Does Public Support Help Democracy Survive?

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Abstract

Democracy is generally believed to require public support to survive. The empirical evidence for this hypothesis is, however, weak with only a handful of tests, all utilizing small cross-sectional samples, and finding contradictory results. The obstacle has been that survey data on democratic support are fragmented across time, space, and survey item. In response, we use a Bayesian latent variable model to estimate a smooth country-year panel of democratic support for 120 countries and up to 24 years. The panel nature of our estimates then permit a rigorous test of the hypothesis that public support helps democracy survive. Using dynamic and fixed effects models, we find that democratic support is positively associated with subsequent change in democracy. Support, moreover, is more robustly linked with the survival of democracy than its emergence in the first place.

Keywords: democracy, democratization, support for democracy, public opinion

Words: 8,325

Introduction

Democracy is under threat. Around the world, authoritarian and populist leaders are resurgent, while liberal and tolerant voices are on the defensive. Whether long-standing or emerging, wealthy or developing, democracies as diverse as the United States, Turkey, the Philippines, and Hungary are seeing the erosion of democratic norms and institutions. Indeed, scholars have begun voicing concerns about democracy's "fading allure" (Plattner 2017), and the risk that established democracies might begin to "deconsolidate" (Foa and Mounk 2016; 2017).

Such concerns about democracy are not new. Political thinkers such as Plato and Machiavelli long ago argued that the survival of democratic systems rests upon the attitudes and beliefs of the citizenry. Contemporary political scientists have elaborated this theory somewhat but agree with its basic contours: democracy requires public support (e.g., Booth and Seligson 2009; Dalton 1999; Diamond 1999; Mattes and Bratton 2007; Norris 2011; Rose, Mishler, and Haerpfer 1998). With such support, the theory argues, democracy is legitimate and stable (Easton 1965; 1975; Lipset 1959). Without such support, democracy is insecure and likely to fail should a crisis of some sort arise.

Although this theory has been widely accepted by political scientists, especially those within the behavioral tradition, it has received little rigorous empirical confirmation. The few existing tests (Fails and Pierce 2010; Hadenius and Teorell 2005; Inglehart 2003; Inglehart and Welzel 2005; Qi and Shin 2011; Welzel 2007) come to contradictory conclusions. These studies, moreover, all utilize small datasets of a few dozen countries observed only at one point in time. Yet without temporal variation it is very difficult to model dynamic processes such as the trajectory of public support and democratic change. The impotence of cross-sectional designs is only compounded when the outcome, democracy, is as likely to influence the explanatory variable, public support, as the reverse (Fuchs-Schündeln and Schündeln 2015; Hadenius and Teorell 2005; Mattes and Bratton 2007). The widespread acceptance of

the theory of democratic support thus rests on fairly flimsy evidence.

This paper therefore returns to the question of whether public support helps democracy to survive, offering two major advances over existing research. First, while existing studies use a fraction of the available survey data on support for democracy, we use all the data that has been collected by cross-national public opinion projects: 3,014 national opinions about democracy, obtained from 1,165 nationally-representative public opinion surveys, 11 survey projects, 132 countries, and 24 years. Because these data are heavily fragmented across time, country, and disparate survey items, we use a dynamic Bayesian latent variable model (Claassen 2018) to combine the fractured dataset of national opinions into one latent measure of support for democracy. The result is a panel dataset of support for democracy varying smoothly across countries and years. This panel dataset affords us a second advance over existing tests: with variation over country and year, we are able to estimate the effects of support on democratic change and stability while adjusting both for the persistent effects of democracy, as well as the influence of previous levels of democracy on current levels of support.

Using both dynamic and fixed effects models, we find that public support is significantly and positively associated with subsequent change in democracy. We also examine more specific processes by which support and change in democracy are linked. In particular, we find that support is more robustly linked with the endurance of democracy once it has been established, than with the emergence of democracy in the first place. In other words, as Easton hypothesized over 50 years ago, public support does indeed help democracy survive.

Theory

Existing Research on Public Support and Democracy

The notion that democracy is rooted somehow in the attitudes and orientations of the public has proved to have an enduring appeal. Plato, for example, worried that democracy was

prone to failure because the citizenry was unlikely to have the foresight or the inclination to hold leaders accountable. Many centuries later, at the dawn of modern political science, Lipset (1959) returned to this topic in a seminal paper. He argued that "political legitimacy" – the "belief that existing political institutions are the most appropriate or proper ones for the society" – is one of the principal "requisites" of stable democracy (Lipset 1959, 83).

This theory was extended and amplified by Easton (1965; 1975) in another classic contribution. Easton distinguished between "objects" that citizens might choose to support or not: at the most abstract level, the nation or political community; at the most concrete level, the incumbent authorities; and in-between, the regime. He then also distinguished between two types of support – specific and diffuse – that may be afforded to any of the objects of support. While specific support is instrumental, diffuse support is principled. As such, a polity that offers diffuse support for democracy holds democracy to be legitimate (Easton 1975). Diffuse support is also more durable than specific support, helping to cushion regimes when political or economic crises strike. Easton's concept of diffuse support for the regime thus closely resembles Lipset's notion of political legitimacy, but embeds the concept within a broader framework of public support.

This theory of diffuse support offers a clear and compelling account of the link between the mass public and the dynamics of the political regime.[1] It argues that principled support for democracy helps ensure the survival of the regime. With such support, a democracy is

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[1]Inglehart and Welzel (2005) offer an alternative conceptualization of democratic political culture emphasizing citizens' cultural values – such as liberty aspirations, toleration of difference, and trust in others – rather than their overt attitudes to democratic versus non-democratic regimes. As such, instead of requiring *explicit* support for democracy, Inglehart and Welzel argue that democracy requires *implicit* support. This implicit conceptualization of support is sufficiently distinct from the explicit that we do not consider it further in this paper.

legitimate and stable. Without it, democracy is unstable and liable to fail (Easton 1965; Mishler and Rose 1999).

