

Preference Mismatch for Environmental Policy in Indonesia

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- Indonesia faces a series of interlocking environmental challenges

Deforestation and fires:

- Since 2001, Indonesia has lost 30.8 million hectares of tree cover (Hansen et al., 2013)
- Much of this is commodity-driven deforestation, with both large plantations and small-holders alike contributing
- Forest conversion often uses burning, which can spark wildfires under drought conditions that release CO₂ and cause respiratory illness.
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Flooding and sea level rise:

- Land subsidence in urban coastal areas in Southeast Asia makes the region the most exposed to flooding catastrophe (Nicholls et al., 2021)
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Mining and extraction:

- In 2022, Indonesia supplied 48.8 percent of the world's nickel—a key input to electric vehicle batteries
- Externality of extraction involves significant pollution of waterways

- Despite problems, few politicians care about environmental policy

National level:

- Politicians often care more about economic development and resource nationalism
- Raw nickel export ban incentivizes domestic mining industry through “downstreaming”
- Blanket ban on new forest concessions in primary forests has not been matched with genuine enforcement

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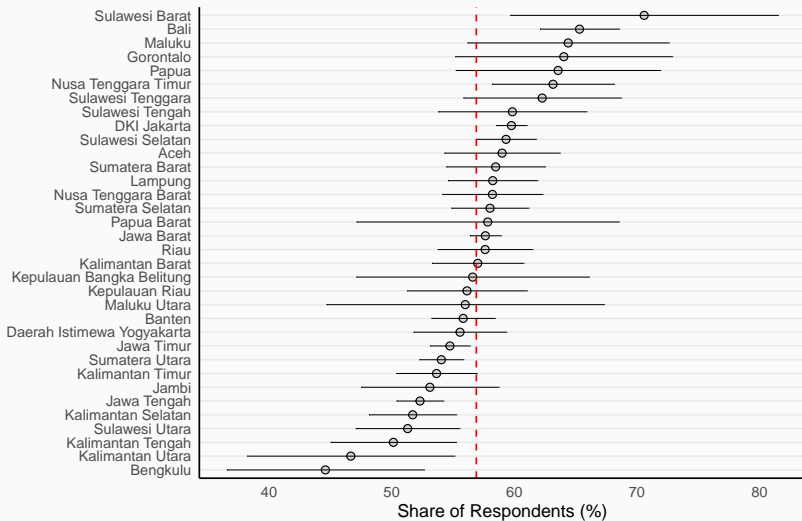
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Local level:

- But with Indonesia’s “big bang” decentralization, local governments have been given the authority to manage the environment (mostly)
- Revenues derived from logging permits and mining concessions constitute own source revenue, which is scrutinized less than transfers
- Front line enforcement of environmental protections by district officials is plagued by clientelistic exchange

Introduction: Voter Demand for Environmental Policy

Share of Indonesian voters who say pollution is 'very important' is high although there is significant regional variation



Introduction: Hypotheses About Policy Inaction in Indonesia

- Voters care about environmental issues, approximately 57% say pollution is “very important” and 49.6% say climate change is “very important.”
- Standard theories of representation predict that politicians should move policy to align with preferences—or face electoral sanctioning
- So, why do Indonesian politicians under-produce policy to protect the environment?
- We develop a simple model of policy inaction which emphasizes two key frictions:
 1. **Costs to action:** Politicians may face a range of costs for deviation from the status quo of environmental exploitation
 2. **Costs to communication:** which lead to politicians misperceiving of voter preferences

Introduction: Our Study

- To evaluate this argument, we join two sources of data:
 1. **Voter survey** conducted in December 2023 (N = 5,236) in which we asked about voters' preferences for environmental policy
 2. **Candidate survey** conducted in November 2023, January 2024, and April 2024 (N=800) in which we gauged their preferences, perceptions, and provided them with information.

