



University of
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ELECTIONS AND CLIMATE ATTITUDES

How do people's views on climate change and
related policies change during an election?

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MOTIVATION

Climate change is one of the most important global challenges at the moment. For this reason, understanding how elections and policies shape public opinion is crucial. This knowledge is important for policy makers and researchers who need to get the public involved in tackling climate change.



RESEARCH QUESTIONS

RQ1

Does support for climate policies change during elections?

RQ2

Does willingness to pay (WTP) vary during elections?

RQ3

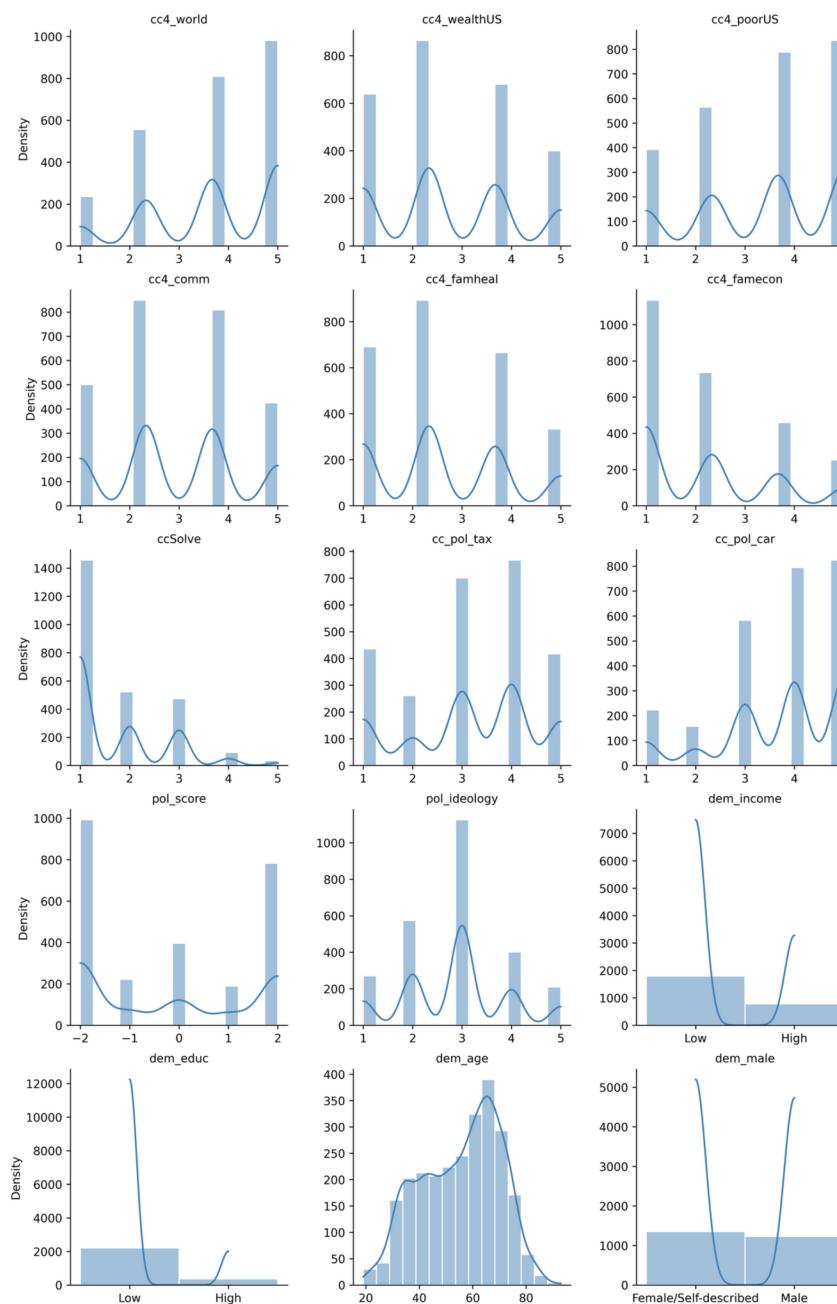
Does political ideology change how people's views on climate harm affect their willingness to pay for climate solutions?

