

Political Discontent

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Data Availability Statement

Replication data is available on the Harvard Dataverse [link tbd], and the work's complete revision history is available at https://github.com/fsolt/dcpo_discontent.

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abstract

Public discontent with political systems and institutions has become an increasingly salient concern in recent years, with implications for democratic stability and effective governance. Widespread political discontent can undermine public confidence in the political process, erode the legitimacy of governing institutions, and create fertile ground for populist and anti-system movements (Mudde 2004; Miller 1974; Lipset 1959). Understanding political discontent is therefore crucial for identifying potential threats to democracy and developing strategies to bolster system support. Nevertheless, the understanding of the nature, extent, and drivers of political discontent remains debated, with some arguing that the level of political discontent is on a clear declining trend while others claim that political discontent fluctuates without a clear sign of a declining trend (Jennings et al. 2017a; Norris 2011; Foa and Mounk 2016, 2017).

This paper aims to provide a clearer conceptualization and more rigorous measurement of political discontent using survey data from a wide range of developed countries over several decades. Drawing on David Easton's (1965) classic distinction between diffuse and specific support for political systems, we define political discontent as dissatisfaction with or a lack of diffuse support for the political system as a whole, rather than disapproval of specific authorities or the incumbent government (Jennings et al. 2017a). The explicit distinction between diffuse and specific support is highly necessary because they have different levels of variation and different consequences for individuals' political behavior and, in turn, the sustainability of the political system (Citrin 1974; Miller 1974; Craig and Maggiotto 1981; Muller and Jukam 1983). Our conceptualization of political discontent encompasses key components of system support, including perceptions of system responsiveness (external efficacy), trust in political institutions and processes, and

perceptions of political corruption, all of which are interrelated and collectively contribute to the broader construct of diffuse political discontent.

To overcome issues of incomparability and sparseness that often plague survey-based measures of political discontent in the previous studies, we employ the Dynamic Comparative Public Opinion (DCPO) model developed by Solt (2020b) to estimate country-year panels of public political discontent in developed OECD countries. This approach allows us to combine information from a multitude of survey questions while accounting for differences in question content and response options. The resulting estimates cover a wide scope - thirty-eight countries and a total of 1217 country-years - enabling both cross-national comparison and over-time analysis. We validate our measure by demonstrating its strong correlation between individual survey items, the democratic evaluation survey item not included in our estimation, and the construct believed causally related to political discontent (evaluations of recent government policy performance).

Following, we explore drivers of political discontent, focusing on election, political institution, and economic factors. Our findings clearly suggest that political discontent has been on the increasing trend over time in developed OECD countries, supporting Foa and Mounk's (2016, 2017) thesis of democratic deconsolidation in developed democracies. Need to discuss the result (I left it blank and will write after the analysis is done).

By providing a broader examination of political discontent and its determinants, this study contributes to ongoing debates about the trajectories of political discontent across countries and over time. A valid and comparable measure of political discontent can enrich future discussions of public opinion, representation, and democratic backsliding. From a methodological standpoint, the paper demonstrates the utility of latent variable modeling for harnessing the wealth of underutilized cross-national survey data that are often fragmented and incomparable.

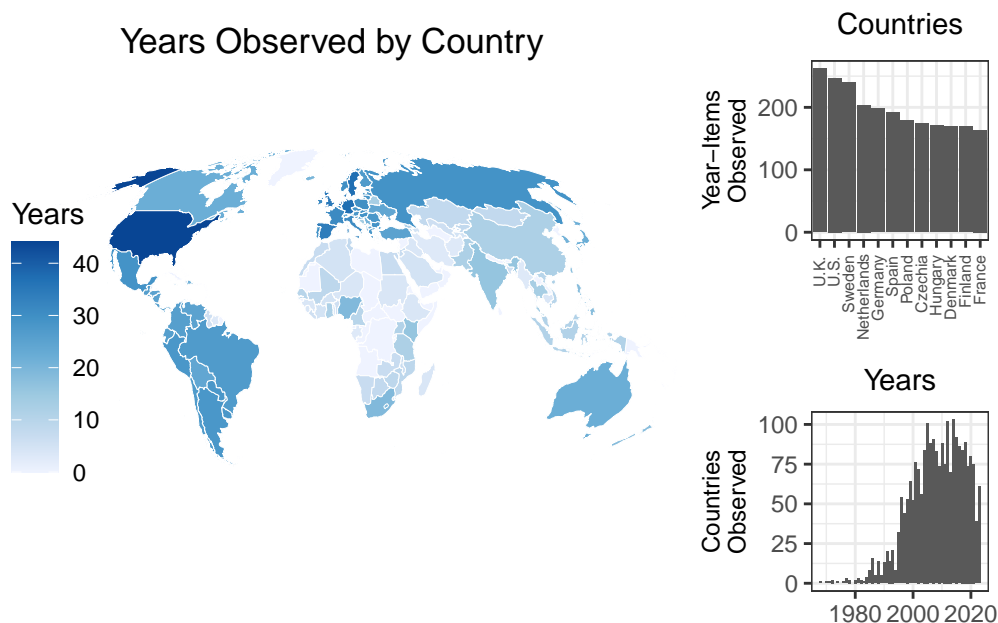


Figure 1: Countries and Years with the Most Observations in the Source Data

Conceptualizing Political Discontent

The significance of public political discontent for the sustainability of a political system is frequently highlighted in the literature. Lipset (1959) claims that the public’s belief in the suitability of the existing political system is a key “requisite” for the survival of a democratic regime. Similarly, Miller (1974) argues that a democratic political system cannot endure without majority public support, as growing political discontent increases the potential for revolutionary changes to the political and social system. Additionally, widespread political discontent can complicate effective governance (Hetherington 1998). These theoretical perspectives have prompted numerous analyses of the content, sources, and implications of political discontent. However, scholars have proposed various conceptualizations or dimensions of political discontent, ranging from the lack of diffuse support for the political system to perceptions of low responsiveness, democratic deficit, low political trust, and dissatisfaction with the current government (Easton 1975; Muller and Jukam 1983; Norris 2011; Jennings, Stoker, and Twyman 2016). These differences in conceptualization reflect varying analytical purposes, theoretical motivations, and the available opinion survey items at the time.

This paper specifically defines political discontent as dissatisfaction with, or the lack

of, diffuse support for the political system (Jennings et al. 2017a). The primary theoretical motivation for this approach lies in Easton’s (1965) well-known distinction between diffuse and specific political support. Specific support, being object-specific, refers to individuals’ satisfaction with the perceived outputs or performance of the incumbent political authorities. In contrast, diffuse support is a generalized attachment or support for the political system, serving as a “reservoir of favorable attitudes or goodwill” toward the political system and is not object-specific in nature. The theoretical and analytical importance of this distinction is frequently noted in previous research, which found that people with low political trust or negative attitudes toward the government often do not reject the political system and prefer the existing political system to remain unchanged (Citrin 1974; Miller 1974). Furthermore, the literature shows that specific support is variable and less likely to pose a systemic threat to the regime’s survival (Craig and Maggiotto 1981; Muller and Jukam 1983). Democracy allows people to express their political dissatisfaction at the ballot box and change politicians in power without fundamentally altering the system. On the other hand, Muller and Jukam (1983) point out that diffuse political discontent provides the public with a normative incentive to participate in radical changes to the political system as a whole. In this regard, Jennings et al. (2017a) points out that conceptualizing political discontent as a lack of diffuse support enables researchers to examine whether there is a sustained decline in diffuse support that could pose a threat to the political system, or if there is merely a decline in specific support that is unremarkable and arguably fluctuates “normally.”

Diffuse political discontent comprises several related yet distinct components: external efficacy (evaluation of the responsiveness of political authorities in general), evaluation of the trustworthiness and integrity of political authorities, and perceptions of political corruption (Craig and Maggiotto 1981; Muller and Jukam 1983; Park 2011). These components are interrelated and collectively contribute to the broader construct of diffuse political discontent. One of the main sources of this discontent is the perception that the political system is unresponsive to the public and prioritizes its own or special interests, which increases the likelihood of the public participating in or endorsing regime-challenging activities that threaten the social and political order (Craig 1980; Jennings, Stoker, and Twyman 2016). Recent studies of populism have also highlighted that the feeling of being unheard by the political system is a significant source of support for