Although the theory of democratic support has been widely accepted by political scientists (e.g., Bratton, Mattes, and Gyimah-Boadi 2004; Booth and Seligson 2009; Dalton 1999; Diamond 1999; Mattes and Bratton 2007; Norris 2011; Rose, Mishler, and Haerpfer 1998), it has received very little empirical attention. Most likely this is because the data which are required are far harder to obtain than the socio-economic indices (such as GDP per capita) used to measure other determinants of democracy. An empirical test requires national measures of support for democracy, which, in turn, require costly, nationally-representative public opinion surveys for each data point. Indeed, it was not until the groundbreaking inclusion of measures of support for democracy on the third wave of the World Values Survey (WVS) that the relationship between support and democracy could be examined empirically.

In the first analysis of this data, Inglehart (2003) finds that an index of support constructed out of four survey items is modestly and positively correlated with democracy in a cross-sectional sample of 77 countries. Subsequent studies largely examine the same WVS data. Inglehart and Welzel (2005), for example, use a subsequent measure of democracy and control for years under democracy, but still find that democratic support has a positive association with level of democracy. In contrast, Hadenius and Teorell (2005) and Welzel (2007) show that support has little to no relationship with subsequent democracy once one adjusts for the the initial level of democracy.[2] Fails and Pierce (2010) add data from some of the Global Barometer survey projects, control for other socio-economic variables, and provide a separate test of whether support is associated with democratization or democratic survival. They find no evidence whatsoever that support is associated with either. Finally, Qi and Shin

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[2]They regard this lagged dependent variable as necessary to counteract the possibility that democracy shapes political culture, rather than the reverse. We will pick up, and expand upon, this point later.

(2011) compare the effects of the proportion of respondents who support democracy and the proportion who both support democracy but are dissatisfied with its performance, which they call "critical support". They find the support is not associated with subsequent democracy when controlling for prior democracy and other covariates, although critical support is.

It is difficult to draw a firm conclusion from these studies because they have markedly different findings, despite largely being re-analyses of the same WVS dataset. More importantly, their research designs are all limited in a number of important ways. First, all are cross-sectional studies. Yet scholars have demonstrated that previous levels of democracy influence the current level of support for democracy (e.g., Fuchs-Schündeln and Schündeln 2015; Hadenius and Teorell 2005), and cross-sectional designs do not allow analysts to separate the effect of support on subsequent democracy from the effect of previous democracy on current support. Second, these studies use only a fraction of the available opinion data, with small datasets of between 41 (Hadenius and Teorell 2005) and 86 countries (Fails and Pierce 2010) observed at one point in time. However, with numerous cross-national survey projects now measuring support for democracy, there are are potentially thousands of observations to be gathered across countries and years. Third, survey items may have different meanings in different countries (Stegmueller 2011). All of these studies, however, assume that their support for democracy scales are comparable across countries.[3] Fourth, these studies rely on the Freedom House index to measure democracy, which has received a fair amount of criticism for its measurement error, clustering of cases at the extremes of the scale, and methods of scoring and aggregating items (Alexander and Welzel 2011; Munck and Verkuilen 2002; Pemstein, Meserve, and Melton 2010). A more reliable measure of liberal democracy is now available from the Varieties of Democracy project. Finally, the existing studies rely heavily on WVS measures of support. Yet, as Kurzman (2014) points out, there appear to

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[3]This is partly due to their cross-sectional designs, because without the same items repeated over time in the same countries, it is impossible to adjust for heterogenous item effects.

be a number of serious translation errors in the support for democracy items used in the 3rd and 4th waves of the World Values Survey.[4] The resulting data for countries such as Vietnam, Albania, and Indonesia may not be usable. In sum, existing studies that test the democratic support theory come to contradictory conclusions despite essentially analyzing the same dataset. These studies are moreover hampered by small samples, cross-sectional designs, and other limitations which undermine their ability to provide a dispositive test of the theory of democratic support. This is the task of this paper.

Hypotheses

The theory of democratic support is dynamic. It posits that the level of public support shapes the fate of democracy. We therefore build in a dynamic perspective by using the change in level of democracy as our dependent variable. We then derive a general hypothesis regarding the effects of support on change in democracy, followed by four more specific hypotheses focusing on particular processes linking support to change in democracy.

First, following existing studies (Hadenius and Teorell 2005; Inglehart 2003; Inglehart and Welzel 2005; Qi and Shin 2011; Welzel 2007), we test a general hypothesis that public support for democracy shapes subsequent change in democracy, in either a positive (upturns toward greater democracy) or a negative (downturns toward less democracy) direction. **H1: The level of public support for democracy is positively associated with subsequent change in democracy.**

Scholars are however increasingly acknowledging that the factors which allow democracy to emerge may differ from those which help it to be sustained (Boix 2011; Fails and Pierce 2010; Gleditsch and Ward 2006; Lipset 1959; Przeworski and Limongi 1997; Teorell 2010). We follow suit, with our second set of hypotheses focusing on the role played by

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[4]For example, as Kurzman (2014) describes, the Indonesian survey of 2001 asked respondents their opinion on having military *rules*, rather than military rule. The vast majority of Indonesians unsurprisingly favored having rules.

support in the survival or stabilization of democracy.

