Climate Change Awareness in Sub-Saharan Africa

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Climate Impacts

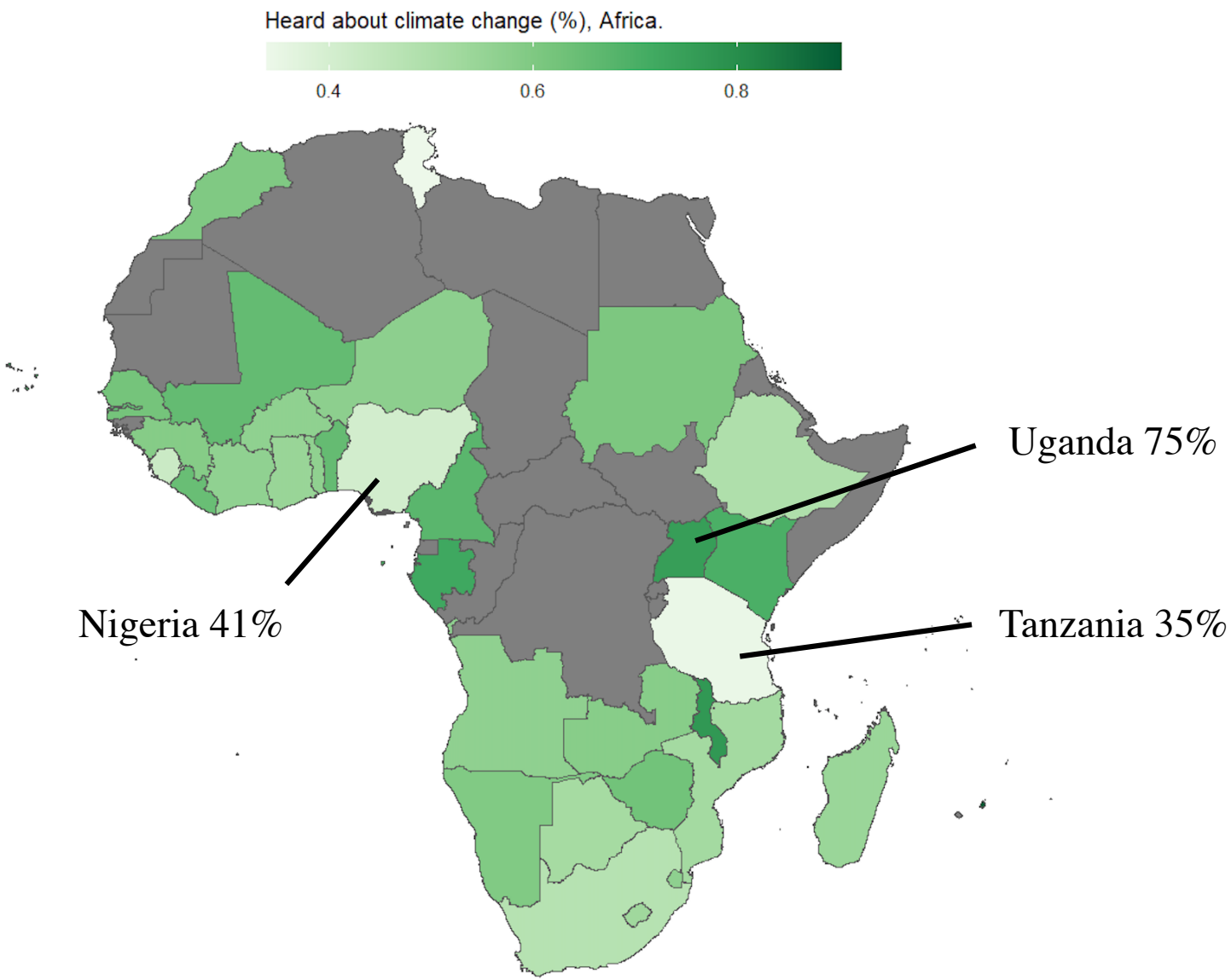
Most African countries will enter unprecedented high temperature climates earlier in this century than generally wealthier, higher latitude countries, emphasising the urgency of adaptation measures in Africa (IPCC, AR6).