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- **Finding #3: Explaining policy inaction**
 - We construct an index of local public officials' assets, which reflect the extent of elite capture
 - Our intervention worked to increase policy action—but only in places where elite capture is low

1. **A Model of Policy Inaction**
2. Context: Environmental Policy in Indonesia
3. Research Design: Two Surveys
4. Results

A Model of Policy Inaction

We develop a simple model of policy inaction:

- Voters express a policy preference (v) but expressing this preference is costly (c).
 - ...and hence voters underexpress, all else equal
- Politicians generally wish to meet voters' policy preferences ($p(v)$) to avoid electoral sanction, but policy action is also costly (d).
 - ...and hence politicians under deliver, all else equal
- Result is *policy inaction* in equilibrium: voters underexpress and politicians thus underdeliver, as a function of both d and voter underexpression
 - ...and hence voters further underexpress because they anticipate inaction

We take several predictions from this model to our data:

1. Our framework anticipates a discrepancy between voters' *first-order* preferences and politicians' *second-order* beliefs

First-order preferences: One's own preferences

Second-order beliefs: One's beliefs about someone else's preferences

2. Providing politicians with voters' first-order beliefs should encourage action—but only when second-order beliefs are wrong
3. If politicians' perceived costs to action (d) are high, inaction persists even after expression of voter preferences

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The Environmental Policy Framework in Indonesia

- **The good news:** central government has taken several proactive steps to manage the impacts of climate change:
 - Ministry of Environment and Forestry's (MoEF) Strategy for Low Carbon and Climate Resilience, including projection of peak emissions by 2030
 - Blanket ban on primary forest conversion for commodity-use
 - Law No. 7 of 2021 on Tax Harmonisation proposes a framework for a Carbon Tax
- **The bad news:** Jokowi administration record thus far has largely prioritized exploitation over conservation:
 - IKN plan reflects little concern for adaptation/mitigation for Jakarta's coastal subsidence
 - Centralization of mining concessions in 2020 initially hailed as environmental victory holds less promise than before
 - Carbon Tax implementation, initially slated from 2022, has been pushed back until 2025

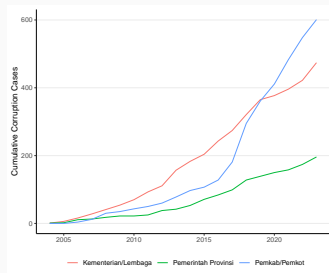
Local politics: With the passage of laws No. 22/1999 and No. 32/2004, management of the environment was devolved to district-level governments

Challenge: Local governments in Indonesia are plagued with corruption and elite capture through clientelistic exchange

Clientelism and Environmental Policy in Indonesia

Local politics: With the passage of laws No. 22/1999 and No. 32/2004, management of the environment was devolved to district-level governments

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- Clientelism in Indonesia relates to environmental policy through its different actors

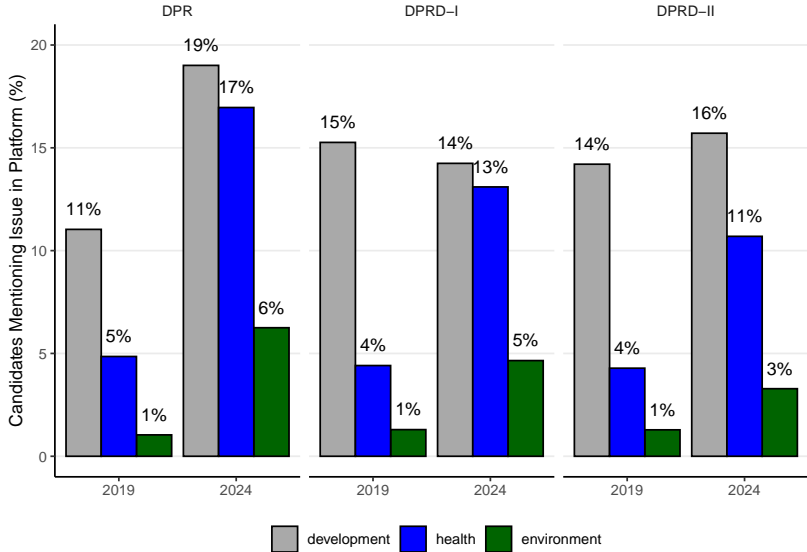
Voters: Candidates shower voters in cash in advance of elections, driving up cost of campaign finance