The first of these hypotheses, **H2a**, pertains to the effect of support contingent on the existing level of democracy: **the level of public support for democracy in an already-existing democracy is positively associated with subsequent change in democracy.** In other words, support influences the subsequent change in democracy only to the extent that some level of democracy already exists. When it does, change may then occur in either direction, with both increases and decreases in democracy possible. A similar hypothesis has been proposed and tested by Acemoglu et al. (2009) with respect to development and democracy.

The next hypothesis, **H2b** focuses instead on the direction of change in democracy: **the level of public support for democracy is negatively associated with subsequent decreases in democracy.** To put it another way, regardless of the starting level of democracy, support reduces downturns in democracy, but plays no role in democratic upturns. Similar hypotheses have been proposed by Teorell (2010) and Boix (2011) regarding other determinants of democracy.

Finally, scholars have recently proposed that democratic support may also function as democratic "demand" (Qi and Shin 2011). In this view, public support for democracy helps democracy to emerge in addition to (or instead of) merely helping it to survive. As with the second set of hypotheses, the third also has two versions. **H3a** proposes that support influences upturns and downturns in level of democracy, but only when the regime is autocratic: **the level of public support for democracy in an autocracy is positively associated with subsequent change in democracy**. **H3b** then proposes that support leads to upturns in democracy, regardless of the existing level of democracy: **the level of public support for democracy is positively associated with subsequent increases in democracy.**

Data

Measuring Democracy

With at least ten different measures in existence (Pemstein, Meserve, and Melton 2010), democracy is perhaps the most-measured concept in social science. The frequency with which scholars have returned to the measurement drawing board indicates, however, that no single measure of democracy has won universal acceptance in the discipline. Indeed, even the three most widely-used measures – the continuous Polity IV and Freedom House (FH) indices and Przeworski and colleagues' dichotomous Democracy-Dictatorship (DD) indicator – have been subject to trenchant criticisms.

In particular, the minimalist Polity and DD measures have been criticized for several omitting important features of democracy, notably, universal suffrage (Munck and Verkuilen 2002). In addition, although the dichotomous nature of the DD indicator affords a conceptual clarity, it leads to lower validity and reliability (Elkins 2000). Continuous measures suffer from their own problems. The latent variable approach of Pemstein, Meserve, and Melton (2010) reveals that both the Polity and FH scales suffer from a fairly high degree of measurement error (see also Treier and Jackman 2008). Both scales also cluster at extreme values, raising the concern that they are not finely-grained enough to pick up variation in highly democratic, or highly autocratic countries (Alexander and Welzel 2011). Indeed, as Pemstein, Meserve, and Melton (2010) show, the Polity measure exhibits a pronounced non-linear relationship with a latent measure of democracy. Finally, the use of specific indicators to measure components of democracy has also been criticized. FH assigns scores to indicators in an opaque fashion (Munck and Verkuilen 2002). All scales furthermore use small groups of raters to score indicators for all countries, which results in lower measurement validity than regionally-specific measures scored by regional experts (Pemstein, Meserve, and Melton 2010).

Such issues of conceptualization and measurement have concerned scholars for some

time. Without a clear solution to this impasse, empirical scholars have stuck to using one (or two) of the big three measures. Fortunately we are now in a position to address these criticisms because of a new measure of democracy provided by the Varieties of Democracy (V-Dem) project (Lindberg et al. 2014). The advantages of the new V-Dem measure are threefold. First, V-Dem uses a far greater number of indicators of democracy than other projects: over 300 in fact, compared with between four (DD) and 22 (FH). Second, V-Dem obtains at least five independent ratings for all indicators, with thousands of country specialists, rather than a few generalists, providing the ratings. Third, V-Dem combines the indicators into scales in a principled fashion. Sub-scales are measured using item response theoretic (IRT) modeling of the item ratings. The sub-scales are then combined in a multiplicative or additive fashion, as demanded by the particular conceptualization of democracy that is of interest. Indeed, V-Dem provides five main measures of democracy, corresponding with five distinct conceptualizations: liberal, participatory, deliberative, egalitarian, and electoral democracy.

Given these advantages in conceptualization and measurement, we use V-Dem data to measure democracy. In particular, we use their "liberal democracy scale," which is a combination of an electoral democracy sub-scale – measuring the political institutions "making rulers responsive to citizens through periodic elections" – and a liberalism scale – capturing the factors "protecting individual and minority rights against a potential 'tyranny of the majority' and state repression" (Varieties of Democracy 2017, 5).[5]

Measuring Democratic Support

We collected all the nationally-aggregated responses to questions on support for democracy that were publicly available at the time of research. We selected survey questions focusing

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[5]In the online supplementary materials we include further comparisons between the V-Dem liberal democracy index and FH and Polity indices. We also provide choropleth plots of V-Dem liberal democracy in 1995 and 2015.

on diffuse, principled support for democracy, and gathered by cross-national survey projects fielding representative national samples of citizens. Relevant questions include those asking respondents to evaluate the appropriateness or desirability of democracy, to compare democracy to some undemocratic alternative, or to evaluate one of these undemocratic forms of government.[6] We did not include survey questions that asked for respondents' evaluations of national political institutions or satisfaction with the performance of democracy because such items have been shown to be empirically and conceptually distinct from diffuse support for democracy (Booth and Seligson 2009; Canache, Mondak, and Seligson 2001). Relevant survey data were available for 11 survey projects, 144 countries, and as far back in time as 1991.[7]

The resulting dataset of support for democracy survey marginals is impressively large in comparison with existing studies of the democracy-support link, with 3,014 country-level responses obtained from 1,165 separate nationally-representative survey samples. It is, however, fractured over time and and space, with gaps in coverage for almost all countries. For example, in South Africa, cross-national survey projects fielded questions on support for democracy in 11 national surveys: the World Values Survey in 1996, 2001, 2006 and 2013, the AfroBarometer project in 1999, 2003, 2005, 2008 and 2012, and Pew Global Attitudes in 2002 and 2013. Despite this fairly regular polling, measures of South African democratic support are only available for ten of the 18 years between 1996 and 2013 – and this is a case

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[6]A complete list of included survey items is included in the online supplementary materials.