- Africa facing some of the worst effects of climate change.
- But awareness of climate change remains low.
- Challenges of adaptation; accountability.

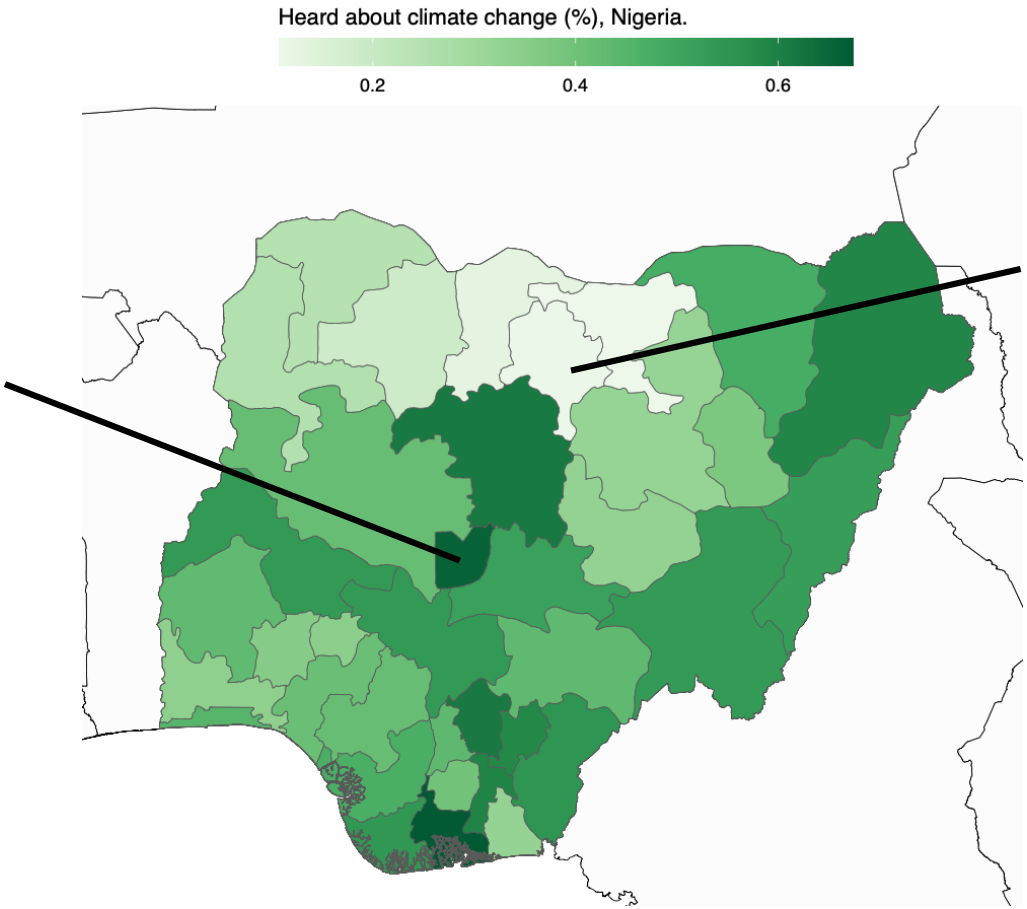
Research Questions

1. What factors promote spread of climate change knowledge?
2. How do social or political structures shape information spread?

Climate Change Awareness



Climate Change Awareness



Abuja 66%

Kano 11%

Some Initial Hypotheses

- H1. Temperature shocks $\uparrow$
- H2. Expansion of fibre optic backbone $\uparrow$
- H3. Socio-Political factors:
  - Democracy $\uparrow$
  - Ethnolinguistic fractionalization $\downarrow$
  - Road density $\uparrow$

