

Climate survey - Denmark

OECD

Sample of 2,011 respondents representative along the gender, age, income, region and rural/urban dimensions. These variables define the quotas and the survey weights, used throughout.

June 2021

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Figure 1: What is the highest level of education you have completed?

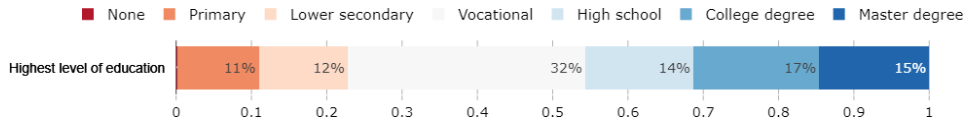


Figure 2: On economic policy matters, where do you see yourself on the liberal/conservative spectrum?

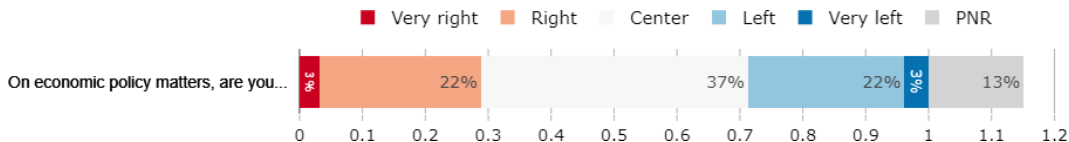
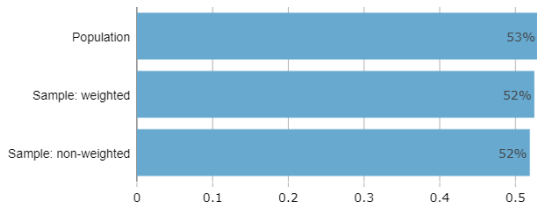


Figure 3: Lives in an urban area (town > 20k people), retrieved from zipcode



Gender and age

Figure 4: What is your gender?

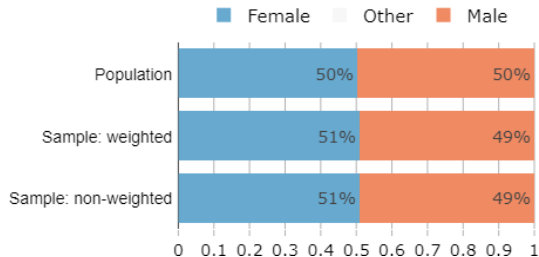


Figure 5: How old are you?

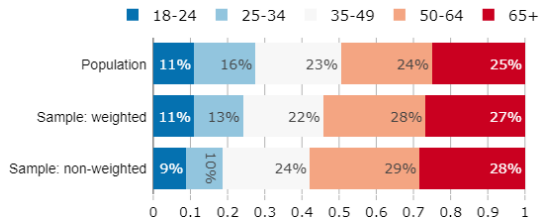


Figure 6: What was the annual income of your household in 2019 (before withholding tax, for you and those who live with you)?

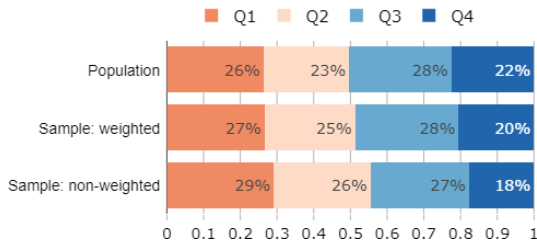
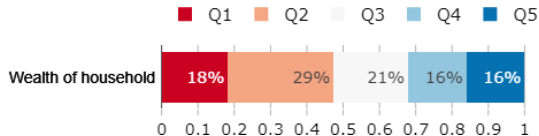


Figure 7: What is the estimated value of your assets, or the assets of your household if you are married (in Danish dollars)? Include here all your possessions (home, car, savings, etc.) net of debt. For example, if you own a house worth \$300,000 and you have \$100,000 left to repay on your mortgage, your assets are \$200,000.



Employment and hit by covid

Figure 8: What is your employment status?

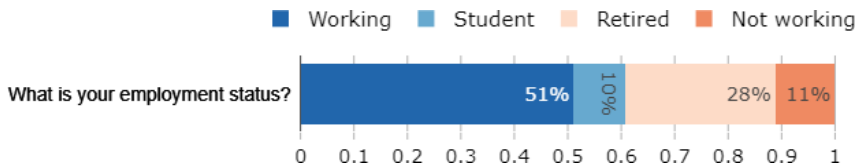


Figure 9: Have you or a member of your household been laid off or had to take a cut in your salary or wages due to the COVID-19 pandemic?

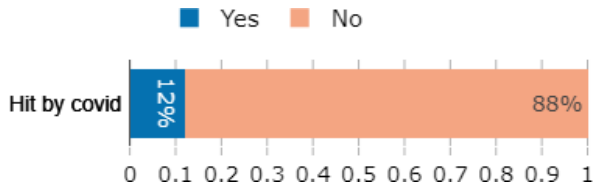


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Interest in politics and environmental organizations

Figure 10: To what extent are you interested in politics?

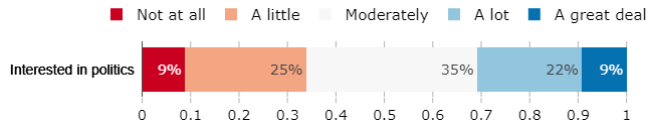


Figure 11: Are you member of an environmental organization?

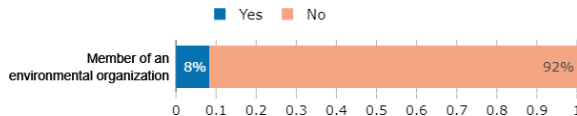
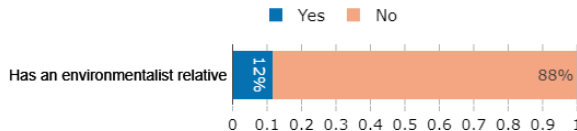


Figure 12: Do you have any relatives who are environmentalists?



Presidential election vote

Figure 13: Did you vote in the 2020 Danish presidential election?

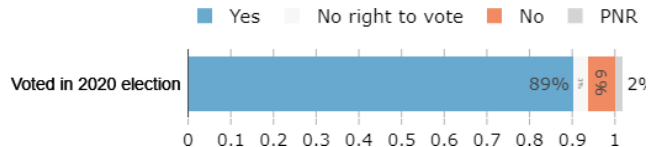


Figure 14: Which candidate did you vote / would you have voted for in the last presidential election?

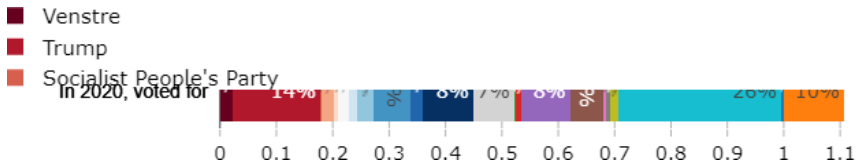


Figure 15: On economic policy matters, where do you see yourself on the left/right spectrum?

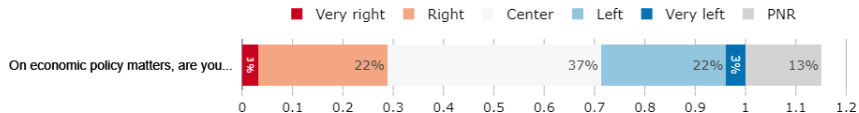


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Figure 16: What is the main way you heat your home

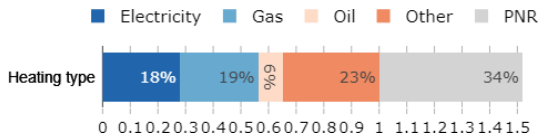


Figure 17: In a typical month, how much do you spend on heating for your accommodation?

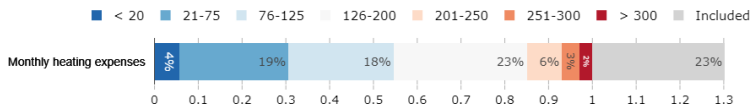


Figure 18: How do you rate the insulation of your accommodation?

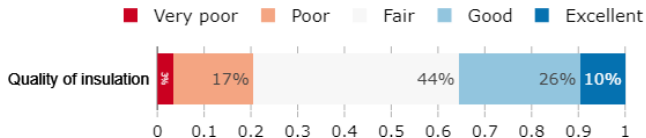


Figure 19: In a typical month, how much do you spend on gas for driving?

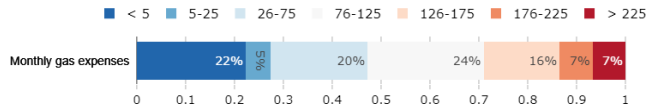


Figure 20: How many round-trip flights did you take between 2017 and 2019?

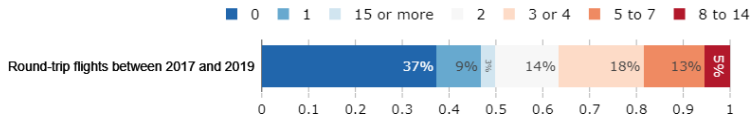


Figure 21: How often do you eat beef?

