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Public opinion's effect on democratic institutions is important and long-studied topic. Claassen (2020) renewed attention to this question by using a Bayesian latent variable approach to measure mass democratic support from survey data and concluded such support has a positive effect on subsequent democratic change and especially on democracy's endurance once in place. In this article, we reexamine the question, bringing more survey data on democratic support; a superior measure, Dynamic Comparative Public Opinion (DCPO); and an improved methodological approach that takes the uncertainty in this measure into account. Our results [further reinforce/contradict] the long-held view that democracies depend on public support to survive.

Introduction

One of the classic but disputable questions in comparative politics is the relationship between mass democratic support and countries' level of democracy. A long-standing and widely accepted theory is that the level of mass democratic support determines the stability of a democratic system (e.g., Lipset 1959; Norris 2011), but findings from empirical analyses still remain inconclusive (Inglehart and Welzel 2005; Fails and Pierce 2010; Qi and Shin 2011; for a review in this literature, see Claassen 2020*a*).

One reason for the mixed results is the difficulties in measuring comparative public democratic support. Public support for democracy is a latent variable and the incorrect measurement of it may conceal the real relationship between public opinion and democratic institutional development. However, the sparsity and incomparability of public opinion data across countries over time have perplexed the study of comparative politics for a long time (Solt 2020*c*). Recently, a few pioneering studies are contributing to the latent public opinion measurement in comparative studies (Caughey, O'Grady and Warshaw 2019; Claassen 2019; Solt 2020*c*).

A prominent study by Claassen (2020*a*) applied an advanced Bayesian Item Response Model to measure dynamic public democratic support for 135 countries for up to 29 years. It found that

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mass democratic support had a positive impact on democratic change, especially the endurance of democracy. The analysis models he used do not account, though, for measurement uncertainty. The latent constructs are inherently accompanied by amount of measurement uncertainty due to the unobservability of variables. Left unacknowledged, with a strong assumption that latent variables are measured perfectly, measurement error could distort both statistical and substantive inference (Crabtree and Fariss 2015; Juhl 2019).

In this paper, we reexamined the relationship between public support for democracy and democratic changes thoroughly, by using a superior measurement, bigger data, and incorporating uncertainty. To reduce the uncertainty, we used a superior measurement, the Dynamic Comparative Public Opinion (DCPO) model developed by Solt (2020*c*), to estimate democratic support for a larger dataset with 144 countries for up to 33 years between 1988 and 2020. Surprisingly, our study revealed that the significant relationship between public support and democratic change disappeared when uncertainty was included in the replication analysis of Claassen (2020*a*) model with his original data and the DCPO analysis with more data.

The underlying reasons for the uncertainty could be the ineffectiveness of survey questions in capturing public attitude compared to rich indicators for other concept, like gender egalitarianism [Solt, 2021??], the shortage of indicators for public support worldwide, or the gap between self-reported democratic attitude and behaviorally democratic commitments (Graham and Svolik 2020; Carey et al. 2020; McCoy, Simonovits and Littvay 2020). There could be some potentially substantive explanations for the disappearing relationship: the elite-driven democratic backsliding (Weingast 1997; Levitsky and Ziblatt 2018), the lack of a consensus on democratic erosion between the public and experts (Carey et al. 2019), and the difference between the public support in abstract and public commitments in context (Bartels 2020; Graham and Svolik 2020; McCoy, Simonovits and Littvay 2020).

Although we could not exclude or identify any of them in this study, our reexamination reaffirmed Fariss (2014), Juhl (2019), and Solt's (2020*c*) suggestion that given the latent character of variables in political science, scholars should be vigilant in measurement uncertainty.

Model Specification

To examine the influence of empirical uncertainty, we conducted a three-step test. The first step we made is to reproduce Claassen (2020*a*). Then applying the method he described in the article, we replicated his IRT-based measurement of democratic mood and maintained the entire distribution of the predicted outcome, instead of aggregating to a single point estimate. Utilizing the estimated distribution, we involved uncertainty to the analysis of the influence of democratic mood on institutional democracy cross-nationally. In the third step, we applied an advanced method and added one-third more data to the analysis to reduce potential effects of measurement biases and data spareness. We compared the outcomes of the three steps and showed as below that uncertainty is an critical factor in the studies of mass democratic attitude, which may alter the analytic conclusions. We further showed that accounting for uncertainty is at least equivalently important when the latent-variable estimates plays as the dependent variable in a study by replicating Claassen (2020*b*).