DATA & VARIABLES

Survey data: 861 participants, 3 waves
(during the 2020 US elections)

Key variables:

- Perceived climate harm (e.g., world, family)
- WTP (\$1-\$100/month)
- Support for carbon tax, emissions standards
- Political orientation, ideology



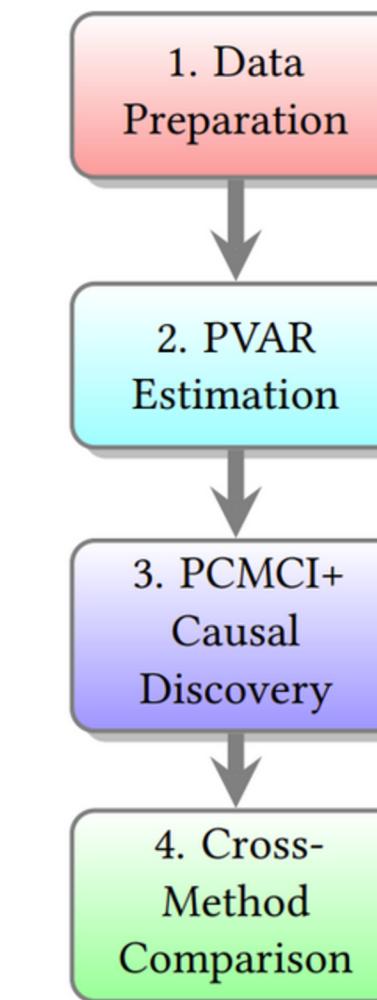
METHODS OVERVIEW

Why two methods?

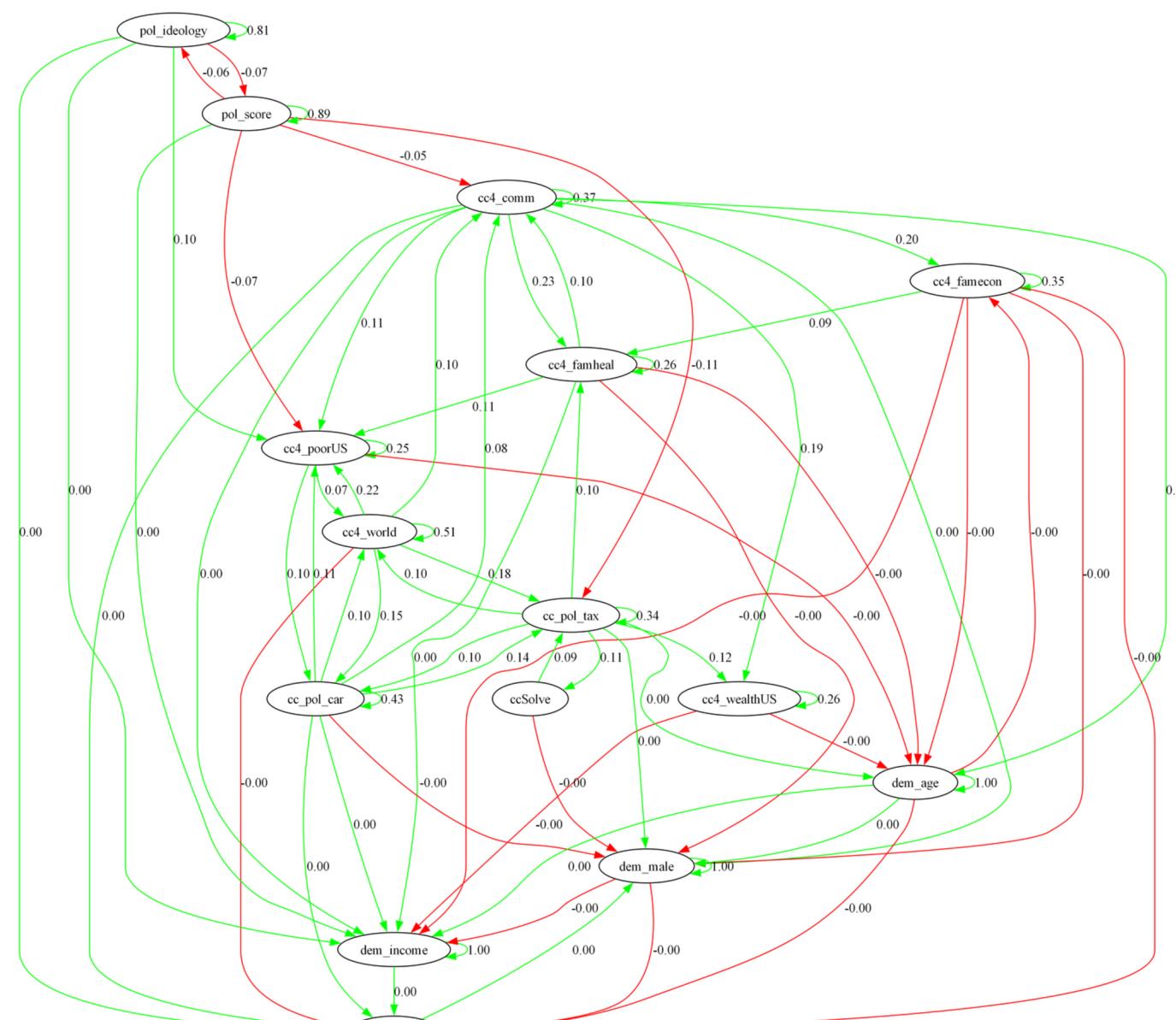
PVAR: captures dynamic, lagged relationships

