The economics and psychology of carbon tax acceptance: Evidence from a survey experiment

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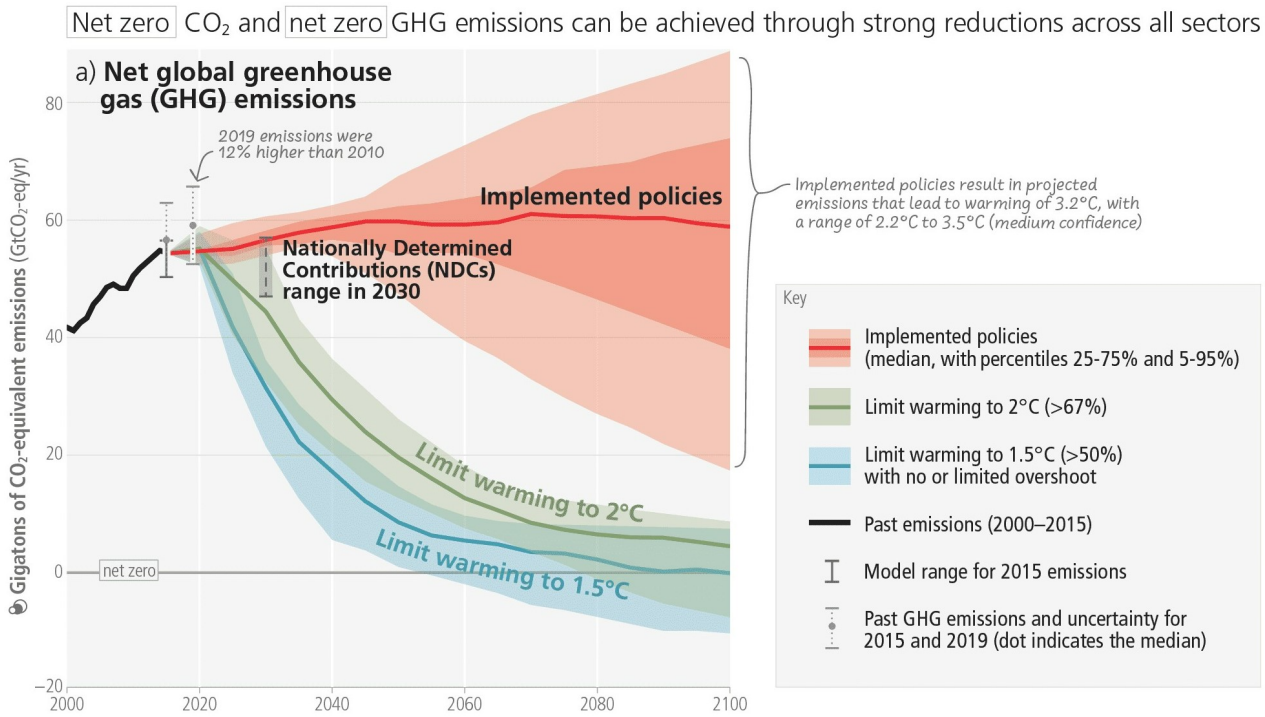
Ambitious policies necessary to address climate change



Source: IPCC Synthesis Report 6

Some climate **policies remain underutilised** *(Stechemesser A. et al. 2024)*, despite the public's growing demand for political action *(Andre et al. 2024; Deschezleprêtre et al 2025)*.

A political economy challenge

Ambitious climate policy (e.g., carbon taxation) requires **broad public acceptance**.

How can we foster public support for carbon taxation?

Which motives determine reluctance about carbon taxes?

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1. Traditional political econ:
   - need to address economic & distributive concerns, e.g. through lump-sum transfers
   - but also limited understanding *(e.g., Dal Bo et al., 2018; Andres et al 2019; Stantcheva 2021; Douenne & Fabre 2022)*
2. Social & psychological factors:
   - influential in political science, e.g. symbolic voting, partisan identity *(Sears et al., 1980; Achen & Bartels, 2017; Gennaioli & Tabellini. 2023)*
   - role of perceived social norms *(e.g., Nyborg et al 2016; Andre et al 2022; Sparkman et al 2022)*

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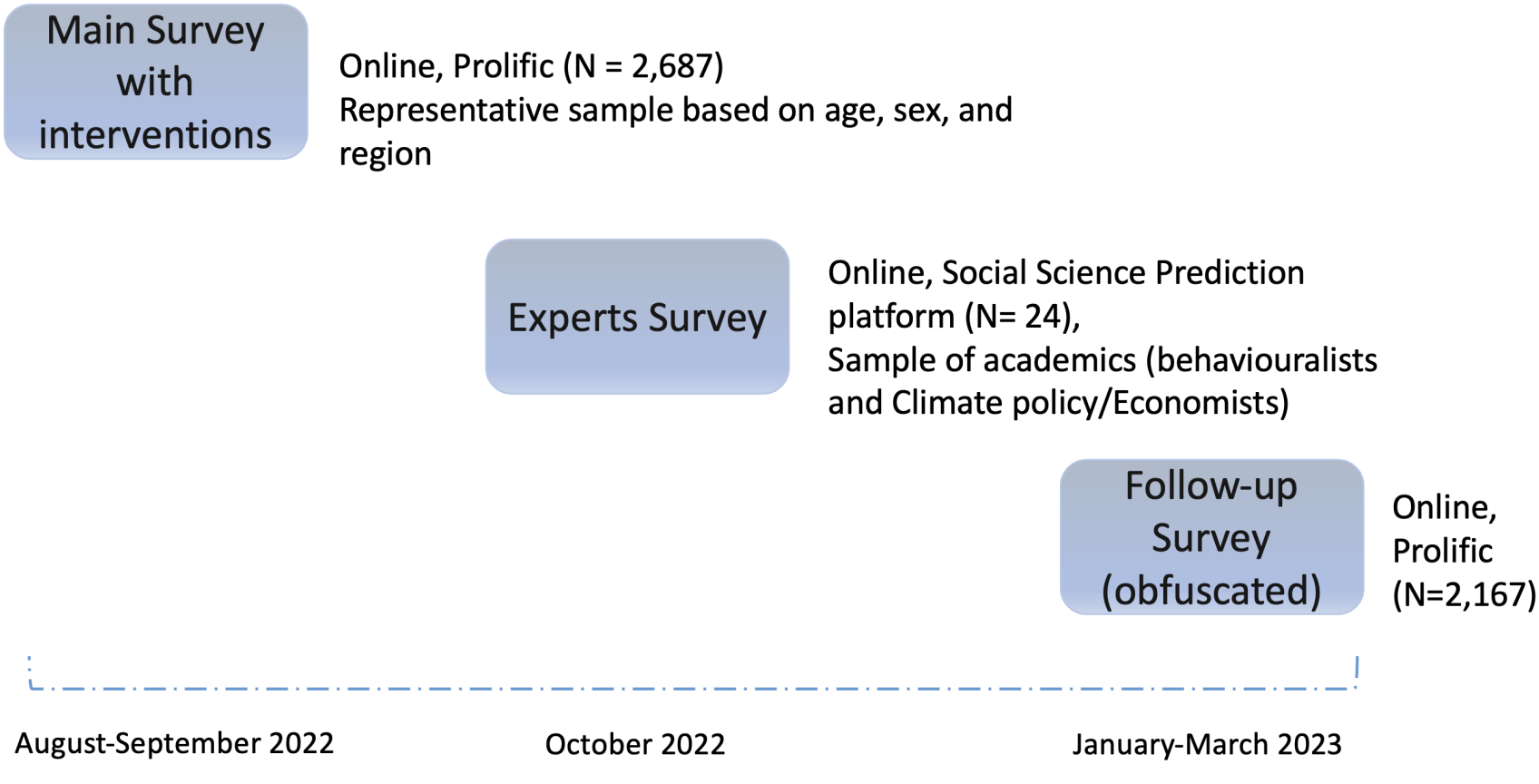
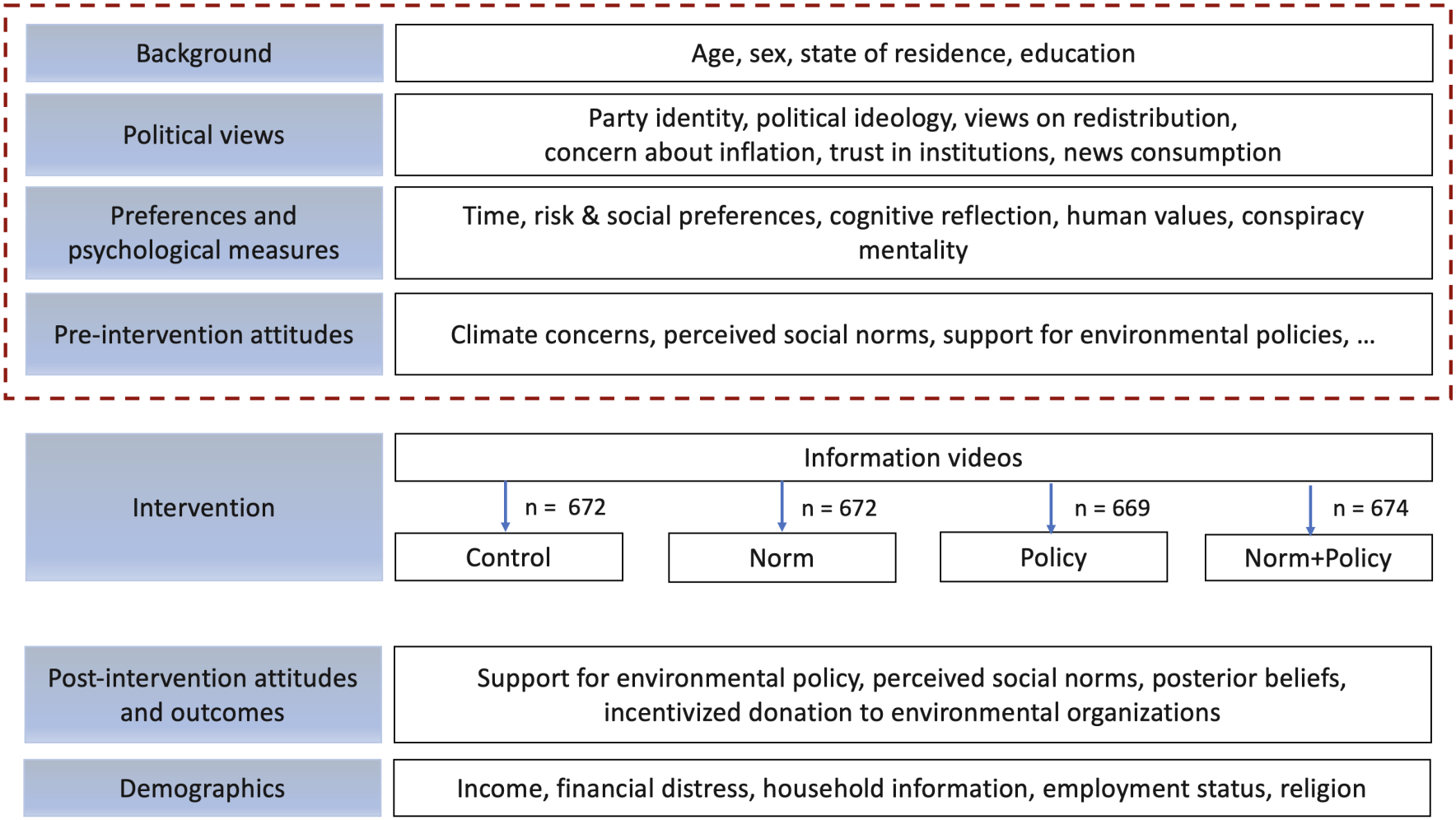
This study: combining insights from both perspectives to increase public acceptability of carbon taxation