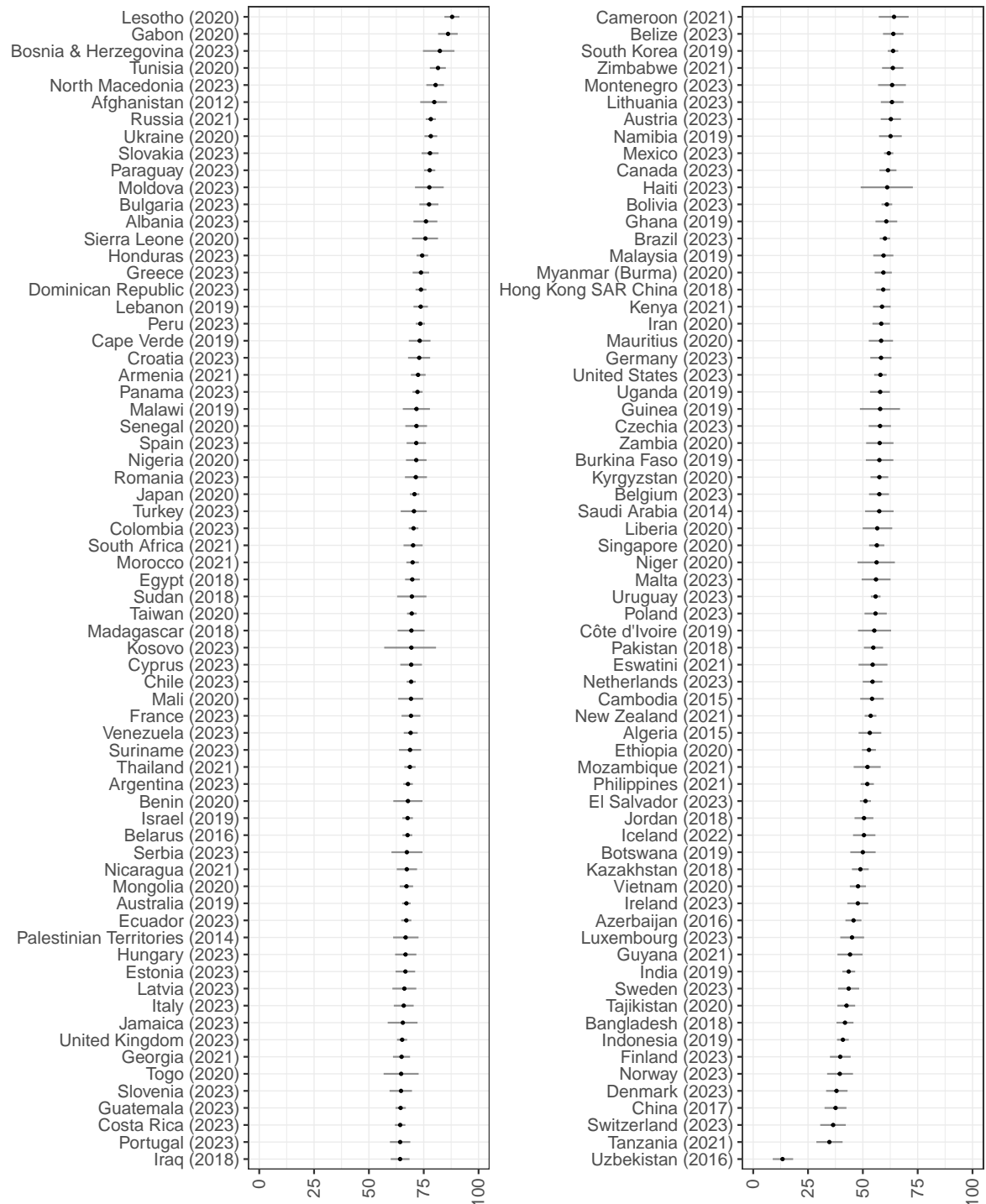
anti-system populist messages (Mudde 2004). Political trust, often used as a measure of political discontent, is conceptually associated with external efficacy but operates on a different dimension. While external efficacy focuses on whether the political system functions according to public demands, political trust concerns whether political authorities work for the public good (Craig 1979). Additionally, the implications of political trust can vary depending on the specific referents of trust (Van der Meer and Hakhverdian 2017). For instance, trust in political institutions in general, such as the political party system or politicians or the parliament in general, differs from trust in the incumbent government, which is a measure of specific support, or trust in apolitical institutions such as the judiciary or the police. In this context, we consider only distrust in general political institutions as a component of political discontent. Similarly, dissatisfaction with political parties or national officeholders in general is also used as a component of political discontent. Lastly, recent literature emphasizes the perception of political corruption as a primary source of political discontent, as people perceive political authorities working for their own interests without addressing public demands (Park 2011; Busby et al. 2018; Hawkins, Kaltwasser, and Andreadis 2020).

It is also worth discussing what is not considered a component of diffuse political discontent. Specifically, we exclude political trust in the incumbent government or apolitical institutions, as trust in the government is a type of specific support that fluctuates over time and does not pose a serious threat to the political system (Norris 1999). Additionally, unlike previous studies that use support for democracy in the abstract as a predictor for the survival of democratic regimes (Claassen 2020), we do not include it as a component of political discontent. This is because support for democracy in the abstract is too prevalent in every country to be a meaningful or analytically useful measure of political discontent (Dalton, Sin, and Jou 2007; Inglehart 2003). Lastly, we exclude satisfaction with democracy (SWD) in the abstract because the literature shows that the SWD measure functions more as a type of specific support. People tend to have much higher democratic satisfaction when their preferred politicians or parties win elections, while electoral losers tend to have lower democratic satisfaction (Van Egmond, Johns, and Brandenburg 2020; Singh and Mayne 2023). Moreover, Quaranta and Martini (2016) indicate that various economic indicators, such as the unemployment rate, GDP growth, inflation, or subjective economic evaluation, are strongly associated with the public's sat-

isfaction with democracy, suggesting that it is a product of the government's economic performance.

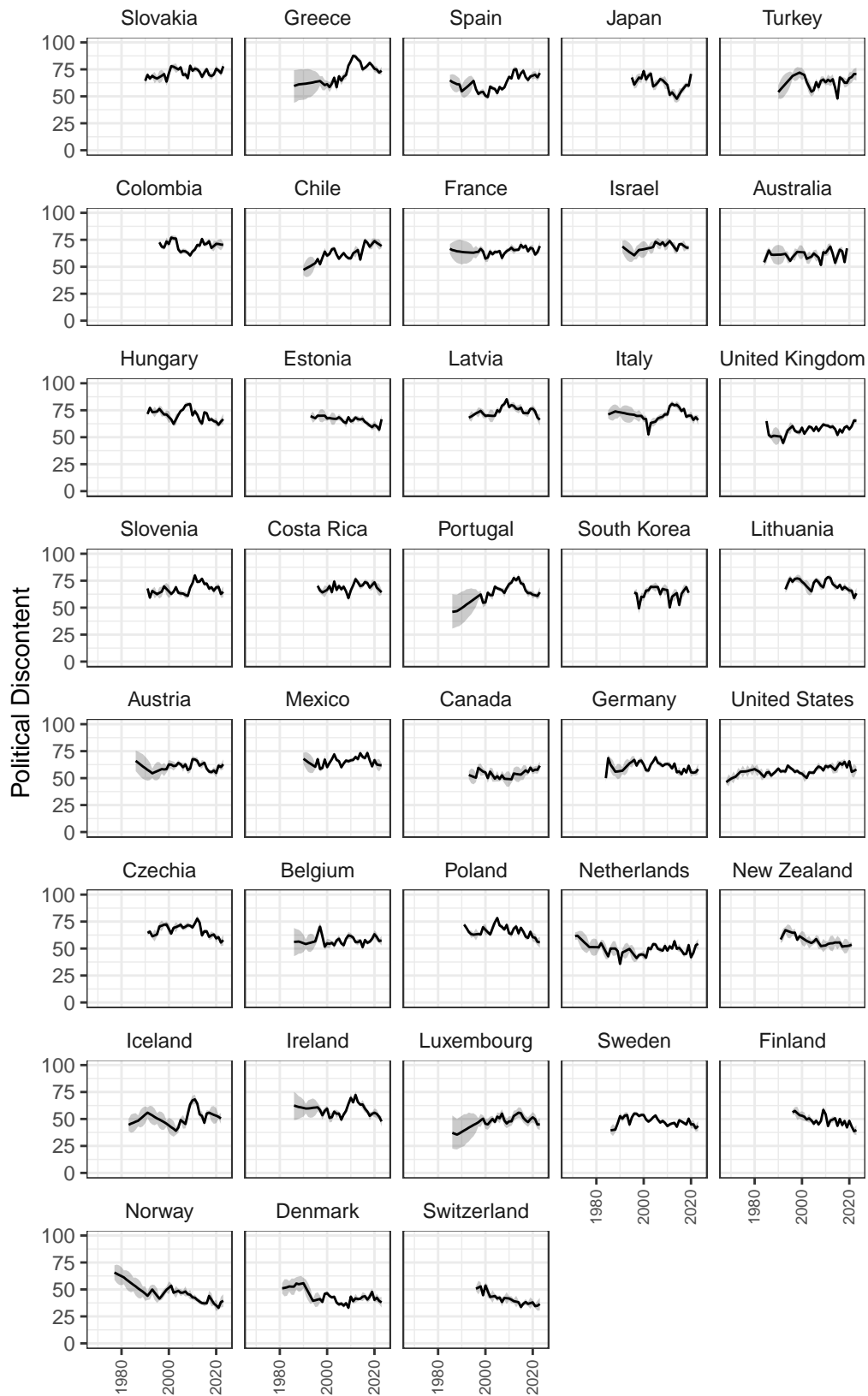
The conceptualization of political discontent as a lack of diffuse support for the political system has important implications. First, by focusing on the systemic dimension of political discontent and excluding types of specific support or abstract support for democracy, this conceptualization aligns closely with discussions about the erosion of public confidence in the political system as a whole, beyond mere dissatisfaction with specific authorities or policies. This understanding is crucial for identifying the underlying causes of political disaffection and developing targeted interventions to address them. Moreover, this conceptualization of political discontent can contribute to recent discussions about democratic backsliding. The literature on democratic backsliding has yielded mixed findings regarding whether public opinion can influence the possibility of backsliding (Tai, Hu, and Solt 2024). However, previous studies often use abstract public support for democracy as a measurement, which is less satisfying because abstract support for democracy is notoriously affirming. In this context, political discontent, defined as a lack of diffuse support for the system (Claassen 2020), can serve as a better conceptual tool for discussing how public opinion relates to democratic backsliding. Additionally, previous studies have shown that diffuse political discontent is strongly associated with citizens participating in or endorsing regime-challenging activities, which ultimately pose a threat to the social and political order (Craig 1980). A clearer understanding of the nature and consequences of diffuse political discontent can thus inform efforts to strengthen democratic resilience and responsiveness in the face of growing public disaffection with political systems worldwide. For this, this paper measures political discontent cross-nationally and further examines various sources of political discontent.