[7]In addition to the World Values Survey, our data are drawn from all the Global Barometer projects, the Pew Global Attitudes project, the Comparative Study of Electoral Systems, and the European Social Survey. We excluded data from the World Values Survey for some countries, items, and years due to translation problems. See Kurzman (2014) for further discussion and the online supplementary materials for details.

that has above average coverage.

To make matters worse, the data are further fragmented across numerous survey questions. Indeed, we found at least 37 different survey items in the dataset, depending on how strictly we distinguished between items.[8] Such fractured and unruly data are not easily combined into a single set of latent measures. Indeed, analysts' response to this fragmentation has generally been to discard most of the data and focus only on items collected by one survey project at one point in time, thus creating a small cross-national dataset (e.g., Inglehart and Welzel 2005; Qi and Shin 2011; Welzel 2007). Unfortunately, not only does this result in the neglect of interesting and useful temporal variation, it removes the additional information that is provided by other survey projects and items.

Instead, we apply the dynamic Bayesian latent trait model measurement model developed by Claassen (2018), which is designed to measure "smooth" country-year panels of public opinion when available data are fragmented across space, time, and measurement approach. This model allows us to use all the available survey data that are available, and to measure a full country by year panel of estimates of democratic support. We provide a brief overview of the model below.[9]

First, the model treats the observed number of respondents who offer support for democracy to each relevant survey item as beta-binomially distributed realizations of a latent variable of democratic support. The binomial distribution models the number of respondents offering support to democracy for each item while the beta prior allows for additional

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[8]We use a conservative classification strategy that classes two items fielded by different projects as distinct even if their wording appeared to be identical. Doing so allows our item bias parameters to capture variation induced both by question wording and by idiosyncrasies in the methodology of the various survey projects.

[9]A formal expression of the model, along with further discussion, is provided in the online supplementary materials.

dispersion beyond that due only to sampling error.

Second, regardless of their actual commitment to democracy, respondents tend to agree more readily with some items than others. We therefore include item bias parameters to adjust for the idiosyncrasies induced by survey item wording. These are comparable to intercepts in confirmatory factor analysis, or item difficulty parameters in the item response theoretic (IRT) models.

Third, the model also includes item by country bias parameters, which adjust for the varying effects of survey questions across countries (Stegmueller 2011). For example, some scholars have criticized measures of democratic support that use the word "democracy" because this word has country-specific meanings that might hamper our ability to make cross-national comparisons. We are able to estimate such item by country parameters in addition to item-specific intercepts and time-varying country latent estimates because our survey items are fielded multiple times in a given country.

Finally, the model allows each country's latent estimates to evolve over time by modeling as a random walk process. In other words, latent support for democracy in a particular country and year is thus treated as a function of the support estimated in the previous year plus some random noise. This dynamic component smoothes opinion over time and allows the model to estimate a particular country's democratic support even in years for which no survey data are available.

We use Bayesian Markov-Chain Monte Carlo (MCMC) simulation to apply the model to our dataset of aggregate support for democracy responses, estimating a full country by year panel of democratic support. Although data are available for 145 countries and 24 years, we limit the coverage of this panel as follows. First, we only estimate support for the 132 countries in which survey data were available for at least two separate years. Second, for each country, we drop any estimates obtained for years preceding the first survey that measured support for democracy. In other words, each country's time-series commences the year the first public opinion survey measuring support for democracy was fielded. Third, we

drop countries where the resulting opinion time-series are shorter than five years in length.[10]
Finally, because V-Dem data are not yet available for smaller countries, we also drop Belize
and Bahrain from our dataset. The result is a panel dataset of 2,023 opinion estimates,
drawn from 120 countries, each with time-series ranging from five to 24 years. This dataset
will be the focus of the remainder of the paper.

Using a held-out portion of the support for democracy survey dataset, Claassen (2018)
tests the accuracy the model. It proves to be more accurate than alternatives methods,
including simple country averages but also Caughey and Warshaw's (2015) DGIRT model.[11]
To further bolster confidence in our estimates of support for democracy, we also display them
using a choropleth map (Figure 1). We plot estimates from two years in particular, 2005
and 2015, with countries having higher levels of democratic support shaded in a darker hue
(countries for which estimates are not available are shown in white). These choropleth maps
support three conclusions.

First, support is higher where democracy has a long history – Western Europe, the
USA, Canada, and Australia – and is lower in Asia and North Africa, where the heritage is
authoritarian. This geographic pattern of support is largely consistent with existing research
(e.g., Fuchs-Schündeln and Schündeln 2015; Klingemann 1999; Rose, Mishler, and Haerpfer
1998; Norris 2011), which demonstrates the validity of our estimates. The fact that support is
related to previous levels of democracy also confirms the suspicions of Hadenius and Teorell
(2005) and Welzel (2007) that one needs to consider the effect of democracy on support
before one can estimate the effect of support on democracy.

Second, a comparison of the 2015 and 2005 maps shows that support has softened in
some Western bastions of democracy, including the USA, Canada, France, and the Nether-

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[10]In the online supplementary materials, we replicate our results using the support for
democracy estimates for all available countries and years.

[11]Claassen (2018) also demonstrates that the 37 items are all positively correlated with
the latent variable, most of them strongly so.