Study Design



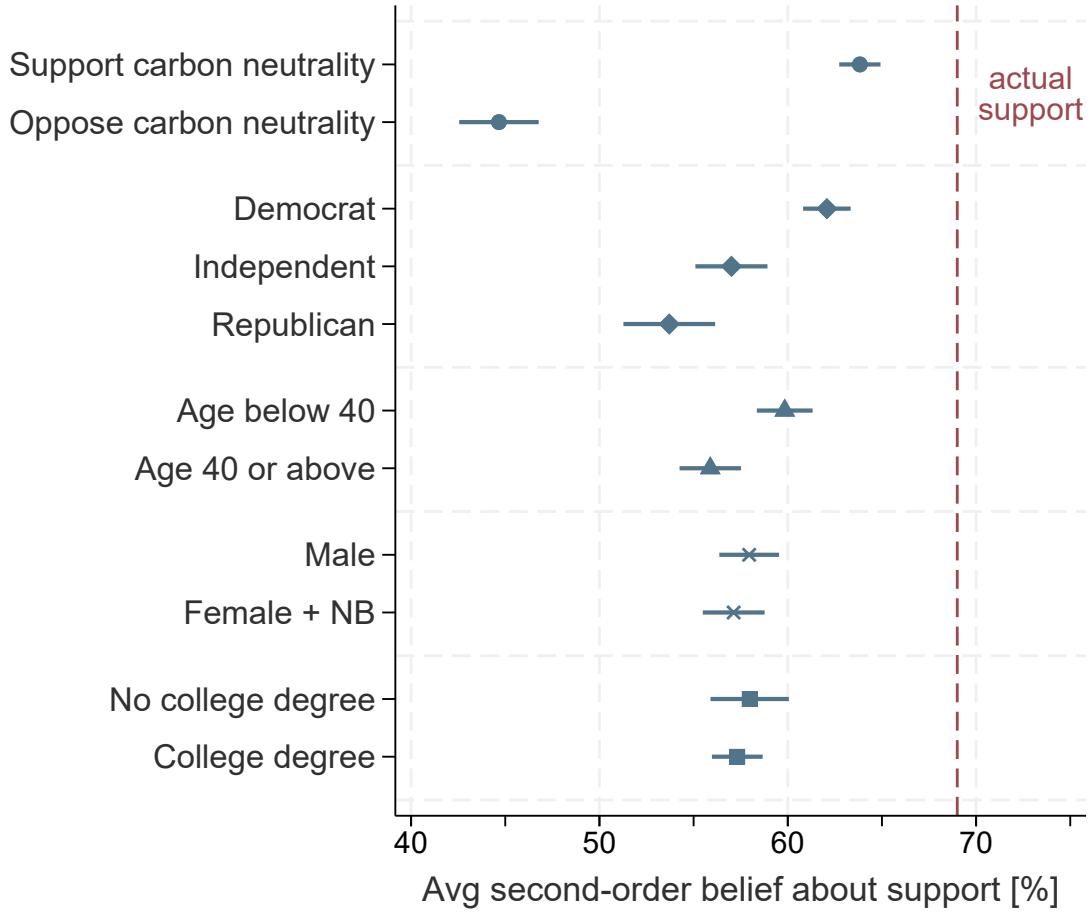
▸ Sample characteristics

Our initial survey consists of three blocks



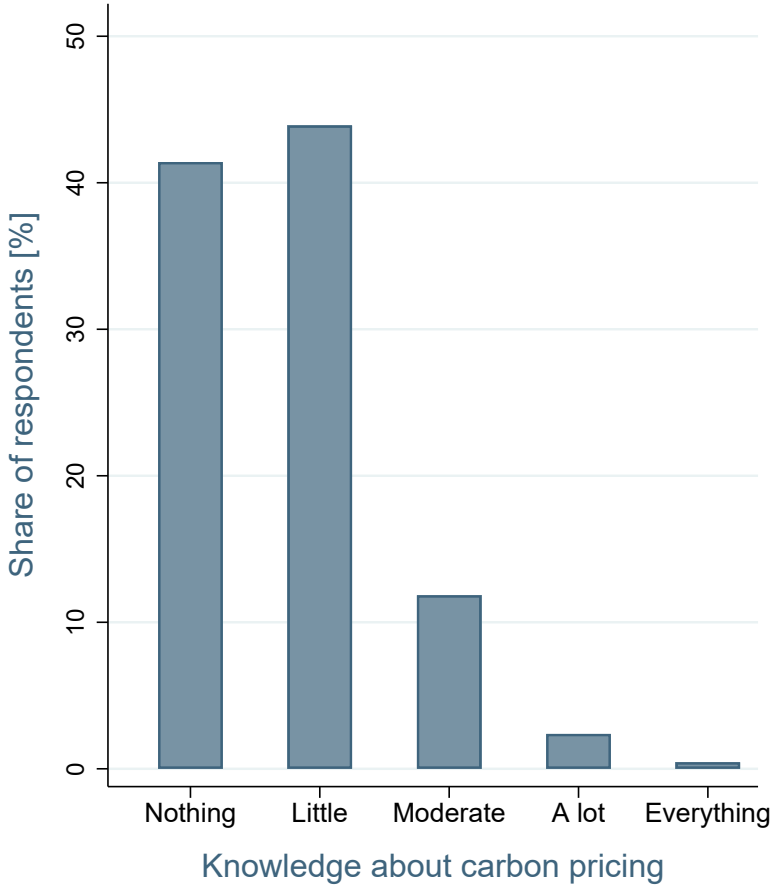
Most Americans underestimate support for climate action

People **underestimate** how many other Americans are in favour of carbon neutrality → 69% according to Pew Research Center (2022)