Data

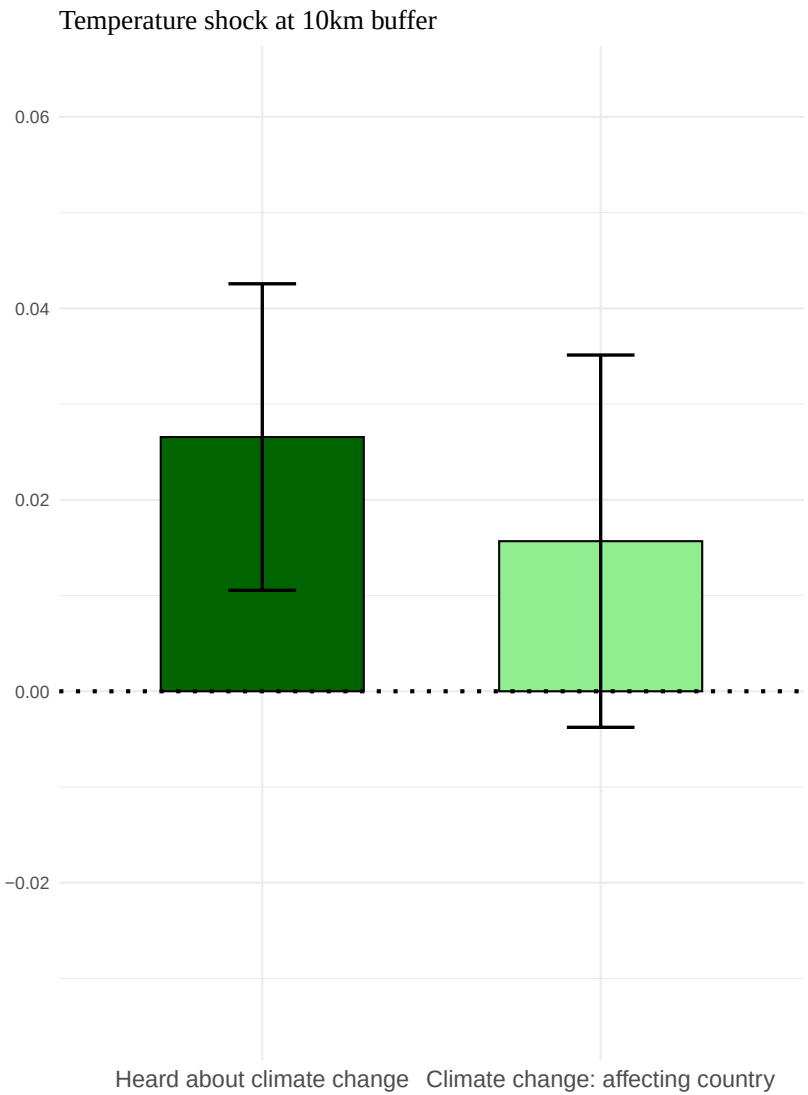
- Afrobarometer Round 7:
  - Heard of Climate Change; Climate Change Affecting Country.
  - Respondent characteristics (age, sex, education).
- Historical + current temperature (DANTE).
- Fibre optic cable locations + operation dates.
- Polity v2; ethnolinguistic fractionalization; road density.

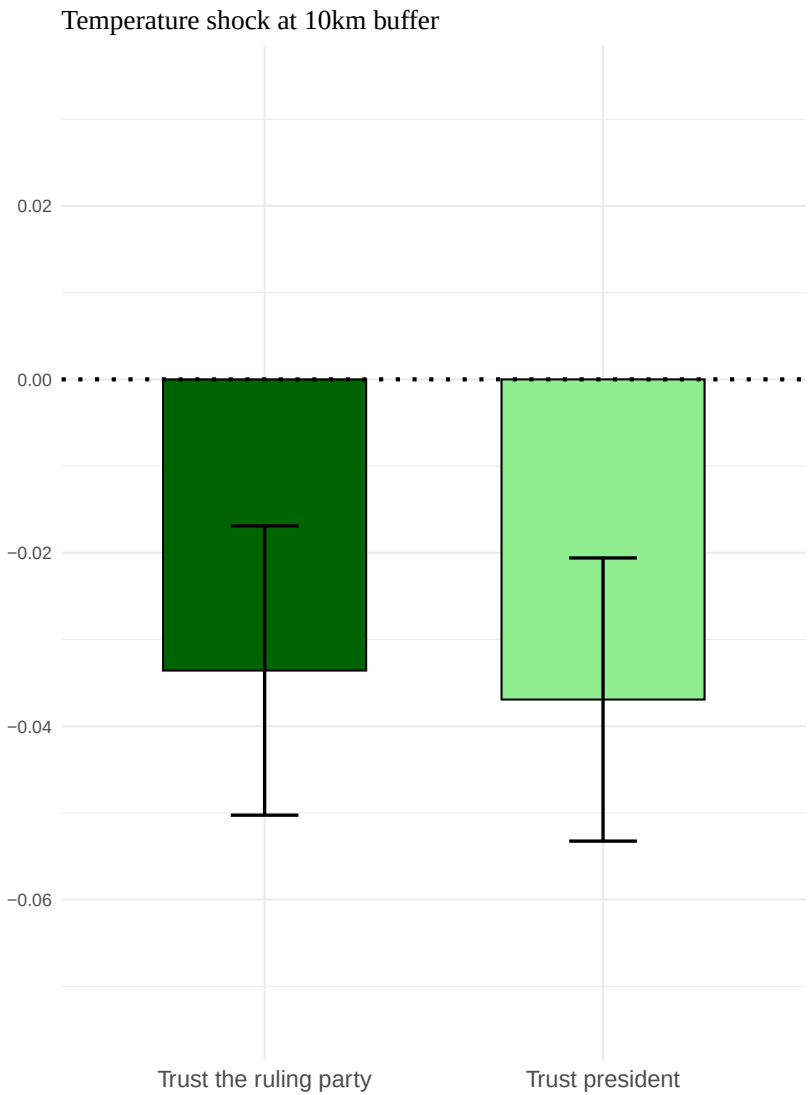
H1: Temperature Shocks Increase Climate Awareness