PCMCI+: discovers causal graph structure

Both applied to the same panel dataset



PVAR RESULTS



Autoregressive

People's views on climate
harm, and policy support are
highly stable over time

Cross-Policy

If someone supports one
climate policy, they are more
likely to support others

WTP Evolution

WTP is shaped by prior
policy support

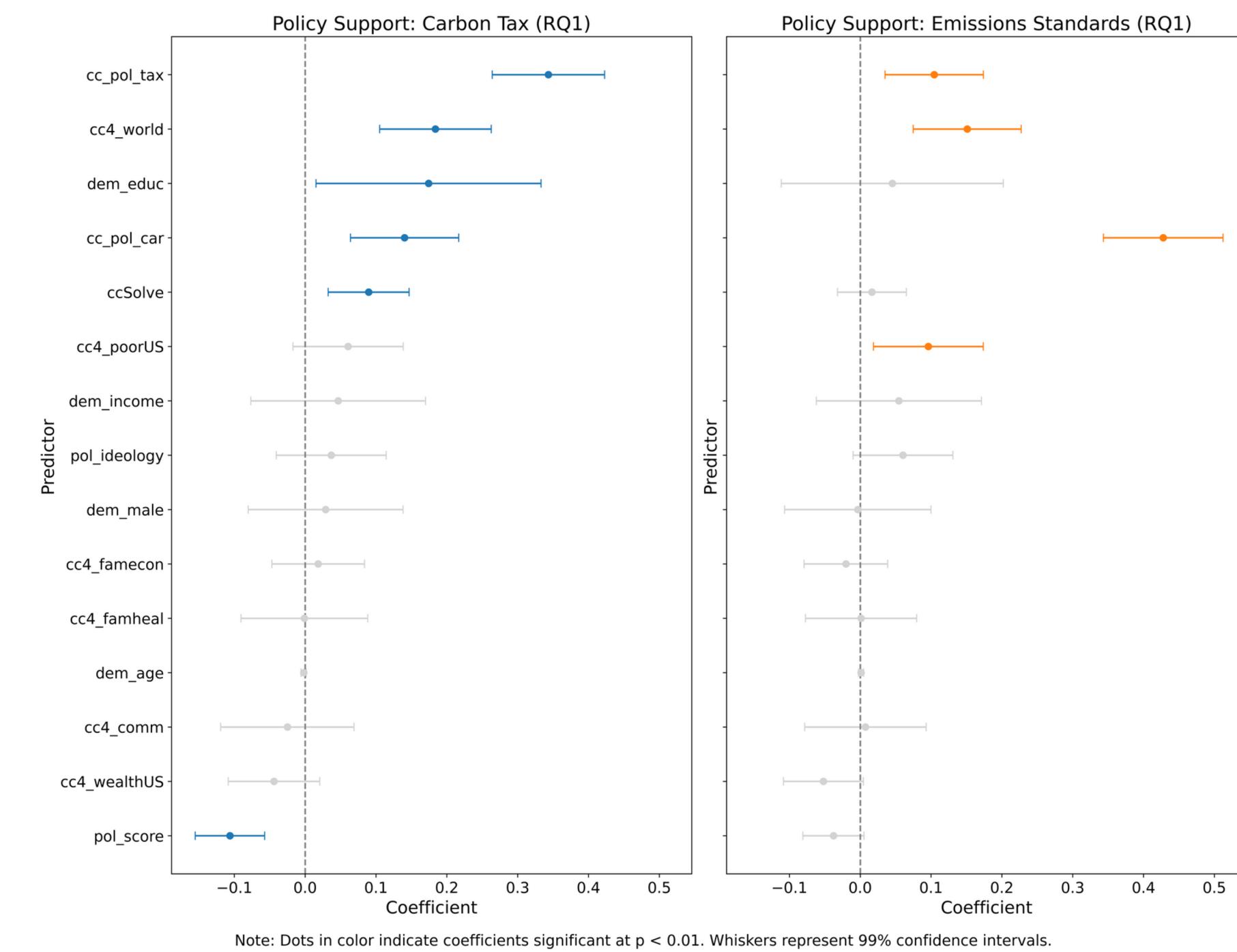
Political Identity

Political orientation adjusts
subtly over time, possibly
due to the elections

RQ1 – SUPPORT FOR CLIMATE POLICIES

