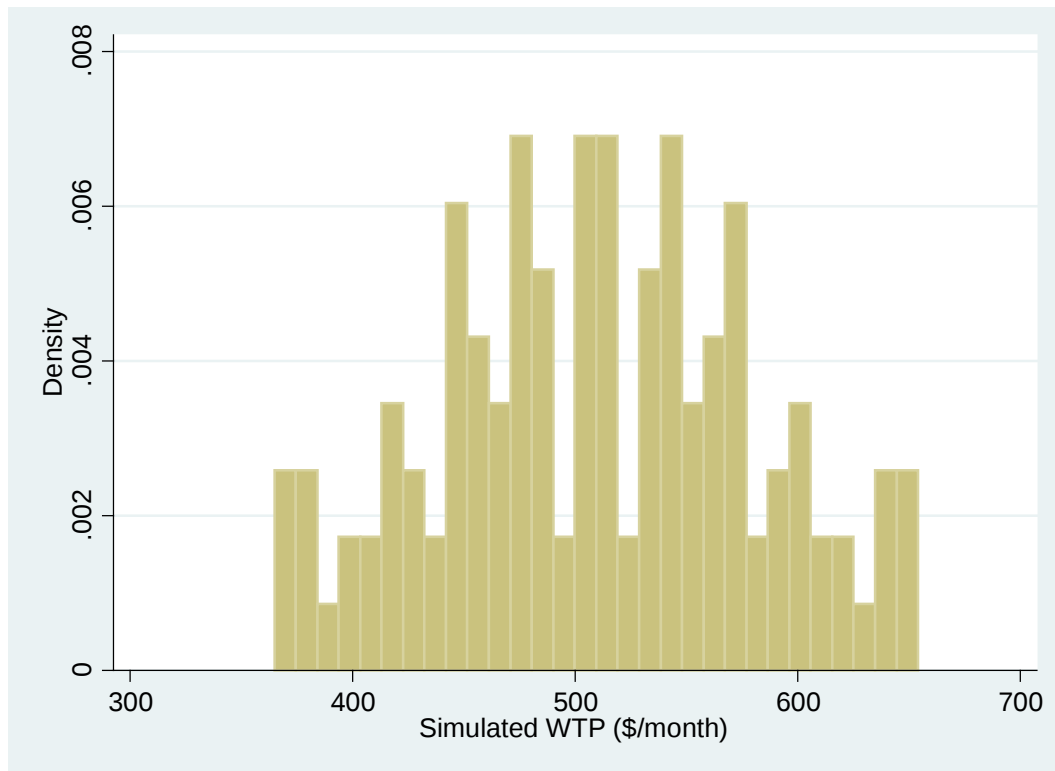
	POLICY: Maximum Prevention To <i>completely</i> prevent your anticipated changes	POLICY: Partial Prevention To <i>partially</i> prevent your anticipated changes	POLICY: Business-as-Usual Just leave the effects at the level you anticipate
Consequences for:	-4 -3 -2 -1 0 +1 +2 +3 +4	-4 -3 -2 -1 0 +1 +2 +3 +4	-4 -3 -2 -1 0 +1 +2 +3 +4
Oceans, Weather	☐ ☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐ ☐
Human health	☐ ☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐ ☐ ☐
Ecosystems	☐ ☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☒ ☐ ☒ ☐ ☐ ☐ ☐ ☐ ☐
Agriculture, Water	☐ ☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☒ ☒ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☒ ☐ ☒ ☐ ☐ ☐ ☐ ☐
Equity, Fairness	☐ ☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☒ ☐ ☒ ☐ ☐ ☐ ☐ ☐
Household cost/month:	about \$ 500/mo (\$ 250 to \$ 750)	about \$ 350/mo (\$ 300 to \$ 400)	about \$ 0/mo (\$ 0 to \$ 0)
How these higher household costs will be experienced:	20% via ↑energy taxes 10% via ↑income taxes 60% via ↑prices 10% via ↓invest. returns	20% via ↑energy taxes 10% via ↑income taxes 25% via ↑prices 45% via ↓invest. returns	
How global costs will be shared across countries:	25% US and Japan 10% other industrialized 15% India and China 50% other developing	15% US and Japan 55% other industrialized 15% India and China 15% other developing	
I would vote for:	Maximum Prevention ☐	Partial Prevention ☐	Business-as-Usual ☐
	☐ I would not vote		

After you click OK, you will not be able to change your voting decision.

OK

Figure 6

Simulated point estimates of WTP as a function of $\epsilon_{P3}=120$ possible orderings of the three domestic payer groups with statistically significant order effects



References

- Cai, B, Cameron, TA and Gerdes, GR (2009) Distributional preferences and the incidence of costs and benefits in climate change policy. Working paper, University of Oregon, Department of Economics.
- Colasanto, D, Singer, E and Rogers, TF (1992) Context Effects on Responses to Questions About Aids. 56(4):515-518.