Parties: Parties expect candidates to pay for positions on ballots or legislative lists

Politicians: To finance these outlays, politicians turn to:

- Personal finance → incentives for graft
- Outside donors → influence peddling
- Outside donors are often large firms and businessmen whose profits depend on environmental extraction (Balboni et. al., 2021)

Environmental Policy in Practice in Indonesia



1. A Model of Policy Inaction
2. Context: Environmental Policy in Indonesia
3. **Research Design: Two Surveys**
4. Results

- **Surveys on Indonesians' Knowledge of and Attitudes on Politics**

(SIKAP):

- Weekly surveys of 1,650 Indonesian voters (November 2023 - January 2025)

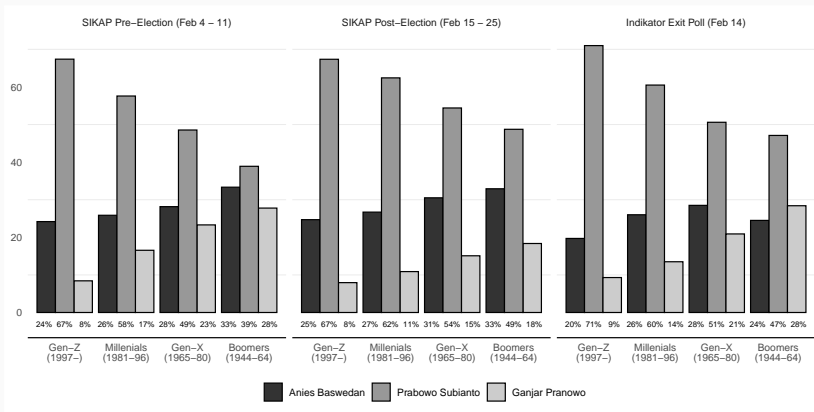
- Online surveys conducted by Cint/Lucid, with quota sampling ensuring representation on (1) region, (2) age, (3) gender

- We measure **first-order** preferences, asking voters "Below are several issues or problems that Indonesia is currently facing. How important or unimportant do you think the following issues are...(1) climate change and (2) pollution."

- We measure **second-order** beliefs, asking voters "Below are several issues or problems that Indonesia is currently facing. As far as you know, how important or unimportant do politicians view the following issues?... (1) climate change and (2) pollution."

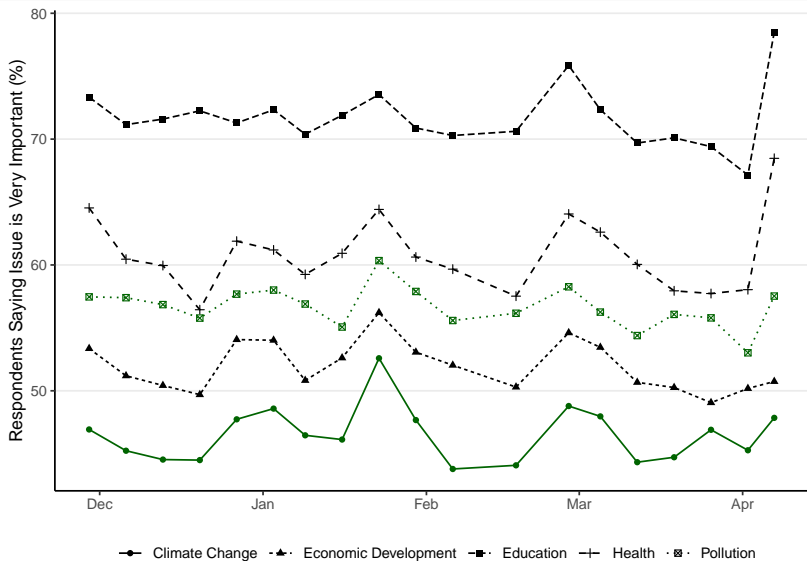
- We favorably benchmark our online survey estimates against presumed ground-truth of electoral returns