People who perceive **global climate harm** and who are **willing to contribute financially** to climate solutions tend to **support carbon taxes**. Support is **lower among conservatives**.

Emissions standards support is driven by concern for **global climate impact** and for how climate change affects the **poor**. Prior support for one policy increases support for the other.

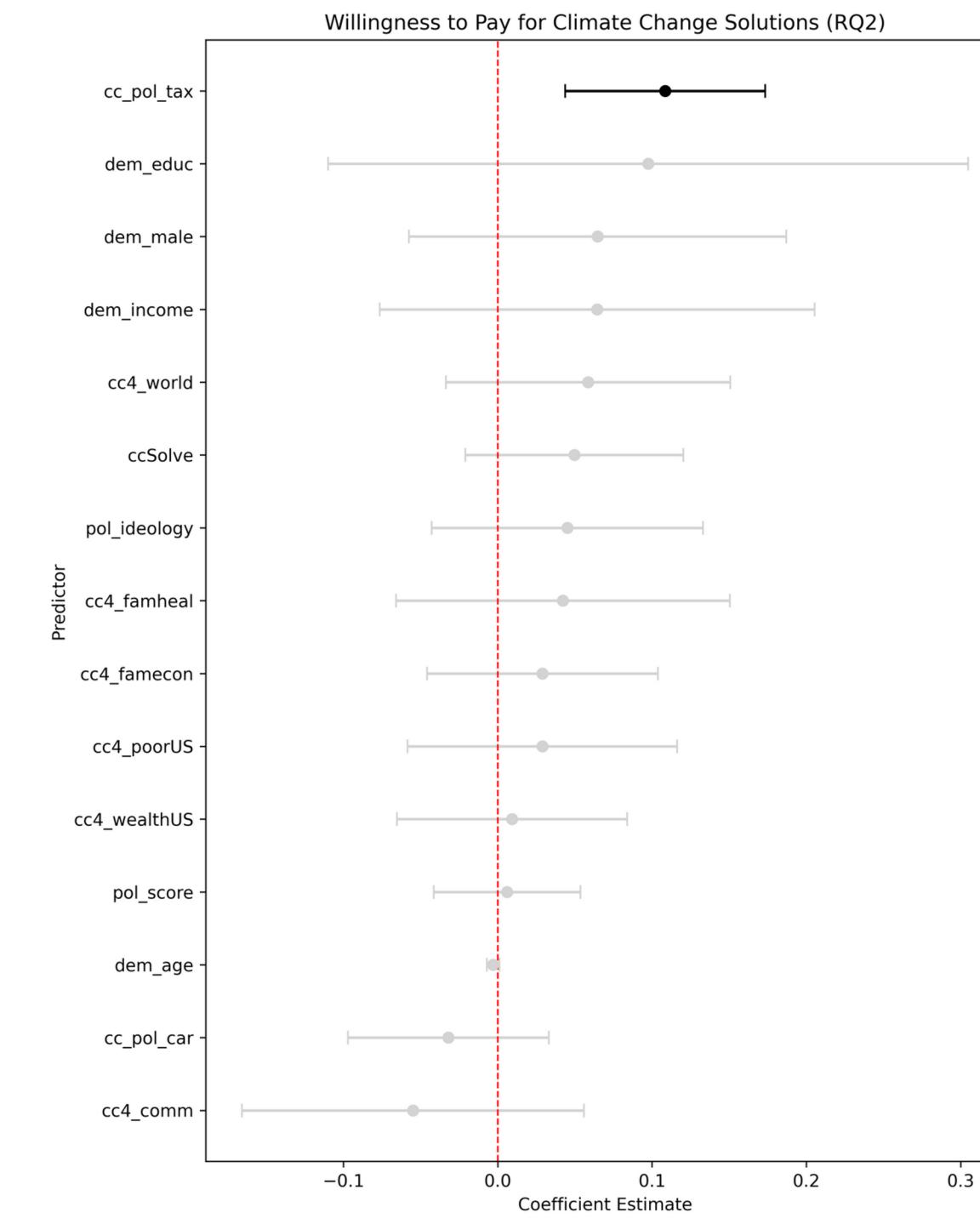


RQ2 – WTP FOR CLIMATE ACTION

Attitudes toward paying for climate solutions are **highly stable** across the election period.