Incorporating Uncertainty

Given the measurement uncertainty caused by the inherent trail of latent constructs and the consequential (propagated) effects of measurement uncertainty on inferences about the relationship of substantive interests, it is strongly recommended to incorporate the measurement uncertainty in analysis models (Treier and Jackman 2008; Crabtree and Fariss 2015). Many scholars have taken the account for measurement error in analyses as a final crucial part in their empirical studies (Schnakenberg and Fariss 2014; Caughey and Warshaw 2018), and recent studies on latent variable measurement emphasized the incorporation of measurement uncertainty when using their measures (Solis and Waggoner 2020; Gandhi and Sumner 2020). However, in the comparative public opinion field, previous efforts on measuring comparative public opinion didn't account for measurement uncertainty in their analyses.

In our reexamination, instead of employing the point estimates, we followed the recommendation and the approach of incorporating uncertainty in using latent variables (e.g., Schnakenberg and Fariss 2014; Crabtree and Fariss 2015) and other measures, such as the Standardized World Income Inequality Database (Solt 2020*b*). Specifically, in our replication of Claassen's (2020*a*) analysis

models, we incorporated uncertainty by using random draws from the posterior distributions. We generated 1,000 duplicate versions of the analysis dataset, assigned to each a different random draw from the posterior distributions of public democratic support, performed the analyses repeatedly on each of these 1,000 versions of the dataset, and then combined the results following the rules set out in Rubin (1987).

A Better Measure of Democratic Support and More Data

To reduce the uncertainty, we applied a more valid measurement, the DCPO model, to a bigger data set. The validation tests in Solt (2020*c*)'s paper corroborate that the DCPO model yields more accurate results than other latent variable measurements, either of Claassen (2019) Model 5 and Caughey, O'Grady and Warshaw (2019) model. The flexibility of the DCPO model in treating the data as their original scales, either dichotomous or ordinal, decreases information missing due to the potential scale change. For example, our data consists of 20,885 national responses as the result of measuring public attitude at ordinal scales, which has the potential to give us more nuances about public democratic support. Second, to reduce the uncertainty in estimating countries which lie at the extreme ends of the public opinion spectrum (Linzer and Staton 2015), the estimates of mean public opinion are bounded and the extent of polarization is included in the DCPO model. Third, to address the differences in item response across countries, caused by factors other than public attitude or preference, a country-specific item bias is modelled as "a country-specific bias in the difficulty of each question" (Solt 2020*c*, 6). In short, the DCPO model has methodological advantages in keeping as much available information as possible, reducing uncertainty by bounding scales, and in capturing the extent of polarization in the public.

In addition to applying the advanced measurement, we also collected as much available data as possible. We collected data on 62 items from 17 survey projects in 159 countries covering years from 1988 to 2020. Survey data was extracted automatically through the `DCPO` package for R (Solt 2020*a*). The DCPO package also automatically identifies the year in which the survey was conducted, which contributes to the capture of the real relationship between public opinion and the level of democracy. Our data consists of 1439 country-years and 1,861 national surveys, which is a 23.5% and 33.9% increase respectively over 1165 country-years and 1,390 national surveys used in Claassen's studies (2020*a*; 2020*b*). Finally, using the DCPO model in the `DCPO` package, we

attained 4,752 estimates for mass support for democracy, drawn from 144 countries with at least 2 country-years observed.

Results

The results are presented in Figure 1 (and numerically in Appendix Table A1). In the pooled model (left panel), the aggregated measurement of democratic mood shows a positive effect on the institutional democratization in Claassen's original model, and the effect is statistically significant at the 0.05 level.