Research Design: The Voter Survey



- SIKAP pre-election survey predicted 56.6% Prabowo vote share (compared to 58% observed outcome)
- Comparatively slight educational polarization in Indonesia means online surveys are getting good at capturing population-level parameters with educationally unrepresentative samples

Research Design: The Voter Survey



- **Local Legislative Candidate Survey:**

- Three panel surveys of 800 candidates for DPRD-II, conducted in November 2023, January 2024, & April 2024.

- Part of a broader project to understand the real-time dynamics of politician and voter responses to changes in electoral landscape

- Randomly sampled 80 *kabupaten/kota*, then randomly sampled ten candidates who were both (1) in the top three list positions from the (2) top ten parties as of available polling on October 1, 2023.

- Initial contact rate was 80% and re-contact rate on both follow up surveys was 92%.

- We measured politicians' **first-order preferences** and **second-order beliefs** using the same measures from voter survey

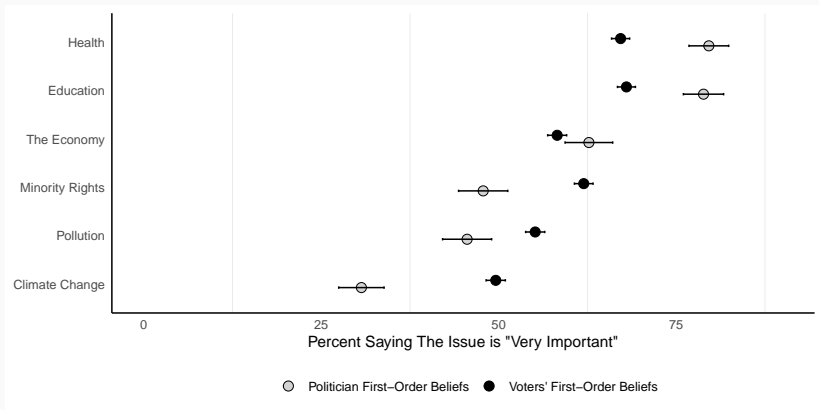
- **Informational Intervention:** to see whether a reduction in the error of politicians' second-order beliefs leads to policy action, we designed an informational experiment.
 - At the beginning of Wave 2, enumerators were trained to provide candidates with a briefing on voter preferences based on questions collected from voter survey
 - The report also contained aggregate data on politicians' preferences from Wave 1
 - To minimize “demand effects,” report included voter preferences on all issues, including non-environmental ones

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- **Endpoint measurement:** In Wave 2, we introduced new measures:
 - Capturing politicians' perceived urgency of policy action on environmental issues: (1) extreme heat, (2) flooding, (3) rising sea level, (4) deforestation, and (5) pollution.
 - Also measured support for specific policy proposals: (1) a carbon tax and (2) a total ban on new deforestation, including on secondary forest.

