

# Mass Polarization and Democratic Decline: Global Evidence from a Half-Century of Public Opinion

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## Abstract

An antagonistic political culture has long been thought to pose a threat to liberal democracy. More recently, many scholars have proposed a link between political polarization and democratic breakdown, yet causal evidence for this prominent theory remains thin. I present the first broadly comparative analysis of the relationship between mass polarization and democratic backsliding, the modal form of autocratic reversion in the post-third wave era. Panel estimates of ideological and affective polarization from as many as ninety-two countries and forty-nine years indicate that both ideological and affective polarization exert negligible causal effects on levels of electoral and liberal democracy. To the contrary, results suggest that democratic decline may actually foment mass polarization. Despite widespread concern over the fate of democracy in polarized polities, comparative evidence since the start of the third wave suggests that mass polarization itself poses little threat to democratic regimes.

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Previously paradigmatic processes of autocratic reversion no longer characterize regime dynamics in the present-day. Outright military *coups d'état*, *autogolpes*, and blatant election fraud have declined in frequency since the late 1970s (Bermeo 2016), but democratic institutions are not everywhere on the rise. On the contrary, the third reverse wave of democratization foreshadowed by Huntington (1991) appears to be alive and well, characterized by gradual institutional degradation or power-grabs disguised beneath a veneer of legality (Conaghan 2008; Lührmann and Lindberg 2019).<sup>1</sup>

Although “polarization” is the term currently in vogue, the idea that profound sociopolitical cleavages might lead to this democratic endangerment has long been a key tenet of the democracy literature. The potential for polarization to result in democratic backsliding appears particularly acute because the very divisions that become exacerbated in polarized polities are inherent within democracy itself (Lipset 1960; Rustow 1970). When times are good, these divisions may benefit political society by improving representation through strengthened party brands (Lupu 2013) and by encouraging greater government accountability (Bornschier 2019). When times are bad, however, these divisions can sow discord (Dahl 1971), prompt crises of governance (Linz 1978), and make party systems unresponsive to voters (Sartori 1976).

Empirical documentation of a causal relationship between mass polarization and democratic backsliding nevertheless remains elusive. Most existing evidence draws on case studies or syntheses thereof (Levitsky and Ziblatt 2018; McCoy and Somer 2019). These studies provide clear evidence of a correlation between the two phenomena, but they make it more difficult to disentangle the direction or even presence of causal effects. Other work focuses not on democracy itself, but on close analogues like support for democratic norms (Kingzette et al. 2021; Simonovits, McCoy, and Littvay forthcoming). Whether declines in such attitudes lead to actual degradation of democratic institutions, however, is another matter entirely. Further, a growing body of scholarship challenges the conclusion that polarization is detrimental to democracy, with analysts either failing to find evidence in support of the theory (e.g. Bermeo 2003) or explicitly positioning polarization

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<sup>1</sup>Cf. Levitsky and Way (2015).

causally downstream from democratic threats (e.g. Goodman 2022). As a result, our understanding of the relationship between polarization and democracy continues to be unsettled.

Clearly deciphering this relationship, however, carries heightened urgency in an era of global politics characterized by both democratic threats and contentious sociopolitical environments, particularly if policymakers and civil society are to mobilize support in the appropriate areas. The central objective of this paper is the execution of a broadly comparative analysis to confirm or disconfirm the presence and direction of a causal connection between mass polarization and democratic backsliding. To do this, I collate all available nationally representative survey data on mass-level ideology and party affect—approximately 3.5 million observations from thirty-five different survey programs—and use a Bayesian measurement model to produce smooth country-year panel estimates of ideological and affective polarization. The result is a new data set consisting of 4,508 country-year estimates of ideological polarization and 2,340 country-year estimates of affective polarization, spread across ninety-two countries and forty-nine years. Compared to existing data sets of mass polarization (Boxell, Gentzkow, and Shapiro forthcoming; Gidron, Adams, and Horne 2020; Wagner 2021), this represents well over a ten-fold increase in the number of country-years available to scholars, with substantially enhanced temporal and geographic breadth.

I begin by confirming the correlation between polarization and backsliding observed by other researchers. I urge caution, however, when interpreting this evidence. Results consistently indicate that polarization does not exert meaningful causal effects on democracy in the short-run. Although these negligible effects do accumulate to some extent over time, the full long-term effects of polarization take at least fifteen and as many as seventy-five years to fully materialize, placing the time horizon well outside the range with which scholars are typically concerned. Instead, I document appreciable effects in the opposite direction, suggesting that democratic crises fuel polarization in the mass public.

## Theories of Polarization and Democracy

Political polarization in comparative perspective has enjoyed renewed attention over the last decade (Gidron, Adams, and Horne 2020; Reiljan 2020; Wagner 2021), but this phenomenon has long been closely tied to the study of democracy. Landmark studies of democratization and political institutionalization point to a contentious political climate as partially responsible for democratic breakdowns and troubled democratic transitions throughout the mid- to late-twentieth century (Huntington 1968; Linz 1978; O'Donnell and Schmitter 1986). The basic theory is relatively straightforward: As normal politics regress into a state of antagonistic interpersonal or inter-party relations, the peaceful management of competing interests following mutually agreeable rules becomes increasingly difficult (McCoy, Rahman, and Somer 2018). In this type of political climate, “the polarization, the centrifugal drives, and the tendency toward irresponsibility and outbidding” place democratic regimes at risk (Linz 1978, p. 24). More recently, two research programs have congealed to build on this foundation with a specific eye toward democratic backsliding after the third wave of democratization, with one program focused on structural, macro-level patterns and another on behavioral, micro-level mechanisms.

The focus on macro-level evidence has produced a wellspring of case studies documenting the breakdown of democracy in polarized polities. These case studies span the globe, drawing evidence from Southeast Asia (Arugay and Slater 2019), Asia Minor (Somer 2019), the United States (Kaufman and Haggard 2019), Europe (Church and Vatter 2016), and Latin America (Hunter and Power 2019). Several syntheses sum up the bounty of evidence to argue that polarization, left unchecked, is almost deterministically detrimental to democracy (Lieberman et al. 2019; McCoy and Somer 2019; Somer and McCoy 2019). The proposed mechanisms, however, differ. Levitsky and Ziblatt (2018) provide perhaps the most high-profile warning. They posit a four-criterion “litmus test” of authoritarian behavior exhibited by democratically elected presidents—based mostly on Latin America and Eastern Europe—and argue that polarized party systems enable the rise of populist politicians who willingly dismantle democratic institutions and erode political norms. Pierson and Schickler (2020) emphasize the effect of polarization on meso-level institutions such

as interest groups, state parties, and the media. Instead of acting as bulwarks against polarization and democratic decline, these institutions now reinforce those phenomena by tightly binding themselves to one party or the other and increasing the incentives for politicians to acquiesce to the extreme wing of their party (see also Roberts 2019).