Figure 1. Mapping Support for Democracy
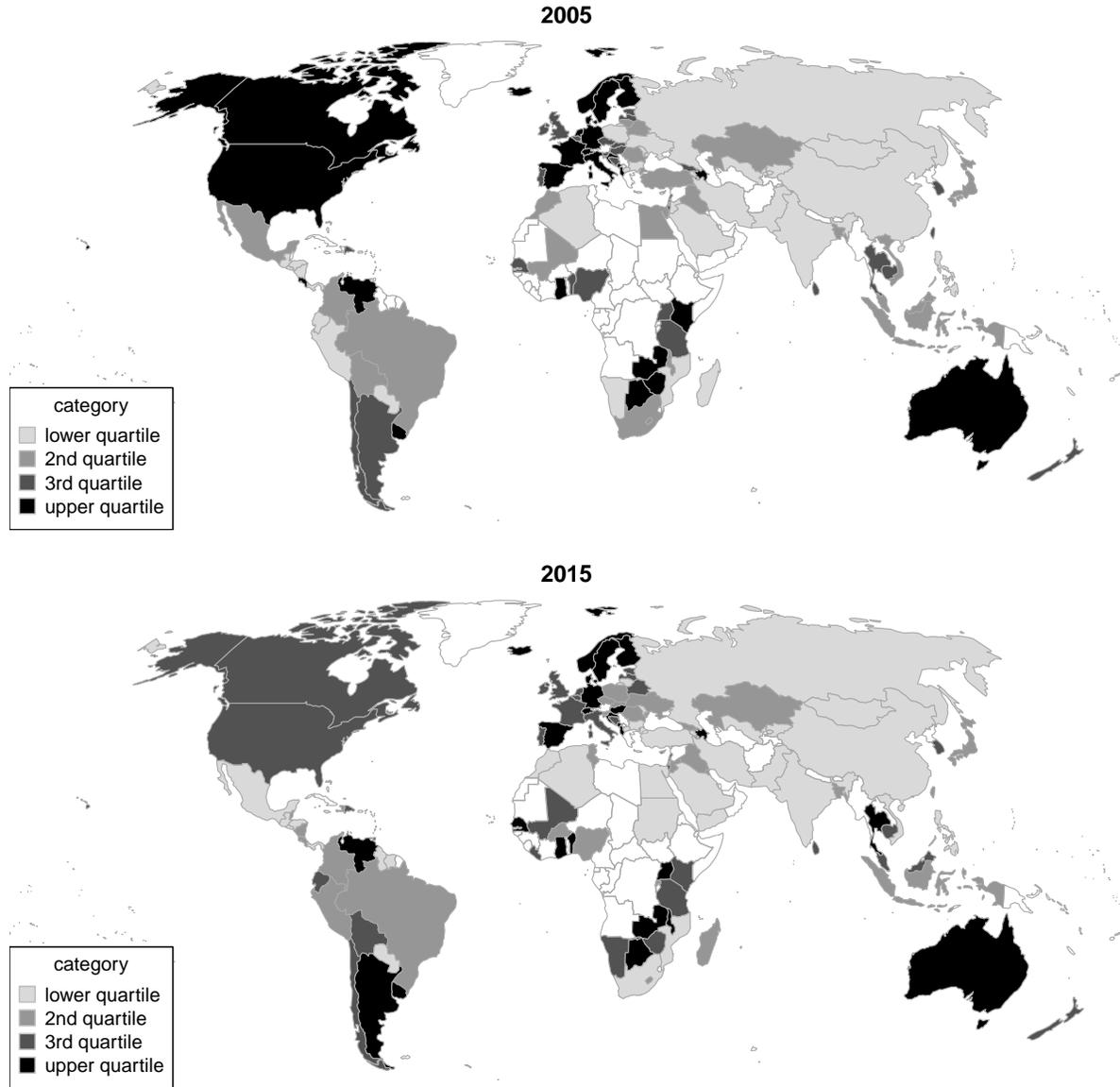
2005

2015

Democratic support in 2005 and 2015. Data are trimmed as described in the text. Quantiles are calculated across all years for which we have data. Darker shades of grey indicate countries with higher levels of support. Countries for which no estimates are available in the given year are shaded white.

lands. This trend is also consistent with other recent analyses (Foa and Mounk 2016; 2017).

Since "signs of deconsolidation" (Foa and Mounk 2017) do seem to be appearing in these

countries, it is all the more urgent to test whether democracy does in fact require public

support.[12]

Third, we observe quite the opposite trend in Africa, particularly in the South and East: high, and rising, levels of democratic support. This pattern is yet another that echoes the findings of existing research (e.g., Bratton and Houessou 2014). In addition, it raises the question of whether higher Africans levels of democratic support could be a sign of democratic consolidation. These questions, of the consequences of support for the stabilization of democracy, are where we turn our attention next.

Empirical Strategy

With data in hand, we are now in a position to explicate and develop our modeling strategy. We begin with some simple linear models of democracy and support. These illustrate two fundamental concerns that one might have with drawing causal inferences from observational panel data and also allow us to demonstrate our responses to these concerns. The first concern is related to the dynamics of democracy and support. In particular, while support may affect democracy, democracy may also affect support. The second concern relates to unobserved features of our cross-sectional units, countries. In particular, there may be other factors that confound any observed relationship between support and democracy.

Modeling Dynamic Relationships Between Support and Democracy

As Model 1.1 (Table 1) shows, there is a strong, positive relationship between lagged democratic support and subsequent democracy when the data are pooled across country and year. However, several interpretation of this relationship are plausible. One interpretation is offered by theory we are testing: support influences the prospects for democratization and democratic survival. However, the opposite effect, from democracy to support, is also con-

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[12]In the online supplementary materials, we include plots of the country and regional trends in support.

