Public Opinion Regarding Climate Change: Measuring Public Concern and Polarization

Project Description

This first paragraph demonstrates the importance of understanding how public opinion about climate change may affect politics and policy.

The second paragraph discusses the problems with available data: sparse and incomparable, as always, but on this topic particularly sparse (extra-fragmented)

The third paragraph describes how we will overcome these problems: latent variable estimation, and with more data, stronger priors in data-poor countries, combining years or employing stronger priors about change over time, treating items as similar (rather than simply as alike or different) by nesting them in hierarchical models should help in a couple of different ways, and using a variety of approaches to estimate polarization.

In summary, the proposed work will build crucial research infrastructure for cross-national work on climate change as well as for work on cross-national public opinion.
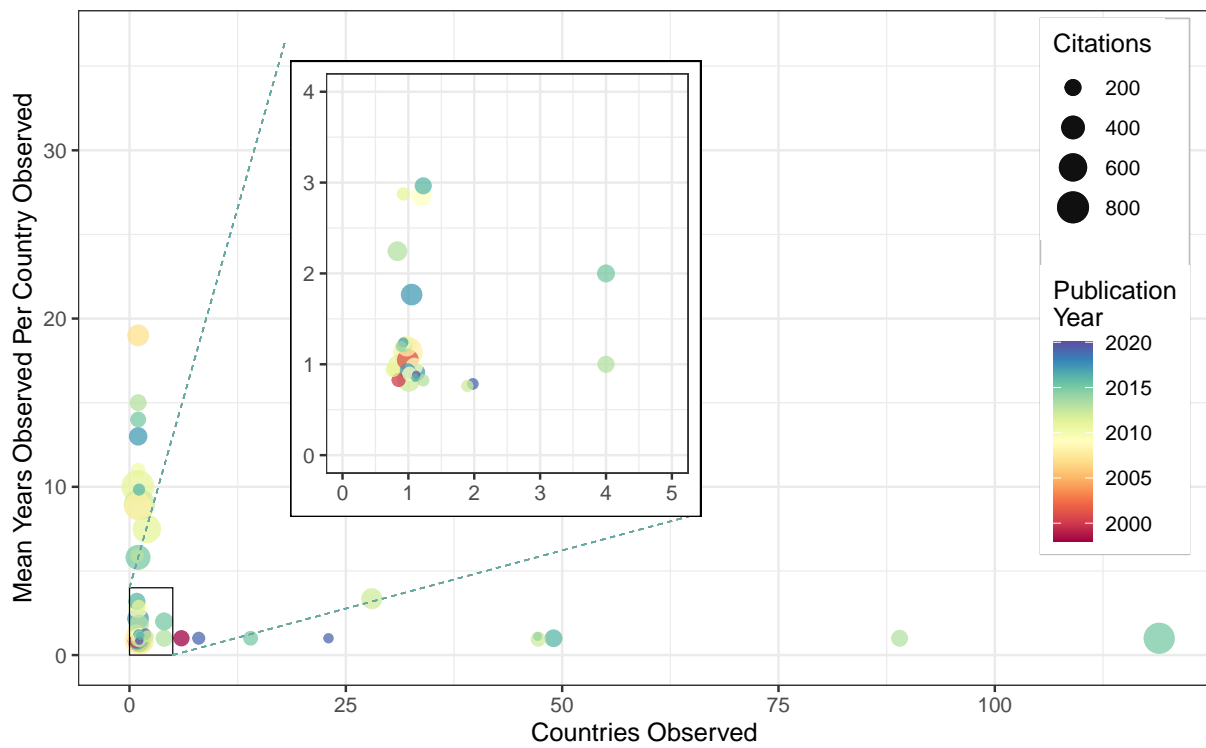
1 Background

At first, we focus on mean attitudes. We need to talk about the standard challenges of sparsity and comparability, along with DCPO solutions and successes (public gender egalitarianism, macrointerest, etc.). Here is where we review the country-year coverage of climate-change questions in existing surveys and in the literature, including plots like the first two figures in `dcpo_gayrights`:

Using the Web of Science, we assembled a sample of fifty highly-cited published articles on public opinion toward climate change.[1] These articles had publication dates as early as 1998 and as late as 2020 (median: 2013) and were cited in the Web of Science from 104 to 847 times (median: 190.5). We then examined these articles to find the number of countries and years investigated in each. As the zoomed portion of the plot emphasizes, many of these articles might be described as using case-study or small-*n* research designs. Just over a third consider only a single year in a single country; together with works that study one country in just two years they comprise nearly half of our sample.

We then can turn to the distinctive challenges in the climate change data (still focusing on mean attitutes). First, the data are particularly fragmented among *many, many* different survey questions.

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[1] Web of Science topic searches return articles in which the search terms appear in the title or abstract. We executed the following search: `TS=("public opinion" AND ("climate change" OR "global warming" OR "greenhouse effect"))`. The fifty most-cited empirical research articles returned were retained as our sample.

Figure 1: Countries and Mean Years Observed in Prominent Research

We can show rather than tell here, with plots of country-years per question across topics (climate change vs. PGE vs. macrointerest, for example). Second, an unusually large number of countries are data-poor.

Moreover, with regard to climate-change opinion, researchers are particularly interested in *polarization* in attitudes; existing latent-variable solutions have paid little attention to this.

2 The Proposed Research

The proposed research comprises four principal activities: (1) expanding the survey source data, (2) improving the multiple-imputation routine by assessing and incorporating new tech- niques to ensure its estimates are comparable, (3) developing and testing a range of methods for generating polarization estimates, and (4) disseminating the resulting estimates to researchers, educators, students, and policymakers worldwide through conference presentations, a symposium, scholarly publications, and a web interface.

2.1 References