Studies focusing on the micro-level offer some insight into how mass polarization can feed into these political incentives and increase the likelihood of democratic decay. The working theory in this research program is that polarization encourages citizens to vote for more extreme or confrontational candidates (Abramowitz and Webster 2016; Iyengar, Lelkes, et al. 2019), decreases their support for democratic norms (Mason 2018; Simonovits, McCoy, and Littvay forthcoming), and erodes their dedication to accountability (Iyengar and Krupenkin 2018; Iyengar, Sood, and Lelkes 2012). Svoboda (2012; 2019) provides evidence for these hypotheses by leveraging a tension in democratic politics. He argues that voters are often presented with a tradeoff between upholding democracy and pursuing partisan goals, and that as politics become more polarized, individual voters' willingness to resolve this tradeoff at the expense of democracy increases. He demonstrates this experimentally in the United States and Venezuela (Graham and Svoboda 2020; Svoboda 2020). Kingzette et al. (2021) focus on slightly different mechanisms. They contend that affective polarization generates cognitive biases which produce asymmetric democratic preferences; partisans oppose constitutional protections when their party is in power and support such measures when they are out of power (see also Finkel et al. 2020).

Not all scholars concur with these accounts, however. In her analysis of European and South American party systems, Bermeo (2003) argues that ordinary citizens, in fact, did not usually defect to extremist parties or otherwise abandon the political center and that polarization is therefore not an important contributor to democratic backsliding. Instead, she blames cases of democratic collapse on leadership failure and an inability of political elites to accurately gauge public opinion. In a more recent analysis, Lowande and Rogowski (2021) investigate the extent to which major crises—contexts in which countries are often vulnerable to democratic infringements—can increase support for a president's institutional authority to act unilaterally. They find no such in-

crease in support and conclude that polarization places an upper bound on the extent to which crises can lead to augmented executive authority. Weyland (2020, fn. 13) offers a possible explanation for this upper bound. He notes that when societies are evenly divided, each party is limited in the amount of popular support they can win. With more voters dedicated to one party or another and fewer ideologically moderate voters who are willing to switch party loyalty each election cycle, it is difficult for any one party to win the legislative seats or votes necessary to make any significant changes to democratic institutions.

Two recent studies also call into question prominent theories of affective polarization and democratic attitudes. Broockman, Kalla, and Westwood (2021) show how results purportedly supporting this hypothesis are observationally equivalent to alternate explanations and, across five experiments, find no evidence for the apparent connection between the two phenomena. Voelkel et al. (2021) present two additional experiments with the same null findings and conclude that past work has substantially overestimated the existence of a causal link.

Other analysts go even further, arguing that perceived or actual democratic crises instigate political polarization, not the reverse. Goodman (2022) presents an insightful theory of how democratic threat gets translated into mass polarization. She argues—with evidence from the United States, United Kingdom, and Germany—that citizens need to use elite signals to understand democratic conflicts and crises. Because citizens take cues from their preferred parties to make sense of political issues (e.g. Zaller 1992), democratic crises are inherently politicized. They are viewed by citizens through the lens of parties, with the incumbent party or coalition seen as the aggressor (or rightful reformer) and the others seen as the victims (or threats to be guarded against). Once this cleavage is activated, it manifests in heightened positive affect toward one's preferred party and negative affect toward other parties. Somer and McCoy (2018, p. 6) highlight a similar pathway, positing polarization as a “consequence of crises rooted in democracy's internal tensions and contradictions.”

A series of case studies across three continents shows how this opposition to and politicization of democratic crisis leads to the familiar forms of polarization. Stavrakakis (2018) argues that a

populist cleavage in Greece contributed to dehumanizing elite rhetoric and subsequent polarization. Slater and Arugay (2018) show how the roots of polarization in four Asian democracies were decidedly institutional, being activated by abuses of power by popularly elected chief executives. Finally, in one of the foremost examples of polarization and democratic collapse, Mallen and García-Guadilla (2017) argue that polarization in Venezuela was structured around a democratic cleavage, with divergent social groups gradually adopting conflicting views of democracy in response to repeated violations of democratic norms during the presidency of Hugo Chávez (see also García-Guadilla and Mallen 2019). According to these authors, it is the degradation of democratic norms and institutions that sparks mass political polarization.

## **Data and Measurement**

### **Explanatory Variable: Mass Polarization**

One drawback to most existing studies of polarization and democratic backsliding is their narrow focus, either on specific cases or with data from only one region. In addition to concerns about external validity, lack of spatiotemporal variation in these analyses make causal inference rather tenuous; even a severely under-powered time series analysis is difficult to conduct with only a small handful of data points for each case. In contrast, I use data from all available nationally representative public opinion surveys that investigate my quantities of interest.<sup>2</sup> Surveys in different countries and in different time periods use similar items quite often; soliciting self-placement on the left-right scale, for example, has been a mainstay on public opinion surveys for nearly forty years. Aggregating and using this data is challenging, however, because it is splintered across time and space, the meanings of question and answer wordings may differ across contexts (Stegmueller 2011), the number of response categories may differ across years and surveys, and different survey programs use different sampling procedures.

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<sup>2</sup>The Supplementary Information indicates the range of years covered by each survey program and the number of country-years contributed by each.

To overcome these challenges, I build a Bayesian measurement model to create smooth country-year panels of mass polarization. This model is bipartite: A fully hierarchical dynamic latent variable model smooths across time and accounts for differential item functioning, sampling error, and heterogeneous item effects (Claassen 2019). Then, an infinite Gaussian mixture model identifies the number of mixture components (i.e. whether the distribution of opinion is polarized into two, three, or more groups) and estimates the location and dispersion of those components in the latent space. The Supplementary Information contains a full explication.

I feed two types of data to the model to estimate ideological and affective polarization. To estimate ideological polarization, I use left-right self-placement items.<sup>3</sup> Although multi-item batteries of policy positions would generally be a preferred data source for measuring ideology, constraints on data availability and computational resources make left-right self-placements a suitable alternative. To estimate affective polarization, I opt for partisan feeling thermometers, a popular survey item among scholars studying affective polarization in comparative contexts (Reiljan 2020; Wagner 2021; Ward and Tavits 2019). More details on data manipulation are included in the Supplementary Information.

After fitting the measurement model to the two types of data, I finally calculate ideological and affective polarization for each country-year using the cluster-polarization coefficient (Mehlhaff 2021). This measure is well-suited for this particular problem because it is a measure of multimodal data structuration that is applied to a distribution, in contrast with other measures that are more useful for estimating polarization among a handful of data points such as party positions (e.g. Dalton 2008). Further, it corrects for different numbers of groups across country-years and takes into account both intergroup heterogeneity and intragroup homogeneity—the two key theoretical components of mass polarization (Baldassarri and Bearman 2007; Fortunato and Stevenson 2021; Levendusky and Pope 2011) and precisely the dynamics captured by the mixture model.