Table 1. Basic Models of Support and Democracy

	Level of democracy (d_t)		Change in democracy $(d_t - d_{t-1})$
	(1.1)	(1.2)	(1.3)
Support for democracy (s_{t-1})	13.409*	.213*	.213*
	(.589)	(.083)	(.083)
First lag of democracy (d_{t-1})		1.260*	.260*
		(.021)	(.021)
Second lag of democracy (d_{t-2})		$-.273^*$	$-.273^*$
		(.021)	(.021)
Intercept	51.903*	.722*	.722*
	(.496)	(.158)	(.158)
N observations	2023	2023	2023
N countries	120	120	120
Adjusted R^2	.204	.085	.987
Residual standard deviation	22.284	2.803	2.803

$^*p < 0.05$. Linear models with standard errors in parentheses. Democracy is measured using the V-Dem Liberal Democracy index and is scaled from 0 to 100.

sistent with existing research (Fuchs-Schündeln and Schündeln 2015; Mattes and Bratton 2007). The association we observe in Model 1.1 may simply reflect the influence of prior democracy on current levels of support. One of our tasks is to untangle the effect of support on democracy from the effect of democracy on support. Only then can we test our hypothesis that democracy requires support.

With panel data, analysts can control for the effects of prior levels of the dependent variable on the independent variables by including lags of these prior levels. We use two lags of democracy. This allows us to adjust both for previous levels of democracy and previous changes in democracy. Including lags also helps to eliminate serial correlation in the dependent variable, which could otherwise lead to spurious correlations (Beck and Katz 1996). Using Breusch-Godfrey/Wooldridge tests of serial correlation, we find that two lags are sufficient for this task.[13]

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[13]One lag: $\chi^2 = 130.48$, $df = 5$, $p < .001$; two lags: $\chi^2 = 9.74$, $df = 5$, $p = .083$.

A model including two lags of democracy is shown in Model 1.2, Table 1. The magnitude of the coefficient of support is much reduced, suggesting that a large part of the correlation reported in Model 1.1 was due to some combination of the reverse effects of previous democracy on current support and serial correlation in both support and democracy. Yet the relationship between support and subsequent democracy remains positive and significant.

However, we prefer using change in democracy, instead of the level of democracy, as our dependent variable. The change score allows us to maintain a consistent dependent variable across our various models because we later focus specifically on upturns and downturns in democracy, which require that we measure change. We also examine fixed effects models, which preclude the use of lagged dependent variables. Nevertheless, as several studies have noted (Beck and Katz 2011; De Boef and Keele 2008), when lagged dependent variables are included, the change score and level score approaches produce identical results.

Modeling Unobserved Time-Invariant Confounders

Including lags of democracy adjusts for the effect of previous levels of, and changes in democracy on support. We should also, however, consider other factors that might confound the relationship between support and democracy. The simpler of these to tackle are time- and country-varying factors such as level of development. Such variables can fairly easily be measured and included as controls in our dynamic models (see below). Far harder to deal with are time-invariant factors. Some of these can be measured and included – for example, the percent of each country's population that holds a Muslim identity. Others cannot be easily measured. Studies of democratization frequently make reference to "critical junctures" – idiosyncrasies in the historical path by which democracy developed in particular countries. For example, colonial experiences likely shaped both paths to democracy and political cultures (e.g., Diamond, Lipset, and Linz 1987; Rueschemeyer, Stephens, and Stephens 1992).

To address the problem of country-specific "critical junctures" that may have occurred

decades before our time series begin, we use fixed effects models. These models remove all between-country variance in dependent and independent variables and analyze only the variance within countries. All country-specific factors are, in effect, adjusted out of each national time-series. As such, fixed effects models provide a powerful test of the causal effect of an independent variable on a dependent variable.

Unfortunately we cannot simultaneously tackle the problems of time-invariant country-specific confounds and the effects of previous democracy on current levels of support. Including dependent variable lags and fixed effects in the same model produces a correlation between the lagged dependent variable and the residuals, which compromises coefficient estimates ("Nickell bias"; see, e.g., Beck and Katz 2011).[14]

We therefore use fixed effects models, without lags of democracy, to address the problem of time-invariant, country-specific confounds between democracy and support, and we use dynamic models, with lags of democracy, to address the problem of previous levels of democracy potentially affecting current levels of support. Although the latter models do not include fixed effects, they do include country random effects (i.e., varying country intercepts). This multilevel setup offers a middle ground between a fixed effects / within-country analysis, and a fully-pooled analysis that ignores country effects entirely. Dynamic multilevel models have been proposed for the analysis of panel data more generally (e.g., Shor et al. 2007).

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[14]Imai and Kim (2017) have recently argued that analysts of panel data face an unavoidable trade-off between the desire to control for time-invariant factors and the desire to control for lags of the dependent variable. Purported solutions, such as the Anderson-Hsiao or Arellano-Bond models, require additional assumptions and produce unreliable estimates when dynamic processes are highly autocorrelated (Beck and Katz 2011; Imai and Kim 2017).

Controlling for Time-Varying Confounders

Finally, to adjust for the effects of other measurable factors which might confound any relationship between support and subsequent democratic change, we include several control variables. All, save one, are time-varying. First, following a large literature (e.g., Acemoglu et al. 2008; 2009; Boix 2011; Przeworski and Limongi 1997), we use the *log of GDP per capita* to measure economic development, with data drawn from the World Bank World Development Indicators. Missing values (e.g., for Taiwan) were imputed using linear models applied to GDP per capita data from the IMF and Penn World Tables. We also calculate annual *growth in GDP per capita* using the unlogged versions of these same data. Second, *dependence on natural resource revenues* (Ross 2001) is measured using an indicator for whether a country received greater than $1,000 per capita in revenue from oil and gas production in a given year. The raw data were drawn mainly from the World Bank World Development Indicators, supplemented with data from Haber and Menaldo (2011).[15] Third, some scholars have argued that democracy struggles in countries with an Islamic tradition (Fish 2002). As such, we gather data on the *proportion of a country identifying as Muslim* in 1990 from the Pew Research Centre. Finally, to capture the regional diffusion of democracy (Gleditsch and Ward 2006), we measure the *average level of regional democracy* and *change in regional democracy* for each year (we again use V-Dem Liberal Democracy index data with regions defined as United Nations subregions).