Estimates



Note: Gray whiskers represent 80% credible intervals.

Figure 2: PD Scores, Most Recent Available Year



ed by their most recent political discontent score; gray shading represents 80% credible intervals.

Figure 3: Political Discontent Scores Over Time Within OECD Democracies

Validating Public Political Discontent

That we can *generate* estimates of political discontent does not automatically mean that they are suitable for analysis. Validation tests of this novel latent variable, like for any new measure, are crucial (see, e.g., Hu et al. 2023). Figure 4, Figure 5, and Figure 6 provide evidence of this measure’s validity with tests of convergent validation and construct validation.

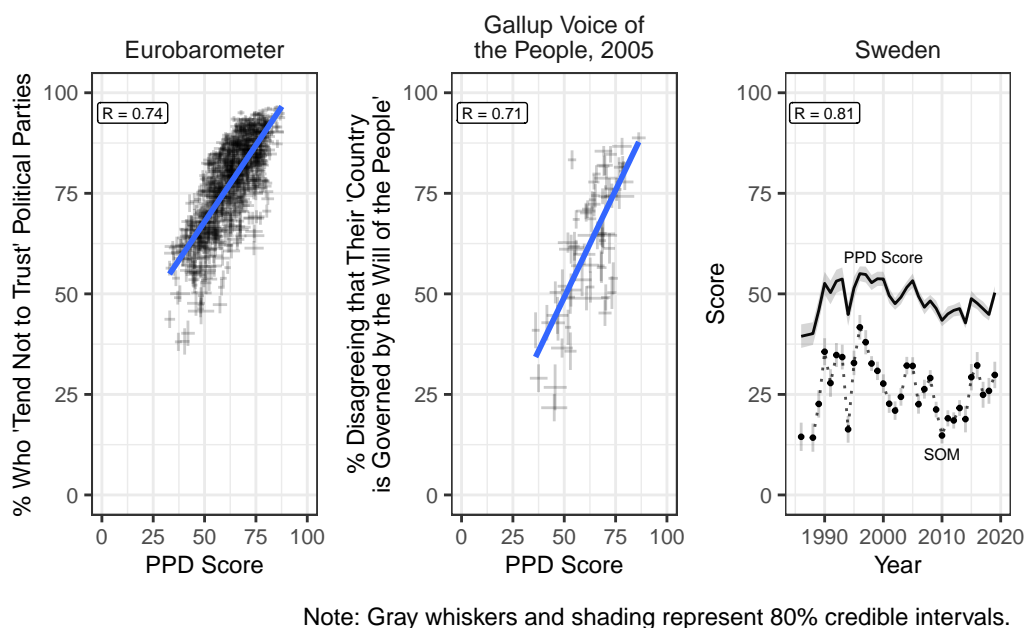
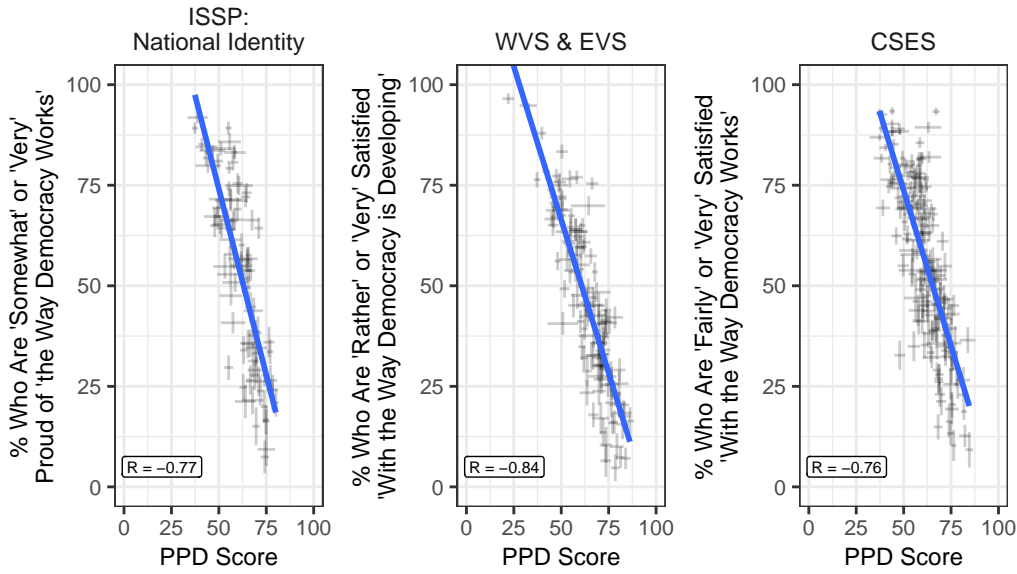


Figure 4: Internal Convergent Validation: Correlations Between Public Political Discontent and Individual Source-Data Survey Items

Convergent validation refers to tests of whether a measure is empirically associated with alternative indicators of the same concept (Adcock and Collier 2001, 540). Here, Figure 4 offers ‘internal’ convergent validation tests (Caughey, O’Grady, and Warshaw 2019, 686): it compares PPD scores to responses to the individual source-data survey items that were used to generate them. On the left, PPD scores are plotted against the percentage of respondents across all country-years who responded “tend not to trust” rather than “tend to trust” to the Eurobarometer’s dichotomous question, “How much trust do you have in certain institutions: Political parties?” This is the single most-asked item in the source data. The middle panel compares PPD scores to responses to the question with the most data-rich cross-section, “Would you say your country is governed by the will of the people?” in Gallup’s 2005 Voice of the People survey. Finally, the



Note: Gray whiskers represent 80% credible intervals.

Figure 5: External Convergent Validation: Correlations Between PPD Scores and Evaluations of Democratic Performance

right panel evaluates how well the PPD scores capture change over time by focusing on the item with the largest number of observations for a single country in the source data: Sweden’s SOM surveys’ question, “How much confidence do you have in the way the following institutions and groups do their job: The National Parliament?” In all three cases, the correlations, estimated taking into account the uncertainty in the measures, are strong.

In Figure 5, we present three ‘external’ convergent validation tests, comparing PPD scores to responses to survey items that were *not* included in the source data: items that asked respondents to evaluate “democracy” in their countries. We excluded these questions so as to avoid assuming that respondents conflate the current political system of their country with democracy. Nevertheless, evaluations of the democracy of respondents’ countries provide good alternate indicators of the extent of political discontent. The left panel shows data from three rounds of the International Social Survey Program’s National Identity module, which asked respondents how proud they were of how democracy works in their country. In the center, we plot how much satisfaction respondents reported with “the way democracy is developing” in their countries in the World Values Surveys and European Values Surveys. The right draws on data from the Comparative Study of Electoral Systems about how many respondents were at least fairly satisfied “with the

way democracy works” in their country. Across countries and years and all three of these survey items, our latent-variable measure of political discontent is strongly negatively correlated with aggregate positive evaluations of democracy.

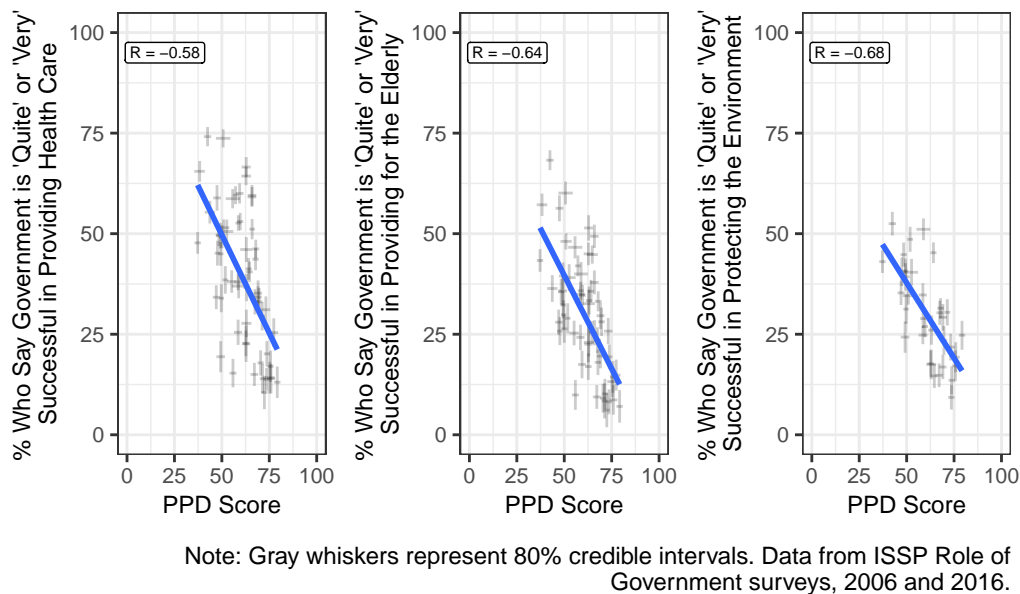


Figure 6: Construct Validation: Correlations Between PPD Scores and Views of Government Success

With the success of these tests of convergent validation, we turn to construct validation. Construct validation refers to demonstrating that the tested measure is empirically associated with measures of *other* concepts believed causally related to the concept the measure seeks to represent (Adcock and Collier 2001, 542). Discontent with the political system should be closely tied to evaluations of recent government policy performance.