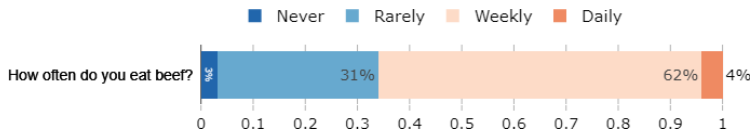


Figure 22: Which mode of transport did you mainly use for each of the following trips in 2019?

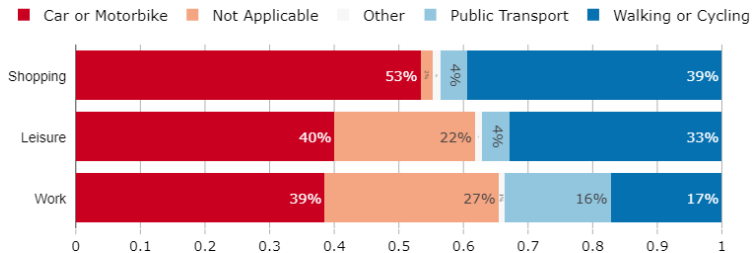


Figure 23: How do you rate the availability (ease of access and frequency) of public transportation where you live?

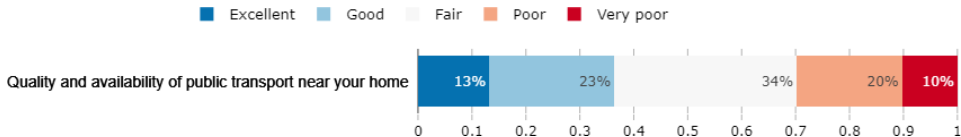


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Figure 25: How often do you think or talk with people about climate change?

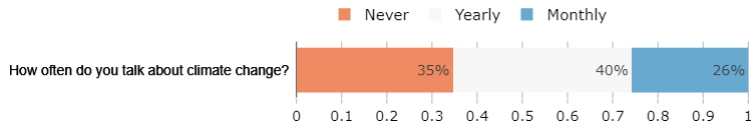
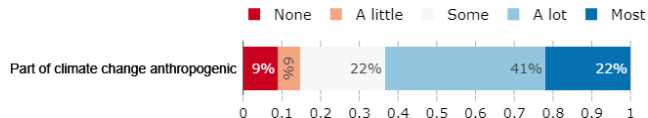


Figure 26: What part of climate change do you think is due to human activity?



Climate change knowledge: general

Figure 27: How knowledgeable do you consider yourself about climate change?

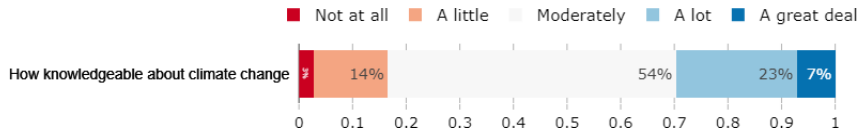


Figure 28: Do you agree or disagree with the following statement: "Climate change is an important problem."

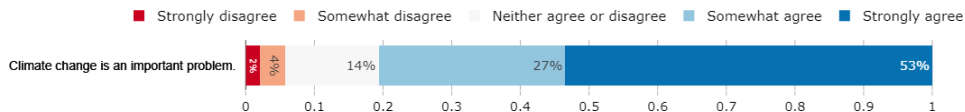
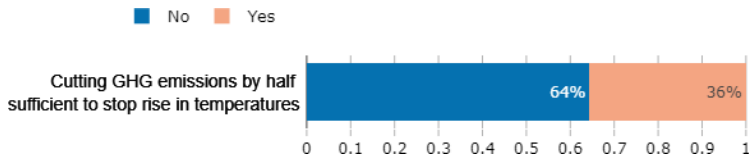


Figure 29: Do you think that cutting global greenhouse gas emissions by half would be sufficient to eventually stop temperatures from rising? (Right answer: No)



Climate change knowledge: general

Figure 30: Which of the following elements contribute to climate change? (Multiple answers are possible)

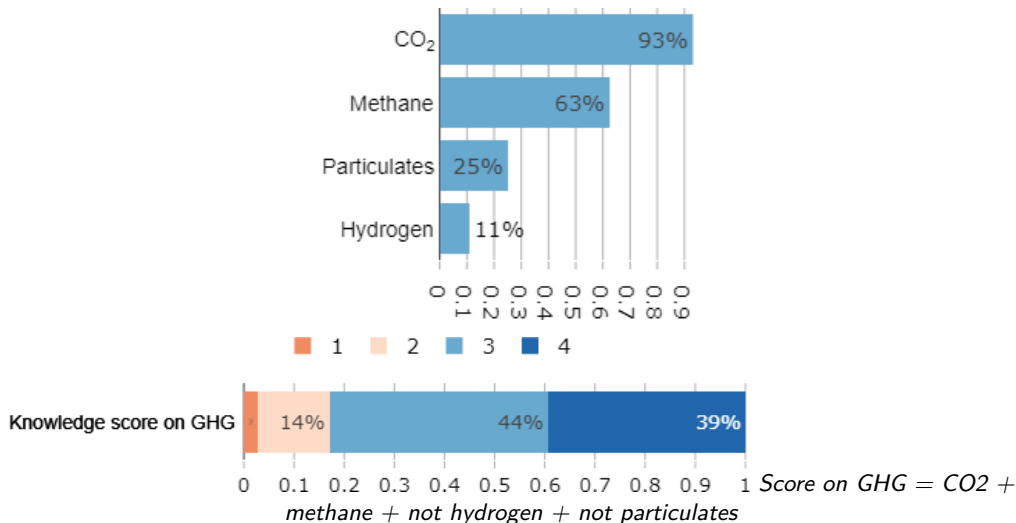


Figure 31: If a family of 4 travels 700 km from Copenhagen to Stockholm, with which mode of transportation do they emit the most greenhouse gases? Please rank the items from 1 (most) to 3 (least).

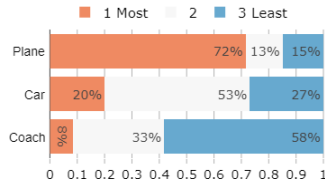
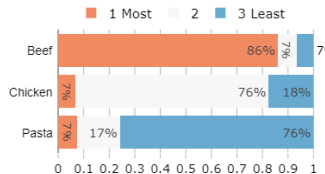
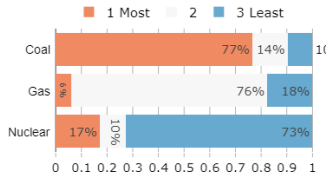


Figure 32: Which dish emits the most greenhouse gases? We consider that each dish weighs half a pound. Please rank the items from 1 (most) to 3 (least).

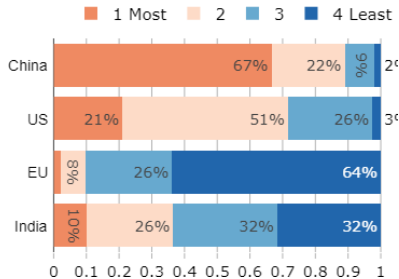


Climate change knowledge

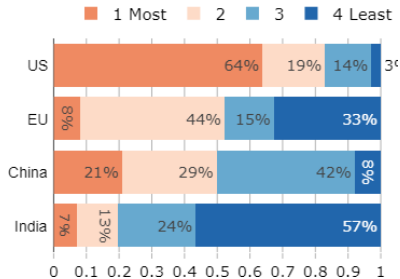
Figure 33: Which source of electric energy emits the most greenhouse gases to provide power for a house?



(a) Which region contributes most to global greenhouse gas emissions?



(b) In which region does the consumption of an average person contribute most to climate change?



Impacts of climate change

Figure 35: If nothing is done to limit climate change, how likely do you think it is that climate change will lead to the following events?

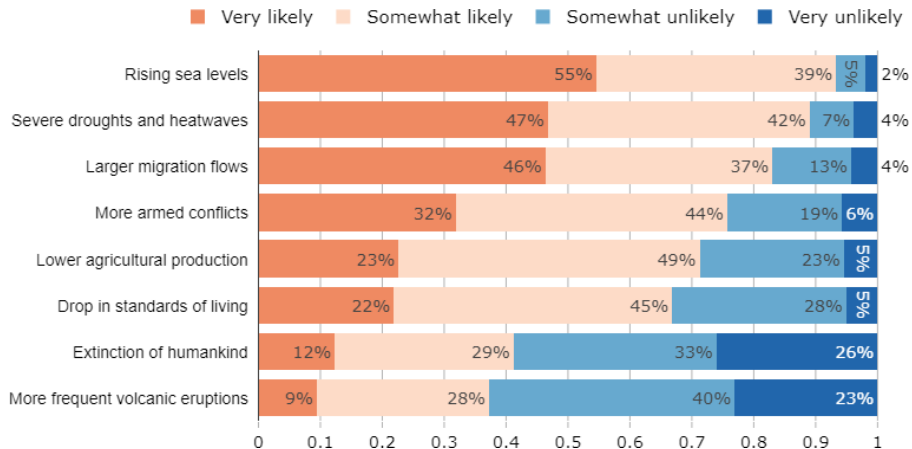


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Figure 36: To what extent are the following groups responsible for climate change in Denmark?