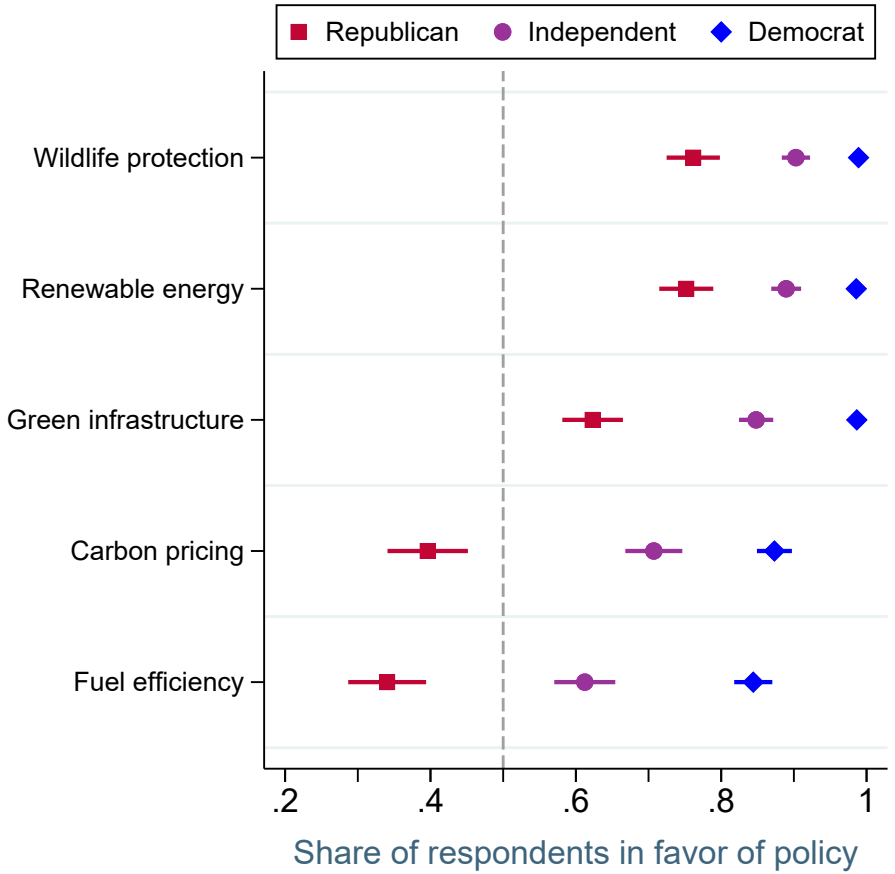


Most Americans are uncertain about carbon pricing

(a) Self-assessed knowledge



(b) Support for environmental policies



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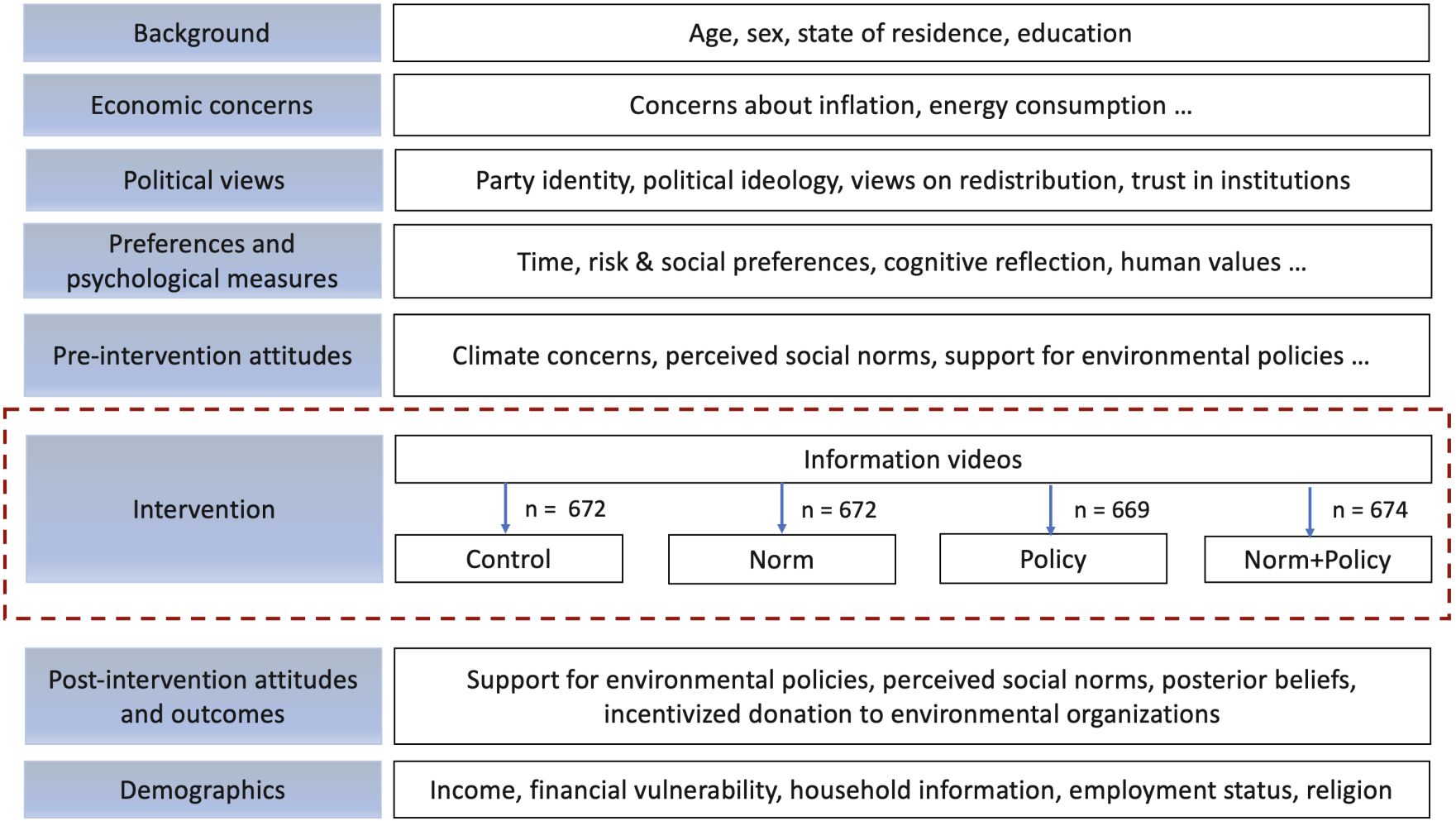
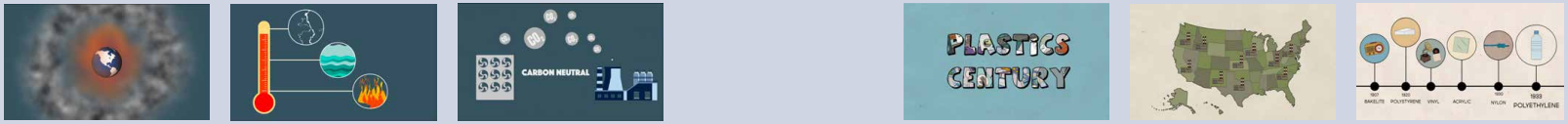


Overview of video interventions

Control

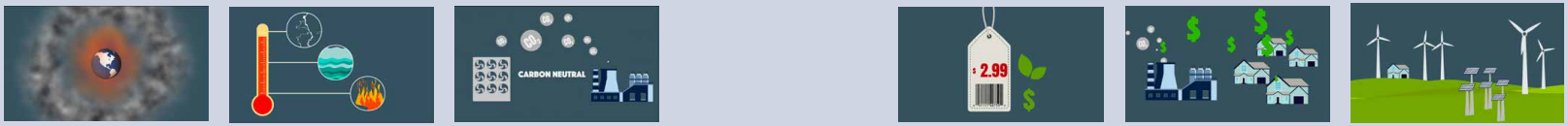


Video 1 climate change explainer + Video 2 placebo

Norm

Video 1 climate change explainer + Norm + Video 2 placebo

Policy



Video 1 climate change explainer + Video 2 carbon pricing explainer

Norm + Policy

Video 1 climate change explainer + Norm + Video 2 carbon pricing explainer

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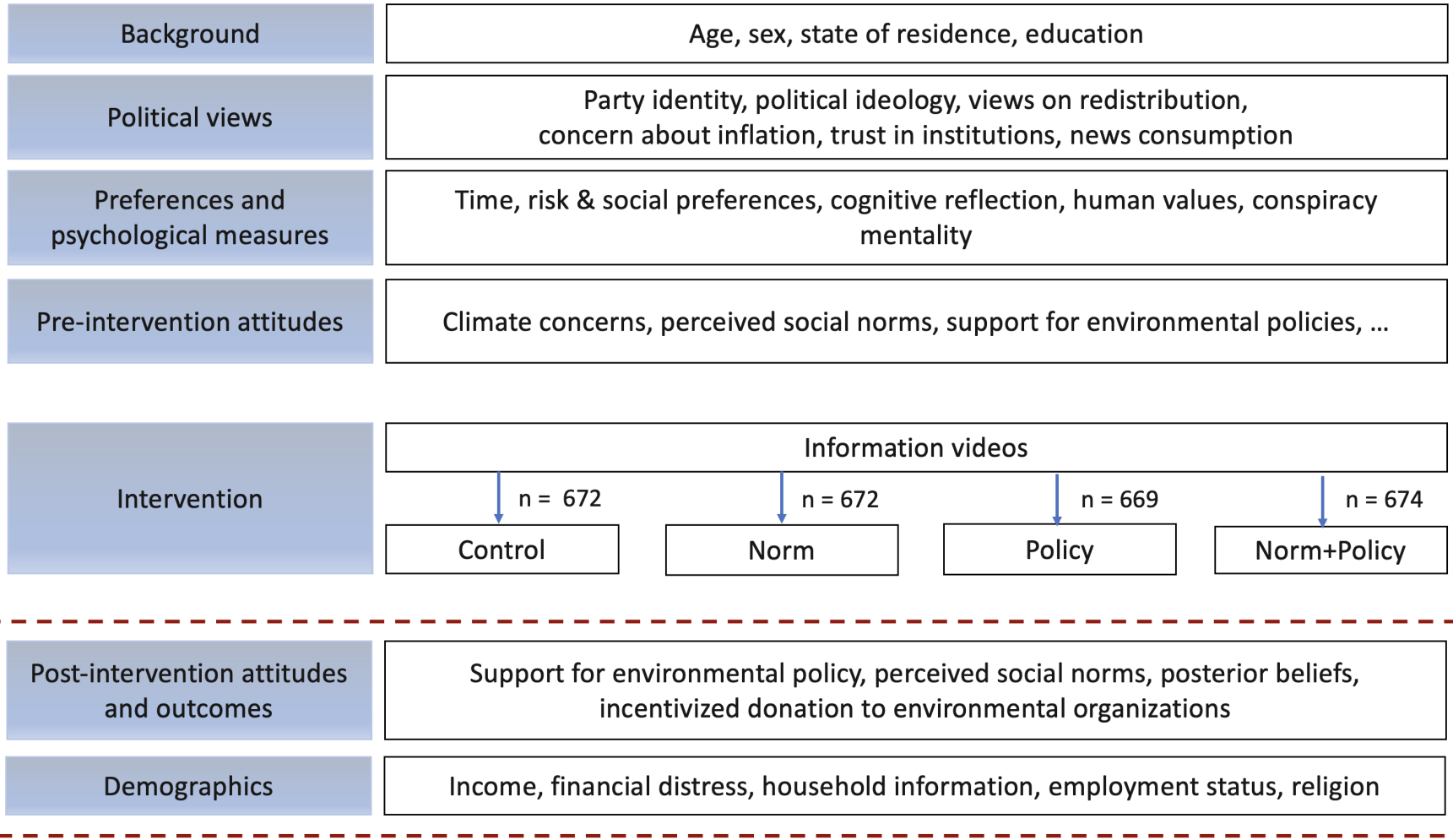

Main outcome variables

1. **Stated views toward CP** with lump-sum redistribution
   - *"Require fossil fuel companies to pay a fee on carbon emissions, and distribute the money collected to all U.S. citizens, in equal amounts, through monthly dividend checks"*
   - 4-point Likert scale response
   - Focus on policy support ("support" or "strongly support") and resistance against policy ("strongly oppose")

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2. **Incentivized donation opportunity**: split $100 between oneself and two environmental organizations
   - Carbon Leadership Council (CLC): bipartisan group advocating for carbon tax with lump-sum cash transfer in the US
   - National Wildlife Federation (NWF)

All information videos increase stated policy support

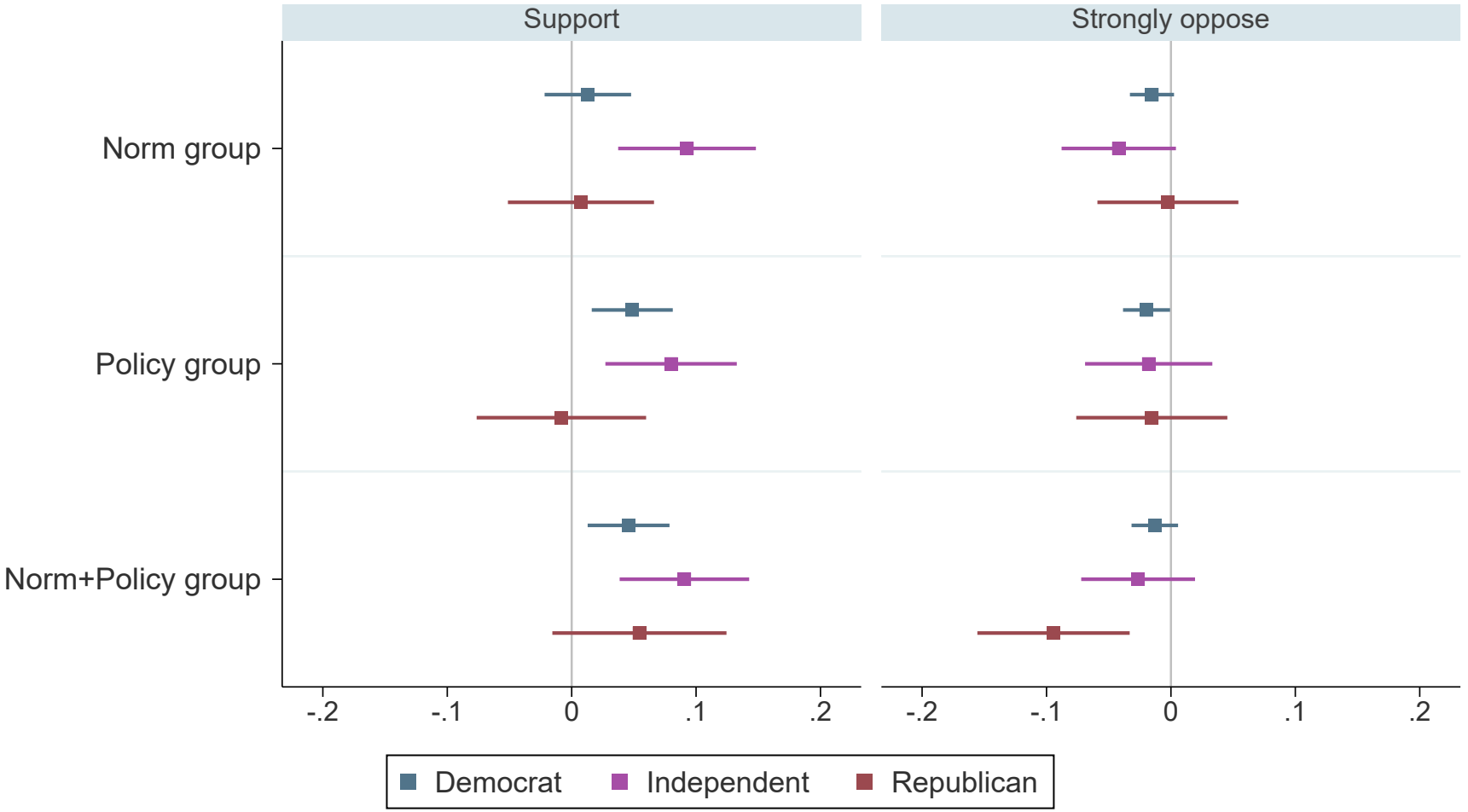
Table: Average treatment effects on stated support in the initial survey