Figure 6 depicts the relationships between PPD and three survey items from the WVS and EVS on other aspects of political engagement that are expected to have causal relationships with political interest (see ?): in the left panel, following political news on television, radio, and newspapers; in the center panel, discussing politics with friends; and on the right, feeling politics is important to one’s life. These relationships are all positive and are moderate to strong. The PPD scores perform very well in validation tests.

Explaining Political Dissatisfaction

How to explain these disparities in public political discontents across countries? What are the drivers of the changes over years? The literature presents various perspectives on how political and economic contexts may affect public political discontent. The first argument deals with the role of election. Elections provide an opportunity for people to turning their dissatisfaction into ballots for candidates or parties that promise changes to the system. Discontented citizens, as a result, gain political fulfillment through voting for a party voicing their discontents (Van der Brug 2003; Rooduijn, Van Der Brug, and De Lange 2016). From this perspective, public political discontent should be expected to be lower in years of national elections, in which some of the existing discontent could be ameliorated. However, existing studies also suggest that the effect of election time on public political discontent could be the opposite. Campaigns expose citizens to more political messages, a significant proportion of which criticize the elites and the system (Lau, Sigelman, and Rovner 2007; López-García and Pavía 2019). Particularly, many advanced democracies are experiencing increased levels of false information during elections, which has become a clear danger to the integrity of political process (Bennett and Livingston 2018). If so, public political discontent may be expected to be higher at election times.

A second potential source of public political discontent is the distribution of power created by political institutions. According to prominent democratic theories (Norris 2008; Lijphart 1999; Powell 2000), power-sharing systems—parliamentarism, federalism, and proportional electoral rules—aim to generate governments that facilitate broad inclusion and participation, while power-concentrating systems prioritize efficient and accountable majority rule. Kittilson and Schwindt-Bayer (2010) argues that power-sharing systems not only encourage actual political participation, but also send symbolic signals of inclusiveness to citizens. If so, the publics in countries with parliamentary systems, federalism, and proportional electoral rules should be more likely to perceive themselves as being included and represented in the system and so feel less discontent.

Lastly, economic conditions are argued to be salient sources of political discontent (Quaranta and Martini 2016). For one thing, unfavorable economic conditions fuel social discontent and anxiety about the future among the public, which can easily evolve into anti-establishment sentiment (Kinnvall and Svensson 2022). For another, economic indicators are usually used by people to evaluate the performance of the system or gov-

ernment policies (Becher and Donnelly 2013). Hence, poor economic conditions, such as slow growth, high unemployment, and significant income disparities are likely to hurt perceptions of institutional quality and so increase public political discontent.

The data we use to test these hypotheses are as follows. The Democratic Electoral Systems (DES) dataset updated in Bormann and Golder (2022) provides information about the timing of elections, yielding a dichotomous variable coded one in election years and zero when no election was held. We measure three institutional variables in the same fashion as (?). Parliamentarism is coded dichotomously, coded one in pure parliamentary systems and zero otherwise, and is sourced from the DES. The federalism variable is also dichotomous: countries with strong federal systems (see ?) are coded one and all others coded zero. The Gallagher least-squares index of disproportionality, which measures the disparity between parties' vote shares and their seat shares (Gallagher 1991, 40–41; 2023), provides our measure of the proportionality of the electoral system. We draw data on economic conditions from two sources. GDP per capita, national GDP growth, and unemployment are from OECD.Stat (OECD 2024). The Gini index of disposable income inequality comes from the Standardized World Income Inequality Database (Solt 2020a).

The resulting dataset comprises all thirty-eight OECD countries and a total of 1217 country-years. The number of country-years observed per country ranges from sixteen (Turkey) to forty-three (the United States) consecutive years (mean: 32 years, median: 31 years). The advantage in data availability over pooling responses to a single question is clear: even among these relatively data-rich countries, the two richest single items available—the Eurobarometer's questions on trust in national parliaments and in political parties—each provide only fewer than half as many country-years for analysis, 582 observations, and these Eurobarometer data naturally entirely exclude the nine OECD members outside Europe.

Finally, Bayesian analysis allows us to incorporate directly into our model the quantified measurement uncertainty in the data for political discontent and for income inequality, with the estimated values of these two variables treated as random draws from distributions with unknown true means but known standard deviations (McElreath 2016, 425–31; see also Kurz 2023, 15.1.2). The model was estimated using the `brms` R package (Bürkner 2017).

Revise below, of course The results of this analysis are displayed in Figure 7. [^] A2

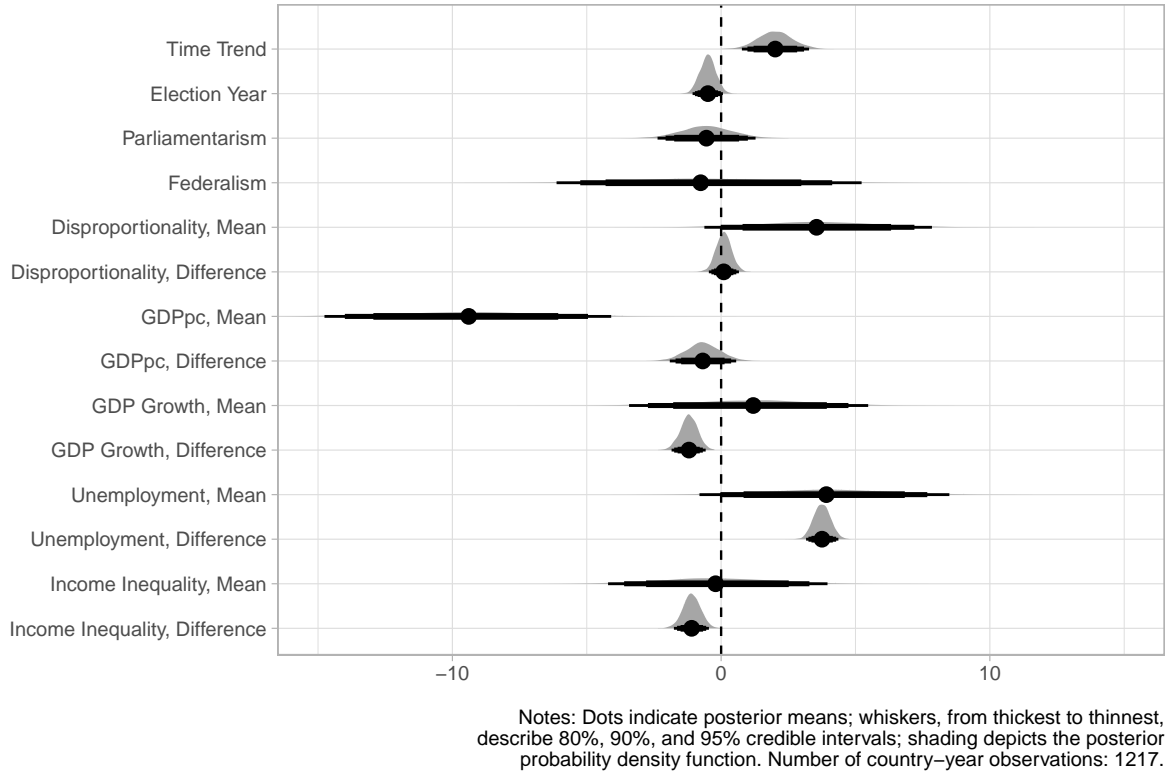


Figure 7: Predicting Public Political Discontent in OECD Countries

The time trend indicates that discontent has been, on average and net of the other included variables, rising over time in these countries by 2.0135 points (95% credible interval: 0.8 to 3.3 points).

The hypothesis that power-sharing institutions yield more public interest in politics is also supported. Macrointerest is estimated to be -0.547 (95% c.i.: -2.4 to 1.3) points higher in countries with parliamentary systems. The point estimate for the difference in macrointerest between countries with and without federalism is estimated be -0.7605 points, with 60.8% of the posterior distribution greater than zero. And although disproportionality is not estimated to have long-run effects that consistently distinguish countries with more or less proportional electoral results, *changes* in disproportionality appear to have an immediate negative effect: a two-standard-deviation increase in the Gallagher index yields 0.097 points less macrointerest (95% c.i.: -0.5 to 0.7).

Regarding the debate on whether macrointerest is invigorated or instead discouraged by bad times, the evidence of our cross-national analysis of the impact of economic conditions falls on the side of the latter. Supporting modernization theory, increases in per capita GDP have a positive short-term effect on aggregate political interest, with a two-standard-

deviation increase associated with -0.684 (95% c.i.: -1.9 to 0.6) points more macrointerest. The point estimate for the long-term, historical effect as evidenced by differences in mean levels across countries is found to be -9.3935 points, albeit with only 99.9% of the posterior distribution greater than zero. As predicted by relative power theory, the long-term effects of income inequality are strongly negative, with a two-standard-deviation difference across countries associated with 0.2055 points less macrointerest (95% c.i.: -4.2 to 4 points). Year-to-year changes in income inequality are found to make little difference—it would seem that, from one perspective, the influence of the wealthy over the political agenda does not change on such a short time scale, and from the other, that the public does not react to worsening conditions in the distribution of income with greater interest in its agents’ actions. The results with regard to growth in the national economy and with regard to unemployment similarly do not provide strong evidence of either negative or positive effects. Still, taken as a whole, this evidence indicates that at least with regard to economic conditions, it is good times, not bad ones, that yield more macrointerest.

Conclusions

Jennings et al. (2017b): “We are also able to come down against the ‘trendless fluctuation’ thesis (see Norris [2011]) for Britain, at least if the full postwar period is considered.”