$$y_{idt} = Shock_{dt-1}\beta + X_{idt}\theta + \gamma_d + \phi_t + e_{idt}$$

- y_{idt} - outcome for respondent i, in region d, year t.
- $Shock_{dt-1}$ - temperature shock lagged one month.
- X, γ_d, ϕ_t - confounders, region + year fixed effects.

H1: Temperature Shocks Increase Climate Awareness



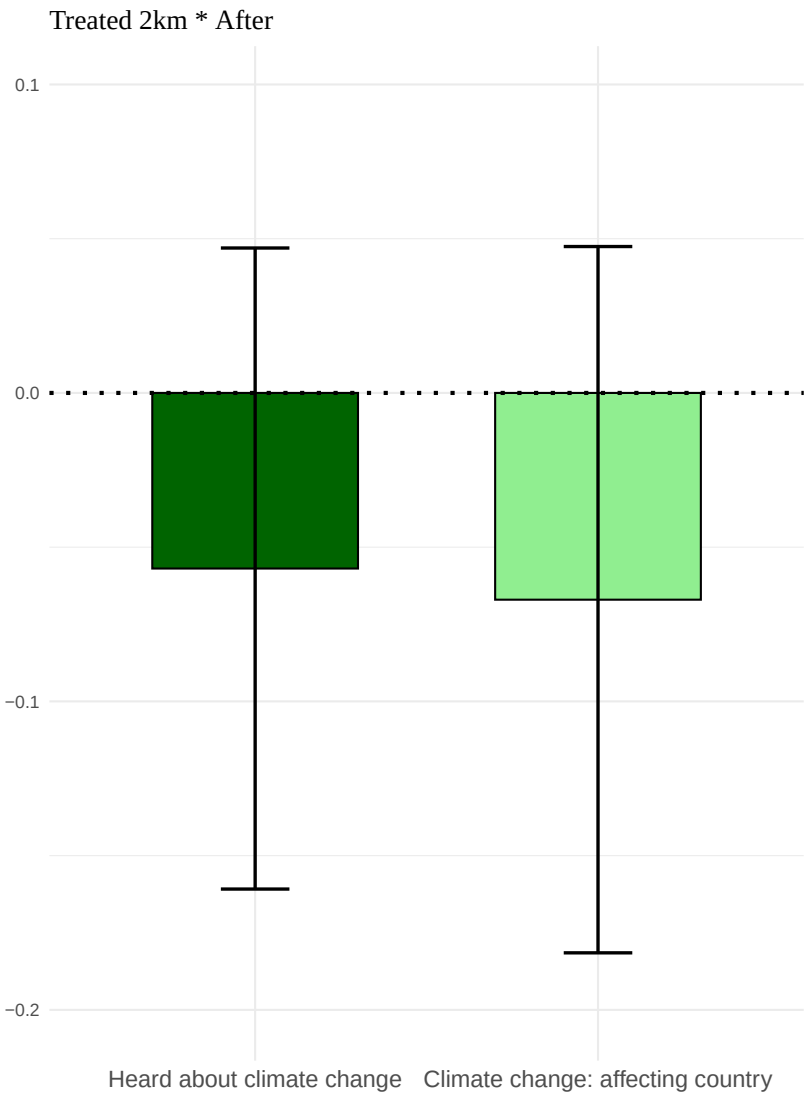


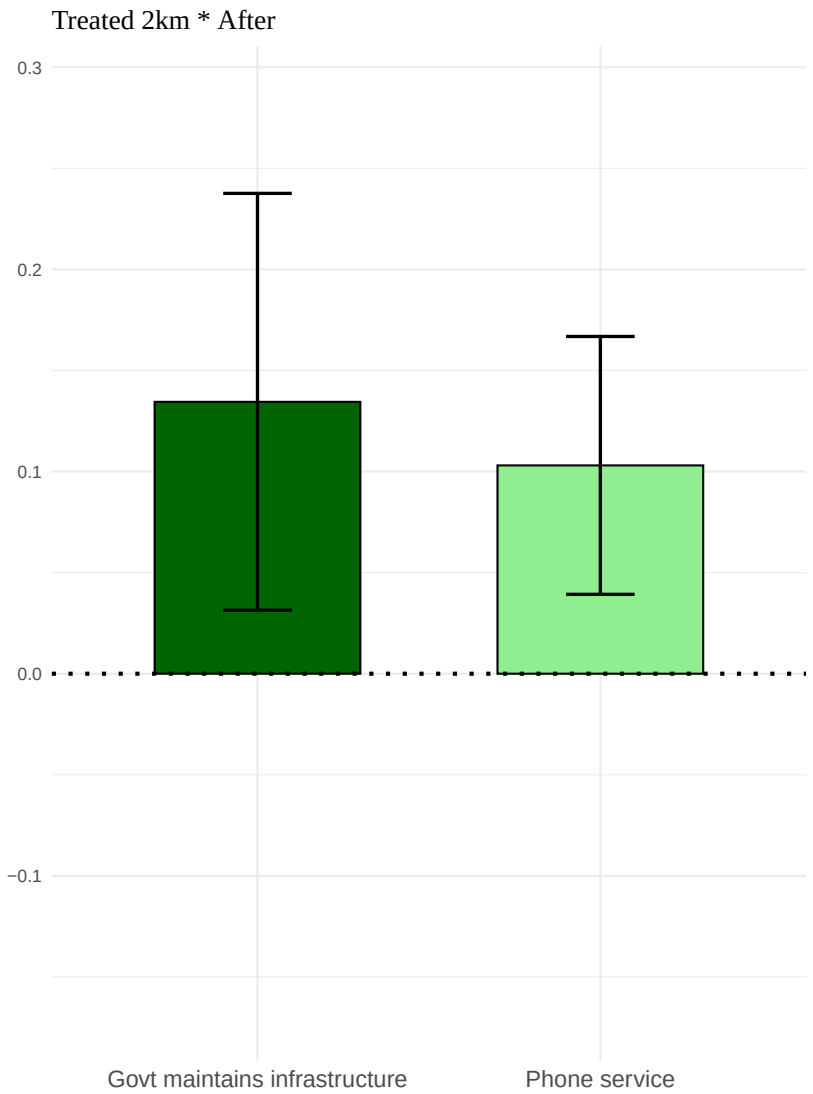
H2: Internet Access Increases Climate Awareness

$$y_{idt} = Cable_i\beta_1 + Post_t\beta_2 + Cable_i * Post_t\beta_3 + X_{idt}\theta + \gamma_d + \phi_t + e_{idt}$$

- y_{idt} - outcome for respondent i, in region d, year t.
- $Cable_i$ - cable proximity indicator, respondent i.
- $Post_t$ - cable operation indicator, year t
- X, γ_d, ϕ_t - confounders, region + year fixed effects.