	Support carbon tax			*Strongly oppose carbon tax*		
	(1)	(2)	(3)	(4)	(5)	(6)
Norm group	0.039**	0.043**	0.061**	-0.020	-0.023	-0.035
	(0.019)	(0.019)	(0.028)	(0.015)	(0.016)	(0.024)
Policy group	0.049**	0.043**	0.077***	-0.020	-0.017	-0.030
	(0.019)	(0.019)	(0.028)	(0.017)	(0.017)	(0.026)
Norm+Policy group	0.064***	0.064***	0.085***	-0.037**	-0.039**	-0.057**
	(0.019)	(0.019)	(0.029)	(0.016)	(0.016)	(0.025)
Excl. strong prior supporters			✓			✓
Additional controls		*Yes*	*Yes*		*Yes*	*Yes*
Baseline attitudes	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
p-value for H_0: N = P = NP	0.361	0.390	0.644	0.492	0.348	0.511
Control group mean	0.640	0.640	0.452	0.187	0.187	0.287
Observations	2688	2688	1501	2688	2688	1501
R^2	0.620	0.647	0.578	0.600	0.624	0.605

Robust SEs in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

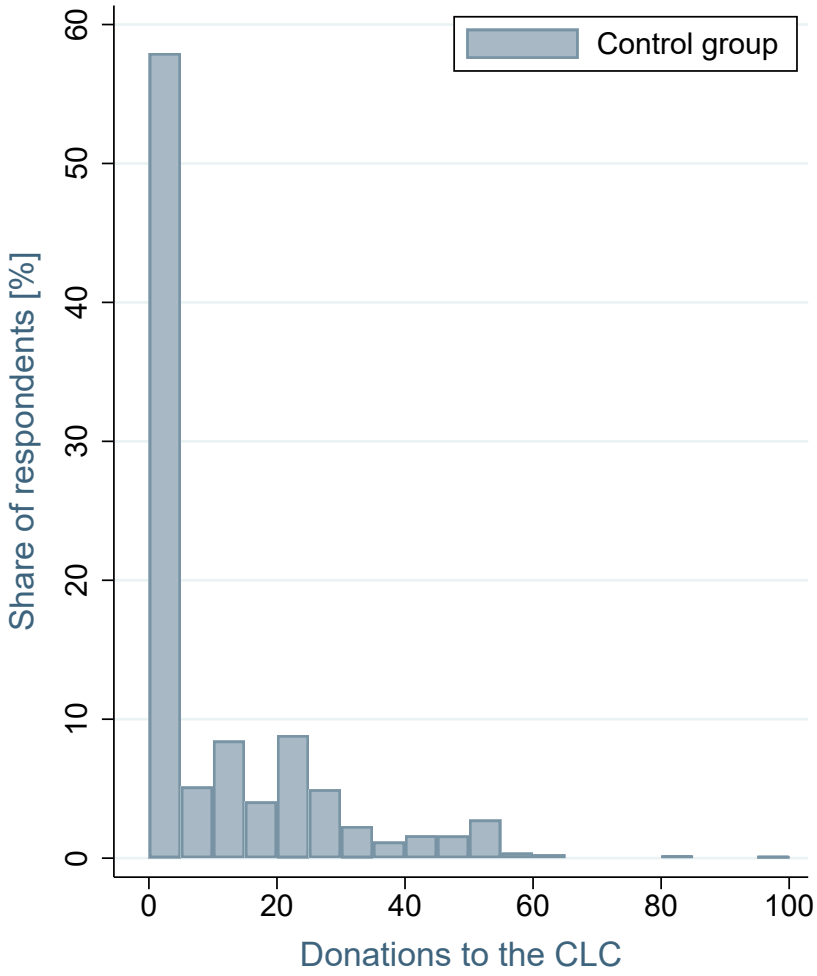
Heterogeneous effects by political identity