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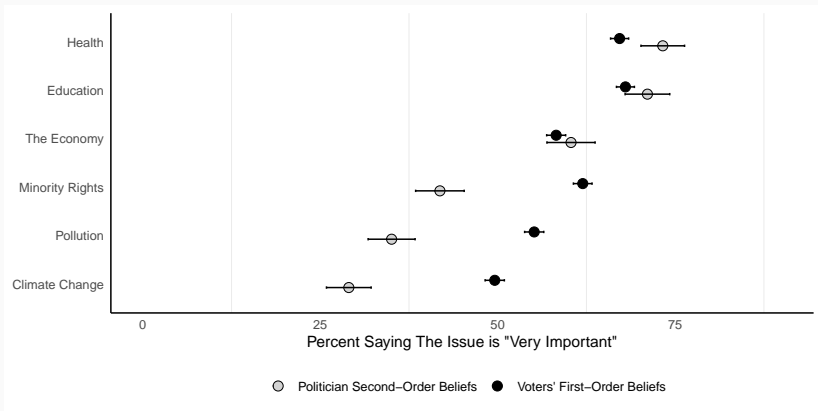
Results: Descriptive Analysis

Figure 1: Voters and Politicians' First-Order Preferences



Results: Descriptive Analysis

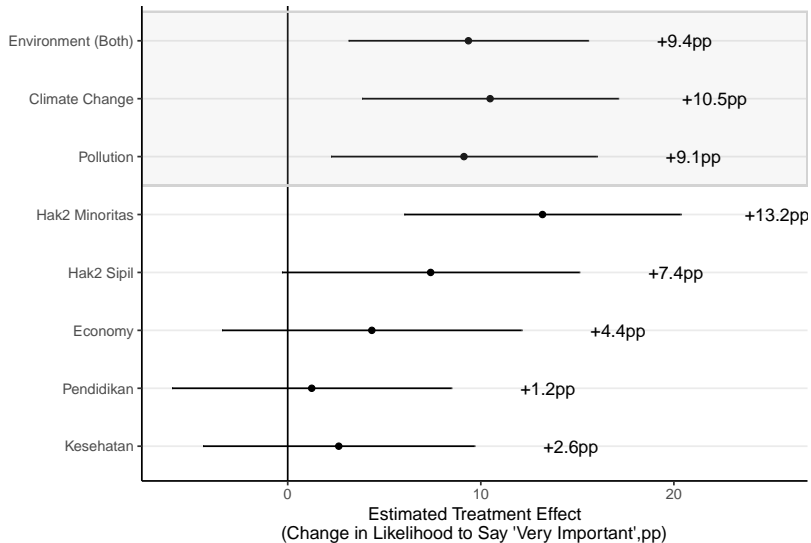
Figure 2: Voters' First- and Politicians' Second-Order Preferences



- **Finding #1:** Voters report higher first-order beliefs about the importance of environmental issues, compared to politicians.
- **Finding #2:** Politicians hold incorrect second-order beliefs about environmental issues, underestimating the importance voters attach to climate change and pollution.
 - **Caveat:** But politicians hold **precisely** correct second-order beliefs about voters' beliefs about traditional public goods such as health and education.
- What is the effect of correcting politicians' inaccurate second-order beliefs?