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Political Discontent

Online Supplementary Materials

Table of contents

A1 Survey Items Used to Estimate Public Political Discontent	A2
A2 The DCPO Model	A13
A3 Numeric Results	A16
A3.1 Tabular Version of Results Presented in Figure 7	A16

A1 Survey Items Used to Estimate Public Political Discontent

Following Jennings et al. (2017b), we conceptualize political discontent as the lack of diffuse political support among the public. This lack is in turn understood as encompassing low external efficacy, that is, perceptions of government unresponsiveness; a lack of trust in the political system; and perceptions of pervasive corruption. National and cross-national surveys have often included questions tapping such political discontent for over a half century, but the resulting data are both sparse, that is, unavailable for many countries and years, and incomparable, generated by many different survey items. We identified 111 such survey items that were asked in no fewer than five country-years in countries surveyed at least twice; these items were drawn from 388 different survey datasets. These items are listed in Table A1 below, along with the dispersion (α) and difficulty (β) scores estimated for each from the DCPO model. Lower values of dispersion indicate questions that better identify publics with a higher level of trust from those with lower. Items have one less difficulty score than the number of response categories.

In accordance with the advice offered by Hu, Tai, and Solt (2022) to avoid data-entry errors by automating data collection, the `DCPOtools` R package (Solt, Hu, and Tai 2019) was used to compile the responses to these questions. The current version of this software facilitates the entire practical data generation process: from facilitating the acquisition of original survey datasets and converting them into R standard format for quicker loading; through standardizing country names, identifying survey years, and extracting the desired survey items; to restructuring the resulting data for analysis with the DCPO model. The primary objective is to limit manual interventions, thereby maximizing reproducibility and reducing the error potential inherent in human-operated data preparation tasks. The survey dataset codes listed in Table A1 correspond to those used in that package.

The survey items in these source data were asked in a total of 136 different countries in at least two time points over 56 years, from 1968 to 2023, resulting in 8,957 country-year-item observations. The number of items observed for each country-year in the source data is displayed in Figure A1 and Figure A2 below. The PPD scores of country-years with more observed items are likely to be estimated more precisely. The estimates for country-years with fewer (or no) observed items rely more heavily (or entirely) on the random-walk prior and are therefore less certain.

Table A1: Survey Items Used to Estimate Public Political Discontent

Survey Item Code	Country-Years	Question Text	Response Categories	Dispersion	Difficulties	Survey Dataset Codes*
trust_parties2	735	How much trust do you have in certain institutions? Political parties	1 tend to trust / 2 tend not to trust	1.06	0.04	eb
trust_parl2	734	How much trust do you have in certain institutions? National parliament	1 tend to trust / 2 tend not to trust	0.70	1.18	eb
trust_parl4	637	How much do you trust each of the following, or haven't you heard enough about them to say: Parliament?	0 not at all / 1 a little / 2 somewhat / 3 a lot	0.25	0.29, 1.34, 2.31	lb, asianb, afrob
trust_parties4	461	How much trust do you have in political parties?	1 none at all / 2 not very much trust / 3 quite a lot of trust / 4 a great deal of trust	0.21	0.28, 1.30, 2.24	lb, asianb, kobar, icenes, sasianb

Table A1: Survey Items Used to Estimate Public Political Discontent (*continued*)

Survey Item Code	Country-Years	Question Text	Response Categories	Dispersion	Difficulties	Survey Dataset Codes*
big2	373	Would you say that this country is run by a few big interests looking out for themselves, or that it is run for the benefit of all the people?	1 run by a few big interests / 2 run for all the people	0.29	1.00	wvs, anes, lb, nsss
will2	296	Would you say that your country is governed by the will of the people?	1 yes / 2 no	0.62	1.16	gallup
trust_parl11	270	Using this card, please tell me on a score of 0-10 how much you personally trust each of the institutions I read out. 0 means you do not trust an institution at all, and 10 means you have complete trust. [Country's] parliament?	0 no trust / 123456789 / 10 complete trust	0.49	-0.76, -0.31, 0.34, 0.83, 1.18, 1.69, 1.98, 2.35, 2.70, 3.01	ess, issp, ress, fsdelection
trust_pol11	258	Using this card, please tell me on a score of 0-10 how much you personally trust each of the institutions I read out. 0 means you do not trust an institution at all, and 10 means you have complete trust. Politicians?	0 no trust / 123456789 / 10 complete trust	0.51	-1.41, -1.03, -0.39, 0.21, 0.66, 1.22, 1.55, 1.93, 2.33, 2.71	ess, ress, fsdelection
say5	246	People like me don't have any say about what the government does	1 strongly agree / 2 agree / 3 neither agree nor disagree / 4 disagree / 5 strongly disagree	1.00	-1.31, 0.50, 1.36, 2.99	bes, cnep, issp, ases, gles, icnl, belgiumes, aes, nzes, caucasusb
trust_parties11	236	Using this card, please tell me on a score of 0-10 how much you personally trust each of the institutions I read out. 0 means you do not trust an institution at all, and 10 means you have complete trust. Political parties?	0 no trust / 123456789 / 10 complete trust	0.50	-1.37, -1.00, -0.37, 0.23, 0.67, 1.24, 1.58, 1.97, 2.37, 2.75	ess, ress, fsdelection
trust_parl5	217	How much confidence do you have in: Parliament	1 complete confidence / 2 a great deal of confidence / 3 some confidence / 4 very little confidence / 5 no confidence at all	0.42	-0.46, 0.63, 1.55, 2.33	issp, lits, som, pgss
corrupt4	217	There is corruption in national institutions in	1 totally agree / 2 tend to agree / 3 tend to disagree / 4 totally disagree	0.83	-1.51, -0.07, 2.14	eb
care4c	177	The interests of people like you are well taken into account by the political system in	1 totally agree / 2 tend to agree / 3 tend to disagree / 4 totally disagree	1.06	-0.81, 1.45, 3.17	eb, feb
right4	159	How much of the time do you think you can trust the government in Washington to do what is right?	1 none of the time / 2 some of the time / 3 most of the time / 4 just about always	0.55	-0.48, 1.27, 3.00	eb, anes, lb, asianb
corrupt_pol4	135	Now I am going to read you a list of things that may be problems in our country. Please tell me if you think it is a very big problem, a moderately big problem, a small problem or not a problem at all: corrupt political leaders	1 very big problem / 2 moderately big problem / 3 small problem / 4 not a problem at all	0.75	-2.10, -0.67, 0.92	pew

Table A1: Survey Items Used to Estimate Public Political Discontent (*continued*)

Survey Item Code	Country-Years	Question Text	Response Categories	Dispersion	Difficulties	Survey Dataset Codes*
corrupt_officials4126		Taking into account your own experience or what you have heard, corruption among public officials is	1 very common / 2 common / 3 uncommon / 4 very uncommon	1.10	-1.99, -0.04, 1.93	amb
care7	123	Those who govern this country are interested in what people like you think	1 strongly disagree / 23456 / 7 strongly agree	0.51	-0.17, 0.37, 0.94, 1.46, 1.90, 2.35	amb
trust_parties5	120	To what extent do you trust the following institutions? Parliament	1 complete distrust / 2 some distrust / 3 neither trust nor distrust / 4 some trust / 5 complete trust	0.40	-0.58, 0.51, 1.42, 2.15	lits, som
rigged2	114	Speaking generally, do you think that the elections in this country are clean or rigged?	1 are clean / 2 are rigged	0.14	1.69	lb
say5a	113	And how much would you say that the political system in [country] allows people like you to have a say in what the government does?	1 not at all / 2 very little / 3 some / 4 a lot / 5 a great deal	0.48	-0.39, 0.57, 1.65, 2.67	ess, wvs
corrupt4a	111	How widespread do you think the problem of corruption is in	1 very widespread / 2 fairly widespread / 3 fairly rare / 4 very rare	0.67	-1.06, 0.47, 2.37	eb
corrupt_party2	111	Do you think that the giving and taking of bribes, and the abuse of positions of power for personal gain, are widespread among any of the following? Political parties	0 not mentioned / 1 mentioned	1.54	1.31	eb
right5	109	Most of the time we can trust people in government to do what is right	1 Strongly agree / 5 Strongly disagree	0.70	-1.40, 0.55, 1.57, 2.91	issp, usgss
get5	108	Most politicians are in politics only for what they can get out of it personally	1 agree strongly / 2 agree / 3 neither agree nor disagree / 4 disagree / 5 disagree strongly	0.49	-0.78, 0.37, 1.11, 2.15	issp
corrupt_pol2	106	Do you think that the giving and taking of bribes, and the abuse of positions of power for personal gain, are widespread among any of the following? Politicians at the national level	0 not mentioned / 1 mentioned	1.11	1.47	eb
say4	103	However you look at it, people like me have no influence on what the government does	1 completely agree / 2 tend to agree / 3 tend to disagree / 4 completely disagree	1.14	-1.97, 0.19, 2.24	allbus, uspew, cnep, itanes, jgss, asianb, kobar, cnes, canadanes, cdem, pewrel, neb
satis_gov21	99	Here is a scale for ranking how our system of government works. Where on this scale would you put our current system of governing with free elections and many parties?	minus-100 the worst / -90 to 90 / 100 the best	0.43	-0.49, -0.28, 0.13, 0.38, 0.62, 1.13, 1.31, 1.51, 1.74, 1.93, 2.26, 2.37, 2.50, 2.62, 2.72, 3.04, 3.13, 3.25, 3.43, 3.59	neb
trust_mp7	87	How much trust do you have in Members of Parliament in general?	1 no trust / 23456 / 7 a great deal of trust	0.45	-0.49, 0.22, 0.87, 1.55, 2.12, 2.64	besip, neb
sat_officials4	87	How satisfied are you with the way the people now in national office are handling the country's affairs?	1 very satisfied / 2 fairly satisfied / 3 fairly dissatisfied / 4 very dissatisfied	0.43	-0.46, 1.24, 2.53	wvs