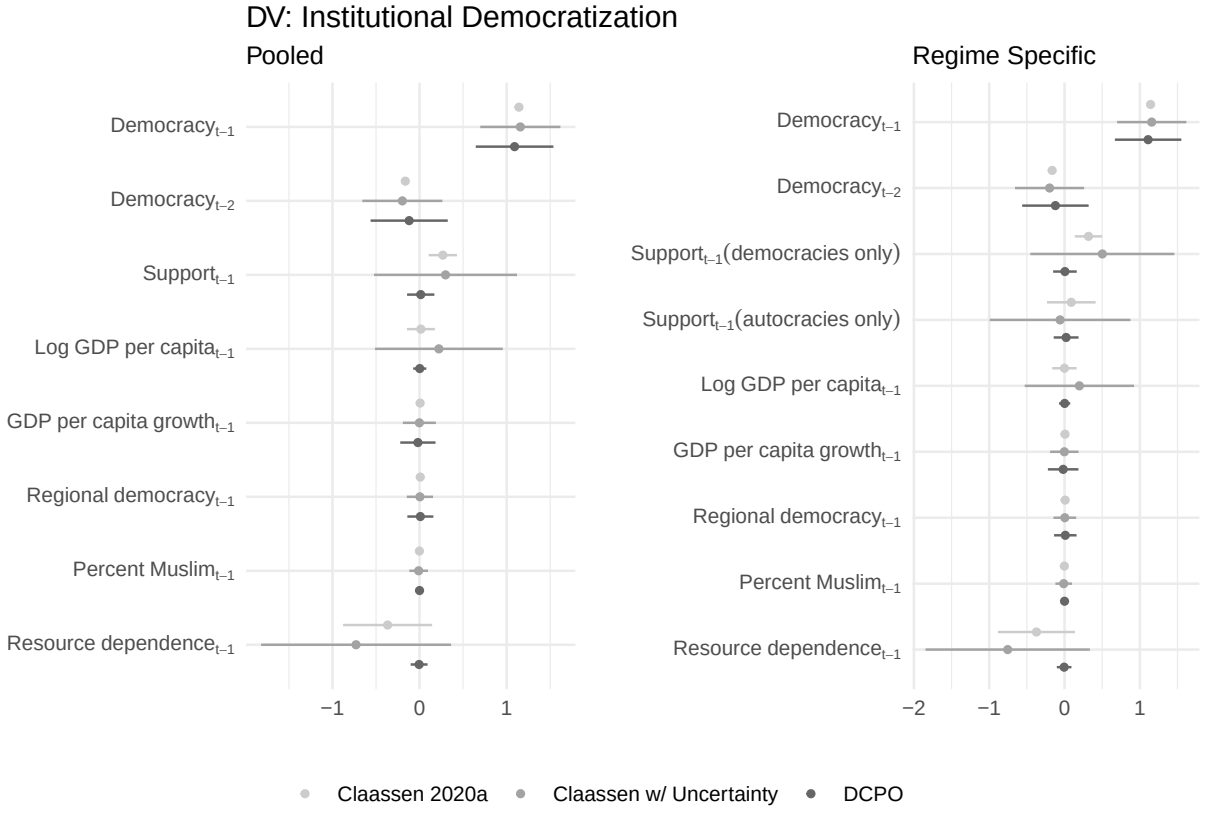

Figure 1: The Effect of Democratic Support on Democratic Institutions

However, when accounting for the uncertainty of the latent variable measurement of the mood, the significance disappears. We added one-third more data and applied a more efficient measurement (DCPO), resulting a saliently shrink of the range of measurement uncertainty, but the confidence intervals still cut zero—that is, remaining statistically insignificant.[1] Similar phenomenon

[1]The point estimates also alters. We attribute it to additional more information and better measuring method by DCPO.

also happens on the estimates of, for example, the second-time-unit lag of democratization and resouce dependency.

We further examined Claassen's regime specific model (Claassen 2020*a*, Model 2). The originally significant contribution of democratic mood in democratic regimes disappears as well, regardless whether more information and better method are applied.