The **only significant predictor** is prior support for carbon taxes.

This suggests that **existing policy support drives financial willingness**, not short-term political events or changing perceptions.

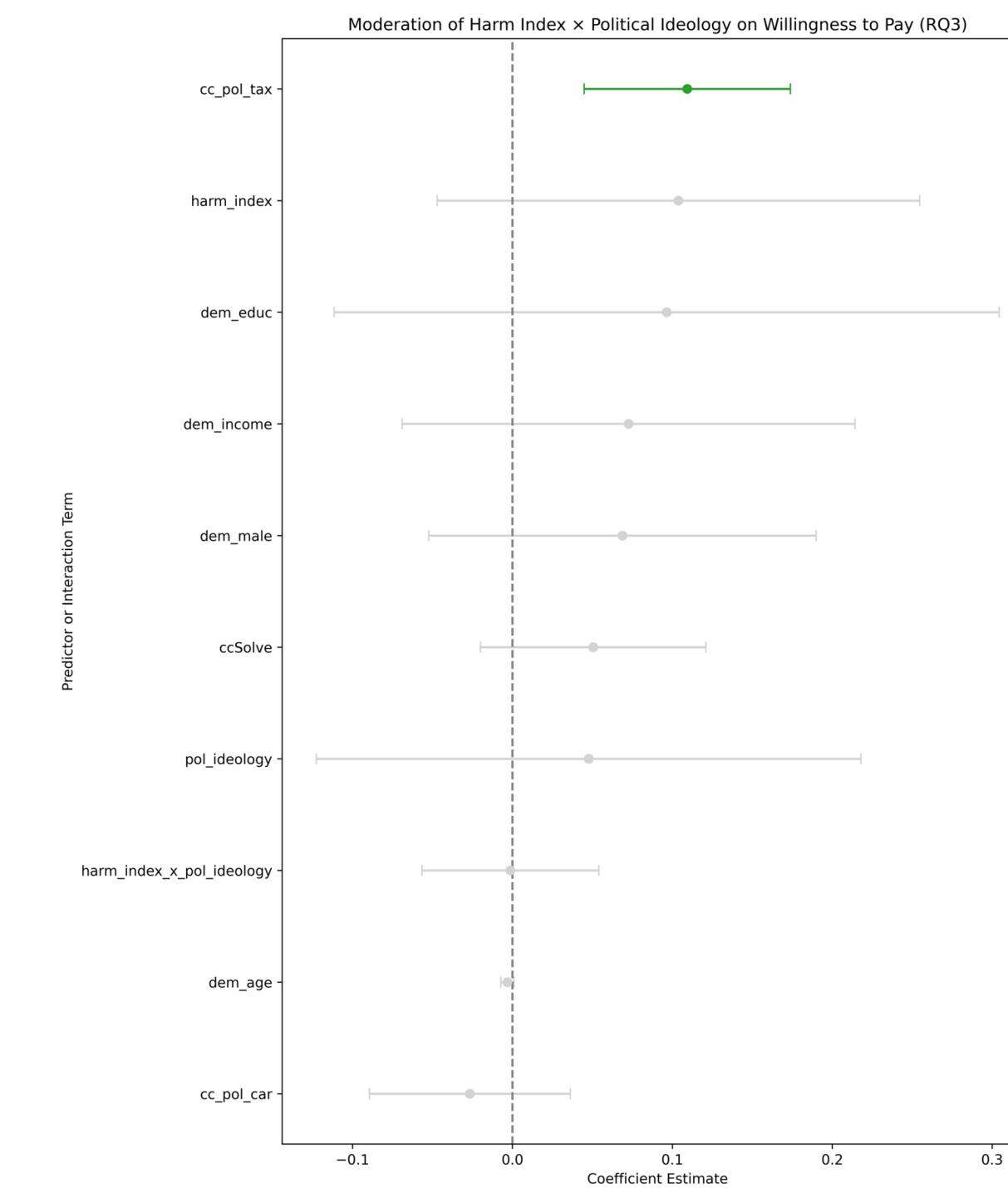


RQ3 – IDEOLOGY AS MODERATOR

The analysis tested whether **political ideology changes the impact** of climate harm perceptions on willingness to pay.