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<sup>3</sup>Some surveys ask about closely related concepts, such as “liberal” and “conservative.” I include these types of ideological estimates as well.



## Dependent Variable: Level of Democracy

Democratic backsliding requires a fully continuous measure sensitive enough to respond to gradual degradations in level or quality of democracy (Lührmann and Lindberg 2019). The Varieties of Democracy (V-Dem) project satisfies these requirements and confers several additional benefits (Coppedge et al. 2020; Pemstein et al. 2020). More than 400 indicators, drawn from factual information and evaluations by country-expert coders, are aggregated using Bayesian factor analyses into five theoretically distinct dimensions of democracy: electoral, liberal, participatory, deliberative, and egalitarian (Lindberg et al. 2014). I use the electoral democracy component<sup>4</sup> to evaluate backsliding vis-à-vis electoral manipulation and the liberal democracy component<sup>5</sup> to evaluate backsliding vis-à-vis executive aggrandizement.<sup>6</sup> Combining the V-Dem measure of democracy with the smooth panels of mass polarization results in a nuanced, finely tuned model of democratic backsliding.

## Control Variables

I identify four variables that may point to alternative explanations for democratic backsliding and include them as controls. First, although institutions are not exogenous to political factors, presidential systems may be more prone to backsliding than others (Cheibub 2002; Linz 1990). I therefore include a binary indicator of presidentialism. Second, modernization theory suggests that higher levels of economic development decrease the likelihood of democratic collapse (Lipset 1960; Przeworski et al. 2000), so I include logged GDP per capita for each country-year. Third, states dependent on natural resources may be less capable of preserving democracy (Haber and Menaldo 2011; Ross 2001). I capture this with a measure of total natural resource rents as a percentage of GDP in each country-year. GDP and natural resource figures are both taken from

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<sup>4</sup>Lindberg et al. (2014) describe the electoral democracy component as measuring “the core value of making rulers responsive to citizens through competition for the approval of a broad electorate during periodic elections.” This component is thus closely tied to the concept of polyarchy (Dahl 1971).

<sup>5</sup>Lindberg et al. (2014) describe the liberal democracy component as measuring “the intrinsic value of protecting individual and minority rights against a potential ‘tyranny of the majority.’ This is achieved through constitutionally protected civil liberties, strong rule of law, and effective checks and balances that limit the use of executive power.”

<sup>6</sup>On types of backsliding, see Bermeo (2016).

the World Bank (*World Development Indicators* 2021). Finally, several influential theories emphasize the relationship between democracy and economic inequality (Acemoglu and Robinson 2006; Ansell and Samuels 2014), so I include market income inequality as measured by the Gini coefficient (Solt 2020).<sup>7</sup> All control variables are time-variant.

## Identification Strategy

Identifying the causal effect of polarization on democracy presents several key challenges that preclude the use of cross-sectional analysis or simple linear regression. First, democratic backsliding may exhibit reciprocal causation with mass polarization. Moreover, the effect of any variable on level of democracy is likely to be delayed. Indeed, in line with other scholars (Acemoglu, Johnson, et al. 2009; Boix 2011; Welzel 2013), I assume that explanatory variables affect only *future* levels of democracy, not present ones. Second, polarization and democracy are likely serially correlated, with the state of each variable at time  $t$  directly affected by its state at time  $t - 1$ . This challenge is particularly acute for level of democracy, which may exhibit second-order serial correlation (Claassen 2020; Teorell 2010). Finally, each country’s experience with democracy is idiosyncratically affected by unobserved variables. Countries may experience critical junctures that affect their path to democratization, influence their long-term political culture, or shape key institutions (Collier and Collier 1991; Rueschemeyer, Stephens, and Stephens 1992).

Figure 1 illustrates these complex causal processes using directed cyclic and acyclic graphs (Imai and Kim 2019; Imbens and Rubin 2015; Pearl 2009).  $X_{ct}$ ,  $p_{ct}$ , and  $d_{ct}$  denote covariates, mass polarization, and level of democracy, respectively, in country  $c$  at time  $t$ .  $U_c$  denotes unobserved, time-invariant effects in country  $c$ .

Figure 1, panel (a) displays a simple correlational model, expressed in (1):

$$d_{ct} = \alpha + \delta p_{ct} + \gamma X_{ct} + \varepsilon_{ct}. \quad (1)$$

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<sup>7</sup>Market income refers to the money coming into a household before taxes or transfers of any kind.

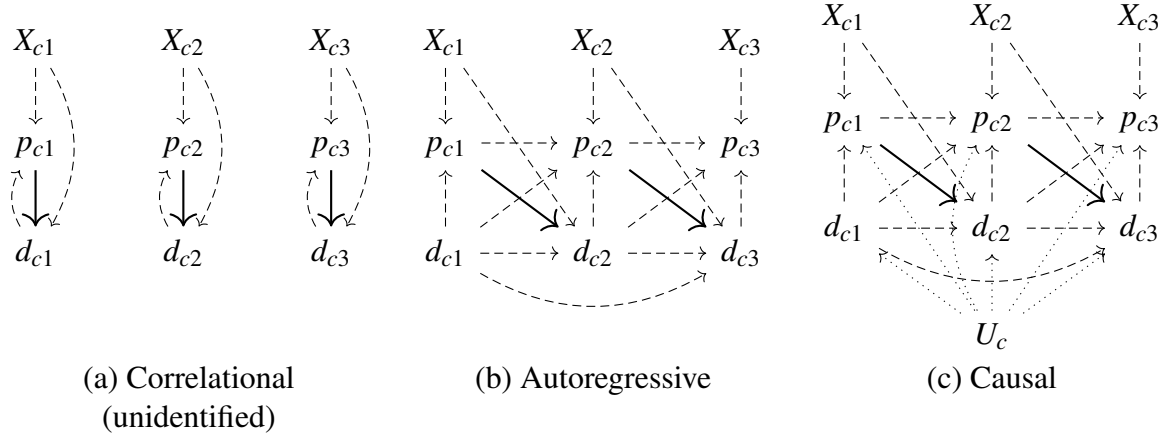


Figure 1: Directed cyclic and acyclic graphs depicting relationships among all variables;  $X_{ct}$  denotes covariates in country  $c$  at time  $t$ ,  $p_{ct}$  denotes polarization in country  $c$  at time  $t$ ,  $d_{ct}$  denotes level of democracy in country  $c$  at time  $t$ , and  $U_c$  denotes unobserved effects in country  $c$ . Solid arrows represent key effects of interest, dashed arrows represent effects of observed variables, and dotted arrows represent effects of unobserved variables.

I fit this model using ordinary least squares (OLS) to get a preliminary sense of how polarization correlates with democracy and refer to it as a “naive OLS” model, as it does not take any temporal structure into account. This model also serves as a reasonable replication of previous work relating mass polarization to democracy, so the effect of interest,  $\delta$ , should carry a negative sign.