Figure: On strong opposition against carbon pricing

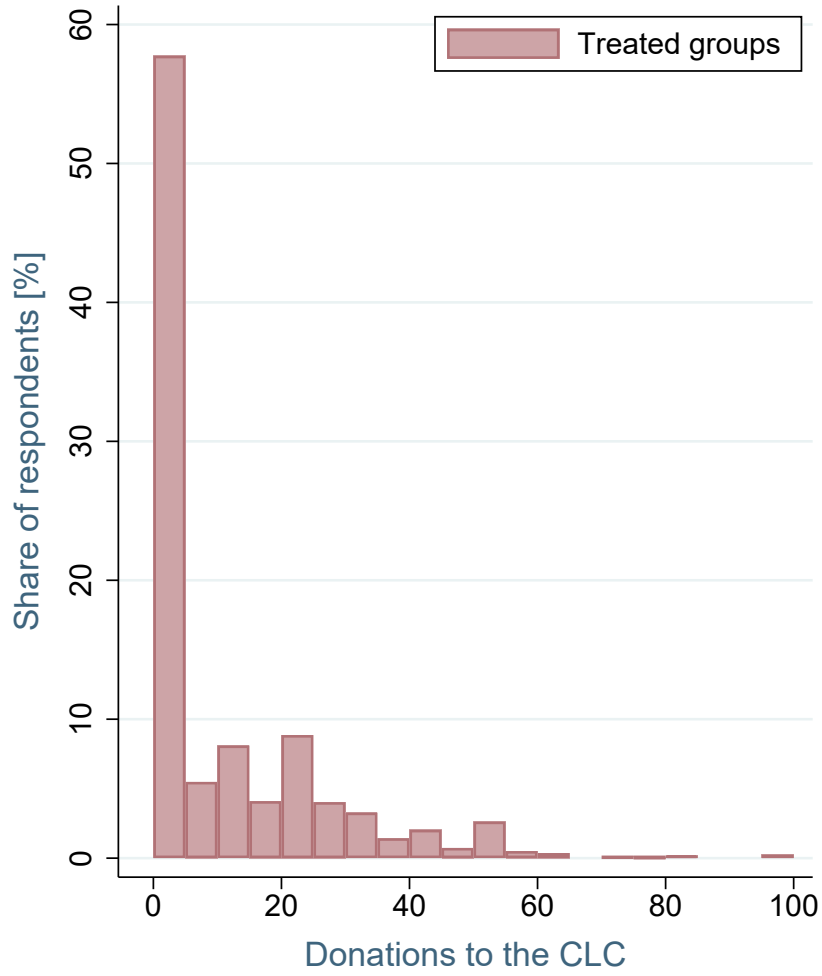


No effects on environmental donations

(a) Donations to the CLC – Control

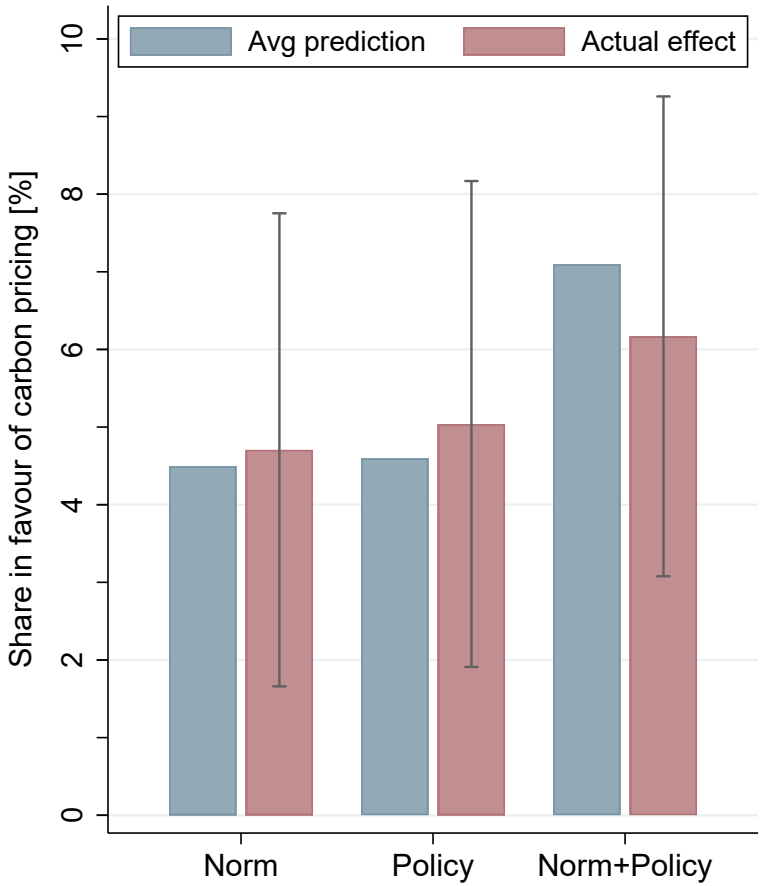


(b) Donations to the CLC – Treated

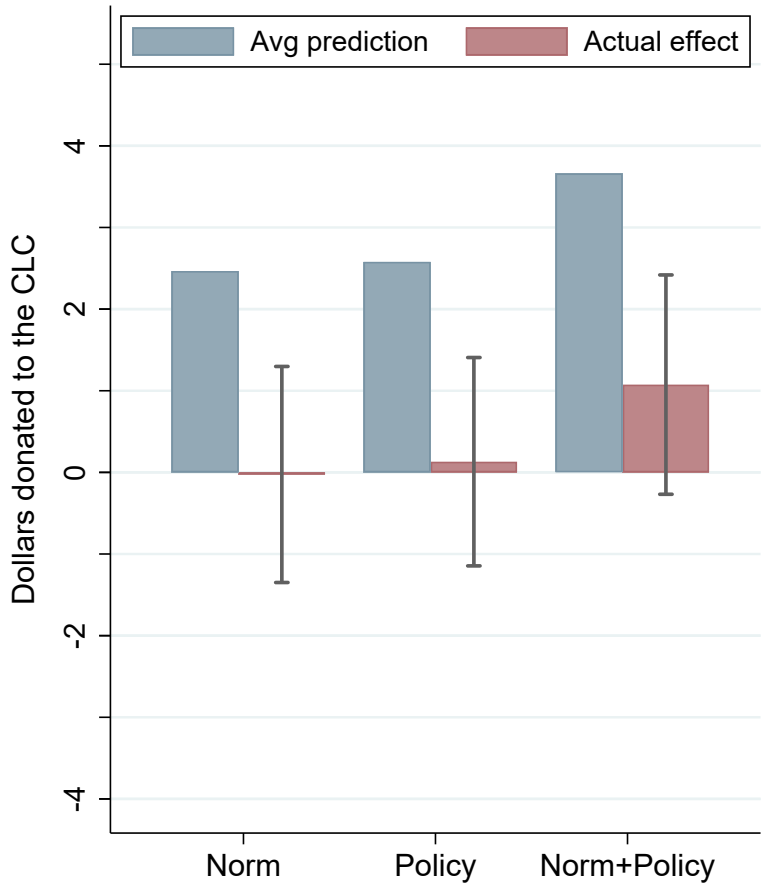


Expert forecasts versus actual ATEs on stated support

(a) Stated policy support



(b) Donations to the CLC



Follow-up survey in a nutshell

- Obfuscated follow-up study from Jan-Mar 2023, about 4-6 months after the initial intervention
- Managed to recontact about 80% of the original sample
- No evidence for differential attrition

Condition	**Main survey**	**Follow-up**	**Recontact rate**
Control group	672	545	81.1%
Norm group	672	530	78.9%
Policy group	669	551	82.4%
Norm+Policy group	674	541	80.3%
Total	2,687	2,167	80.6%

Persistent decrease in strong opposition

Table: Average treatment effects in follow-up survey

	Support carbon tax			*Strongly oppose carbon tax*		
	(1)	(2)	(3)	(4)	(5)	(6)
Norm group	-0.000	0.003	0.009	-0.014	-0.013	-0.031
	(0.024)	(0.023)	(0.032)	(0.020)	(0.019)	(0.029)
Policy group	-0.011	-0.015	-0.026	-0.008	-0.005	-0.023
	(0.023)	(0.022)	(0.032)	(0.021)	(0.019)	(0.029)
Norm+Policy group	0.008	0.001	-0.005	-0.053**	-0.054***	-0.089***
	(0.025)	(0.024)	(0.034)	(0.021)	(0.021)	(0.031)
Excl. strong prior supporters			✓			✓
Additional controls		*Yes*	*Yes*		*Yes*	*Yes*
Baseline attitudes	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
p-value for H_0: N = P = NP	0.708	0.662	0.519	0.067	0.036	0.071
Control group mean	0.654	0.654	0.512	0.222	0.222	0.327
Observations	2171	2171	1228	2171	2171	1228
R^2	0.510	0.567	0.527	0.527	0.586	0.570

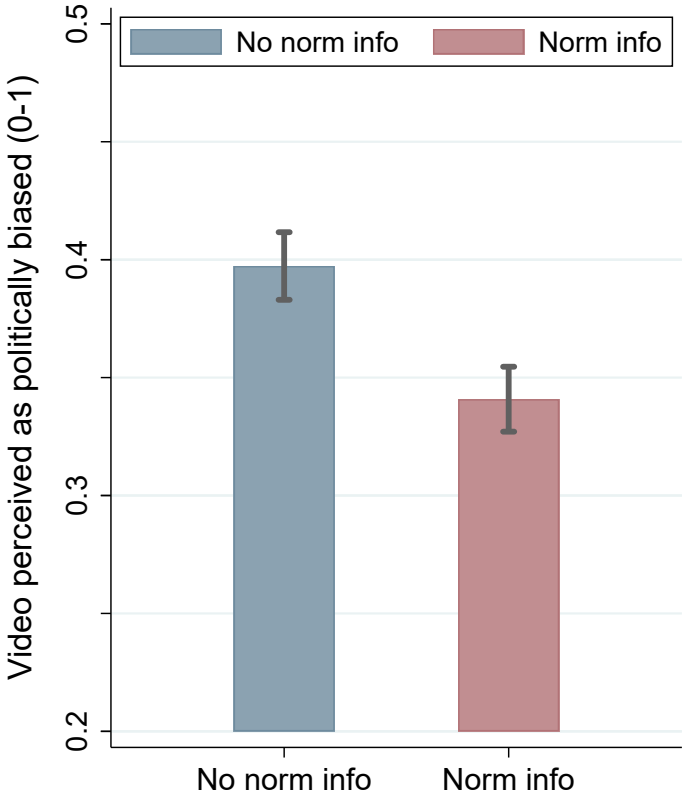
Robust SEs in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

▸ Donation histograms

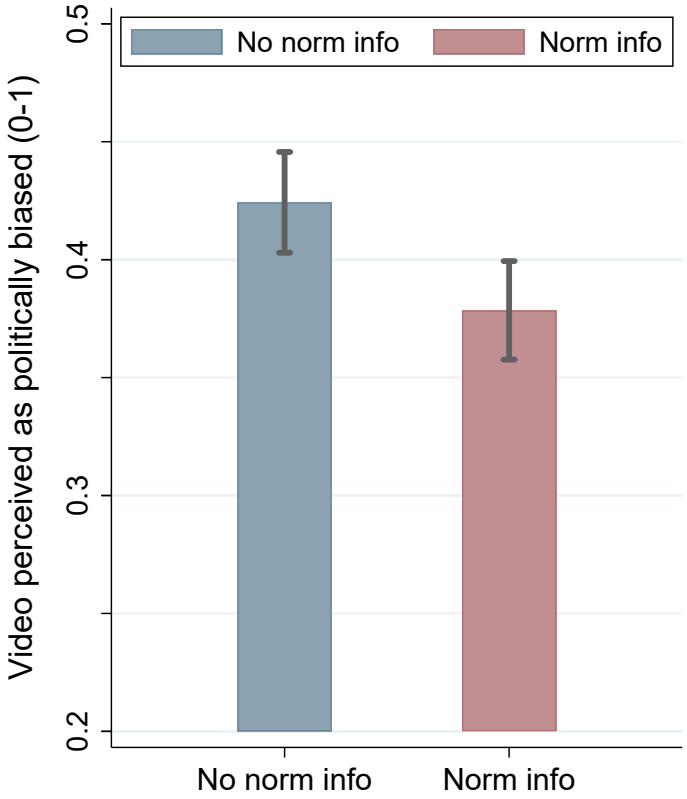
Why does combining interventions matters

Potential explanation: norm info reduces **perceived political bias** of the explainer videos

(a) Climate change intro video



(b) CP policy explainer video



Discussion

- Both norm-based info and policy explanation can make carbon taxation more publicly appealing in the short-term
- No long-term incremental effect on support, but persistent reduction in strong opposition in the combined treatment
- Role of both social and policy information in shifting the Overton window as a first step
- Highlights dynamic nature of building persistent policy acceptance and support

Link to working paper

Thank you!

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Predictors of baseline support for carbon pricing

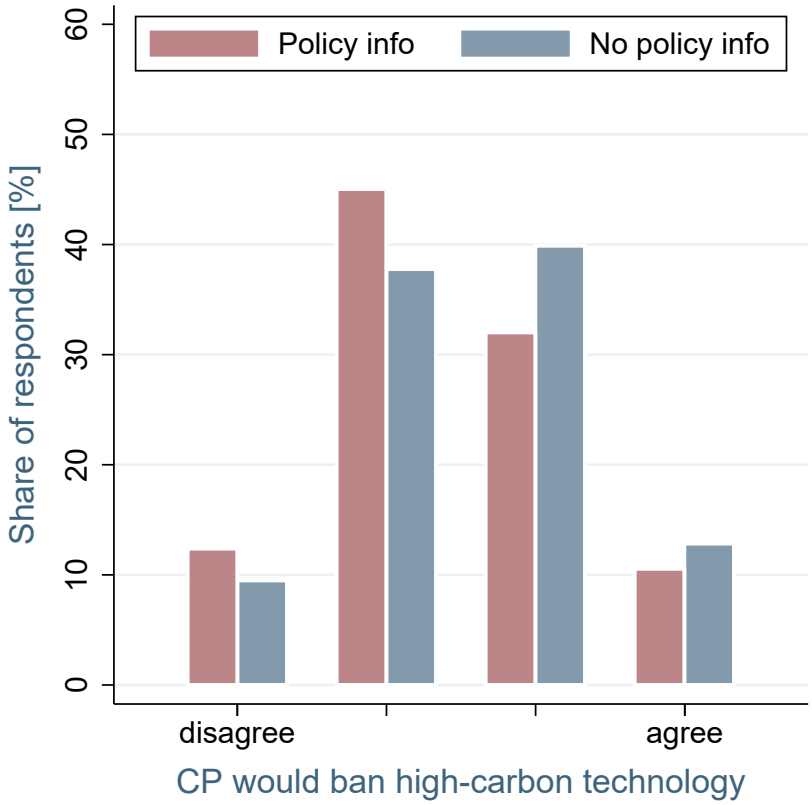
	Support CP		*Strongly oppose CP*	
	(1)	(2)	(3)	(4)
Republican/Lean Rep.	-0.210***	-0.136***	0.101***	0.029*
	(0.024)	(0.022)	(0.019)	(0.018)
Climate change concern (std.)	0.192***	0.086***	-0.161***	-0.090***
	(0.010)	(0.011)	(0.010)	(0.010)
Perceived norms	0.168***	-0.007	-0.185***	-0.079**
	(0.045)	(0.037)	(0.043)	(0.040)
CP reduces emissions	–	0.256***	–	-0.145***
		(0.026)		(0.024)
CP harms the poor	–	-0.043	–	0.033
		(0.030)		(0.034)
CP harms own household	–	-0.084**	–	0.064*
		(0.033)		(0.037)
CP harms the economy	–	-0.326***	–	0.169***
		(0.029)		(0.026)
Market liberalism	–	-0.051	–	0.179***
		(0.035)		(0.033)
Demographic controls	*Yes*	*Yes*	*Yes*	*Yes*
Observations	2685	2685	2685	2685
R^2	0.399	0.556	0.362	0.448

Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

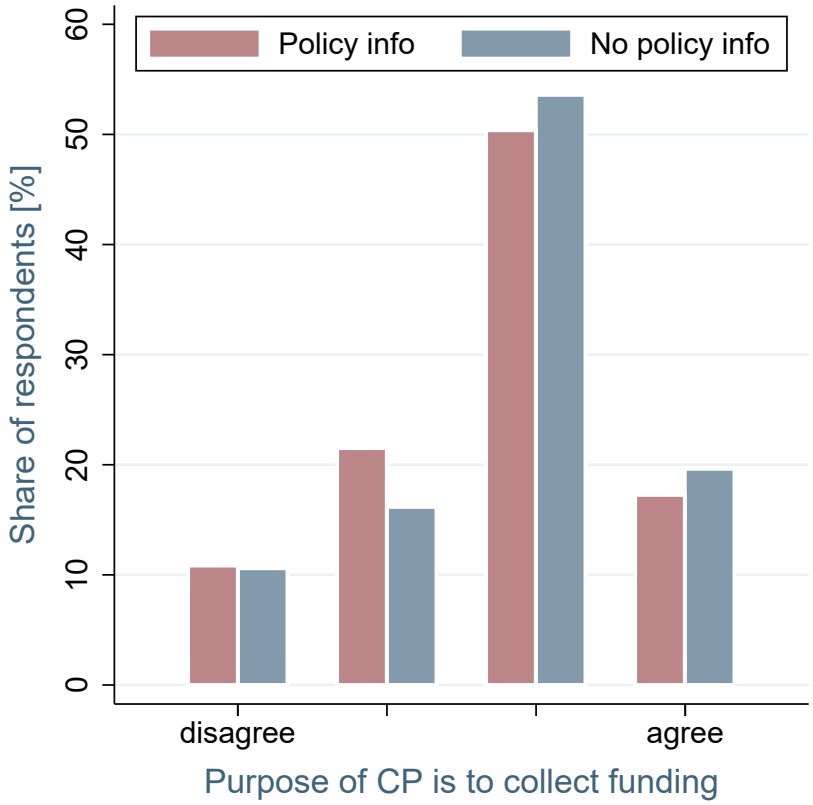
Policy info improves factual knowledge about CP

Common misconceptions about carbon pricing as a policy:

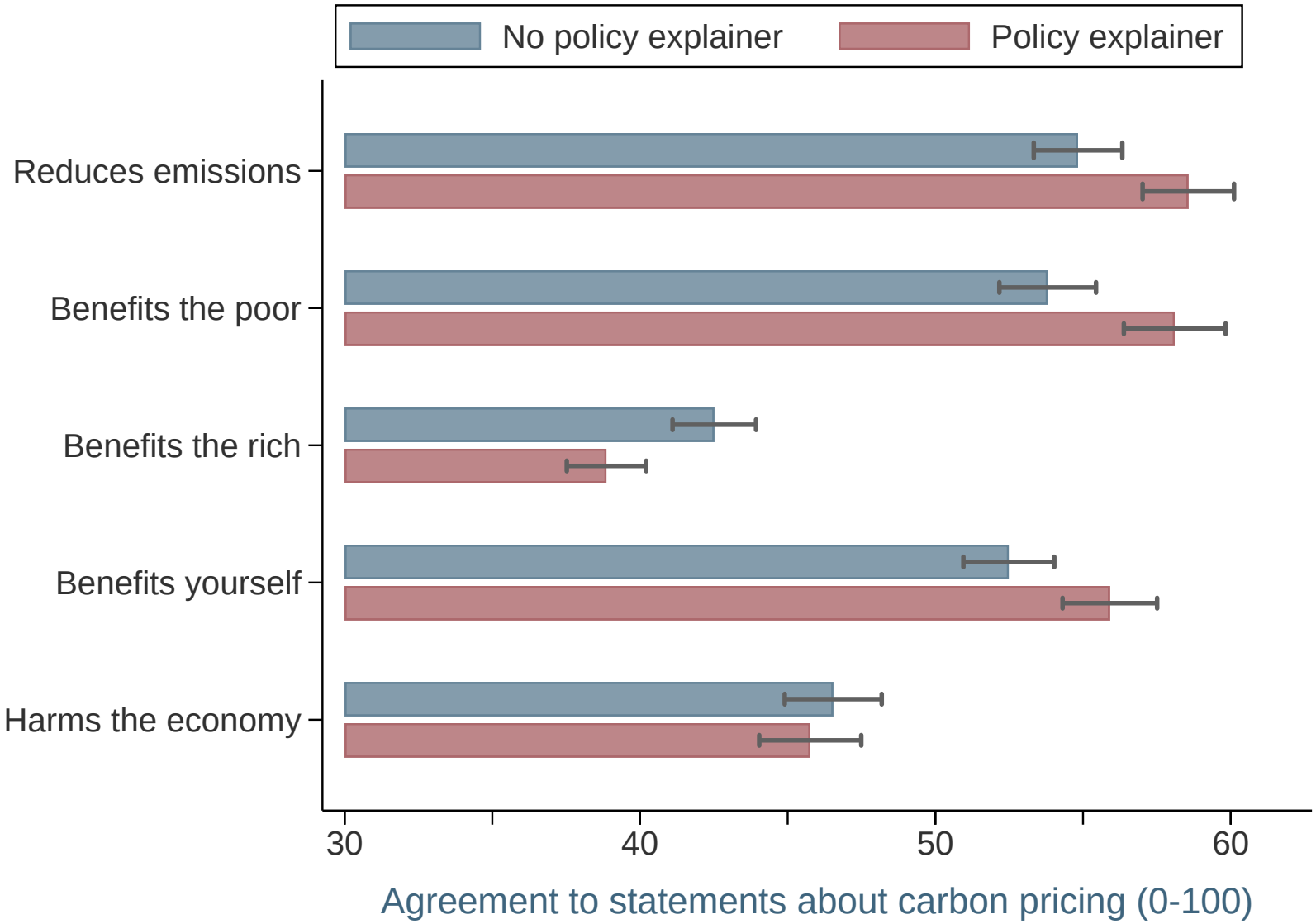
(a) Bans certain technologies?



(b) Purpose is to raise funds?



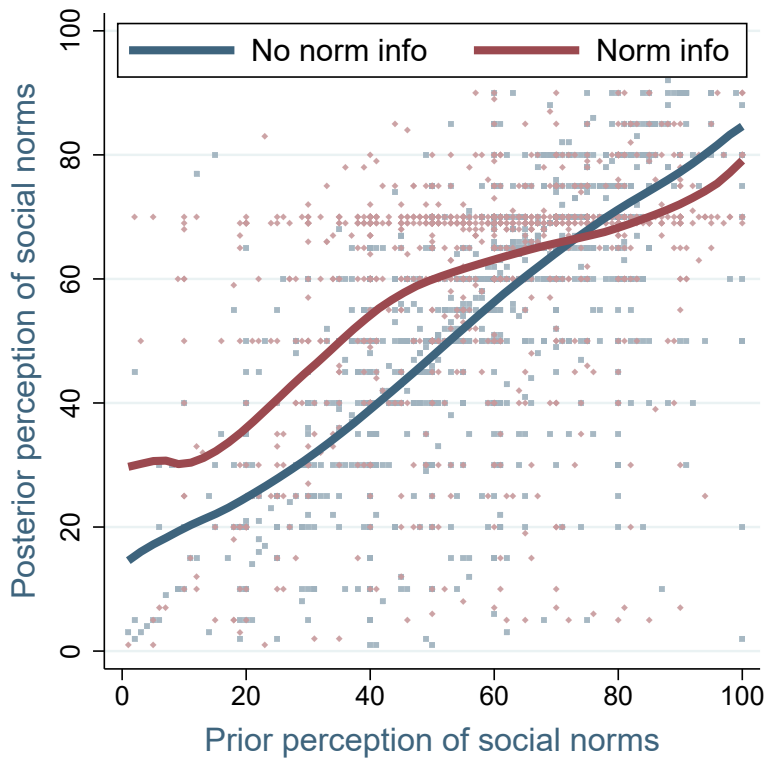
Policy video improves perceived merits



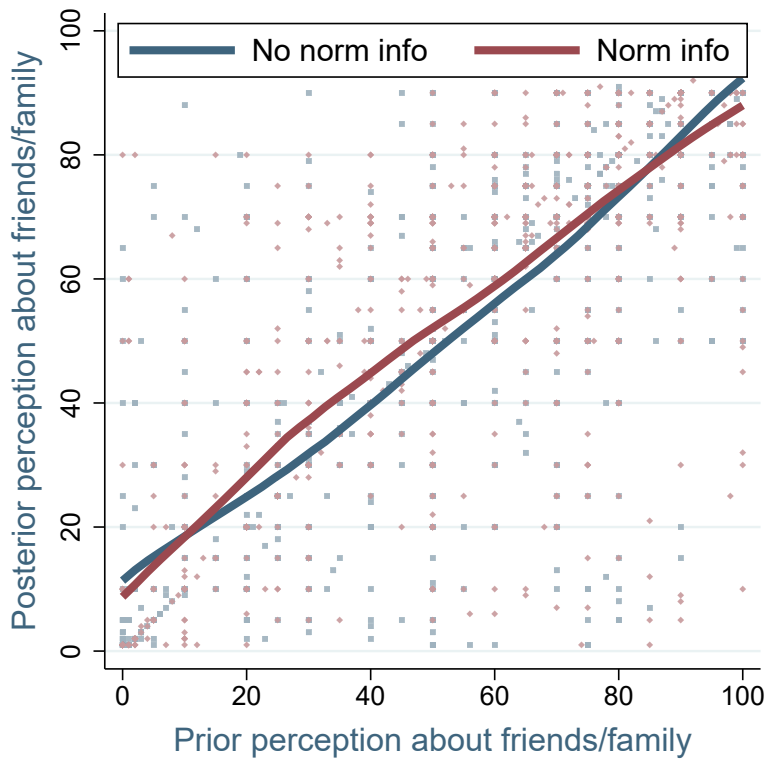
Norm info induces belief updating about general norms

Prior/posterior perception of support for US carbon neutrality goals:

(a) In the general population

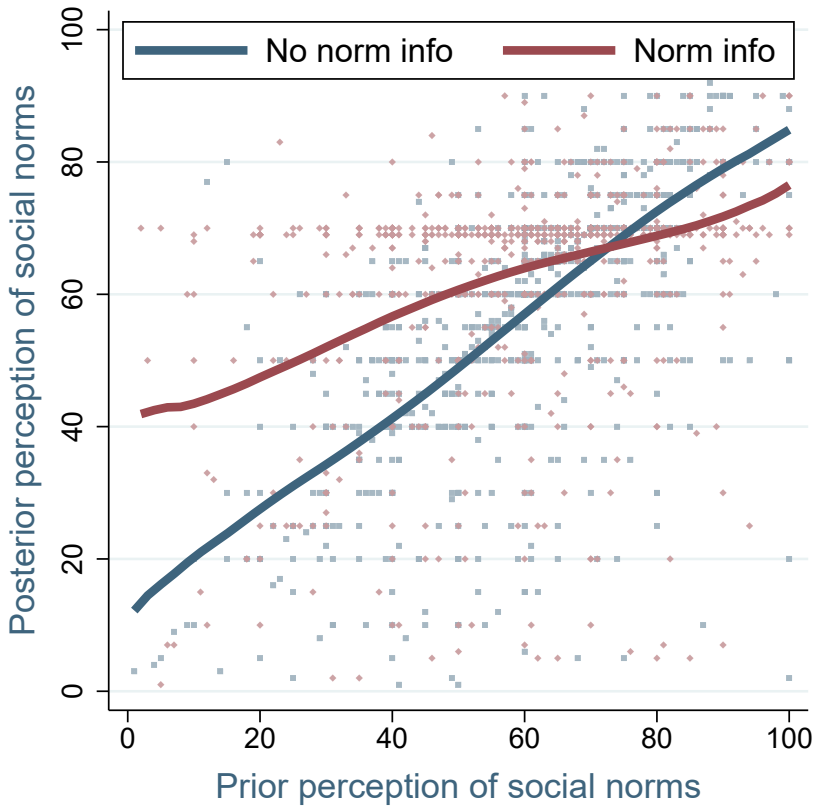


(b) Among friends and family

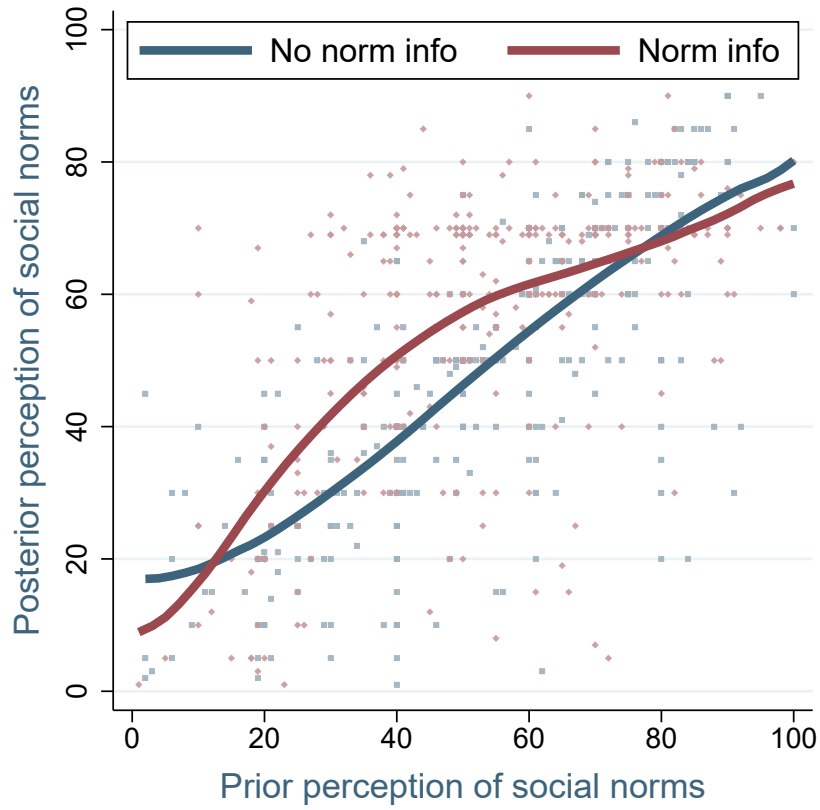


Belief updating by party identity

(a) Democrats and Independents



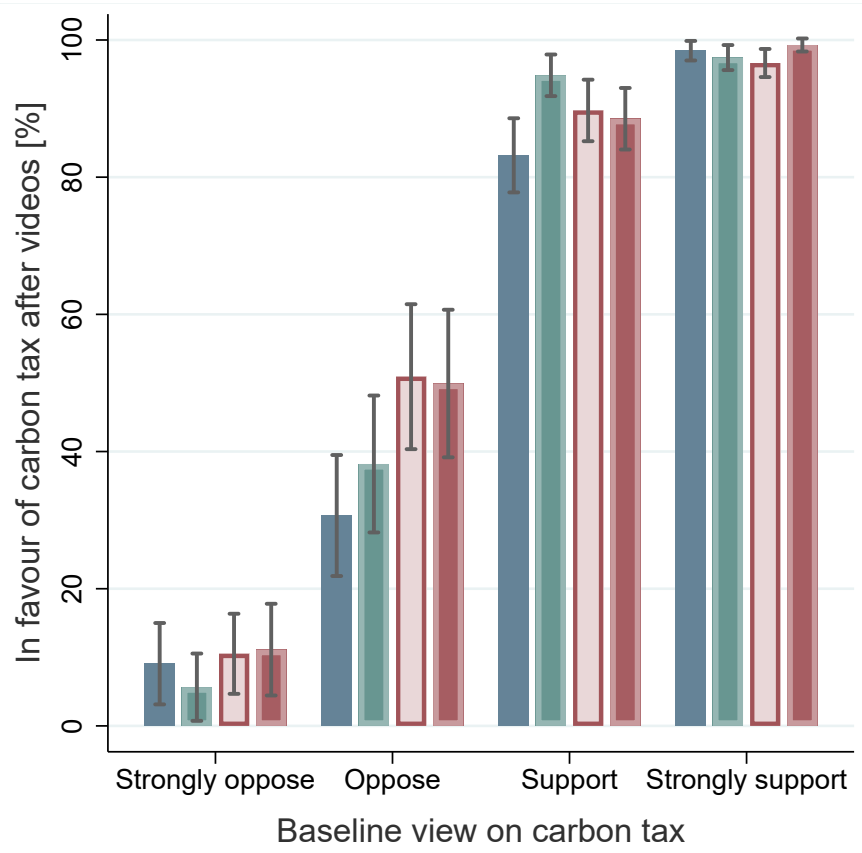
(b) Republicans



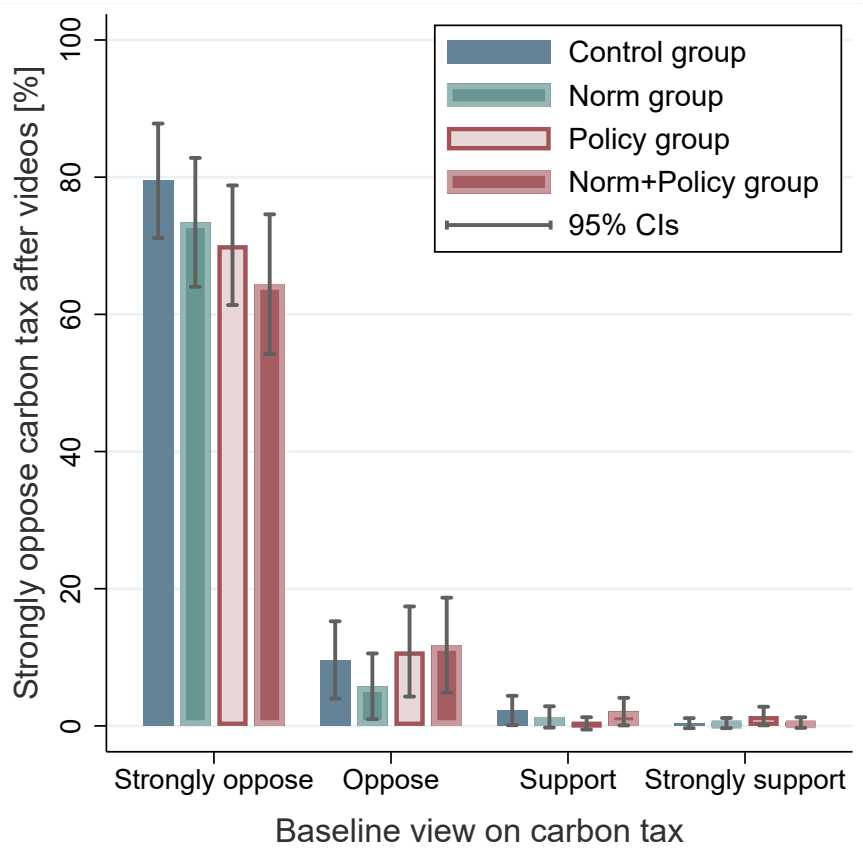
Effects are concentrated among those at the margin