Models

We are now in a position to describe our models more formally. First, to test H1, we model change in democracy ($\Delta d_{it} = d_{it} - d_{it\text{-}1}$), for country i and year t, as a function of level of

[15]A dichotomous indicator is used for two reasons. First, to impute missing values within each country's time series. Second, the revenue data are zero-inflated and skewed, contraindicating a continuous measure.

democratic support s and our set of control variables x. The dynamic multilevel version of the model is as follows:

$$\Delta d_{it} = \alpha + \phi_1 d_{it\text{-}1} + \phi_2 d_{it\text{-}2} + \gamma s_{it\text{-}1} + \sum_{k=1}^{K} \beta_k x_{kit\text{-}1} + \delta_i + \epsilon_{it} \tag{1}$$

Here, the ϕ parameters capture the effects of the first two lags of democracy, β_k are the coefficient estimates for the K covariates, δ_i are $N(0, \sigma^\delta)$ distributed country random effects, and ϵ_{it} are $N(0, \sigma^d)$ distributed residuals. The main parameter of interest here is γ, the short run effect of democratic support on change in democracy.[16]

Hypotheses 2a, 2b, 3a, and 3b relate to the emergence and survival of democracy, rather than general change in democracy. Most scholars have modeled the emergence and survival of democracy using dichotomous measures of democracy (e.g., Przeworski and Limongi 1997; Gleditsch and Ward 2006). It is straightforward to do so because when democracy is high, for example, the regime can either survive, and thus not change at all, or fail, and show a decrease in democracy. It cannot show a further increase in democracy. The initial level of democracy and the direction of change are thus orthogonal (Teorell 2010). Using a continuous measure of democracy, however, both the initial level and direction of change may vary: a country that is democratic at time t may become even more so at $t + 1$, or, instead, it may move toward autocracy. And *vice versa* for an autocratic country.

As such, we have to be a little more ingenious in testing questions of the emergence and survival of democracy when using continuous measures of democracy. To test H2a and H3a, we use a model proposed by Acemoglu et al. (2009) for continuous measures of democracy. They define an indicator $\mathcal{I}_{it}$ for regime type, which takes a value of one if the

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[16]The fixed effects model is then: $\Delta d_{it} = \alpha_i + \gamma s_{it\text{-}1} + \sum_{k=1}^{K} \beta_k x_{kit\text{-}1} + \epsilon_{it}$, with α_i being the country fixed effects.

country is democratic at time t and zero otherwise.[17] The model is then adjusted as follows:

$$\Delta d_{it} = \alpha + \phi_1 d_{it\text{-}1} + \phi_2 d_{it\text{-}2} + \gamma^{dem}(\mathfrak{I}_{it\text{-}1})s_{it\text{-}1} + \gamma^{aut}(1 - \mathfrak{I}_{it\text{-}1})s_{it\text{-}1} + \sum_{k=1}^{K} \beta_k x_{kit\text{-}1} + \delta_i + \epsilon_{it} \quad (2)$$

The indicator $\mathfrak{I}$ thus effectively produce two versions of the explanatory variable, democratic support. The first where support varies only if the regime is democratic at time t, otherwise taking a value of zero; the second where support varies only if the regime is autocratic at time t, otherwise taking a value of zero. There are consequently two parameters capturing the effects of level of support on democratic change. The first γ^{dem} gives the effect of support when the starting point is a democracy; this parameter allows us to test H2a. The second γ^{aut} gives the effect of support when the starting point is an autocracy; this allows us to test H3a.

To test H2b and H3b, which pertain to the effects of support on a particular direction of change in democracy, we use a method developed by Teorell (2010) and Boix (2011). They recode the dependent variable, change of democracy, such that it either captures only increases or *upturns* in democracy, or, alternatively, decreases or *downturns*. Upturns (Δd_{it}^{+}) and downturns (Δd_{it}^{-}) are measured as follows:

$$\Delta d_{it}^{+} = \begin{cases} \Delta d_{it}, & \text{if } \Delta d_{it} \geq 0 \\ 0, & \text{if } \Delta d_{it} < 0 \end{cases}, \qquad \Delta d_{it}^{-} = \begin{cases} 0, & \text{if } \Delta d_{it} > 0 \\ |\Delta d_{it}|, & \text{if } \Delta d_{it} \leq 0 \end{cases}$$

To put it simply, the measure of upturns varies only with increases in democracy. All decreases are set to zero, along with instances of no change in democracy. The measure of downturns similarly varies only with decreases in democracy, with all increases set to zero.[18]

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[17]We use the regime type indicator provided by V-Dem, which utilizes the same basic items as the liberal democracy scale but combines them in a slightly different fashion.

