Climate shocks
and the supply and demand for climate policy

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Climate shocks

Climate change affects local temperatures (mean, maximum, variability, &c.)

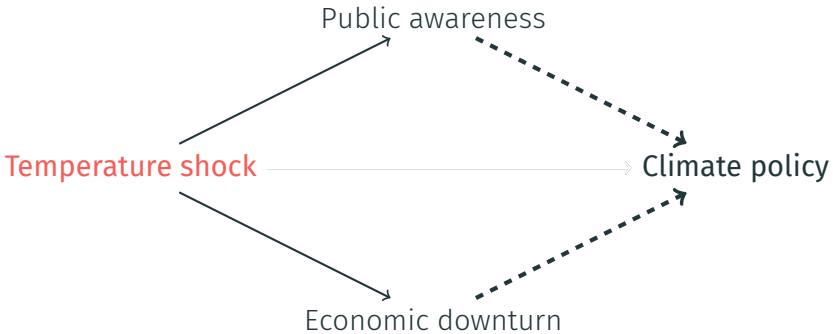
Temperature shocks:

- Depress economic output
- Increase public awareness of climate change

→ Identifying impacts of climate change on social systems

What effect do temperature shocks have on governments' climate policies?

Mechanisms


Public awareness
Temperature shock
Climate policy
Economic downturn

Data and estimation

Treatment: annual country-level temperature shocks

- Population-weighted temperature data

Outcome: government climate policy

- *Domestic*: Carbon pricing, emissions-weight carbon price, feed-in tariffs, renewable portfolio standards
- *International*: climate finance flows (donor, recipient), COP delegation, institutional memberships

Estimation: OLS with country-year fixed effects

- Causal effect identified as deviations from national and annual means

$$\text{Policy}_{i,t} = \beta_1 \text{Temp}_{i,t-1} + \gamma_i + \delta_t + \epsilon_{i,t}$$

Findings

Outcome variable	βTemp_{t-1}	p-value
Emissions-weighted carbon price	-0.381	0.435
Probability of having carbon pricing	-0.029	0.202
Probability of having feed in tariff	-0.009	0.555
Probability of having renewable energy quota	0.029	0.233
Membership in climate institutions	-0.383	0.004
Number of delegates at COP	-0.333	0.793
Climate finance (principal) provided	0.135	0.600
Climate finance (multilateral) provided	-0.069	0.636
Climate finance (principal) received	-0.320	0.017
Climate finance (multilateral) received	-0.038	0.830

Uncorrected p-values reported, Bonferroni adjusted nominal $\alpha = 0.005$

Extensions

Effect of temperature shocks masked by heterogeneous treatment effects

- Stratified regression models with binary indicators
- Awareness of climate change, vulnerability, democracies, rich

Effect of temperature shocks masked by scale of analysis

- Subnational temperature and policy data in American states

$\Rightarrow$ No systematic relationship between temperature shocks and climate policy

Implications

Temperature shocks:

- Affect wide range of economic and social processes

→ No impact on government climate policy

Explanations:

- Policy doesn't fully internalize benefits (free-riding)?
- Governments invest in adaptation?
- Boosts to public opinion too fleeting?
- Failure to connect the dots between temperature and climate change?

Current policy trends critically insufficient to manage increasing climate impacts this century

Thank you!

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