Table A1: Survey Items Used to Estimate Public Political Discontent (*continued*)

Survey Item Code	Country-Years	Question Text	Response Categories	Dispersion	Difficulties	Survey Dataset Codes*
big4a	77	Generally the state/government is run for the benefit of all the people	1 completely agree / 2 mostly agree / 3 mostly disagree / 4 completely disagree	0.33	0.81, 1.75, 2.57	pew
trust_parties7	77	To what extent do you trust each of these political institutions to look after your interests? Political parties	1 no trust / 23456 / 7 great trust	0.45	-0.61, -0.06, 0.59, 1.34, 1.97, 2.48	neb
care5a	74	The government does not care much about what people like me think	1 disagree strongly / 2 somewhat disagree / 3 neither agree nor disagree / 4 somewhat agree / 5 agree	0.76	-1.16, 0.35, 1.07, 2.39	issp, canadianes
sat_parties4	74	In your opinion, how is the work the political parties are doing	1 very good / 2 good / 3 bad / 4 very bad	0.44	-0.90, 1.05, 2.57	politbarometer, lb
say5b	73	And how much would you say that the political system in [country] allows people like you to have an influence on politics?	1 not at all / 2 very little / 3 some / 4 a lot / 5 a great deal	0.82	-2.39, -0.85, 0.90, 2.44	ess
corrupt_official	70	And in your opinion, about how many public officials in [COUNTRY] are involved in corruption?	1 almost none / 2 a few / 3 some / 4 quite a lot / 5 almost all	0.60	-0.93, 0.53, 1.70, 3.14	issp
corrupt_pol5a	70	In your opinion, about how many politicians in [COUNTRY] are involved in corruption?	1 almost none / 2 a few / 3 some / 4 quite a lot / 5 almost all	0.54	-0.84, 0.44, 1.46, 2.71	issp
care4a	64	In your opinion are politicians concerned with what people like yourself think?	1 a lot / 2 some / 3 a little / 4 not at all	0.57	-0.17, 1.20, 2.33	pew, uspew, fnes
say5e	60	The ordinary person has no influence on politics	1 strongly disagree / 2 disagree / 3 neither agree nor disagree / 4 agree / 5 strongly agree	1.10	-1.85, 0.43, 1.53, 3.69	issp, ines
will2a	59	Which of the following words describes your perception of the government of [this country]? READ OUT. Responds to the will of the people	0 not mentioned / 1 mentioned	0.11	0.59	gallup
care5	55	I don't think public officials care much what people like me think	1 strongly agree / 2 agree / 3 neither agree nor disagree / 4 disagree / 5 strongly disagree	0.65	-1.42, 0.06, 0.94, 2.37	ases, asiab, icnl, aes, caucasusb
corrupt_official	52	How widespread do you think bribe taking and corruption is in this country?	1 almost no public officials engaged in it / 2 a few are / 3 most are / 4 almost all public officials are engaged in it	0.44	-0.49, 1.24, 2.42	wvs
resp_gov4	52	How well do you think the government responds to what people want?	1 very responsive / 2 somewhat responsive / 3 not very responsive / 4 not responsive	1.09	-1.98, 1.15, 4.30	asianb
corrupt_pol5	49	Thinking about politicians of [COUNTRY], how many to you think are involved in corruption?	1 none / 2 less than half / 3 half of the politicians / 4 more than half / 5 all	0.75	-1.67, -0.01, 1.12, 2.66	amb
parties7	48	To what extent do political parties listen to people like you?	1 not at all / 23456 / 7 a lot	0.51	-0.86, -0.23, 0.50, 1.15, 1.72, 2.30	amb
rep_parties7	47	Thinking about political parties in general, to what extent do [nationality] political parties represent their voters well?	1 not at all / 23456 / 7 a lot	0.44	-0.58, 0.06, 0.81, 1.47, 2.02, 2.54	amb
corrupt_gov4a	43	How widespread corruption in national government	1 almost everyone is corrupt / 2 most officials are corrupt / 3 not a lot of officials are corrupt / 4 hardly anyone is involved	0.39	-0.47, 0.88, 2.21	asianb

Table A1: Survey Items Used to Estimate Public Political Discontent (*continued*)

Survey Item Code	Country-Years	Question Text	Response Categories	Dispersion	Difficulties	Survey Dataset Codes*
care5d	41	Some people say that political parties in Australia care what ordinary people think. Others say that political parties in Australia don't care what ordinary people think. Where would you place your view on this scale from 1 to 5?	1 political parties care what ordinary people think / 234 / 5 political parties don't care what ordinary people think	1.29	-1.67, 0.22, 2.14, 3.54	cses, aes, nzes
care4	41	Politicians don't care much about what people like me think	1 strongly agree / 2 agree / 4 disagree / 5 strongly disagree	0.56	-0.33, 1.11, 2.34	pew, cnep, fsdelection
care5f	37	Politicians don't care much about what people like me think	1 strongly agree / 2 agree / 3 neither agree nor disagree / 4 disagree / 5 strongly disagree	0.73	-1.51, 0.17, 0.96, 2.40	cnep, nzes
care4f	36	Do you think that the political leaders are concerned about the issues that interest you?	1 a lot / 2 fairly / 3 a little / 4 not at all	0.74	-1.59, -0.31, 1.82	lb
say5c	35	Generally speaking, people like me don't have the power to influence government policy or actions	1 strongly agree / 2 agree / 3 neither agree nor disagree / 4 disagree / 5 strongly disagree	0.92	-2.07, -0.22, 0.94, 2.81	asiab
big5b	34	Do you think that the leaders of political parties in this country are more concerned with serving the interests of the people, or more concerned with advancing their own political ambitions, or haven't you heard enough to say?	1 more to serve their own political ambitions – strongly agree / 2 more to serve their own political ambitions - agree / 3 neither agree nor disagree / 4 more to serve the people – agree / 5 more to serve the people – strongly agree	0.79	-1.33, -0.07, 0.33, 1.66	afrob
corrupt_mp4	33	How many are corrupt? Members of Parliament	1 none / 2 some of them / 3 most of them / 4 all of them	0.08	0.73, 2.05, 2.88	lits
corrupt_officials4b	33	How many are corrupt? Government officials	1 none / 2 some of them / 3 most of them / 4 all of them	0.19	0.57, 2.08, 2.97	lits
care2c	33	Which statement comes closer to your own views — even if neither is exactly right. Most government officials care what people like me think [OR] Most government officials DO NOT care what people like me think	1 most government officials care / 2 most government officials do not care			pew
corrupt_gov5	33	There is widespread corruption among those who govern the country	1 strongly agree / 2 agree / 3 neither agree nor disagree / 4 disagree / 5 strongly disagree	0.39	-0.41, 0.41, 1.04, 2.12	asiab
right4e	33	Please indicate to what extent you trust the following institutions to operate in the best interests of society. Parliament	1 trust a lot / 2 trust to a degree / 3 don't really trust / 4 don't trust at all	0.78	-0.38, 1.76, 3.40	asiab
touch5a	33	Generally speaking, the people who are elected to the [NATIONAL PARLIAMENT] stop thinking about the public once they're elected	1 strongly agree / 2 agree / 3 neither agree nor disagree / 4 disagree / 5 strongly disagree	0.48	-0.77, 0.32, 1.06, 2.18	asiab
say4e	32	People like me have too little influence in what the Government does	1 strongly agree / 2 tend to agree / 3 tend to disagree / 4 strongly disagree	1.17	-1.83, -0.30, 1.70	eb
say4f	32	Voting gives people like me some say about how government runs things	1 completely agree / 2 mostly agree / 3 mostly disagree / 4 completely disagree	2.02	-0.10, 3.51, 6.01	pewrel, uspew
vote5	31	Political parties are only interested in my vote and not in my opinions	1 completely agree / 2 agree / 3 neither agree nor disagree / 4 disagree / 5 completely disagree	0.70	-1.58, 0.19, 0.98, 2.42	bsa, bes, gles, icnl, belgiumes, nores

Table A1: Survey Items Used to Estimate Public Political Discontent (*continued*)