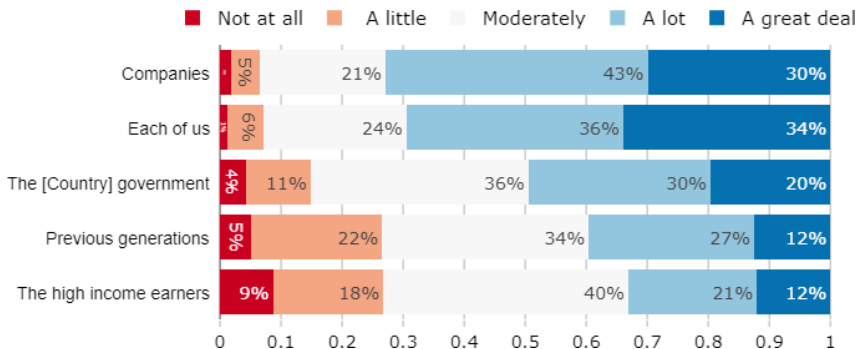


Figure 37: To what extent do you think that it is technically feasible to stop greenhouse gas emissions while maintaining satisfactory standards of living in Denmark?

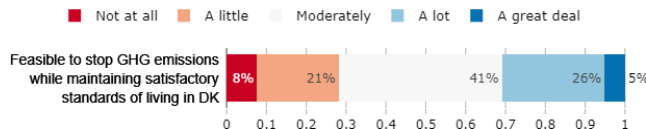
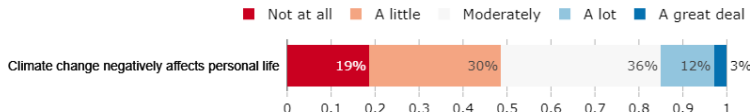


Figure 38: To what extent do you think climate change already affects or will negatively affect your personal life?



Beliefs about ambitious climate policies

Figure 39: How likely is it that human kind halt climate change by the end of the century?

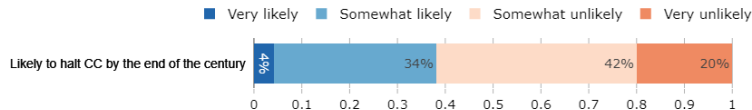


Figure 40: If we decide to halt climate change through ambitious policies, to what extent do you think it would negatively affect your lifestyle?

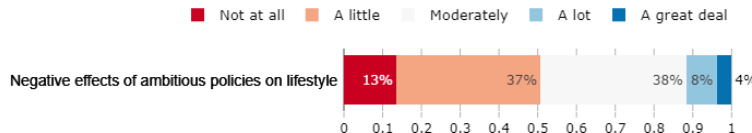
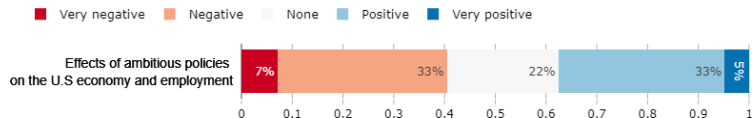
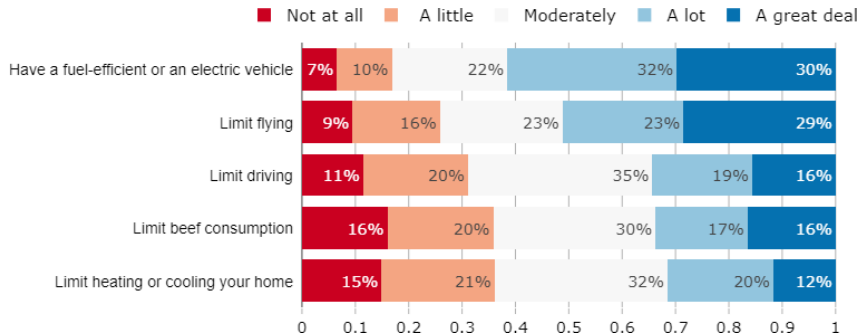


Figure 41: If we decide to halt climate change through ambitious policies, what would be the effects on the Danish economy and employment?



Willingness to change behaviors

Figure 42: Here are possible habits that experts say would help reduce greenhouse gas emissions. To what extent would you be willing to adopt the following behaviors?



Factors needed to change lifestyle

Figure 43: How important are the factors below in order for you to adopt a sustainable lifestyle (i.e. limit driving, flying, and consumption, cycle more, etc.)?

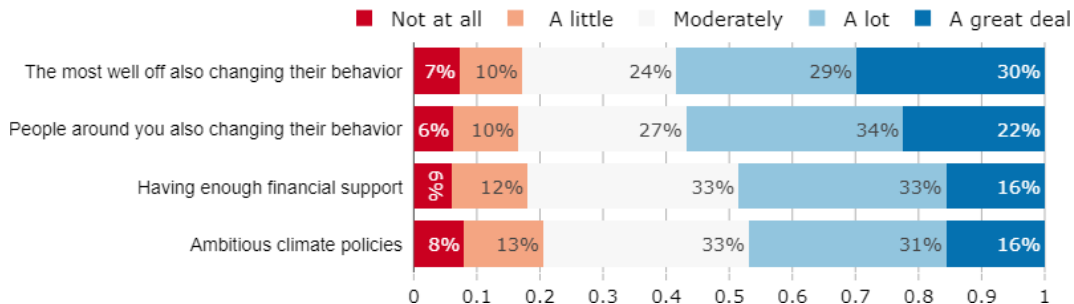


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Policy description

To fight climate change, car producers can be required by law to produce cars that emit less CO₂ per mile of the cars they sell. The emission limit is lowered every year so that only electric or hydrogen vehicles can be sold after 2030. This policy is called a *ban on combustion-engine cars*.

Effects of the policy

Figure 44: Do you agree or disagree with the following statements? A ban on combustion-engine cars would...

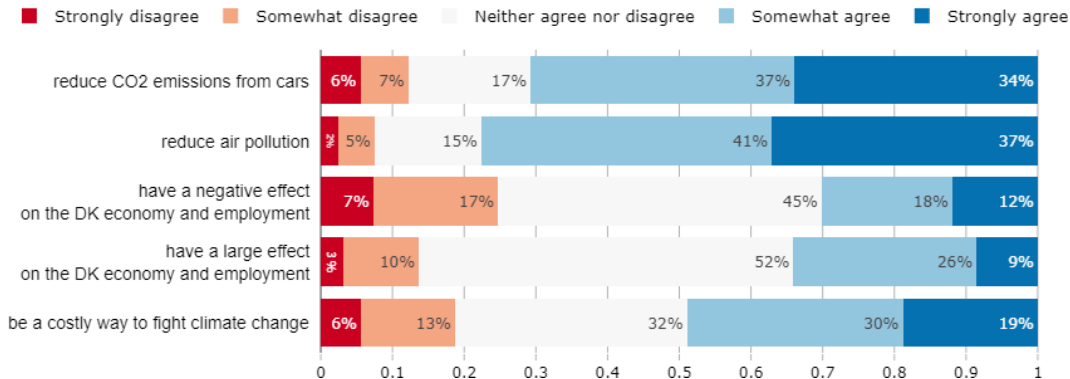


Figure 45: In your view, would the following groups win or lose if a ban on combustion-engine cars was implemented in Denmark?

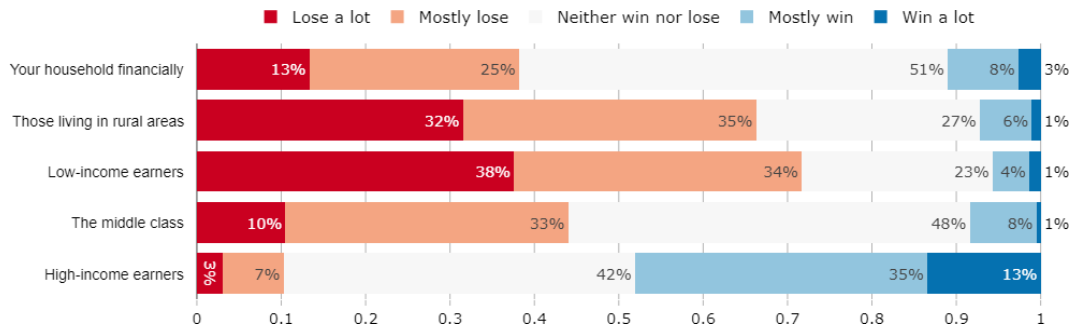


Figure 46: Do you agree or disagree with the following statement: "A ban on combustion-engine cars is fair"?

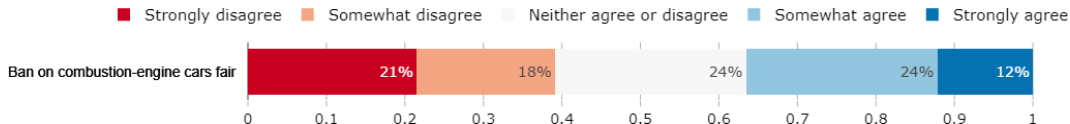


Figure 47: Do you support or oppose a ban on combustion-engine cars?

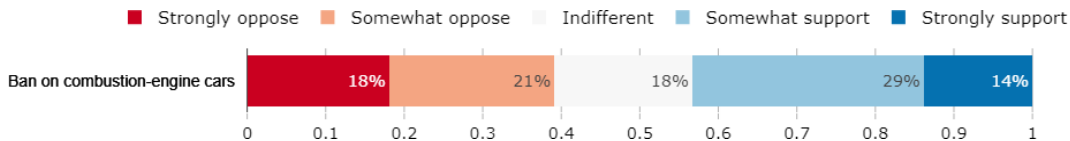


Figure 48: Do you support or oppose a ban on combustion-engine cars where alternatives such as public transports are made available to people?