Figure: Post-intervention transition probabilities

(a) In favor of carbon taxation

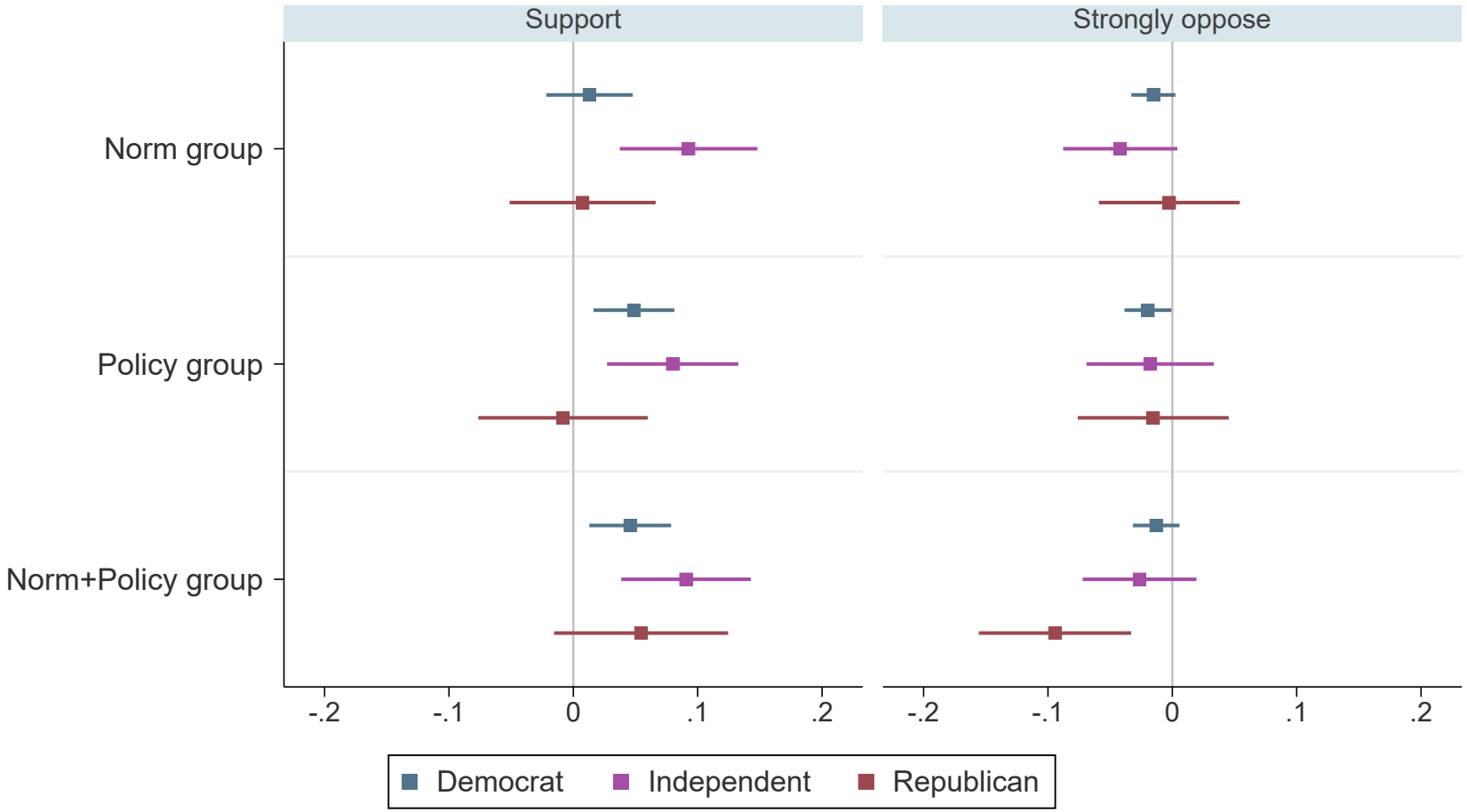


(b) Strongly oppose carbon taxation



Heterogeneous effects by political identity

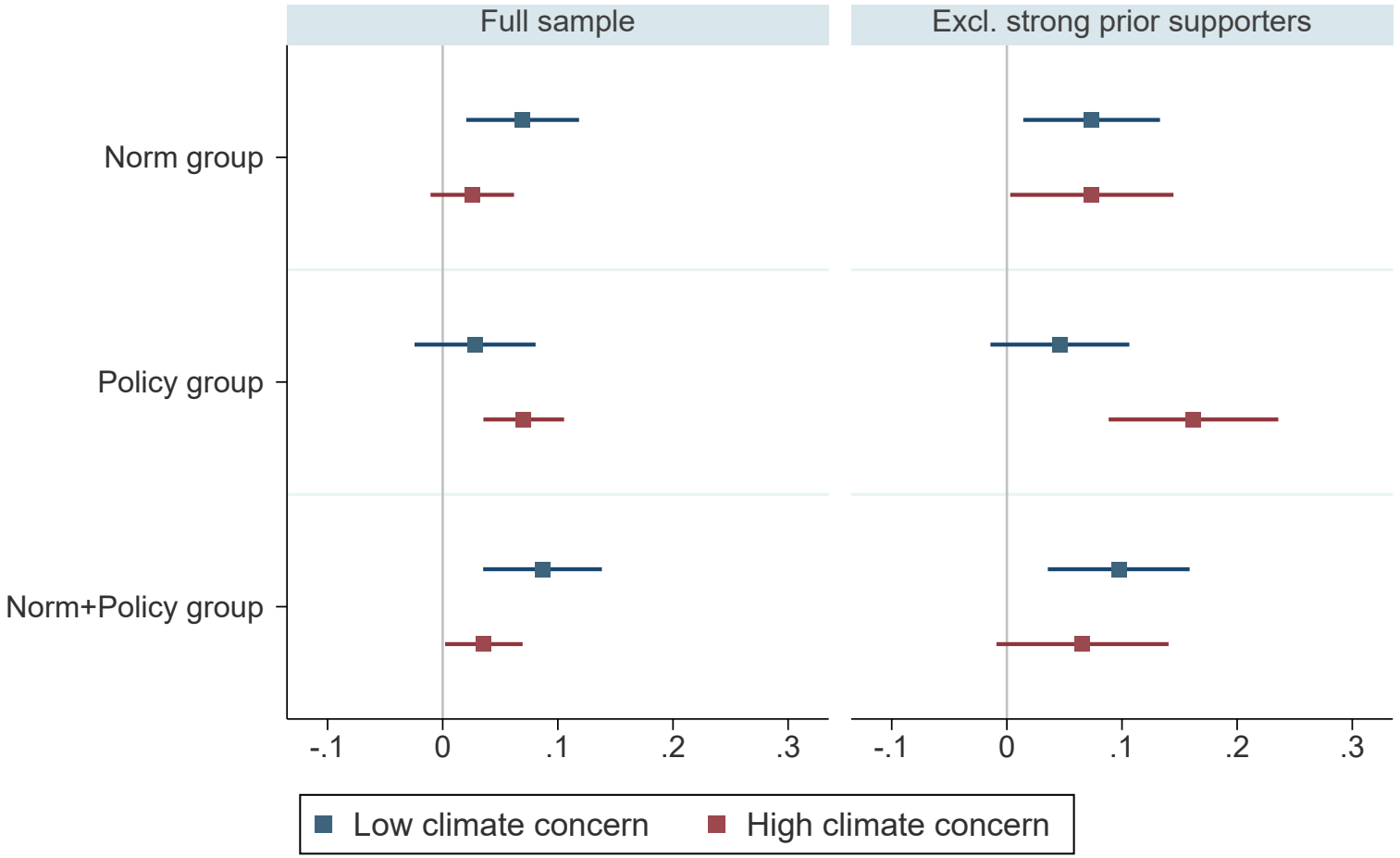
Figure: Effects by party identity



▸ Environmental attitude ▸ Norm misperception ▸ Knowledge ▸ Fuel dependency ▸ Financial vulnerability

Heterogeneous effects by environmental attitudes

Figure: On support for carbon pricing



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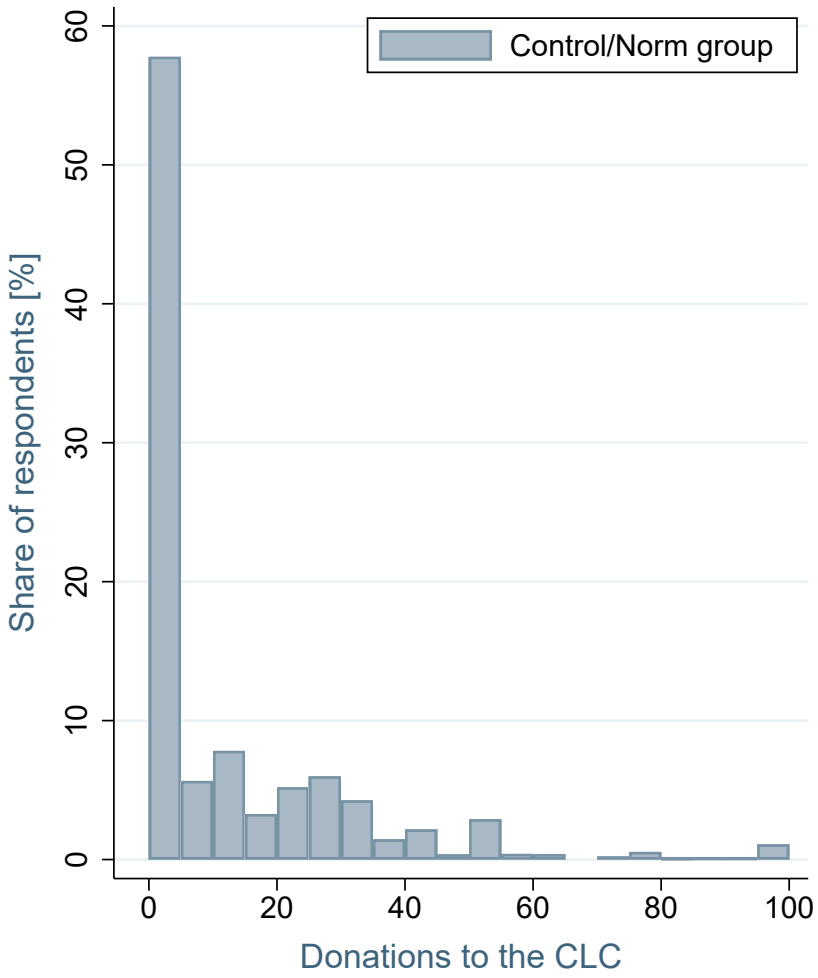
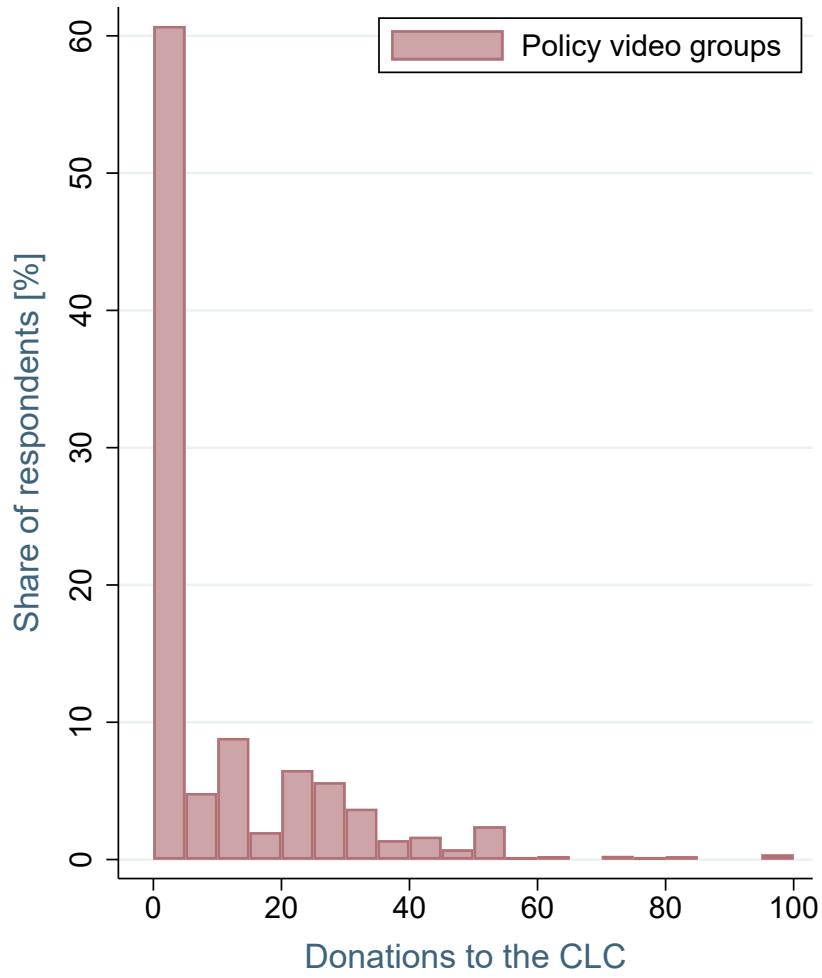
Environmental donations in the follow-up survey

(a) CLC Donations – Control/Norm



(b) CLC Donations – Policy groups



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Heterogeneous effects by political identity

Figure: Follow-up survey (excl. strong prior supporters