Result: No interaction term was statistically significant – **ideology does not moderate this relationship.**

The **only consistent predictor** of willingness to pay was **prior support for carbon taxes.**



PCMCI+ CAUSAL GRAPH

Most variables are **strongly self-dependent over time**, indicating high stability (shown as dark red nodes).

Only a **few causal links** exist between different variables.

A notable connection: **political score influences political ideology** at the next time step, but in the **opposite direction**.



COMPARISON: PVAR VS PCMCI+

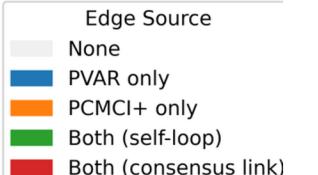
PVAR detects more links (46) than
PCMCI+ (15)

Both rely on **linear methods**, which may
miss **nonlinear relationships**.

PVAR emphasizes **temporal correlations**,
PCMCI+ focuses on **direct causal links**.

Edge Comparison Matrix: PVAR vs PCMCI+ (Lag-1, $\alpha < 0.01$)

Source Variable	cc4_world	cc4_wealthUS	cc4_poorUS	cc4_comm	cc4_famheal	cc4_famecon	ccSolve	cc_pol_tax	cc_pol_car	dem_income	dem_age	dem_educ	dem_male	pol_score	pol_ideology
Target Variable	cc4_world	cc4_wealthUS	cc4_poorUS	cc4_comm	cc4_famheal	cc4_famecon	ccSolve	cc_pol_tax	cc_pol_car	dem_income	dem_age	dem_educ	dem_male	pol_score	pol_ideology
cc4_world	Both	None	PVAR	PVAR	None	None	None	PVAR	PVAR	None	None	None	None	None	None
cc4_wealthUS	None	Both	None	None	None	None	None	None	None	None	None	None	None	None	None
cc4_poorUS	PVAR	None	Both	None	None	None	None	None	PVAR	None	None	None	None	None	None
cc4_comm	None	PVAR	PVAR	Both	PVAR	PVAR	None	None	None	None	None	None	None	None	None
cc4_famheal	None	None	PVAR	PVAR	Both	None	None	None	None	None	None	None	None	None	None
cc4_famecon	None	None	None	None	PVAR	Both	None	None	None	None	None	None	None	None	None
ccSolve	None	None	None	None	None	None	None	PVAR	None	None	None	None	None	None	None
cc_pol_tax	PVAR	PVAR	None	None	PVAR	None	PVAR	Both	PVAR	None	None	None	None	None	None
cc_pol_car	PVAR	None	PVAR	PVAR	None	None	PVAR	Both	None	None	None	None	None	None	None
dem_income	None	None	None	None	None	None	None	None	None	Both	None	None	None	None	None
dem_age	None	None	None	None	None	None	None	None	None	None	Both	None	None	None	None
dem_educ	None	None	None	None	None	None	PVAR	None	PVAR	None	Both	None	None	None	None
dem_male	None	None	None	None	None	None	None	None	None	None	None	Both	None	None	None
pol_score	None	None	PVAR	PVAR	None	None	PVAR	PVAR	None	None	None	None	Both	Both	Both
pol_ideology	PVAR	None	PVAR	None	None	None	None	None	None	None	None	None	PVAR	Both	Both



DISCUSSION

Stability of climate attitudes → elections do not shift views

Global harm perception → strongest driver to support climate policies and WTP

Ideology shapes policy support but it does not alter how people respond to climate harm
(conservatives generally less supportive than liberals)

Fairness perceptions (e.g., harm to poor) matter for regulation more than taxation

Long-term value-based climate engagement > short-term election campaigning

LIMITATIONS & FUTURE WORK

Data not representative → caution in generalizing

Short time series ($T=3$) limits causal detection

Future: use longer panel data, test nonlinear methods

CONCLUSION



Climate attitudes are stable

Prior support & global concern matter most

Elections have **limited impact**



THANK YOU / QUESTIONS

github.com/paraskevasleivadaros/climate-opinions-and-elections