Figure 1, panel (b) improves on the correlational model by imposing the temporal structure discussed above. This general autoregressive model is expressed in (2),

$$d_{ct} = \alpha + \beta_1 d_{c,t-1} + \beta_2 d_{c,t-2} + \delta p_{c,t-1} + \gamma X_{c,t-1} + \varepsilon_{ct}, \quad (2)$$

where  $\delta$  again represents the key effect of interest and can be interpreted as the non-causal effect of polarization at time  $t - 1$  on level of democracy at time  $t$ . I fit this model using pooled OLS and include panel-corrected standard errors to account for within-unit heteroskedasticity and across-unit correlation (Beck and Katz 1995).

Moving finally to a causal model, formally expressing the relationships shown in Figure 1, panel (c) yields a dynamic fixed effects model similar to those common in other studies of democracy (Acemoglu, Johnson, et al. 2008; Boix 2011; Haber and Menaldo 2011). To estimate the

effect of polarization on democracy, I specify the model in (3). In this specification,  $\delta$  can be interpreted as the change in democracy at time  $t$  due to polarization at time  $t - 1$ :

$$d_{ct} = \beta_1 d_{c,t-1} + \beta_2 d_{c,t-2} + \delta p_{c,t-1} + \gamma X_{c,t-1} + U_c + \varepsilon_{ct}. \quad (3)$$

Models such as this one present another difficulty, however, because the lagged dependent variables will be correlated with the error term when the number of units (in this case, the number of countries  $c$ ) is larger than the number of time periods  $t$  (Keele and Kelly 2006; Nickell 1981). This correlation increases in size as  $t$  decreases and violates the independence assumption needed to draw inferences from the model. To ameliorate this bias, I employ a system general methods of moments (GMM) estimator with heteroskedasticity-consistent standard errors (Windmeijer 2005), which uses an additional dependent variable lag as an instrumental variable (Ahn and Schmidt 1995; Arellano and Bover 1995; Blundell and Bond 1998).<sup>8</sup> This requires the additional assumption that temporally distant levels of democracy affect present levels only by acting through more temporally proximate levels.

## The Negligible Causal Effect of Polarization on Democracy

I begin by fitting the naive OLS model to assess the degree to which polarization is correlated with level of democracy. All real-valued variables are unit-normalized, so all parameter estimates can be interpreted in terms of standard deviations. Estimates of  $\delta$ , presented in Table 1, imply that mass polarization is negatively correlated with level of democracy, with a one standard deviation increase in polarization corresponding to a decrease in democracy of between 0.029 and 0.102 standard deviations. This effect is statistically distinguishable from zero at the  $p < 0.05$  level across all combinations of electoral or liberal democracy and ideological or affective polarization, and it comports with previous studies of polarization and democracy.

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<sup>8</sup>For applied examples of GMM estimation, see Freeman and Quinn (2012), Milner and Mukherjee (2009), and Quinn and Toyoda (2007), among others.

Table 1: Naive OLS Models of Polarization and Democracy

	<i>Dependent variable:</i>			
	Electoral (1)	Liberal (2)	Electoral (3)	Liberal (4)
Ideological	-0.102* (0.011)	-0.086* (0.010)		
Affective			-0.032* (0.013)	-0.029* (0.013)
Presidential	-0.042 (0.025)	-0.131* (0.023)	0.243* (0.033)	0.173* (0.032)
GDP	0.618* (0.013)	0.662* (0.012)	0.805* (0.020)	0.891* (0.020)
Gini	0.095* (0.011)	0.093* (0.011)	0.129* (0.013)	0.132* (0.013)
Resources	-0.102* (0.011)	-0.110* (0.010)	-0.269* (0.025)	-0.268* (0.024)
Intercept	0.064* (0.016)	0.089* (0.015)	-0.197* (0.023)	-0.189* (0.022)
Observations	3,598	3,598	2,058	2,058
R <sup>2</sup>	0.556	0.631	0.543	0.615
Adjusted R <sup>2</sup>	0.555	0.631	0.541	0.614
Residual Std. Error	0.644 (df = 3592)	0.600 (df = 3592)	0.598 (df = 2052)	0.574 (df = 2052)

Note: \* $p < 0.05$ . Values in parentheses give standard errors. All real-valued variables unit-normalized.

Moving beyond a simple correlational analysis, however, the picture begins to change. Table 2 presents results of pooled OLS and system GMM models used to fit (2) and (3), respectively. Most estimates of  $\delta$  still carry negative signs (with the exception of models 2 and 4), but none of them achieve statistical significance at the same  $p < 0.05$  level.<sup>9</sup> Further, the point estimates of  $\delta$  are substantially smaller than in the correlational model, with a one standard deviation increase in polarization now leading to a decrease in democracy of between 0.001 and 0.008 standard

<sup>9</sup>Another strategy to capture the effect of polarization on backsliding would be to find each country-year in which the level of democracy decreased and fit a model with temporal structure similar to the pooled OLS models. I pursue this model specification in the Supplementary Information and get similar results.

Table 2: Time Series Models of Polarization and Democracy

	<i>Dependent variable:</i>							
	<i>Pooled OLS</i>				<i>System GMM</i>			
	Electoral (1)	Electoral (2)	Liberal (3)	Liberal (4)	Electoral (5)	Electoral (6)	Liberal (7)	Liberal (8)
Electoral <sub>t-1</sub>	1.191* (0.045)	1.255* (0.048)			1.172* (0.033)	1.176* (0.050)		
Electoral <sub>t-2</sub>	-0.248* (0.048)	-0.319* (0.047)			-0.237* (0.031)	-0.312* (0.035)		
Liberal <sub>t-1</sub>			1.268* (0.047)	1.281* (0.049)			1.230* (0.027)	1.209* (0.039)
Liberal <sub>t-2</sub>			-0.312* (0.049)	-0.330* (0.047)			-0.288* (0.028)	-0.317* (0.034)
Ideological <sub>t-1</sub>	-0.008 (0.006)		-0.007 (0.005)		-0.005 (0.003)		-0.005 (0.003)	
Affective <sub>t-1</sub>		0.001 (0.005)		-0.001 (0.004)		-0.002 (0.004)		-0.003 (0.004)
Presidential <sub>t-1</sub>	-0.004 (0.013)	0.004 (0.010)	-0.009 (0.011)	-0.007 (0.008)	0.022* (0.006)	0.032* (0.012)	0.013* (0.005)	0.019 (0.011)
GDP <sub>t-1</sub>	0.017 (0.013)	0.017 (0.027)	0.011 (0.013)	0.008 (0.029)	0.040* (0.011)	0.093* (0.027)	0.039* (0.013)	0.084* (0.023)
Gini <sub>t-1</sub>	-0.00003 (0.005)	-0.0001 (0.007)	-0.004 (0.004)	-0.003 (0.007)	0.008* (0.003)	0.015 (0.008)	0.006* (0.003)	0.012 (0.006)
Resources <sub>t-1</sub>	-0.007 (0.005)	-0.015 (0.009)	-0.006 (0.004)	-0.010 (0.009)	-0.009 (0.005)	-0.034 (0.021)	-0.008* (0.004)	-0.026 (0.018)
Intercept	0.005 (0.013)	0.008 (0.014)	0.005 (0.011)	0.013 (0.013)				
Country FE	No	No	No	No	Yes	Yes	Yes	Yes
N Observations	3578	2047	3578	2047	4508	4508	4508	4508
N Units	89	63	89	63	92	92	92	92
N Time Periods	45	45	45	45	49	49	49	49
Arellano-Bond Test					-1.325	-1.182	-0.375	-0.709
Hansen-Sargan Test					86	48	86	48

