Dynamic Comparative Public Opinion*

Frederick Solt *University of Iowa*

The study of public opinion in comparative context has been hampered by data that is sparse, that is, unavailable for many countries and years; incomparable, i.e., ostensibly addressing the same issue but generated by different survey items; or, most often, both. Questions of representation and of policy feedback on public opinion, for example, cannot be explored fully from a cross-national perspective without comparable time-series data for many countries that span their respective times of policy adoption. This paper proposes a latent variable approach to the study of comparative public opinion that maximizes the information gleaned from available surveys to overcome issues of missing and incomparable data and allow comparativists to examine the dynamics of public opinion. It then presents Bayesian techniques for estimating latent variables from cross-national survey data. As an example of the promise of its approach, the paper then examines the question of whether the legal recognition of same-sex relationships prompts a backlash in public opinion.

Keywords: these, always seem silly, to me, given google, but regardless

A wealth of surveys provide information on the state of public opinion on various issues in different countries over the years, but scholars have faced significant hurdles to putting all of this information to use in any comparative study. The most challenging of these obstacles is that, across countries and over time, the questions asked regarding any given issue are rarely the same, making responses to these questions incomparable.

As a result, the most common approach to the study of comparative public opinion is to make use a single cross-section, typically provided by a single cross-national survey (see, e.g., Dalton, Farrell and McAllister 2011, Ansell (2014)). Some works have captured some element of change over time by taking advantage of multiple waves of an ongoing cross-national survey (see, e.g., Inglehart 1997, Inglehart and Welzel (2005), **?**) or, more rarely, drawing on multiple surveys that employed the same item (see, e.g., Solt 2011, Ezrow and Hellwig (2014)).

A growing body of work is taking a different tack, examining the dynamics of public opinion in single countries over time. These studies draw on

(Not using stimson: Hobolt2008, McGann2014, Stubager2015)

dynamic comparative: Hagemann2016

field of comparative public opinion lack of dynamics (in contrast to public opinion work in U.S.) Check out Thomassen2011 Russell Dalton's work Norris on trust (2011, 63-77)

problem: scarce data perennial problem of public opinion research: exact question wanted is rarely asked no (good) way to (fully) integrate what does exist

question of feedback: positive or negative? ("policies create constituencies" vs. thermostatic) under what conditions?

A Method for Estimating Dynamic Comparative Public Opinion

solution: informed by recent efforts to improve data quality of cross-national time-series data on other latent concepts, such as democracy (Treier and Jackman 2008; Pemstein, Meserve, and Melton

*The paper's revision history and the materials needed to reproduce its analyses can be found on Github here. Corresponding author: frederick-solt@uiowa.edu. Current version: September 03, 2019.

2010, [Arel-Bundock and Mebane 2011]) and judicial independence (Linzer and Staton [2013]), I offer a Bayesian measurement model for comparative public opinion

priors for scarce data: Bailey (2001) Bayesian for missing data: Jackman (2000) random walk for flexibility: Linzer and Staton [2013] heteroskedastic ideal points: Lauderdale (2010) – actually not heteroskedastic (no gammas) no risk of outside raters doing a worse job with some countries because no outsiders: public opinion is what it is

Table 1: IRT for Aggregate Public Opinion

	McGann 2014	**Claassen 2019**	**Caughley, O'Grady, and Warshaw 2019**	**DCPO**
Cross National	No	Yes	Yes	Yes
Ordinal	No	No	Yes	Yes
Country-Varying Question Difficulty	No	Yes	No	Yes
Bounded	Yes	No	No	Yes
Country-Year Population Variance	Yes	No	No	Yes

A Measurement Model of Comparative Public Opinion

%The relative sparsity of cross-national data on many issues of interest, however, makes the full IRT model difficult to estimate. The model is made more tractable by estimating only the mean of public opinion and not its variance. Omitting the variance term yields the probit model:

%Although the variance in public opinion—the extent to which opinion is polarized—is substantively interesting, including these parameters has been found to yield only a marginal improvement in fit in a data-rich single-country application (McGann 2014, 125).

%McGann2014, 125: "The improvement in fit over the simple probit model is marginal—the closer fit barely justifies the additional parameters. This is not surprising, as the IRT model and the probit model are mathematically extremely similar. However, the IRT model has the added advantages of being better justified in terms of individual-level behavior and the additional parameters (the polarization of the population in terms of policy mood) are substantively interesting."

% // expected proportion of population giving selected answer % m[n] <- Phi(gamma[rr[n]] * (alpha[kk[n], tt[n]] - (beta[rr[n]] + mu_beta))) % % // actual number of respondents giving selected answer % y_r[n] ~ binomial(n_r[n], p[n]) % % // individual probability of selected answer % p[n] ~ beta(b*m[n]/(1 - m[n]), b)

Adding Dynamics

Dynamic Linear Model—CaugheyWarshaw2015 %alpha[kk[n], tt[n]+g+1] ~ normal(alpha[kk[n], tt[n]+g], sigma_k[kk[n]]) //random walk

3.4 Respondent Weights % all_data$y_r = with(all_data, as.integer(round(n * value/100))) # number of 'yes' response equivalents, given data weights

3.5 The Full Model 3.6 Identification, Priors, and Estimation

Conclusions

strengths: makes maximum use of available data permits testing hypotheses regarding change over time incorporates uncertainty

weaknesses: data collection demands challenges at individual level (but subsets)

Single-country studies of public opinion have flourished since the release of Stimson's (1991) algorithm for identifying the common trends in any collection of survey questions that have been repeatedly asked over many years. By extending this work to allow the creation of cross-national pooled time series that identify how public opinion varies both across countries and over time, DCPO has the potential to trigger a new wave of research on the causes and consequences of public opinion that will take into account the experiences of many countries.

Further, this allows a broadly comparative approach that is new to work on the relationship between opinion and policy. Existing studies on that examine this topic over time investigate only a single country or, much more rarely, a handful of countries. By examining a broad sample of democracies, DCPO helps researchers avoid conclusions based on the idiosyncrasies of any given political setting and provide a firmer grounding for our understanding of how democracies work and the threats to representation that they face.

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