H2: Temperature Shocks Increase Climate Awareness



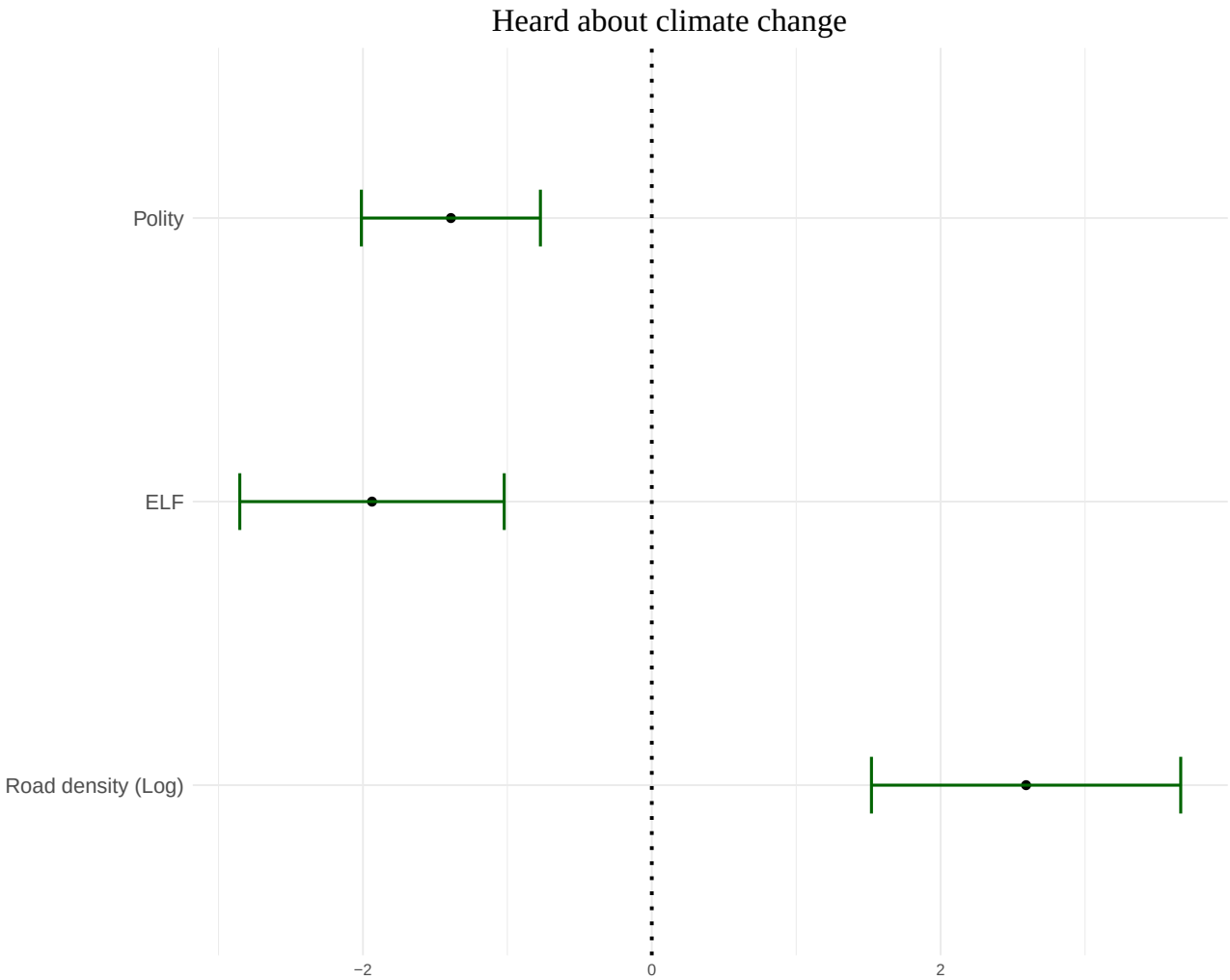


H3: Social + Political Characteristics

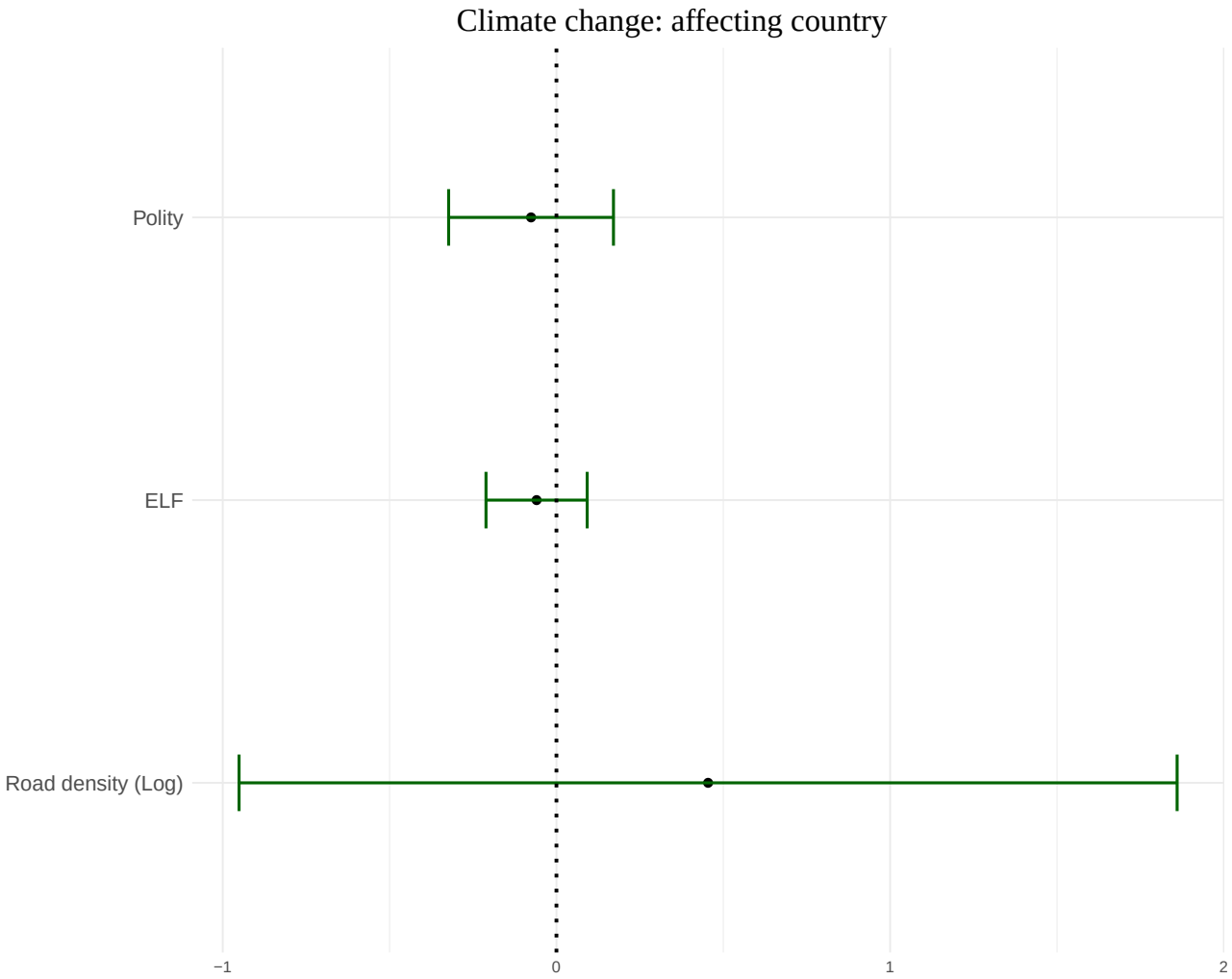
$$y_{idt} = Polity_{dt}\beta_1 + ELF_{dt}\beta_2 + log(RoadDensity_{dt})\beta_3 + X_{idt}\theta + \gamma_d + \phi_t + e_{idt}$$

- y_{idt} - outcome for respondent i, in region d, year t.
- X, γ_d, ϕ_t - confounders, region + year fixed effects.

H3 (Climate Knowledge)



H3 (Climate Concern)



Conclusions

- Temperature shocks + sociopolitical factors impact knowledge.
- But puzzling results for spread of information technology.
- Little predictive power over perceptions of climate impacts.