Note: \*p<0.05. Values in parentheses give panel-corrected (OLS) or heteroskedasticity-consistent (GMM) standard errors. All real-valued variables unit-normalized.

deviations—a decrease in effect size of between 91 and 95 percent when comparing system GMM to naive OLS estimates. Insignificant Hansen-Sargan and Arellano-Bond test statistics indicate that the GMM instruments are valid and successful in partialling out the second-order serial correlation, so I can be confident that these null results are not simply a consequence of slow-moving dependent variables.

### Testing for Negligible Effects

The analysis so far suggests that the observed relationship between mass polarization and democratic backsliding is primarily correlational and that the causal effect is much more muted. But statistically insignificant parameter estimates are not themselves evidence of a negligible effect. The null hypothesis significance tests upon which the models in Table 2 rely demonstrate only that the data are *consistent* with polarization having no effect on democracy. To argue for a negligible effect, I need to demonstrate that the data are *inconsistent* with polarization having any meaningful effect on democracy. Confidence intervals which include zero are not sufficient evidence for such a claim because they do not rule out effects that could, in fact, be meaningful (Gill 1999; Westlake 1979).

Instead, I follow Rainey (2014), who lays out a simple, two-step procedure for demonstrating evidence of a negligible effect: First, identify how large an effect must be in order to be considered meaningful and clearly state a hypothesis for testing whether the effect rises to that level. Second, construct a 90% equal-tailed confidence interval for the effect estimate to test the hypothesis (Berger and Hsu 1996). If the effect size identified as meaningful lies entirely outside the confidence interval, the data can be interpreted as being inconsistent with any meaningful effect.

As a benchmark for meaningful effect sizes, I calculate the standard deviation of electoral and liberal democracy in Denmark, the most stable democracy over the time period under consideration.<sup>10</sup> Across the years from 1971 to 2019, Denmark's levels of electoral and liberal democracy

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<sup>10</sup>I use the standardized electoral and liberal democracy data to make these calculations, so they can be directly compared to model parameter estimates.

display standard deviations of 0.038 and 0.043, respectively.<sup>11</sup> Democracy in Denmark is so stable that its fluctuations over time likely represent little more than measurement uncertainty. At a bare minimum, effects of polarization should be able to clear this threshold in order to be considered meaningful. This implies a set of hypotheses:

$$\begin{aligned}
 H_0 : \quad & \delta \in (-\infty, -\tau] \cup [\tau, \infty), \\
 H_1 : \quad & \delta \in (-\tau, \tau),
 \end{aligned}
 \tag{4}$$

where  $\delta$  is the estimated effect size and  $\tau$  is the threshold for a meaningful effect size—0.038 in the case of electoral democracy and 0.043 in the case of liberal democracy. Therefore, if the 90% confidence interval for the effect size does not contain  $\tau$ , I should reject the null hypothesis that polarization has a meaningful effect on democracy in favor of the alternate hypothesis that polarization has a negligible effect on democracy.

Figure 2 displays these 90% confidence intervals.<sup>12</sup> Dashed vertical lines indicate  $-\tau$  and  $\tau$ , the values outside which polarization could be interpreted as having a meaningful effect on democracy. Clearly, all confidence intervals are well within these thresholds, regardless of the type of model, type of polarization, or dimension of democracy. Thus, I reject  $H_0$  in favor of  $H_1$  and conclude that polarization does, indeed, have a negligible effect on level of democracy. Notably, however, the parameter estimates for the effect of ideological polarization as estimated by the system GMM model actually become statistically significant when applying the 90% confidence interval.<sup>13</sup> The causal effect of polarization on democracy may be negative and distinguishable from zero, but it is substantively insignificant.

<sup>11</sup>Contrast these estimates to those of the most volatile country, Chile, whose electoral and liberal democracy estimates display standard deviations of 1.34 and 1.26, respectively.

<sup>12</sup>See the Supplementary Information for this analysis broken down by regime type.

<sup>13</sup>As opposed to the 95% interval used in Table 2.



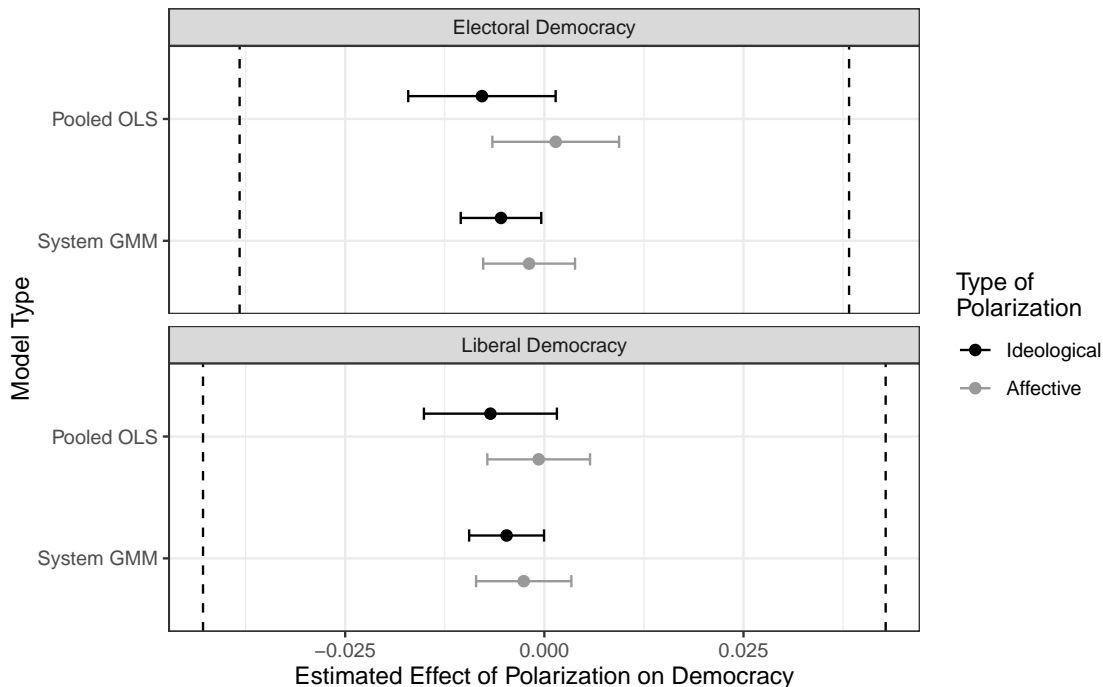


Figure 2: Testing for a Negligible Effect of Polarization on Democracy. Point estimates correspond to  $\delta$  in (2) and (3) in Table 2. Error bars give 90% confidence intervals. Dotted lines represent  $-\tau$  and  $\tau$  for each dimension of democracy.