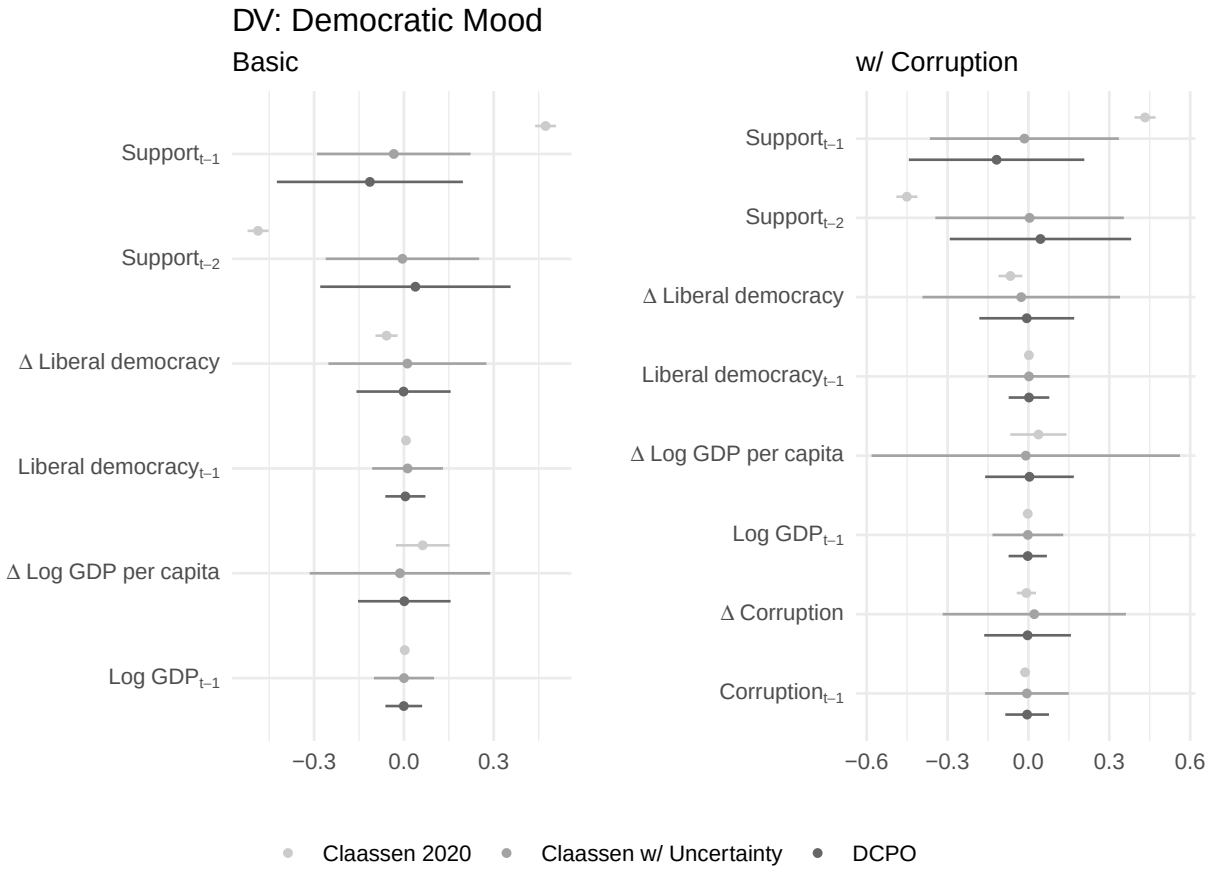

Figure 2: Effects of Democracy on Change in Mood

The importance of accounting for the measurement uncertainty appear more evident when the relevant variable plays as the dependent variable. In Figure 2, we examine the thermostatic model of democratic mood (Claassen 2020*b*). The estimates without taking uncertainty into account imply that democatic mood decreases along with the progress of democratization. Nevertheless, this effect no longer holds when the measurement uncertainty is involved.

As previous operation, we tested if this alteration is caused by the data scarcity or estimating inefficiency. When more data and better method are applied, the confidence intervals do shrink yet

remaining statistically insignificant. We observed the similar changes after adjusting the effect of domestic corruption (Claassen 2020*b*, 41).