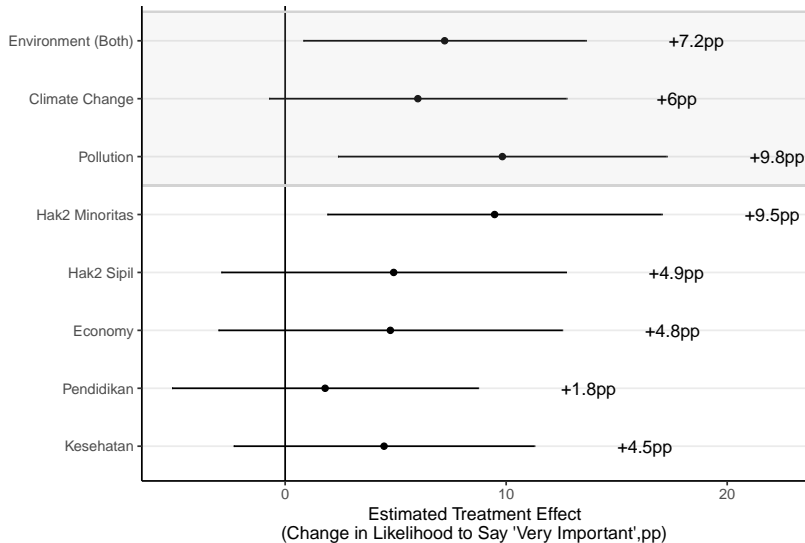
Results: Experimental Analysis

Effect of Information on Politicians' Perceptions of Citizens' Concerns

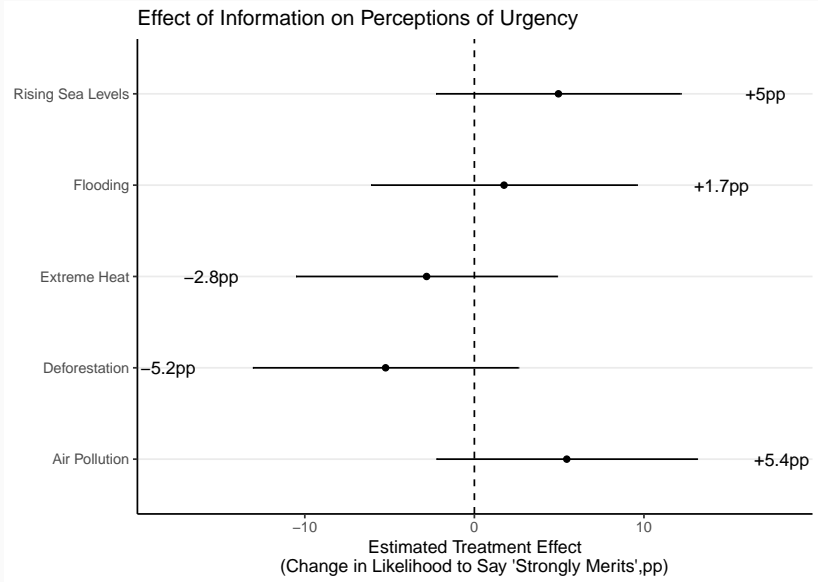


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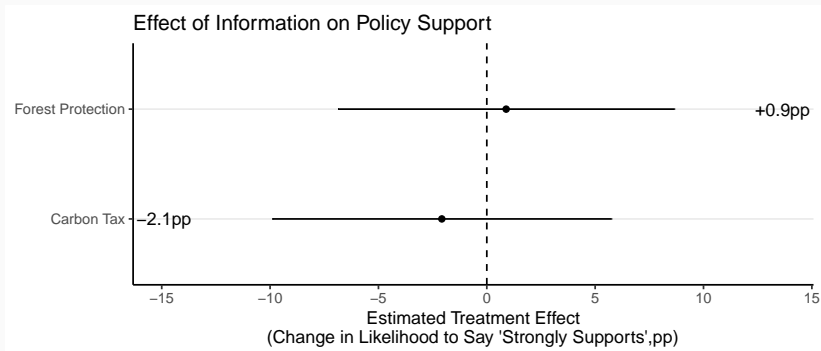
Effect of Information on Politicians' Own Concerns



Results: Experimental Analysis



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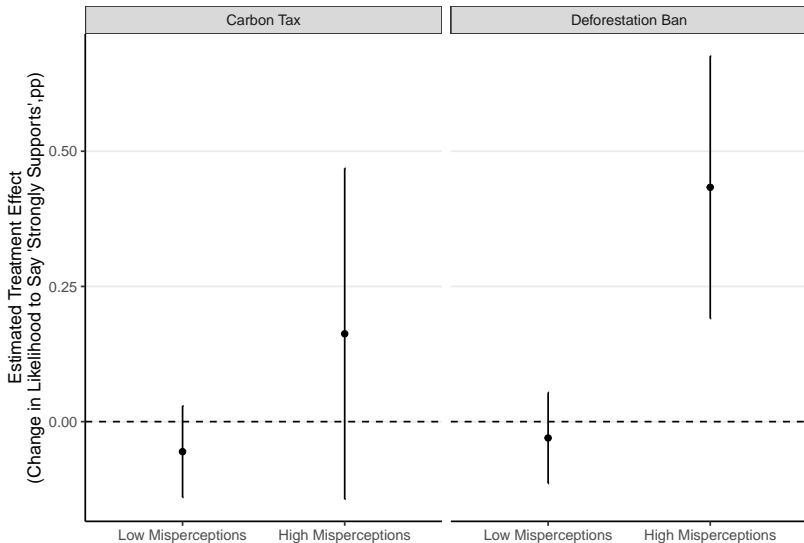