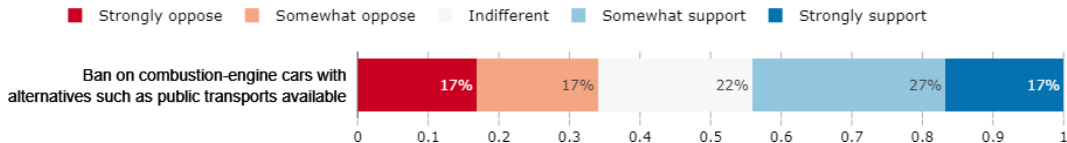


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A green infrastructure program is a large public investment program, which would be financed by additional public debt, to accomplish the transition needed to cut greenhouse gases emissions. Investments would concern renewable power plants, public transportation, thermal renovation of building, and sustainable agriculture.

Figure 49: Do you agree or disagree with the following statements? A green infrastructure program would...

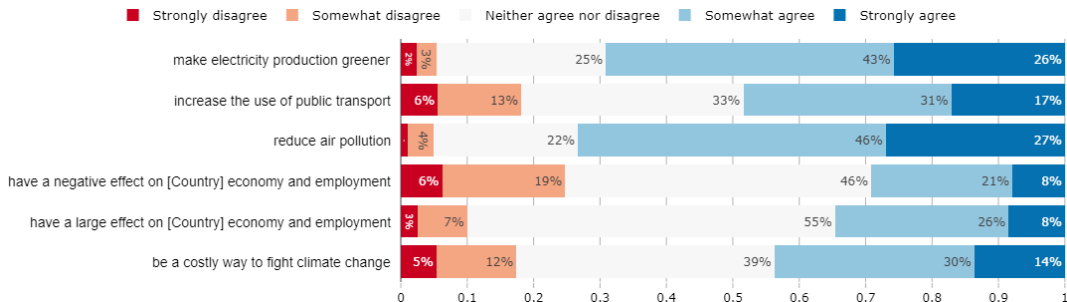
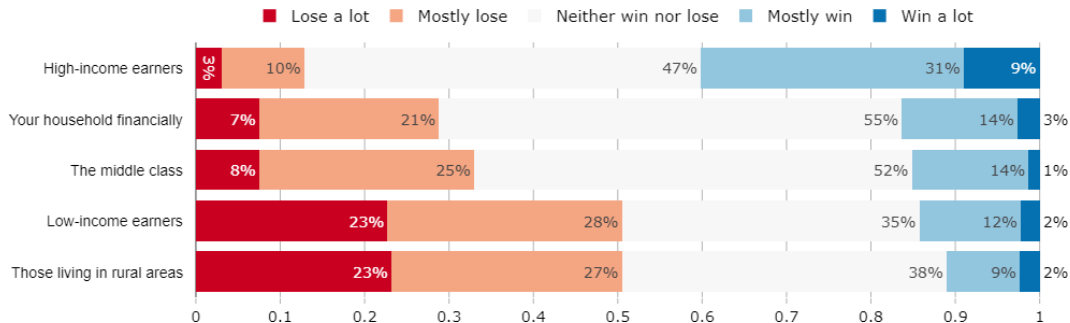


Figure 50: In your view, would the following groups win or lose with a green infrastructure program?



Fairness and support

Figure 51: Do you agree or disagree with the following statement: "A green infrastructure program mainly financed by public debt is fair."

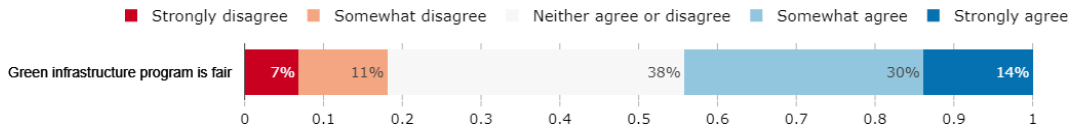


Figure 52: Do you support or oppose a green infrastructure program?

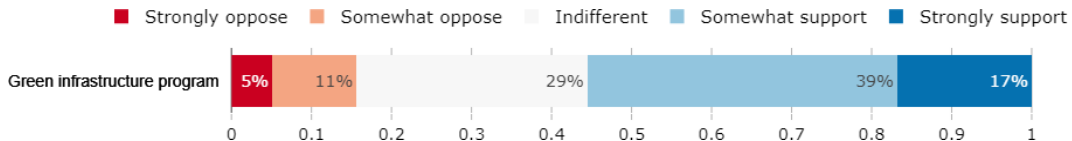


Figure 53: Until now, we have considered that a green infrastructure program would be financed by public debt, but other sources of funding are possible. What sources of funding do you find appropriate for a green infrastructure program? (Multiple answers are possible)

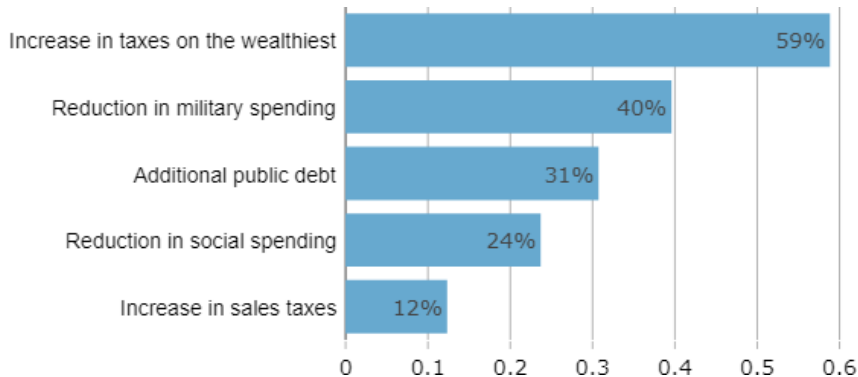


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To fight climate change, the Danish government can make greenhouse gas emissions costly, to make people and firms change their equipment and reduce their emissions. The government could do this through a policy called a carbon tax with cash transfers. Under such a policy, the government would tax all products that emit greenhouse gas. For example, the price of gasoline would increase by 2 kr. pr. liter. To compensate households for the price increases, the revenues from the carbon tax would be redistributed to all households, regardless of their income. Each adult would thus receive 3700 DKK per year.

Figure 54: Do you agree or disagree with the following statements? A carbon tax with cash transfers would...

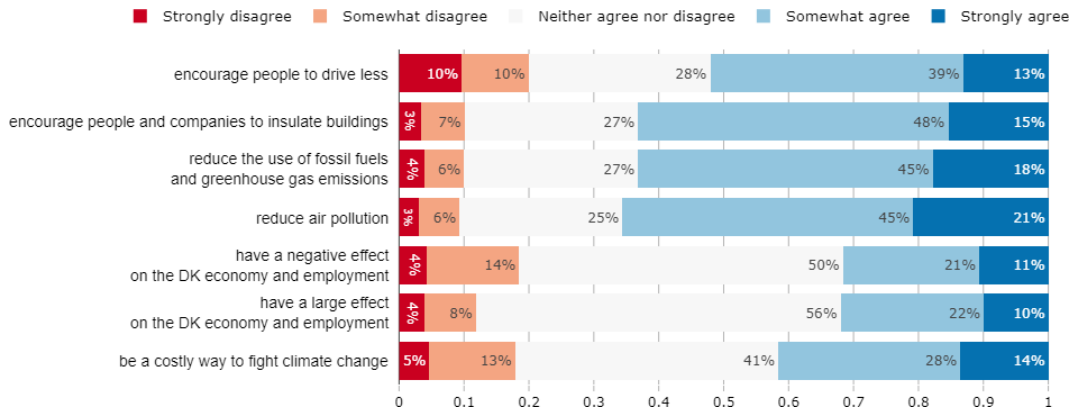
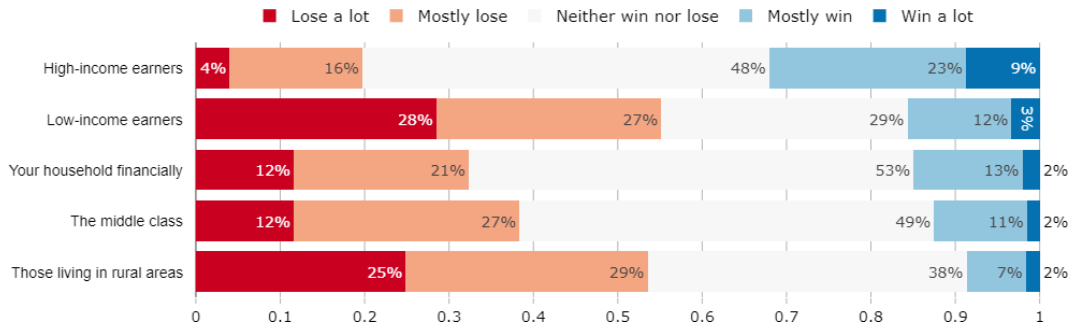


Figure 55: In your view, would the following groups win or lose under a carbon tax with cash transfers?



Fairness and support

Figure 56: Do you agree or disagree with the following statement: "A carbon tax with cash transfers is fair."