## Long-Run Effects

Evidence seems to be accumulating to support the claim that polarization does not contribute meaningfully to democratic backsliding. However, all the analyses up to this point have investigated only *short-run* effects. It could be that the effects of polarization are cumulative; polarization at time  $t - 1$  could exert a small effect on democracy at time  $t$  but nevertheless contribute to a snowballing effect over time, resulting in larger changes in democracy at time  $t + 1$ ,  $t + 2$ , and so on. To investigate this possibility, I use the long-run multiplier under the assumption of stationarity:

$$\text{LR}_{pc} = \frac{\tilde{\delta}}{1 - (\tilde{\beta}_1 + \tilde{\beta}_2)}, \quad (5)$$

where  $\tilde{\delta}$  denotes the estimate for the coefficient on polarization and  $\tilde{\beta}_1$  and  $\tilde{\beta}_2$  denote the estimates for the coefficients on lagged democracy (De Boef and Keele 2008; Wilkins 2018).

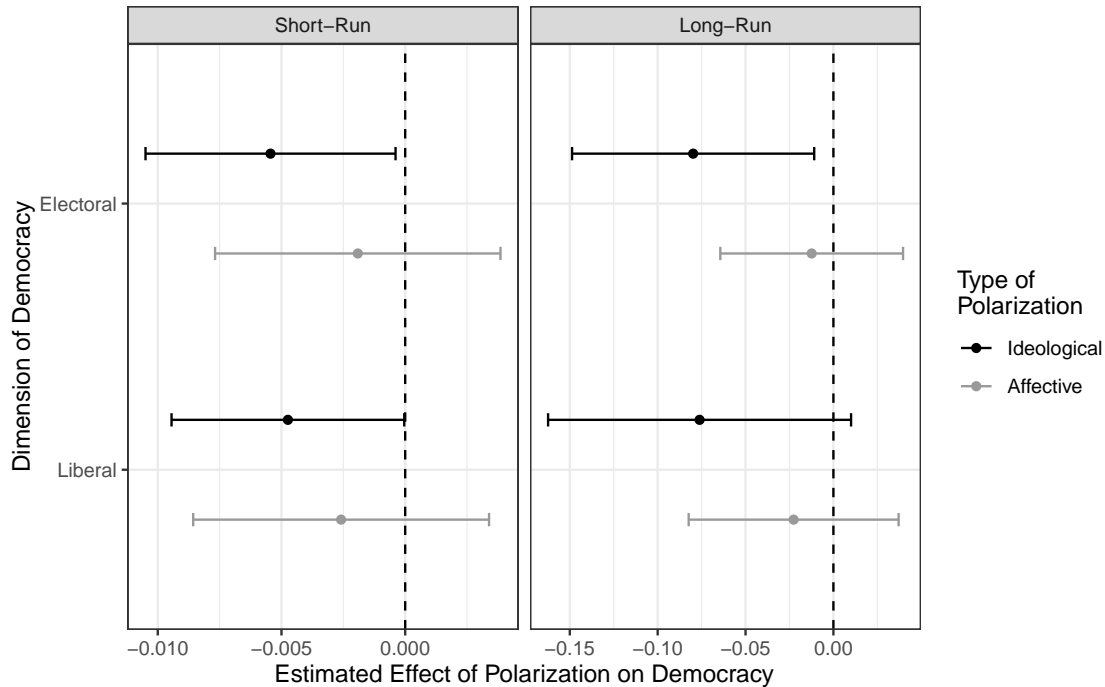


Figure 3: Short-Run and Long-Run Effects of Polarization on Democracy. Short-run point estimates are taken from Table 2. Long-run point estimates are calculated using (5). Error bars give bootstrapped 90% confidence intervals.

Figure 3 displays the estimated short- and long-run effects of polarization on democracy using estimates from the system GMM models in Table 2. An increase in polarization level does appear to accumulate over time—estimates of long-run effects are six to sixteen times those of short-run effects. However, these long-run effects are statistically distinguishable from zero in only one case, and the effect sizes are still relatively underwhelming; an increase of one standard deviation in level of polarization leads to a cumulative decrease in level of democracy of, at most, 0.08 standard deviations. Moreover, this effect assumes that the shock to polarization is *permanent*. Although this assumption is helpful for comparing immediate and delayed effects, it almost certainly does not hold in reality, implying that the long-run effect is not likely to be fully realized.

Even assuming this condition is a reasonable approximation of the real world, the total long-run effect shown in Figure 3 is distributed over an arbitrarily long period of time. It would therefore be helpful to know *how long* this effect takes to transpire. To find this value, I calculate the cumulative effect of the polarization shock on democracy at each time period, up to  $t = 100$ . Figure 4 displays

these cumulative effects. Ideological polarization takes a very long time to reach its full effect on democracy; these lines do not begin to approach their asymptotes (the total long-run effect) for at least seventy-five years after the polarization shock. Due to non-linear decay, half of that total effect is realized within approximately twelve years—still a substantial period of time.