- **Finding #1:** Politicians are learning in the face of new evidence—and even nominally updating their own personal preferences.
- **Finding #2:** But this learning and updated beliefs did not lead to a change in willingness to support costly policy action.
- What explains these seemingly inconsistent findings?

- **Explanation #1:** There is limited scope for updating support for policy action
 - On average, politicians' misperceive voter preferences for environmental issues
 - But not all do, which could be generating floor effects
 - Solution: construct measure of high/low misperceptions of voter preferences at baseline
 - 95% of voters say pollution is "somewhat" or "very" important
 - "High" misperception: politician says voters, on average, believe pollution is "somewhat" or "very" **unimportant**
 - "Low" misperception: all other politicians

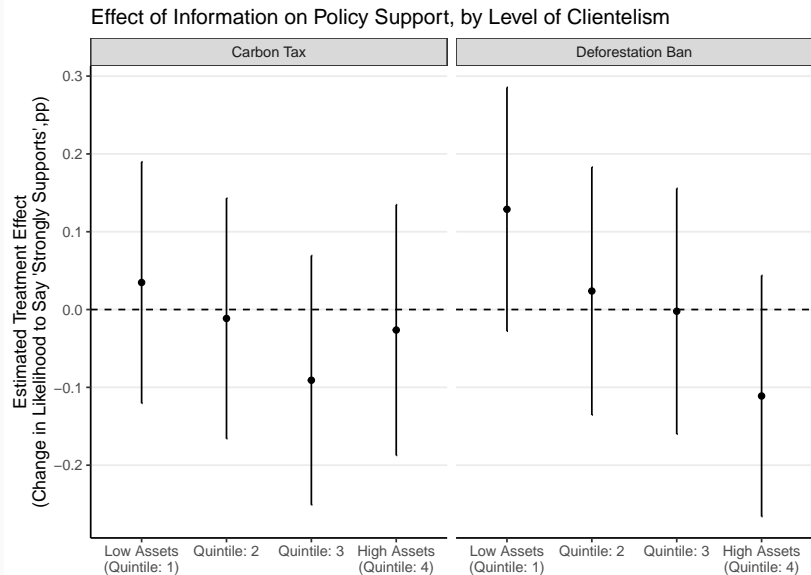
Managing Misperceptions

Effect of Information on Policy Support, by Baseline Misperceptions



- **Explanation #2:** The costs to environmental policy action are too high
 - Local elites benefit from the status quo of policy inaction, which encourages environmental exploitation
 - Politicians may receive rents from these local elites through campaign finance or outright bribery, preventing voter preferences from encouraging action
 - We examine effects of the experiment, according to a proxy for level of clientelism in districts
 - Data comes from KPK e-LHKPN system that requires public officials to report assets each year
 - We construct a standardized index based on the asset valuation of the top 20 officials in each district
 - high assets → high clientelism, and vice versa

The Costs to Policy Action



- Voters care about environmental issues more than politicians
- Politicians underestimate voter concern
- Providing politicians with this information leads them to update their perceptions and preferences
- But it does not lead to changes in support for concrete policies.
- A simple model of costs, clientelism, and misperceptions explains these findings
 - Additional information was effective for heavily misinformed politicians
 - In general, evidence points to the constraining role of clientelism in converting preferences to policy

Questions?
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