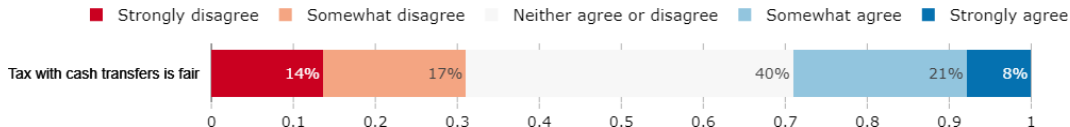


Figure 57: Do you support or oppose a carbon tax with cash transfers?

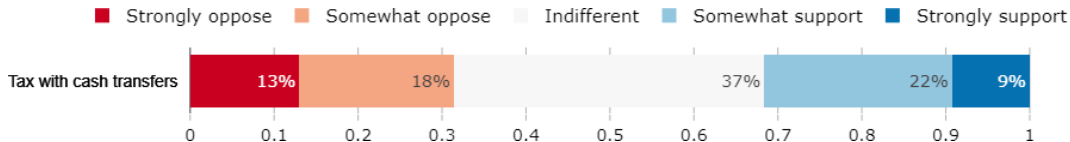


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Policy Incidence

Figure 58: Comparison of responses to each policy question: Do you think that financially your household would win or lose from the policy?

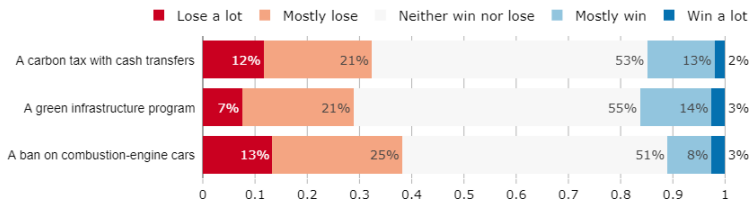
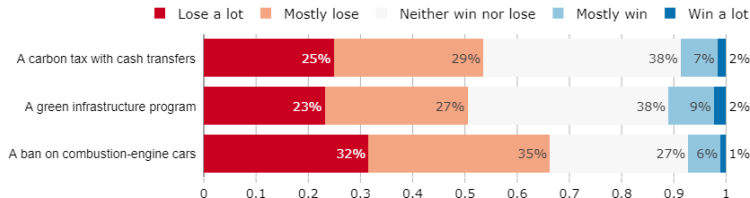


Figure 59: Comparison of responses to each policy question: In your view, would those living in rural areas win or lose from the following policy?



Policy Incidence

Figure 60: Comparison of responses to each policy question: In your view, would high-income earners win or lose from the following policy?

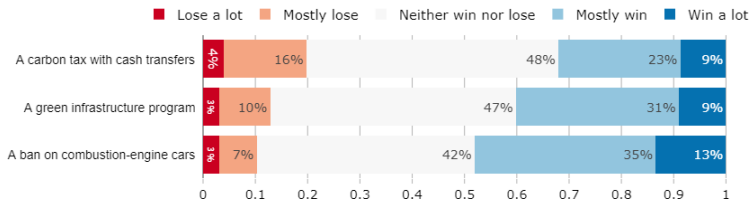


Figure 61: Comparison of responses to each policy question: In your view, would low-income earners win or lose from the following policy?

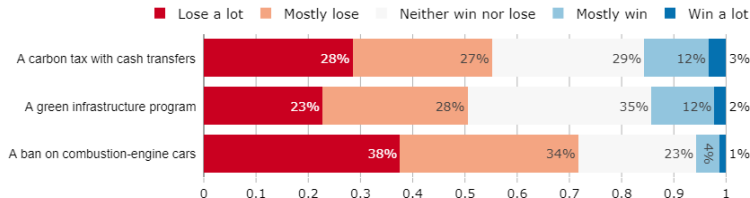
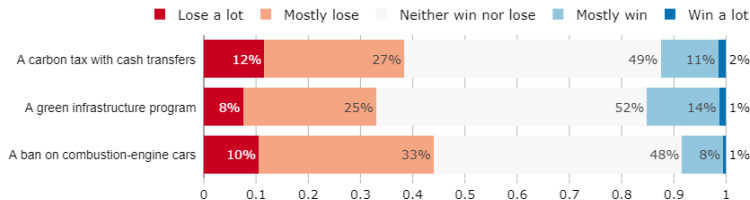


Figure 62: *Comparison of responses to each policy question: In your view, would the middle-class win or lose from the following policy?*



Effects of the policy

Figure 63: Comparison of responses to each policy question: Do you agree or disagree with the following statement? *The policy would have a large effect on the Danish economy and employment.*

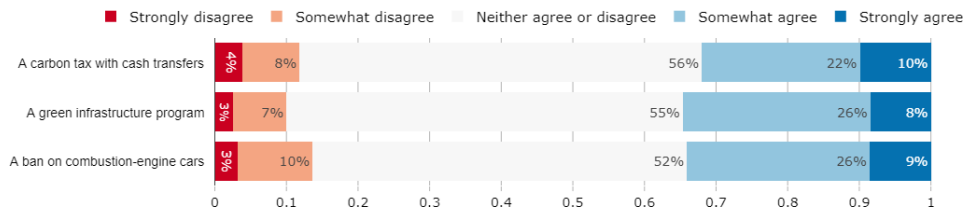


Figure 64: Comparison of responses to each policy question: Do you agree or disagree with the following statement? *The policy would have a negative effect on the Danish economy and employment.*

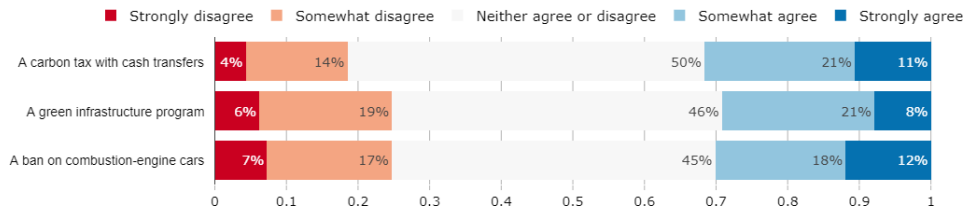
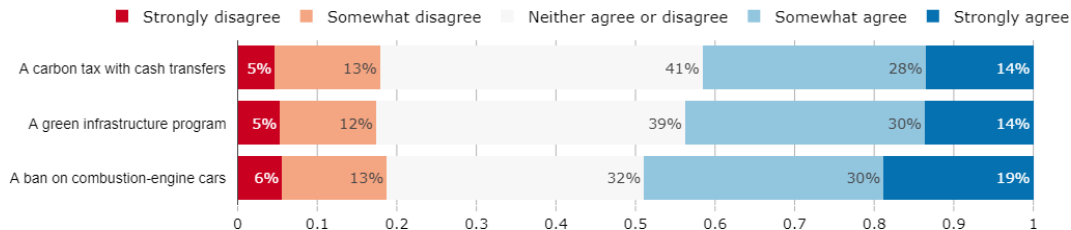


Figure 65: Comparison of responses to each policy question: Do you agree or disagree with the following statement? *The policy would be costly to fight climate change*



Fairness and support

Figure 66: Comparison of responses to each policy question: Do you agree or disagree with the following statement: "The policy is fair."

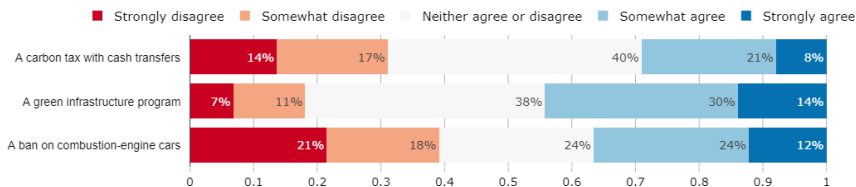


Figure 67: Comparison of responses to each policy question: do you support or oppose the following policy?

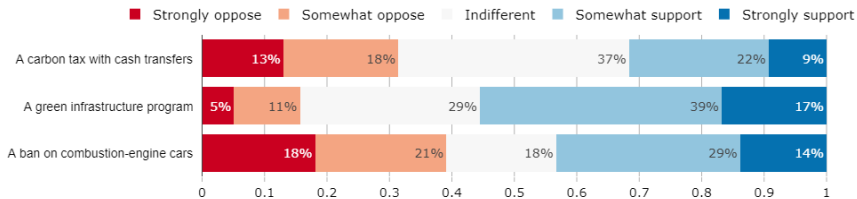
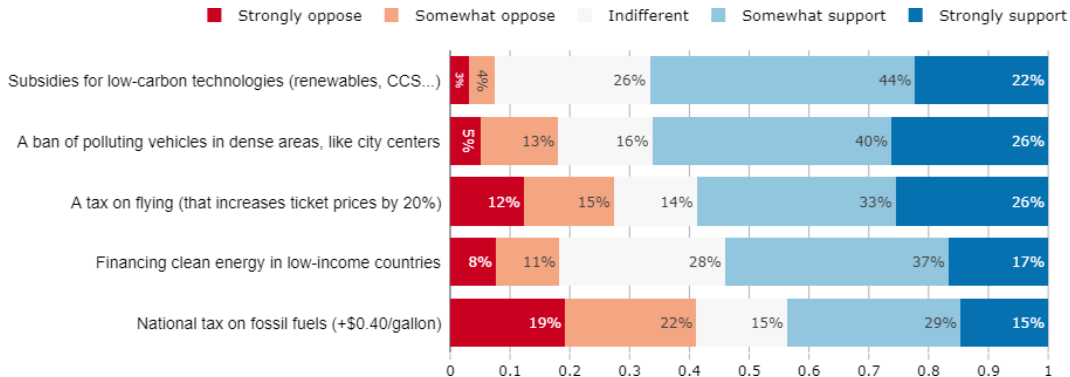


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Figure 68: Do you support or oppose the following climate policies?