Discussion

In short, the main empirical findings about the estimated effect of public democratic support on democracy or vice versa are not replicable when measurement uncertainty is accounted, even using better measurement and more data.

There are potential causes for the null results. First, the survey items we used might not capture real public democratic support, given the complexity of this concept and limited indicators compared to other concepts like gender egalitarian (Solt, 2021??). Second, these survey items do capture public democratic support, but we still don't have enough data to compensate the fragmentation and incomparability of the available comparative public opinion data, which is doomed to high uncertainty. Methodologically, given the nature trail of latent variables and specific characters of comparative public opinion, performing analyses based on the strong assumption that comparative public attitudes are perfectly measured might exaggerate scholars' certainty methodologically and obscure a proper substantive evaluation of theoretical claims.

In addition to the potentially methodological cause (the measurement errors), there are some potentially substantive causes for the disappearing relationship. First, democratic backsliding might be mainly caused by elites. Elites are thought to play a critical role in preserving democratic stability by respecting the limits on their behaviors (Weingast 1997). After the Cold War, many democracies backslid and were imperiled worldwide because elected leaders lack commitment to democratic norms when the public even did not notice that (Bermeo 2016, Levitsky and Ziblatt (2018), Waldner and Lust (2018)).

Second, there has been a gulf between public perception and elites' perception on important democratic principles (McClosky 1964). A recent study showed that polarized public cannot get a consensus on democratic erosion which experts preserved (Carey et al. 2019). Given that the measures for democratic development are from experts, there could be a gap between public perception on democracy and the measures of the levels of democracy.

Third, since there is a difference between the public support for democracy in the abstract

and under specific propositions (Bartels 2020), recent studies questioned whether conventional measures of public support for democracy could capture public realistic commitment to democracy. By using survey experiments, Graham and Svolik (2020) pointed out a "fundamental blind spot" in traditional measures of public democratic support: the questions regarding the support for an abstract democracy cannot capture public willingness and behavioral commitment to democratic principles when voters have to choose between democratic norms and their partisan identification or policy preference. It turned out that voters subordinated democratic norms to their partisan preference by not electorally penalizing their candidates who endorse measures that violate norms. Furthermore, Carey et al. (2020) found that rather than only tolerate anti-democratic policies, voters support/encourage democratic norm-eroding policies when their co-partisans are in power.

Conclusion

In this note, we reexamined the findings from Claassens'(2019; 2020*b*) paper that public support helps the survival of democracy and democratic development has a thermostatic effect on public support for democracy. We demonstrated that the relationships between public support and democratic development depends on the incorporation of uncertainty in the measurement of latent variables. Even using more data and a sophisticated DCPO model, the measurement uncertainty made the relationships irreplicable irrespective of whether public support is an independent variable or dependent variable.

There could be several potential reasons for this no relationship: the self-report survey data that could not capture the public attitude, the scarce data on the complex concept of democratic support, and the gap between the public attitude and public commitment. Any one of these could lead to this no relationship.

Although we could not exclude any one of these, a basic lesson from this reexamination is simple: given the inherent uncertainty accompanying latent public opinion, and its propagated effects in analysis, incorporating measurement uncertainty in analysis models is a safer way to infer the relationship between public opinion and other substantive interest especially for comparative politics, in which the measurement uncertainty of public opinion is further exacerbated by the sparse and incomparability of indicators.

