Why Participate? Understanding the Drivers of Citizen Complaints during China’s Environmental Inspections

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Abstract

This paper identifies drivers of citizen engagement in the bottom-up monitoring program and how past contact with local bureaucrats influences future citizen participation in a dynamic setting. During environmental inspections, cities with low environmental performance at baseline receive more complaints per capita. However, citizens’ complaints cannot successfully pinpoint the dirtier polluters. Due to the knowledge-intensive nature of identifying pollution, if the central authorities wish to promote transparency and employ bottom-up monitoring as an information-gathering tool, additional training and resources may need to be supplied to individuals to ensure accurate and appropriate reporting. Exploiting the natural experiment of the two rounds, I observe a decrease in air-related complaints received in the lookback round if measured air pollutants return to baseline levels after the original round concludes. This suggests the long-term effectiveness of the environmental protection program is necessary for the central government to be perceived as responsive to environmental concerns raised by citizens. If the complaint channels cease to provide individuals with agency, the central government may not be able to reap the legitimacy benefits in the long run.

Introduction

Motivation: Why do citizens complain? Evidence from other settings:

- Civil society has played an important role in the history of environmental enforcement in the U.S. (Beierle, 2010), inducing firms to go “beyond compliance” (Gunngham et al., 2004).
- Documented public support to mitigate air pollution (Stokes and Warshaw, 2017).
- Why would citizens participate in government-initiated citizen-based monitoring programs in authoritarian regimes?
- There is evidence that monitoring initiatives led to more citizen participation in local regulatory activities (Hsu et al., 2019; Grossman et al., 2017).
- Flato (2019) documents the limited desire for Chinese citizens to express concerns for better environmental protection to their local bureaucrats.

Empirical setting: Drivers of citizen complaint

- Citizens are encouraged to file complaints by hotline or mail against polluters during the inspections.
- >135,000 complaints were investigated, 29,000 companies were punished, 18,000 officials were disciplined, and fines totaled 1.4 billion yuan.

Contribution: This paper examines this complaint channel, for citizens to demand local environmental performance and for the central government to gain legitimacy, in the Chinese setting.

Methods and Materials

What city characteristics determine the per capita complaints received?

- I check for four hypotheses: citizens’ access to pollution information, local quality of life, local government efficiency, and baseline pollution level by estimating an ordinary-least-squares regression:

  \[ \text{Complaint} = \alpha_0 + \alpha_1 \text{Index}_{i} + \alpha_2 \text{City}_{i} + \epsilon_i \]

- What plant attributes predict whether or not a facility receives at least one complaint?

  \[ L_i \left( \frac{1}{1 - P_i} \right) = \alpha_0 + \alpha_3 \text{City}_{i} + \alpha_4 \text{City}_{i} + \alpha_5 \text{Environment}_{i} + \epsilon_i \]

Do citizens’ behavior change, depending on plants’ environmental performance?

- To examine if citizens reduced usage of the complaint channel based on the environmental effectiveness of the original round, I estimate an ordinary-least-squares regression:

  \[ \Delta_i = \alpha_0 + \alpha_1 \text{Revers} + \alpha_2 \text{City}_{i} + \alpha_3 \text{Season}_{i} + \alpha_4 \text{Year}_{i} + \epsilon_i \]

\[ \Delta_i \] : the difference between total number of air and non-air complaints in look-back and original round in a city divided over per million people.

Discussion and Conclusions

How does baseline pollution level affect citizen complaints?

- Citizens are good at distinguishing the overall environmental wellness of the city but bad at identifying individual polluters.
- Policy: Citizen reporting should be viewed as a signal instead of an information-gathering tool due to the knowledge-intensive nature of detecting air pollution.

Are citizens’ willingness to file complaints dependent upon the result of previous complaints?

- At the city level, per capita air-related complaints received in the look-back round will decrease if there is a reversion to the baseline pollution level for measured air pollutants after the original round ends.
- Policy: If complaint channels no longer grant citizens agency, the central government may not be able to gain the legitimacy benefits in the long run.

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