Survey Item Code	Country-Years	Question Text	Response Categories	Dispersion	Difficulties	Survey Dataset Codes*
say2	27	People like me don't have any say about what the government does	1 agree / 2 disagree	0.59	1.17	issp, anes, npes, cnes
corrupt_pol4a	27	Most politicians are corrupt. Does this statement describe	1 very well / 2 somewhat well / 3 not too well / 4 not well at all	0.48	0.48, 1.33, 2.20	pew
right4d	27	Please indicate to what extent you trust the following institutions to operate in the best interests of society. Your central government	1 trust a lot / 2 trust to a degree / 3 don't really trust / 4 don't trust at all	0.78	0.31, 2.33, 4.10	asiab
trust_pol4	26	How much trust do you have in Danish politicians in general	1 great trust / 2 trust / 3 little trust / 4 hardly any trust	0.38	-0.88, 0.69, 1.82	som, dkes
care2a	24	Do you ever feel that the people running the country don't really care what happens to people like you	1 yes / 2 no	2.08	0.05	eb
right4b	22	How much do you trust British governments of any party to place the needs of the nation above the interests of their own political party?	1 almost always / 2 most of time / 3 some of time / 4 almost never	0.41	-0.53, 0.70, 1.83	bsa
care11	21	How much would you say that politicians care what people like you think?	0 not at all / 123456789 / 10 completely	0.60	-1.81, -1.41, -0.70, -0.08, 0.38, 0.88, 1.24, 1.69, 2.14, 2.52	ess
say11a	21	And how much would you say that the political system in [country] allows people like you to have a say in what the government does?	0 not at all / 123456789 / 10 completely	0.75	-1.91, -1.52, -0.78, -0.15, 0.33, 0.91, 1.32, 1.88, 2.41, 2.81	ess
say11b	21	And how much would you say that the political system in [country] allows people like you to have an influence on politics?	0 not at all / 123456789 / 10 completely	0.56	-1.37, -1.02, -0.40, 0.12, 0.50, 0.94, 1.28, 1.72, 2.15, 2.52	ess
touch4	21	Those elected to parliament soon lose touch with the problems of ordinary people	1 strongly agree / 2 somewhat agree / 3 somewhat disagree / 4 strongly disagree	0.78	-1.43, 0.01, 1.72	uspew, fsdelection, itanes
care2b	20	Some people say that the deputies and senators are concerned about what people think. Others say that they aren't. Which statement is closest to your way of thinking?	1 the deputies and senators are concerned about what people think / 2 the deputies and senators aren't concerned about what people think			npes, lb
equal4	19	Under our present system of government do you think people like yourself are treated equally and fairly by government	1 definitely agree / 2 somewhat agree / 3 disagree somewhat / 4 definitely disagree	0.51	-0.11, 1.36, 2.51	neb
corrupt_gov3	19	Do you think that quite a few of the people running the government are crooked, not very many are, or do you think hardly any of them are crooked?	1 quite a few / 2 not many / 3 hardly any	0.59	-0.04, 1.41	anes
vote2	19	Parties are only interested in people's votes, not in their opinions	1 agree / 2 disagree	0.97	0.91	anes, npes
care4b	19	Government officials seriously consider citizens' opinions	1 strongly agree / 2 agree / 3 disagree / 4 strongly disagree	0.53	-0.69, 0.80, 2.21	fsdelection, kobar, arabb

Table A1: Survey Items Used to Estimate Public Political Discontent (*continued*)

Survey Item Code	Country-Years	Question Text	Response Categories	Dispersion	Difficulties	Survey Dataset Codes*
touch5	18	Those elected to Parliament soon lose touch with the people	1 agree strongly / 2 agree / 3 neither agree nor disagree / 4 disagree / 5 disagree strongly	0.56	-1.51, 0.05, 0.70, 2.11	bsa, bes, icnl
say4b	18	Under our present system of government how much influence do you think people like yourself can have on government?	1 a lot of influence / 2 some influence / 3 not much influence / 4 no influence	0.86	-1.87, 0.07, 1.71	neb
say4d	18	I can have influence on the national government	1 agree / 2 quite agree / 3 rather disagree / 4 disagree	0.87	-0.97, 0.03, 1.45	eurasiab, fsdelection
right4c	17	And how much do you trust politicians of any party in Britain to tell the truth when they are in a tight corner?	1 just about always / 2 most of the time / 3 only some of the time / 4 almost never	0.62	-1.56, -0.29, 1.29	bsa
big2a	16	In general, would you say the government is run for the benefit of all the people in	1 benefit all / 2 benefit few groups	0.51	1.26	pew
big4b	16	How much of the time do you think elected leaders, like parliamentarians or local councilors, try their best: To look after the interests of people like you?	0 never / 1 some of the time / 2 most of the time / 3 always	0.38	-0.73, 0.25, 1.83	afrob
say4a	16	How much of the time do you think elected leaders, like parliamentarians or local councilors, try their best: To listen to what people like you have to say?	0 never / 1 some of the time / 2 most of the time / 3 always	0.26	-0.61, 0.32, 1.69	afrob
care5b	15	Politicians do not care about what people like me think	1 completely agree / 2 somewhat agree / 3 partly agree-disagree / 4 somewhat disagree / 4 completely disagree	0.43	-0.75, 0.32, 1.02, 1.91	bes, besip, gles, autnes
right2	15	The people who run the country are more concerned with themselves than with the good of the country	1 tend to agree / 2 tend to disagree	0.41	0.70	eb
care4d	14	Politicians don't care much about what people like me think	1 completely agree / 2 tend to agree / 3 tend to disagree / 4 completely disagree	0.93	-1.38, 0.44, 2.07	allbus, belgiumes, cnes, canadanes, cdem
care2	13	I don't think public officials care much what people like me think	1 agree / 2 disagree	0.79	0.47	politbarometer, anes, cispol
care3	13	Public officials don't care much what people like me think	1 agree / 2 disagree / 3 neither agree nor disagree	0.51	0.78, 1.16	anes
say3	13	People like me don't have any say about what the government does	1 agree / 2 disagree / 3 neither agree nor disagree	0.58	1.12, 1.41	anes
care5e	13	If people like me let the politicians know what we think, then they will take our opinions into account	1 completely agree / 2 agree / 3 neither agree nor disagree / 4 disagree / 5 completely disagree	1.40	-3.25, -1.17, 0.40, 2.67	dkes, belgiumes
care11a	12	How much weight do politicians attach to opinions presented to them by ordinary people	0 none at all / 123456789 / 10 very large	0.58	-1.71, -1.41, -0.85, -0.31, 0.15, 0.72, 1.04, 1.45, 1.89, 2.34	cid
trust_mp4	12	In general, how much confidence do you have in the way the following groups do their job? - Parliamentarians	1 very high trust / 2 quite high trust / 3 quite low trust / 4 very low trust	0.51	-1.14, 0.41, 1.58	som

Table A1: Survey Items Used to Estimate Public Political Discontent (*continued*)

Survey Item Code	Country-Years	Question Text	Response Categories	Dispersion	Difficulties	Survey Dataset Codes*
trust_pol5a	12	Do you think that politicians are in general trustworthy, that many of them are trustworthy, some are trustworthy, few, or perhaps none?	1 in general / 2 many / 3 some / 4 few / 5 none	0.80	-1.12, 0.18, 1.94, 3.73	icenes
touch2	10	Generally speaking those we elect to Congress in Washington lose touch with people pretty quickly	1 agree / 2 disagree	1.42	-0.17	anes, npes
right5a	10	You can generally trust that our political leaders make the right decisions for the country	1 strongly agree / 2 agree / 3 neither agree nor disagree / 4 disagree / 5 strongly disagree	1.04	-1.98, 0.51, 1.52, 2.95	dkes
say5d	10	People like me can vote, but we can't do anything else to influence politics	1 completely agree / 2 somewhat agree / 3 yes and no / 4 somewhat disagree / 5 completely disagree	1.28	-0.57, 1.05, 1.33, 2.95	nores
big5	10	Would you say the government is run by a few big interests looking out for themselves, or that it is run for the benefit of all the people?	1 entirely run for the big interests / 2 mostly run for the big interests / 3 about half and half / 4 mostly run for the benefit of all / 5 entirely run for the benefit of all	0.57	-1.06, 0.43, 1.60, 2.82	nsss, aes
right4a	10	In general, do you feel that the people in government are too often interested in looking after themselves, or do you feel that they can be trusted to do the right thing nearly all the time?	1 Usually look after themselves / 2 Sometimes look after themselves / 3 Sometimes can be trusted to do the right thing / 4 Usually can be trusted to do the right thing	0.59	0.12, 1.10, 1.79	aes
big5a	10	The New Zealand government is largely run by a few big interests	1 strongly agree / 2 agree / 3 neither / 4 disagree / 5 strongly disagree	0.57	-0.79, 0.74, 1.33, 2.55	nzes
self_min4	9	Ministers and state secretaries are primarily concerned about their personal interests	1 fully agree / 2 agree / 3 disagree / 4 fully disagree	0.66	-0.79, 1.48, 2.73	npes
trust_pol5	8	Danish politicians in general are trustworthy	1 strongly agree / 2 agree / 3 neither agree nor disagree / 4 disagree / 5 strongly disagree	0.05	0.00, 0.51, 0.90, 1.15	fsdelection, dkes, formpubop
say7	8	People like me don't have any say about what the government does	1 strongly agree / 2 agree / 3 somewhat agree / 4 neither agree nor disagree / 5 somewhat disagree / 6 disagree / 7 strongly disagree	0.50	-0.62, 0.20, 0.63, 0.92, 1.37, 2.13	norcs, eass, jgss
big4c	8	The nation is run by a powerful few and ordinary citizens cannot do much about it	1 strongly agree / 2 somewhat agree / 3 somewhat disagree / 4 strongly disagree	1.01	-1.23, 1.08, 3.69	asianb
corrupt_gov4	8	Now I am going to read you a list of things that may be problems in our country. Please tell me if you think it is a very big problem, a moderately big problem, a small problem or not a problem at all: government corruption	1 very big problem / 2 moderately big problem / 3 small problem / 4 not a problem at all	0.30	-1.90, -0.90, 0.15	pew
trust_par17	7	Please tell me for each institution or organisation how much trust you place in it: Bundestag	1 no trust at all / 23456 / 7 great deal of trust	0.59	-0.85, 0.04, 0.89, 1.69, 2.36, 3.03	allbus
right5b	7	You can trust the government to do what is right most of the time	1 strongly agree / 2 agree / 3 neither / 4 disagree / 5 strongly disagree	0.53	-0.64, 1.20, 1.84, 3.02	nzes
say2a	6	The average person has considerable influence on politics	1 agree / 2 disagree	1.15	0.00	issp

Table A1: Survey Items Used to Estimate Public Political Discontent (*continued*)

Survey Item Code	Country-Years	Question Text	Response Categories	Dispersion	Difficulties	Survey Dataset Codes*
trust_parl3	6	I am going to name some institutions in this country. Would you say you have a great deal of confidence, only some confidence, or hardly any confidence at all in them?	1 a great deal of confidence / 2 only some confidence / 3 hardly any confidence at all	0.40	0.10, 1.72	pgss
vote4	6	Political parties are only interested in people's votes, not their opinions	1 strongly agree / 2 somewhat agree / 3 somewhat disagree / 4 strongly disagree	0.59	-0.79, 0.51, 1.62	fsdelection, itanes
corrupt_pol4b	6	How widespread do you think corruption is among Icelandic politicians?	1 very widespread / 2 quite widespread / 3 not very widespread / 4 hardly happens at all	0.39	-0.32, 0.94, 1.90	icenes
say4h	5	People like me have no influence on what the different governments do	1 strongly agree / 2 agree / 3 disagree / 4 strongly disagree	1.16	-0.43, 0.58, 1.77	formpubop

* Survey dataset codes correspond to those used in the DCPOtools R package (Solt, Hu, and Tai 2019).