APPENDIX A: Tabular Results

Table A1. Democratic Support on Democratic Institutions

Number of Observations: 2435

Model	Variable	Claassen 2020a	Claassen w/ Uncertainty	DCPO
Pooled (n: 2435)	Democracy (t-1)	1.141 [1.1, 1.18]	1.157 [0.7, 1.62]	1.091 [0.65, 1.54]
	Democracy (t-2)	-0.163 [-0.2, -0.12]	-0.198 [-0.66, 0.26]	-0.119 [-0.56, 0.32]
	Support (t-1)	0.267 [0.1, 0.43]	0.298 [-0.52, 1.12]	0.014 [-0.14, 0.17]
	Log GDP per capita (t-1)	0.015 [-0.15, 0.18]	0.222 [-0.51, 0.96]	0.002 [-0.07, 0.08]
	GDP per capita growth (t-1)	0.007 [-0.02, 0.03]	-0.002 [-0.19, 0.19]	-0.019 [-0.22, 0.18]
	Regional democracy (t-1)	0.008 [0, 0.02]	0.004 [-0.15, 0.15]	0.009 [-0.14, 0.16]
	Percent Muslim (t-1)	-0.002 [-0.01, 0]	-0.01 [-0.12, 0.1]	0 [-0.01, 0.01]
	Resource dependence (t-1)	-0.367 [-0.88, 0.14]	-0.729 [-1.82, 0.36]	-0.005 [-0.1, 0.09]
Regime Spec. (n: 2435)	Democracy (t-1)	1.142 [1.1, 1.18]	1.158 [0.7, 1.62]	1.11 [0.67, 1.55]
	Democracy (t-2)	-0.164 [-0.2, -0.12]	-0.199 [-0.66, 0.26]	-0.121 [-0.56, 0.32]
	Support demo only (t-1)	0.318 [0.14, 0.5]	0.502 [-0.45, 1.46]	0.005 [-0.15, 0.16]
	Support auto only (t-1)	0.09 [-0.23, 0.41]	-0.059 [-0.99, 0.88]	0.021 [-0.14, 0.19]
	Log GDP per capita (t-1)	-0.001 [-0.16, 0.16]	0.197 [-0.53, 0.92]	0.002 [-0.07, 0.08]
	GDP per capita growth (t-1)	0.007 [-0.02, 0.03]	-0.002 [-0.19, 0.19]	-0.018 [-0.22, 0.19]
	Regional democracy (t-1)	0.008 [0, 0.02]	0.004 [-0.15, 0.15]	0.01 [-0.14, 0.16]
	Percent Muslim (t-1)	-0.002 [-0.01, 0]	-0.011 [-0.12, 0.1]	0 [-0.01, 0.01]
	Resource dependence (t-1)	-0.373 [-0.88, 0.14]	-0.755 [-1.85, 0.34]	-0.005 [-0.1, 0.09]

Table A2. Democratic Institutions on Democratic Support

Model	Variable	Claassen 2020b	Claassen w/ Uncertainty	DCPO
Basic (n: 2300)	Democratic Mood (t-1)	0.473 [0.44, 0.51]	-0.034 [-0.29, 0.22]	-0.114 [-0.42, 0.2
	Democratic Mood (t-2)	-0.487 [-0.52, -0.45]	-0.005 [-0.26, 0.25]	0.038 [-0.28, 0.3
	Liberal Democracy (Difference)	-0.058 [-0.09, -0.02]	0.012 [-0.25, 0.28]	-0.001 [-0.16, 0.1
	Liberal Democracy (t-1)	0.007 [0, 0.01]	0.012 [-0.11, 0.13]	0.005 [-0.06, 0.0
	Log GDP per capita (Difference)	0.063 [-0.03, 0.15]	-0.013 [-0.31, 0.29]	0.001 [-0.15, 0.1
	Log GDP (t-1)	0.003 [0, 0.01]	0 [-0.1, 0.1]	-0.001 [-0.06, 0.0
W. Corruption (n: 1949)	Democratic Mood (t-1)		-0.015 [-0.37, 0.34]	-0.118 [-0.44, 0.2
	Democratic Mood (t-2)		0.004 [-0.35, 0.35]	0.045 [-0.29, 0.3
	Liberal Democracy (Difference)		-0.027 [-0.39, 0.34]	-0.006 [-0.18, 0.1
	Liberal Democracy (t-1)		0.002 [-0.15, 0.15]	0.002 [-0.07, 0.0
	Log GDP per capita (Difference)		-0.01 [-0.58, 0.56]	0.004 [-0.16, 0.1
	Log GDP (t-1)		-0.002 [-0.13, 0.13]	-0.003 [-0.07, 0.0
	Corruption (Difference)		0.022 [-0.32, 0.36]	-0.003 [-0.16, 0.1
	Corruption (t-1)		-0.006 [-0.16, 0.15]	-0.005 [-0.09, 0.0

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