Revenue recycling of carbon tax

Figure 69: Governments can use the revenues from carbon taxes in different ways. Would you support or oppose introducing a carbon tax that would raise gasoline prices by 2 kr. pr. liter, if the government used this revenue to finance...

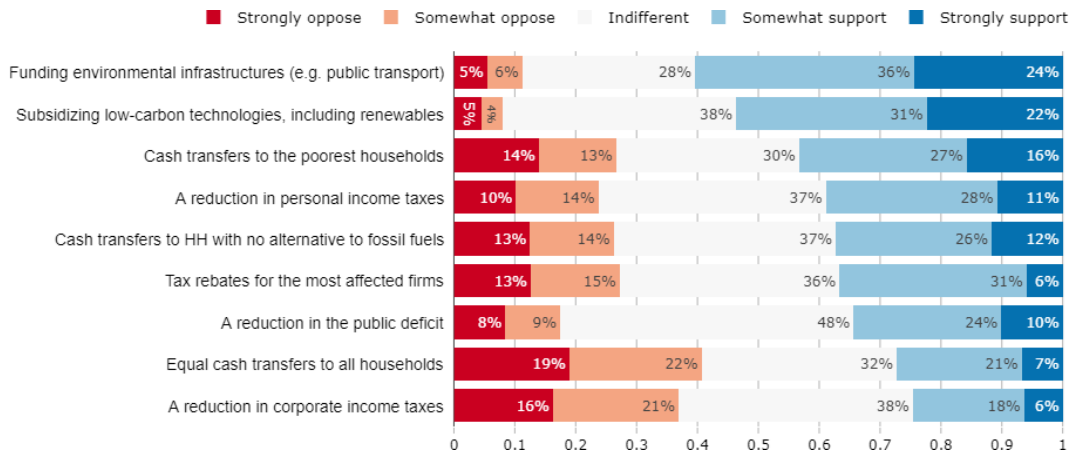


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Figure 70: To fight global warming, the Danish government could implement a policy package to reduce emissions, for example by investing in clean technologies (renewable energy, electric vehicles, public transport, more efficient insulation, etc.).

The funding for these investments could be collected annually through an additional individual contribution for the foreseeable future. Assume that everyone in Denmark as well as citizens of other countries would be required to contribute according to their means.

Are you willing to pay [amount] annually through an additional individual contribution to limit global warming to safe levels (less than 2 °C)?

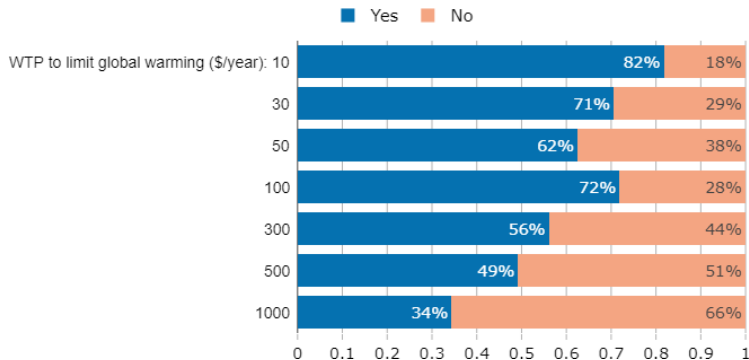


Figure 71: By taking this survey, you are entered into a lottery to win 600 DKK (100\$). You can also donate a part of this additional compensation (should you be selected in the lottery) to a reforestation project through the charity The Gold Standard. If you win the 600 DKK lottery, how much will you donate to the Gold Standard charity?

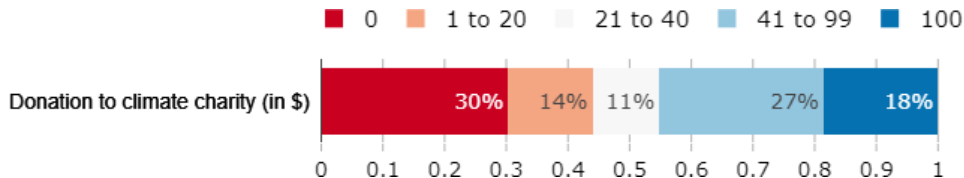


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Governance of climate policies

Figure 72: At which level(s) do you think public policies to tackle climate change need to be put in place?
(Multiple answers are possible)

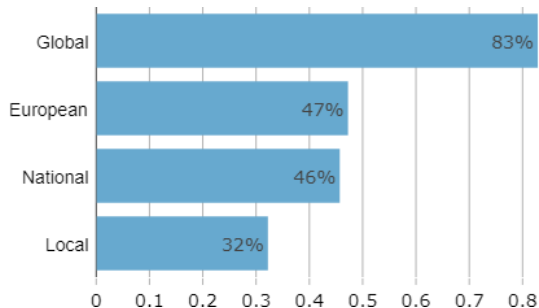


Figure 73: Do you agree or disagree with the following statement: "Denmark should take measures to fight climate change."

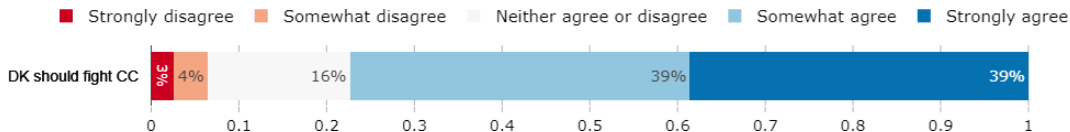


Figure 74: How should Danish climate policies depend on what other countries do?

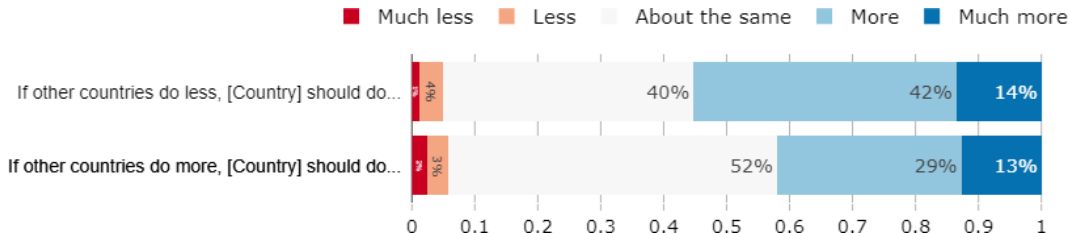


Figure 75: To achieve a given reduction of greenhouse gas emissions globally, costly investments are needed. Ideally, how should countries bear the costs of fighting climate change?

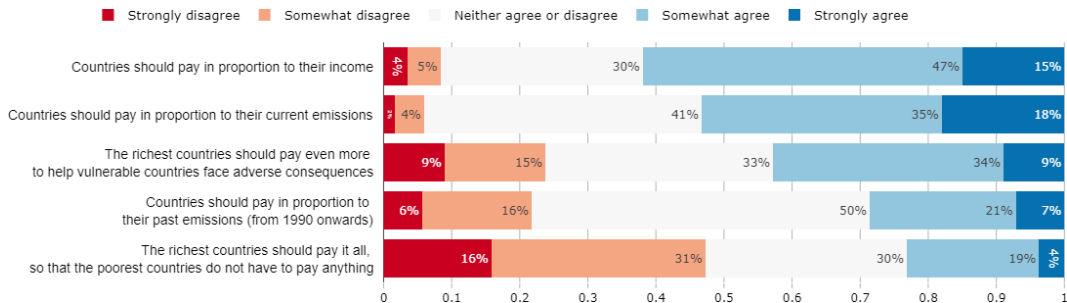


Figure 76: Do you support or oppose the following policies?

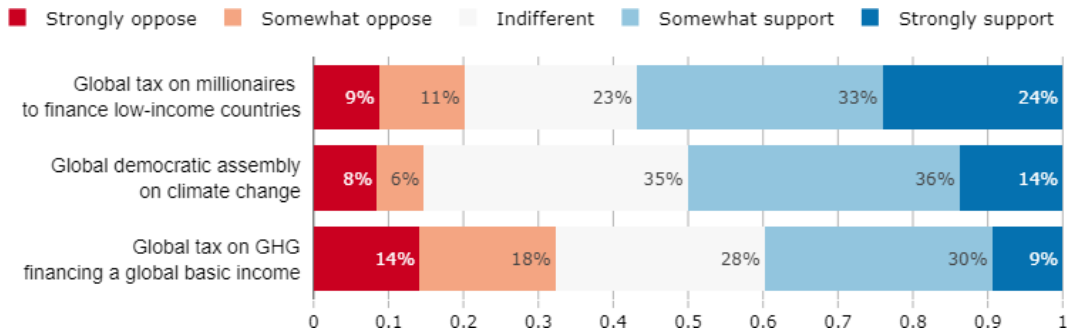


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Insulation

Figure 77: How likely is it that you will improve the insulation or replace the heating system of your accommodation over the next 5 years?

