

## **Politics and Inequality across Nations and Time: Theoretical and Empirical Approaches**

### **Roundtable: “Aggregating Survey Data: Problems and Solutions”**

December 13, 11:30 – 13:00, Sala Staszica

The purpose of this Roundtable is to discuss problems with, and possible solutions for, constructing country-year indicators via aggregation of cross-national survey data. Aggregate measures of political behavior and attitudes are of special interest for the project “Political Voice and Economic Inequality across Nations and Time.”<sup>1</sup> The project’s planned products include a publicly available database of country-year level indicators of political voice inequality, constructed on the basis of cross-national survey data and information from non-survey sources.

Social scientists frequently aggregate survey data – that is, they combine individual-level characteristics to capture features of groups that respondents can meaningfully constitute into. Countries – in given years or periods – are often the higher-level group to which survey data are aggregated, using various functions (e.g. proportions, means, ratios, inequality indexes, and other characteristics of the distributions of individual-level variable(s)). The ‘new’ indicators are then used, among others, to assess within- or between-country change. For example, one can compare the difference between political participation levels of men and women within a country across many years or between countries in a given year. These aggregate indicators are used in regression analyses, as either dependent or independent variables.

When using survey sample statistics as proxies for measures of population characteristics, researchers need to consider, among others, the extent to which: (i) the characteristic of a given country can be inferred from the characteristics of its residents; (ii) the sample on which the aggregate measure is calculated represents the respective population; (iii) individual-level measures used in aggregation are valid and reliable; and (iv) individual-level measures are comparable across countries (and time).

All these issues require both theoretical and methodological considerations. Taking them into account, it is not easy to assess the extent to which country-year indicators derived from survey data are valid, reliable, and comparable. The task is especially difficult if we consider aggregation of behavioral and attitudinal survey items, for which there are no external benchmarks against which to judge the summary statistics that survey data yielded.

We invite Roundtable participants to share their views on the potential and pitfalls of using cross-national survey data to construct aggregate measures of country-year characteristics. After panelists’ individual comments, the floor will be open to contributions by all in attendance. We provide a set of questions that feed into this debate but they are by no means exhaustive:

1. What concepts pertaining to political participation can be measured with aggregate survey data and how? Using proportions, means, ratios, inequality indexes, or something else?

---

<sup>1</sup> The project is funded by Poland’s National Science Centre (2016/23/B/HS6/03916).

2. For aggregate measures derived from survey data, how important is the standardization of the samples with respect to demographic or other population characteristics? What population characteristics should be taken into account and how? For example, survey samples differ with respect of the youngest respondents' age – should we apply a common lowest age cut-off, or rely on the decisions of the survey producers regarding who they consider “adults”?
3. In calculating aggregate measures, should we account for differences in methods of sample construction, such as multi-stage probability samples, random-route samples, and other probability and non-probability samples? If so, how can we best account for sample effects?
4. When individual-level variables are aggregated, what happens with the measurement error that individual level items carry? Is it simply an “inheritance” issue, meaning that any methodological issues the individual-level variable exhibited will be carried over into the aggregate measure? Do individual-level errors combine when data are aggregated?
5. What are the main threats to the comparability of survey aggregate indicators across countries and over time? How to assess the functional equivalence of such measures? If we aggregate individual-level measures that are comparable would the resulting macro-level measures be comparable as well?
6. What assumptions would be necessary to proceed with constructing aggregate measures of political participation and political inequality from survey data? Are there specific assumptions pertaining to the use of cross-national survey data?