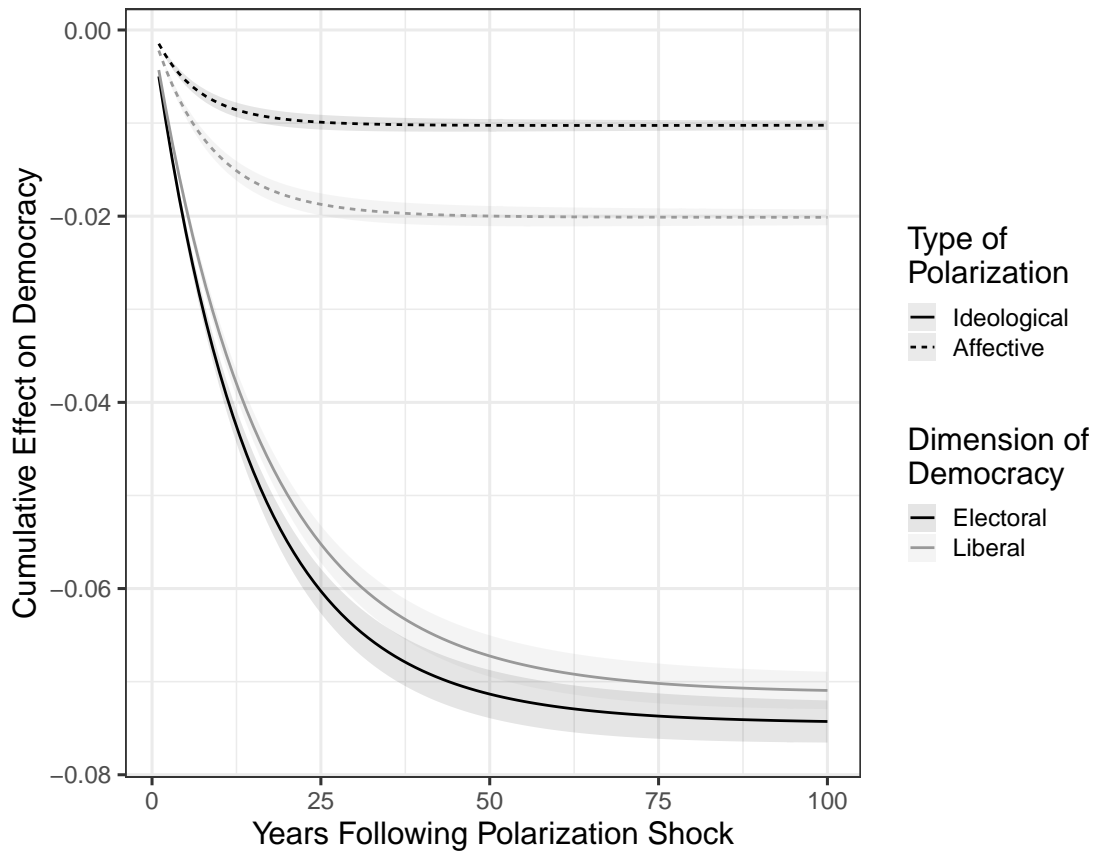


Figure 4: Cumulative Effect of Polarization Shock on Democracy. Error bands give bootstrapped 95% confidence intervals.

The effects of affective polarization are realized more quickly. Half of those total long-term effects materialize in just a couple years in the case of electoral democracy and approximately seven years in the case of liberal democracy, with the lines needing approximately fifteen and thirty-five years to approach their respective asymptotes. However, these effects are much more muted compared to the effects of ideological polarization. Although more dramatic than the short-run effects, the long-term effects of polarization on democracy do not appear to be appreciable overall. Even in the case of ideological polarization, which has much stronger effects than affective

polarization, the time horizon at which those effects fully materialize is well beyond the temporal scope with which social scientists are often concerned.

## Reversing the Causal Arrow: Polarization as an Outcome of Democratic Crisis

Having argued that mass polarization exerts only a negligible effect on level of democracy, I now turn my attention to the inverse causal relationship and evaluate the extent to which democratic backsliding foments mass polarization. To identify this effect, I use the same basic framework as above, but I now consider polarization as a dependent variable and democracy as a lagged explanatory variable.<sup>14</sup> To complement the new dependent variable, I also include a different set of time-varying control variables to test other possible drivers of polarization: annual percent growth in GDP per capita (*World Development Indicators* 2021),<sup>15</sup> market income inequality (Solt 2020), and an index capturing the level of social equality in access to political influence and power (Coppedge et al. 2020; Pemstein et al. 2020).

I again estimate pooled OLS and system GMM models on these data, but I assume that polarization exhibits only first-order serial correlation and therefore use only one dependent variable lag. The system GMM models are instrumented with the second lag of polarization. Insignificant Arellano-Bond test statistics indicate that this specification is sufficient for eliminating serial correlation, and further dependent variable lags are therefore not necessary.

Table 3 displays a clear set of results: decreases in level of democracy are consistently associated with increases in mass polarization, and vice versa. All parameters on democracy variables carry negative signs regardless of the model specification or type of polarization being analyzed, and all but one of those parameter estimates rise to statistical significance at the  $p < 0.05$  level.

<sup>14</sup>The analogous expressions to those in (2) and (3) are now given by  $p_{ct} = \alpha + \beta_1 p_{c,t-1} + \delta d_{c,t-1} + \gamma X_{c,t-1} + \epsilon_{ct}$  and  $p_{ct} = \beta_1 p_{c,t-1} + \delta d_{c,t-1} + \gamma X_{c,t-1} + U_c + \epsilon_{ct}$ , respectively.

<sup>15</sup>Since GDP growth is already dependent on the previous year's GDP by construction, I do not lag it further.

Table 3: Testing the Effect of Democracy on Polarization

	<i>Dependent variable:</i>							
	<i>Pooled OLS</i>				<i>System GMM</i>			
	Ideological (1)	Ideological (2)	Affective (3)	Affective (4)	Ideological (5)	Ideological (6)	Affective (7)	Affective (8)
Ideological <sub>t-1</sub>	0.033 (0.032)	0.037 (0.032)			-0.108* (0.017)	-0.108* (0.017)		
Affective <sub>t-1</sub>			-0.149* (0.045)	-0.148* (0.045)			-0.120* (0.031)	-0.119* (0.031)
Electoral <sub>t-1</sub>	-0.218* (0.030)		-0.093* (0.045)		-0.300* (0.027)		-0.076* (0.031)	
Liberal <sub>t-1</sub>		-0.206* (0.027)		-0.083 (0.044)		-0.290* (0.031)		-0.069* (0.032)
Growth <sub>t</sub>	-0.013 (0.020)	-0.012 (0.020)	0.054 (0.045)	0.055 (0.045)	-0.020 (0.018)	-0.019 (0.018)	0.053 (0.028)	0.054 (0.028)
Gini <sub>t-1</sub>	-0.020 (0.019)	-0.022 (0.019)	0.010 (0.029)	0.009 (0.030)	-0.013 (0.023)	-0.014 (0.024)	0.005 (0.022)	0.005 (0.023)
Access <sub>t-1</sub>	-0.273* (0.119)	-0.292* (0.116)	0.112 (0.203)	0.096 (0.223)	-0.080 (0.049)	-0.085 (0.050)	0.022 (0.042)	0.021 (0.041)
Intercept	0.154 (0.095)	0.164 (0.092)	-0.063 (0.173)	-0.052 (0.183)				
Country FE	No	No	No	No	Yes	Yes	Yes	Yes
N Observations	3844	3843	2013	2012	4508	4508	4508	4508
N Units	91	91	51	51	92	92	92	92
N Time Periods	49	49	44	44	49	49	49	49
Arellano-Bond Test					0.982	-0.95	0.975	-0.872
Hansen-Sargan Test					89	51	89	51

*Note:* \*p<0.05. Values in parentheses give panel-corrected (OLS) or heteroskedasticity-consistent (GMM) standard errors. All real-valued variables unit-normalized.

Further, effect sizes in all model specifications are appreciable and, in many models, are larger than the effect sizes for any other explanatory variable save for the lagged dependent variables.<sup>16</sup>

<sup>16</sup>As before, all variables are unit-normalized, so parameter estimates can be interpreted in terms of standard deviations.