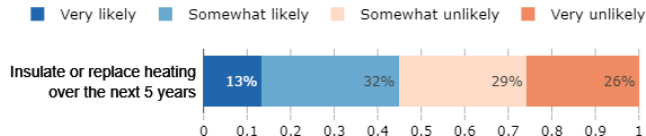


Figure 78: What are the main hurdles preventing you from improving the insulation or replace the heating system of your accommodation? (Multiple answers are possible)

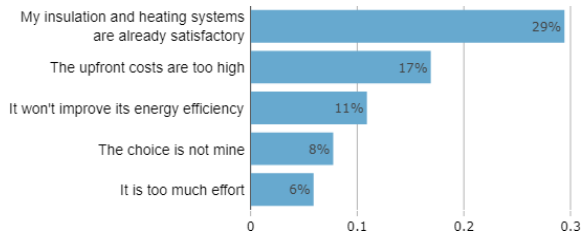
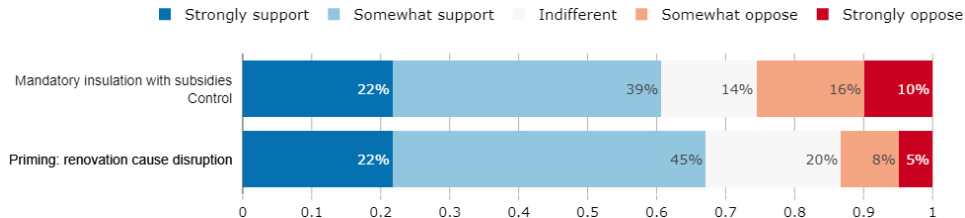


Figure 79: Imagine that the Danish government makes it mandatory for all residential buildings to have insulation that meets a certain energy efficiency standard before 2040. The government would subsidize half of the insulation costs to help households with the transition.

Displayed in disruption variant: [Insulating your home can take long, may cause disruptions to your daily life during the renovation works, and may even require you to leave your home until the renovation is completed.]

Do you support or oppose such policy?



Cattle products

Figure 80: Imagine that, in order to fight climate change, the Danish government decides to limit the consumption of cattle products like beef and dairy. Do you support or oppose the following options?

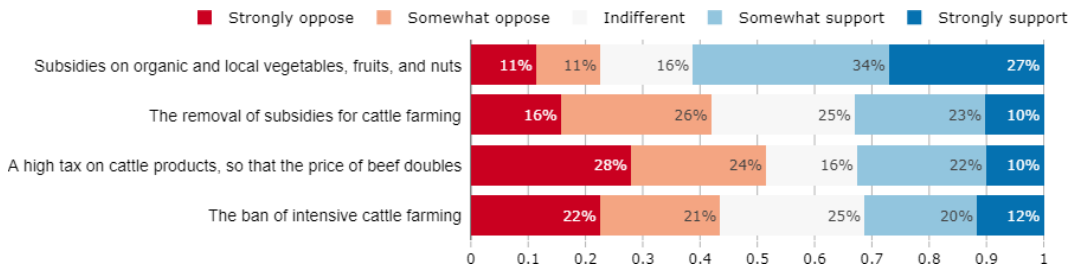


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Figure 81: Do you agree or disagree with the following statement: "Most people can be trusted."

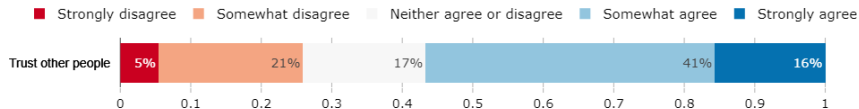
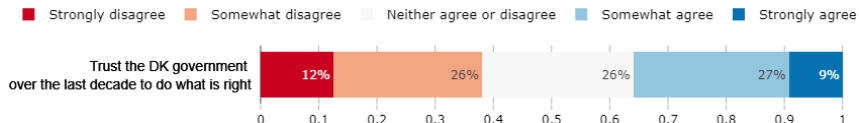


Figure 82: Do you agree or disagree with the following statement: "Over the last decade the Danish government could generally be trusted to do what is right."



Perception of institutions, inequality, and the future

Figure 83: Some people think the government is trying to do too many things that should be left to individuals and businesses. Others think that government should do more to solve our country's problems. Which come closer to your own view?

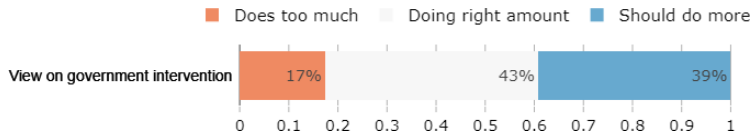


Figure 84: How big of an issue do you think income inequality is in Denmark?

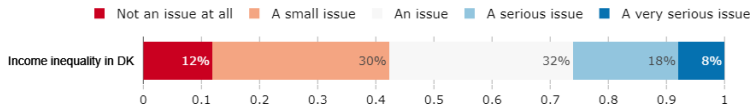


Figure 85: Do you think that overall people in the world will be richer or poorer in 100 years from now?

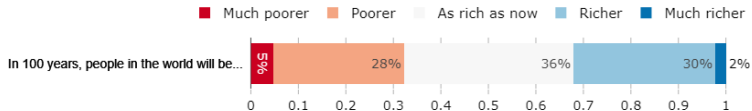


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Feedback on the survey

Figure 86: Do you feel that this survey was politically biased?

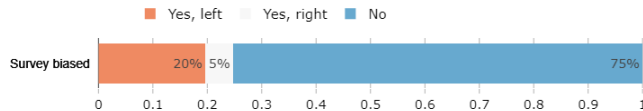


Figure 87: The survey is nearing completion. You can now enter any comments, thoughts or suggestions in the field below.



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Willingness to change behavior

Figure 88: To what extent would you be willing to adopt the following behaviors? -- Limit Flying, by Income

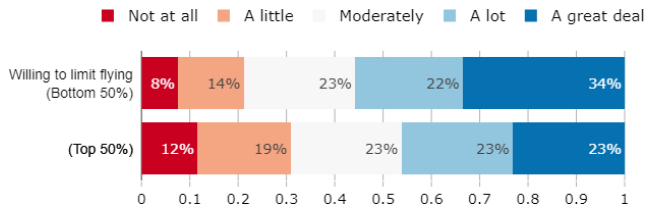


Figure 89: To what extent would you be willing to adopt the following behaviors? – Limit Beef Consumption, by Income

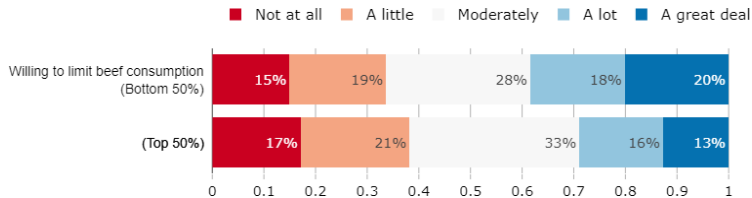


Figure 90: Do you think that overall people in the world will be richer or poorer in 100 years from now? -- by Income

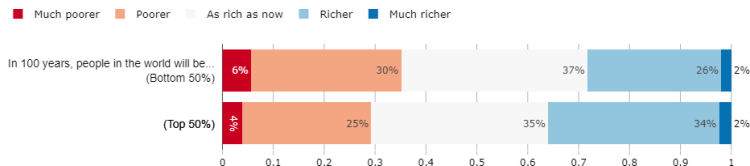


Figure 91: If we decide to halt climate change through ambitious policies, to what extent do you think it would negatively affect your lifestyle? – by Income

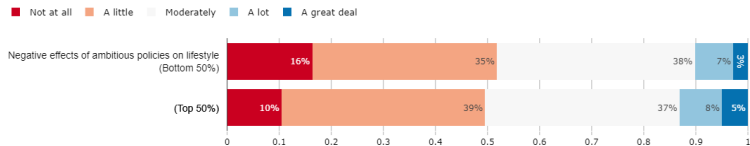


Figure 92: Do you think that financially your household would win or lose from the following policy? – by Income

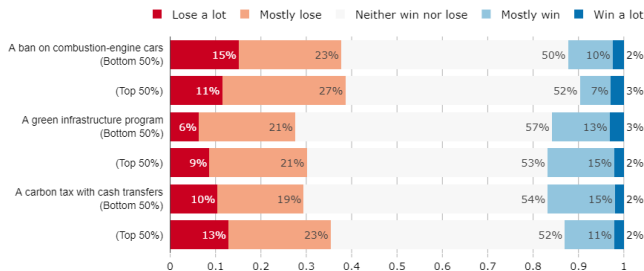
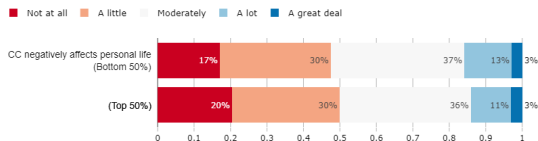


Figure 93: To what extent do you think climate change already affects or will negatively affect your personal life? – by Income



Policies – support

Figure 94: Do you support or oppose the following policy? – by Income

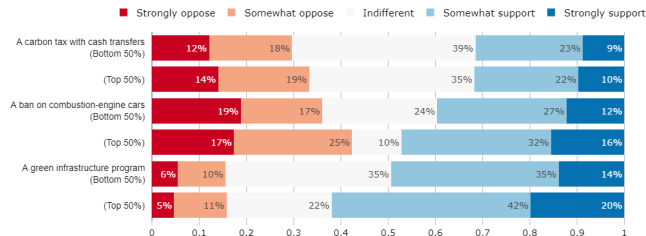
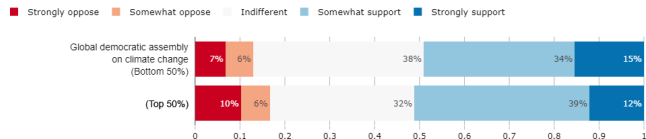