Starred countries are OECD democracies, the sample employed in the analysis of public political discontent presented in the main text.

Figure A1: Source Data Observations by Country and Year



Starred countries are OECD democracies, the sample employed in the analysis of public political discontent presented in the main text.

Figure A2: Source Data Observations by Country and Year, cont.

A2 The DCPO Model

A number of recent studies have developed latent variable models of aggregate survey responses based on cross-national survey data (see Claassen 2019; Caughey, O’Grady, and Warshaw 2019; McGann, Dellepiane-Avellaneda, and Bartle 2019; Kołczyńska et al. 2024). To estimate the extent of political discontent in the public across countries and over time, we employ the latest of these methods that is appropriate for data that is not only incomparable but also sparse, the Dynamic Comparative Public Opinion (DCPO) model elaborated in Solt (2020b). The DCPO model is a population-level two-parameter ordinal logistic item response theory (IRT) model with country-specific item-bias terms.

DCPO models the total number of survey responses expressing at least as much discontent as response category r to each question q in country k at time t , y_{ktqr} , out of the total number of respondents surveyed, n_{ktqr} , using the beta-binomial distribution:

$$a_{ktqr} = \phi \eta_{ktqr} \quad (1)$$

$$b_{ktqr} = \phi(1 - \eta_{ktqr}) \quad (2)$$

$$y_{ktqr} \sim \text{BetaBinomial}(n_{ktqr}, a_{ktqr}, b_{ktqr}) \quad (3)$$

where ϕ represents an overall dispersion parameter to account for additional sources of survey error beyond sampling error and η_{ktqr} is the expected probability that a random person in country k at time t answers question q with a response at least as interested as response r .¹

This expected probability, η_{ktqr} , is in turn estimated as follows:

$$\eta_{ktqr} = \text{logit}^{-1}\left(\frac{\bar{\theta}'_{kt} - (\beta_{qr} + \delta_{kq})}{\sqrt{\alpha_q^2 + (1.7 * \sigma_{kt})^2}}\right) \quad (4)$$

In this equation, β_{qr} represents the difficulty of response r to question q , that is, the degree of political the response expresses. The δ_{kq} term represents country-specific item bias: the extent to which all responses to a particular question q may be more (or less) difficult in a given country k due to translation issues, cultural differences in response styles, or other idiosyncrasies that render the same survey item not equivalent across countries.² The dispersion of question q , its noisiness in relation to the latent variable, is α_q . The mean and standard deviation of the unbounded latent trait of public political discontent are $\bar{\theta}'_{kt}$ and σ_{kt} , respectively.

Random-walk priors are used to account for the dynamics in $\bar{\theta}'_{kt}$ and σ_{kt} , and weakly informative priors are placed on the other parameters.³ The dispersion parameters α_q are

¹The ordinal responses to question q are coded to range from 1 (expressing the least political discontent) to R (expressing the most political discontent), and r takes on all values greater than 1 and less than or equal to R .

²Estimating δ_{kq} requires repeated administrations of question q in country k , so when responses to question q are observed in country k in only a single year, the DCPO model sets δ_{kq} to zero by assumption, increasing the error of the model by any country-item bias that is present. Questions that are asked repeatedly over time in only a single country pose no risk of country-specific item bias, so δ_{kq} in such cases are also set to zero.

³The dispersion parameters α_q are drawn from standard half-normal prior distributions, that is, the positive half of $N(0, 1)$. The first difficulty parameters for each question, β_{q1} , are drawn from standard normal prior distributions, and the differences between β s for each r for the same question q are drawn from standard half-normal prior distributions. The item-bias parameters δ_{kq} receive

constrained to be positive and all survey responses are coded with high values indicating more political discontent to fix direction. The difficulty β of “run by a few big interests” to the oft-asked question “would you say that this country is run by a few big interests looking out for themselves, or that it is run for the benefit of all the people?” is set to 1 to identify location, and for each question q the difficulties for increasing response categories r are constrained to be increasing. The sum of δ_{kq} across all countries k is set to zero for each question q :

$$\sum_{k=1}^K \delta_{kq} = 0 \quad (5)$$

Finally, the logistic function is used to transform $\bar{\theta}'_{kt}$ to the unit interval and so give the bounded mean of political discontent, $\bar{\theta}_{kt}$, which is our parameter of interest here (see Solt 2020b, 3–8).

The DCPO model accounts for the incomparability of different survey questions with two parameters. First, it incorporates the *difficulty* of each question’s responses, that is, how much political discontent is indicated by a given response. That each response evinces more or less of our latent trait is most easily seen with regard to the ordinal responses to the same question: responding “strongly agree” to the statement “people like me don’t have any say about what the government does” exhibits more political discontent than choosing “agree,” which is a more discontented response than “disagree,” which in turn is more discontented than “strongly disagree.” But this is also true across questions. For example, strongly agreeing that “there is widespread corruption among those who govern the country” likely expresses even more discontent than strongly agreeing that “people like me can probably vote, but we cannot do anything else to influence politics.” Second, the DCPO model accounts for each question’s *dispersion*, its noisiness with regard to our latent trait. The lower a question’s dispersion, the better that changes in responses to the question map onto changes in public political discontent. Together, the model’s difficulty and dispersion estimates work to generate comparable estimates of the latent variable of public political discontent from the available but incomparable source data.

To address the sparsity of the source data—the fact that there are gaps in the time series of each country, and even many observed country-years have only one or few observed items—DCPO uses simple local-level dynamic linear models, i.e., random-walk priors, for each country. That is, within each country, each year’s value of public political discontent is modeled as the previous year’s estimate plus a random shock. These dynamic models smooth the estimates of discontent over time and allow estimation even in years for which little or no survey data is available, albeit at the expense of greater measurement uncertainty.

It is worth noting that not all sources of incomparability are likely to be fully addressed by the DCPO model. To the extent that survey sample representation issues—such as from variations in population definitions (such as age range, minority inclusion, and territorial exclusions) and sample designs (like probability versus non-probability samples, and older surveys’ reliance on quota or random route samples without enumeration)—

normally-distributed hierarchical priors with mean 0 and standard deviations drawn from standard half-normal prior distributions. The initial value of the mean unbounded latent trait for each country, $\bar{\theta}'_{k1}$, is assigned a standard normal prior, as are the transition variances $\sigma_{\theta'}^2$ and σ_{σ}^2 ; the initial value of the standard deviation of the unbounded latent trait for each country, σ_{k1} , is drawn from a standard lognormal prior distribution. The overall dispersion, ϕ , receives a somewhat more informative prior drawn from a gamma(4, 0.1) distribution that yields values that are well scaled for that parameter.

vary across years for a single country and item (as is typically the case, as more recent surveys are more likely to be fully representative), the country-specific item bias terms will not remedy this problem. And although survey weights are easily incorporated in the source data (and indeed the `DCPOtools` package does so automatically), not all available weights yield fully representative samples, and some surveys lack weights entirely. Unlike the model employed by Caughey, O’Grady, and Warshaw (2019), the DCPO model does not incorporate poststratification to correct for these issues. While this does increase computational tractability and decrease data demands, the downside is clearly greater measurement uncertainty in the estimates in country-years where the data are relatively rich (via ϕ) and potential bias in the estimates where data are more sparse.

Table A2

	(1)
Time Trend	0.099 [0.038, 0.162]
Election Year	−0.491 [−1.062, 0.066]
Parliamentarism	−0.547 [−2.366, 1.282]
Federalism	−0.761 [−6.124, 5.228]
Disproportionality, Mean	0.444 [−0.078, 0.980]
Disproportionality, Difference	0.021 [−0.099, 0.143]
GDPpc, Mean	−0.319 [−0.502, −0.139]
GDPpc, Difference	−0.044 [−0.123, 0.036]
GDP Growth, Mean	0.532 [−1.525, 2.436]
GDP Growth, Difference	−0.196 [−0.301, −0.094]
Unemployment, Mean	0.627 [−0.129, 1.361]
Unemployment, Difference	0.688 [0.579, 0.800]
Income Inequality, Mean	−0.016 [−0.329, 0.309]
Income Inequality, Difference	−0.386 [−0.618, −0.160]
Num.Obs.	1217
R2	0.784
RMSE	4.65

Unstandardized coefficients with associated 95-percent credible intervals in brackets below.

A3 Numeric Results

A3.1 Tabular Version of Results Presented in Figure 7

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