Figure 5 displays the estimated short- and long-run effects of democracy on polarization using estimates from the system GMM models in Table 3.<sup>17</sup> All effect sizes are statistically distinguishable from zero, and comparing the short- and long-run estimates suggests that the effect of democracy on polarization is not ephemeral; it exerts a consistent negative effect, with that effect decaying only slightly in perpetuity. In sum, the preponderance of evidence appears more consistent with mass polarization being causally downstream from democratic backsliding rather than the reverse.

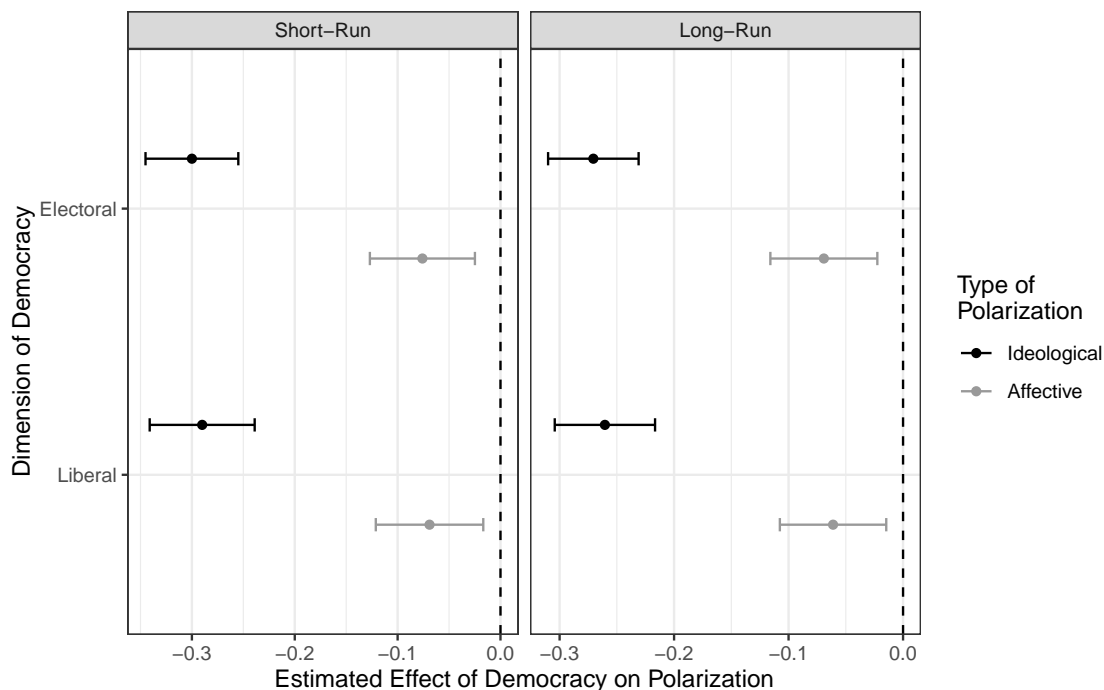


Figure 5: Short-Run and Long-Run Effects of Democracy on Polarization. Short-run point estimates are taken from Table 3. Long-run point estimates are calculated using (5). Error bars give 90% confidence intervals.

## Discussion

Although the relationship between political polarization and democratic backsliding has long been theorized, numerous methodological challenges have hampered scholars' ability to test that the-

<sup>17</sup>The long-run multiplier is now given by  $LR_{d_c} = \frac{\hat{\delta}}{1-\hat{\beta}_1}$ , again under the assumption of stationarity.

ory in a comparative analysis. I address those challenges using a variety of techniques to produce a novel data set of ideological and affective polarization and to gain causal identification of the hypothesized relationship between polarization and backsliding. Results suggest that mass polarization contributes little to democratic backsliding. Rather, democratic declines appear robustly related to subsequent mass polarization.

It is important to consider what this finding does and does not imply, especially since the effect of decreasing levels of democracy is so much more drastic on ideological than affective polarization. Does democratic backsliding lead the average citizen to adopt progressively more extreme policy positions qua policy positions? I suspect not. It seems more likely that an episode of democratic backsliding drives a wedge between parties or other factions, resulting in a political system divided over the very meaning of democracy, how to fix it, and whether it needs fixing at all. This disagreement over democracy then gets reflected in ideology at the elite and mass levels,<sup>18</sup> as parties and individuals align their ideas on the issues with their understanding of democracy and the role of the state. The result is a party system and mass public which increasingly and more consistently identify with “left” or “right.”

I see at least two potential reasons for this: First, citizens’ policy positions become more aligned with their overarching ideology, driven by their conception of democracy. Second, ideological labels become more salient, and parties and individuals apply them as a means to delimit group boundaries and reflect political identities (Conover and Feldman 1981; Vegetti and Širinić 2019). In sum, democratic backsliding likely does not cause individuals to move to the extremes on any given issue, but it may set off a cascade of increasing ideological salience and alignment driven by elite messaging.

Why, then, do so many tests appear to find the opposite? The simple answer is that most studies of polarization and democracy identify—correctly—a *correlation* between the two phenomena but are unable to establish causation, often for reasons outside the researchers’ control. Most comparative evidence comes from a handful of in-depth case studies or cross-sectional analyses, which

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<sup>18</sup>On conflict extension, see Layman and Carsey (2002) and Layman, Carsey, et al. (2010).

often struggle to capture enough temporal variation to establish causation. Behavioral tests—even careful experimental ones—are almost always conducted in politically polarized countries. In these settings, even individuals with low party affect, for example, exist in and are psychologically calibrated to a polarized political environment, making it impossible to know how they would behave in a more politically congenial environment.<sup>19</sup> This is not to say the findings of behavioral studies are spurious; again, I reiterate that previous work has correctly identified a correlation between polarization and declines in democracy. However, without variation in levels of polarization over time or across political contexts, it is difficult to make those claims causal.

The present study is a preliminary probe into the direction and magnitude of the causal relationship between mass polarization and democratic backsliding. As such, it necessarily leaves many stones unturned. Future work should explore causal mechanisms, institutional structures that enable or disable the operation of those mechanisms, and moderating variables which may make democratic backsliding more or less likely to lead to polarization and vice versa. Although I identify overall average effects, the relationship between polarization and backsliding may be a conditional one, with the direction of the causal arrow pointing in different directions depending on context. Finally, I leave open the possibility that mass polarization and democratic backsliding exhibit reciprocal causation. That is, democratic crisis may provide a spark for mass polarization, but that spark eventually grows into a blaze as it leads to legislative dysfunction, eroding norms, and politicized linkage institutions. This enhanced democratic crisis leads to deepening polarization, and so on in a snowball effect. With the data I introduce in this paper, I aim to give scholars the tools to answer these questions.

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<sup>19</sup>Simonovits, McCoy, and Littvay (forthcoming) thoughtfully grapple with this challenge.



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