Figure 95: Do you support or oppose establishing a global democratic assembly whose role would be to draft international treaties against climate change? Each adult across the world would have one vote to elect members of the assembly. – by Income



Policies – negative effects

Figure 96: Do you agree or disagree with the following statement? This policy would have a negative effect on the Danish economy and employment – by Income

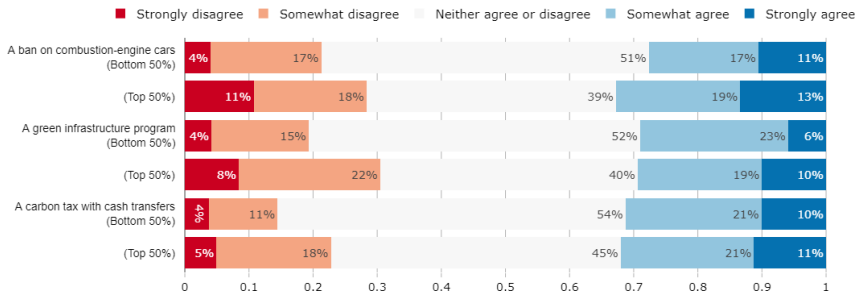


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Table 1: Attitudes towards Climate Change

	CC caused by humans	CC likely to cause extinction	Donation (in \$)	DK should fight CC	Willing to limit driving
Control group mean	0.634	0.411	237.256	0.773	0.343
Treatment: Climate	0.134*** (0.027)	0.011 (0.030)	0.174 (13.756)	0.035 (0.024)	−0.019 (0.028)
Treatment: Policy	0.002 (0.027)	0.006 (0.030)	−18.194 (13.780)	0.011 (0.024)	−0.035 (0.028)
Treatment: Both	0.118*** (0.028)	0.063** (0.030)	−8.043 (14.004)	0.057** (0.024)	−0.038 (0.028)
Observations	2,003	2,012	2,012	2,012	2,012

Note: The *CC caused by humans* indicator variable equals one if the respondent thinks a lot or most of climate change is due to human actions. The *CC likely to cause extinction* indicator variable equals one if the respondent thinks climate change is somewhat likely or very likely to cause the extinction of humankind if nothing is done to limit it. The *Donation* variable is a continuous variable equal to the amount the respondent is willing to give to a charity. The *Ambitious policies needed* indicator variable equals one if the respondent thinks policy must be a lot or a great deal ambitious in order to halt climate change. The *Willing to limit driving* indicator variable equals one if the respondent is willing a lot or a great deal to limit driving. The three *treatment* indicator variables indicate difference in mean compared to the control group (people who did not see any video). Controls include socio-demographic, economic affiliation, last vote and whether the respondent's household was hit by the COVID-19 pandemic. Standard errors are in parentheses.

*p<0.1; **p<0.05; ***p<0.01

Table 2: Support for policies

	Support			
	Carbon tax with transfers	Green Infrastructure Program	Ban on combustion-engine cars	Average over 3 policies
Control group mean	0.316	0.555	0.433	0.496
Treatment: Climate	0.068** (0.029)	0.060** (0.028)	0.074** (0.030)	0.095*** (0.029)
Treatment: Policy	0.131*** (0.029)	0.005 (0.029)	0.056* (0.030)	0.062** (0.029)
Treatment: Both	0.189*** (0.030)	0.087*** (0.029)	0.102*** (0.030)	0.140*** (0.029)
Observations	2,012	2,012	2,012	2,012

Note: The dependent variables are indicator variables equal to one if the respondent ‘Strongly supports’ or ‘Somewhat supports’ the policy. The *Average over 3 policies* takes the average of the respondent’s answers for the three policies. It equals one if the respondent support all three policies, 2/3 if she supports two, 1/3 if she support only one, and 0 if she supports none.

See notes under previous Table for a description of the covariates.

Controls include socio-demographic, economic affiliation, last vote and whether the respondent’s household was hit by the COVID-19 pandemic. Standard errors are in parentheses. *p<0.1; **p<0.05; ***p<0.01

Table 3: Attitudes towards policies

	Fair	HH would win	Poor would win	Large economic effect	Negative economic effect
Control group mean	0.453	0.223	0.125	0.492	0.404
Treatment: Climate	0.065** (0.029)	0.034 (0.027)	0.029 (0.025)	0.014 (0.031)	0.037 (0.030)
Treatment: Policy	0.080*** (0.029)	0.055** (0.027)	0.184*** (0.025)	0.050 (0.031)	0.002 (0.030)
Treatment: Both	0.125*** (0.030)	0.080*** (0.028)	0.248*** (0.026)	0.048 (0.031)	−0.016 (0.030)
Observations	2,012	1,912	1,994	2,012	2,012

Note: The dependent variables are discrete variables equal either to 0, 1/3, 2/3, or 1. They are equal to the average over the three policies mentioned in Table “Support policies”. The *Fair* variable equals one if the respondent strongly agrees or somewhat agrees that each of the three policies are fair. The *HH/Poor would win* variables equal one if the respondent thinks her household/the poorest would win a lot or mostly win from the three policies. The *Large/Negative economic effect* variables equal one if the respondent strongly agrees or somewhat agrees that the three policies would have a large/negative impact on the Danish economy and employment.

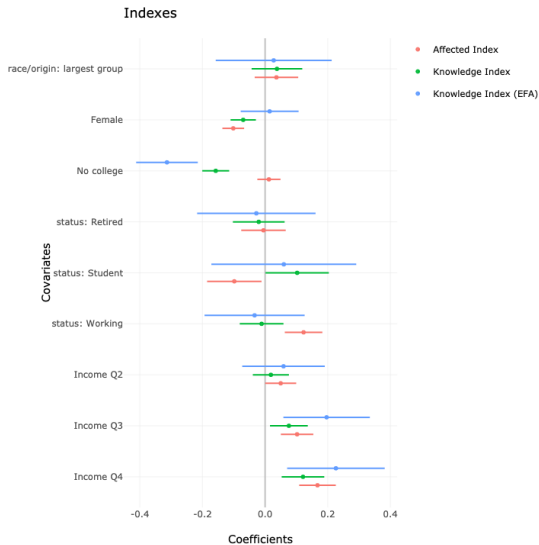
Controls include socio-demographic, economic affiliation, last vote and whether the respondent’s household was hit by the COVID-19 pandemic.

Standard errors are in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

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Regression of Indexes

Figure 97: Coefficients from regressions

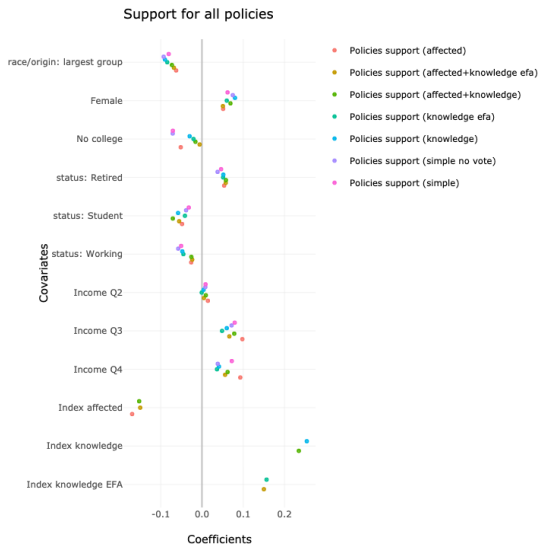


Descriptions of Indexes

- Indexes are non-weighted average of z-scores
- Each z-score is normalized with survey weights, control mean group and sd mean group. Impute mean of treatment group to missing values.
- *Affected Index*: polluting sector, transports used, expenses in gas and heating, availability of public transport, size of town, urbanity.
- *Knowledge Index*: scores on footprint questions, knowledge on the dynamic, reality, and anthropogenic diemsnions of climate change, knowledge of the impacts origins of climate change.
- *Knowledge Index (EFA)*: weights are loadings from explanatory factor analysis.

Regression of Support on Indexes

Figure 98: Coefficients from regressions



Regression of Political Affiliation

Figure 99: Coefficients from regressions

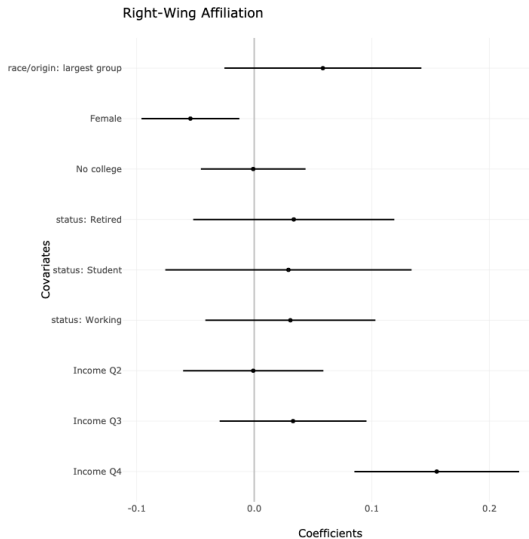


Figure 100: Support by political affiliation