[18]The formula for downturns uses the absolute value of Δd_{it} to ensure that the resulting

With two versions of the dependent variable, the approach of Teorell (2010) and Boix (2011) requires two separate models:

$$\Delta d_{it}^+ = \alpha + \phi_1 d_{it\text{-}1} + \phi_2 d_{it\text{-}2} + \gamma^+ s_{it\text{-}1} + \sum_{k=1}^{K} \beta_k x_{kit\text{-}1} + \delta_i + \epsilon_{it} \tag{3}$$

$$\Delta d_{it}^- = \alpha + \phi_1 d_{it\text{-}1} + \phi_2 d_{it\text{-}2} + \gamma^- s_{it\text{-}1} + \sum_{k=1}^{K} \beta_k x_{kit\text{-}1} + \delta_i + \epsilon_{it} \tag{4}$$

Model 3 tests the effects of support on increases in democracy, thus allowing us to test H3b. Model 4 then isolates the effect of support (and indeed, all independent variables) on decreases in democracy, and thus allows us to test H2b.

Results

Effects of Support on Democratic Change

We begin with the tests of H1, our general hypothesis, that level of support is positively associated with subsequent change. We first use the dynamic multilevel specification, followed by the fixed effects model. As Model 2.1 in Table 2, shows, support is positively and significantly related to subsequent change in democracy. The magnitude of the effect is very similar to that reported in Table 1, Model 1.3, although country random effects and covariates have now been added.

The coefficient of support in Model 2.1 – 0.22 – is the estimated short-run effect of a one standard deviation increase in support on change in democracy the subsequent year. Since our measure of democracy has a theoretical scale that ranges from 0 to 100, the magnitude of the effect of support is thus fairly small in the short term. However, the dynamic nature of the model allow us to estimate both short and long-run effects (De

measure of "downturns" increases in a positive, rather than negative direction. As such, higher values of "downturns" reflect larger downturns.

Table 2. Dynamic Models of Support and Democratic Change

	Change in democracy		Upturns in democracy	Downturns in democracy
	(2.1)	(2.2)	(2.3)	(2.4)
Democratic support, all countries	.218* (.085)		.092 (.069)	−.184* (.065)
Democratic support, democracies only		.236* (.097)		
Democratic support, autocracies only		.174 (.158)		
First lag of democracy	.261* (.023)	.261* (.023)	.148* (.016)	−.092* (.014)
Second lag of democracy	−.284* (.022)	−.284* (.022)	−.170* (.016)	.100* (.014)
Log GDP per capita	.050 (.084)	.047 (.085)	.049 (.067)	−.003 (.063)
Regional average democracy	.009 (.005)	.009 (.005)	.007 (.004)	−.006 (.004)
Change in regional democracy	−.075 (.056)	−.075 (.056)	−.050 (.041)	.017 (.035)
GDP per capita growth	.007 (.012)	.007 (.012)	−.022* (.009)	−.028* (.008)
Proportion Muslim	−.074 (.247)	−.092 (.253)	−.274 (.203)	−.120 (.197)
Dependence on fuel income	−.667* (.251)	−.672* (.253)	−.735* (.206)	−.016 (.199)
Intercept	.333 (.658)	.369 (.667)	1.264* (.526)	.726 (.496)
N observations	2023	2023	2023	2023
N countries	120	120	120	120
Akaike information criterion	9966	9969	8679	8053
Country standard deviation	.115	.137	.294	.375
Residual standard deviation	2.795	2.795	2.015	1.711

$^*p < .05$. Multilevel linear models with standard errors in parentheses. Democracy is measured using the V-Dem Liberal Democracy index and is scaled from 0 to 100. All explanatory variables are lagged one year, unless otherwise indicated.

Boef and Keele 2008). In the long run, increases in explanatory variables can have much larger effects when the dependent variable is persistent over time, as democracy clearly is. According to Model 2.1, a permanent one-standard-deviation increase in democratic support is expected to lead to an increase in democracy of 9.72 units (S.E. = 4.12) in the long run.[19]

In sum, we find evidence that support for democracy is positively associated with subsequent change in democracy. As such, this finding resonates with earlier, cross-sectional research by Inglehart (2003) and Inglehart and Welzel (2005), but stands in contrast to the null findings of Hadenius and Teorell (2005) and Welzel (2007). However, our analysis goes substantially further than these studies since our evidence is drawn from a much larger sample of countries and years. The temporal dimension of our data allows us model the dynamic relationships between support and democracy, and – in particular – adjust for the effects of previous levels of and changes in democracy on current levels of support.

However, although Model 2.1 controls for lagged democracy and other time-varying factors, it does not control for time-invariant factors (other than percent Muslim). To test whether the support shows an association with subsequent democratic change relationship after adjusting for all country-specific factors, we run fixed effects models, presented in Table 3.

Model 3.1 (Table 3) replicates Model 2.1, but with country fixed effects and without lags of democracy. The effect of within-country support on democratic change is still positive and significant. The magnitude of the coefficient is now substantially larger (.61 vs. .22) compared with the dynamic specification, but estimated with considerably more uncertainty (the standard error is .30 vs. .09). Nevertheless, the coefficient is again positive and significant. We can thus conclude that democratic support is robustly associated with subsequent democratic change, whether we adjust for previous democracy or for unobserved, country-specific factors. Indeed, as we report in the online supplementary materials, results

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[19]The formula for the long run effect is $-\gamma/(\phi_1 + \phi_2)$. The standard error is estimated by bootstrapping.

Table 3. Fixed Effects Models of Support and Democratic Change

	Change in democracy		Upturns in democracy	Downturns in democracy
	(3.1)	(3.2)	(3.3)	(3.4)
Democratic support, all countries	.610*		.434*	−.175
	(.303)		(.182)	(.256)
Democratic support, democracies only		.720*		
		(.298)		
Democratic support, autocracies only		.311		
		(.526)		
Log GDP per capita	−.460	−.503	−.042	.418
	(.342)	(.349)	(.181)	(.283)
GDP per capita growth	.008	.006	−.021*	−.029*
	(.014)	(.013)	(.010)	(.010)
Regional average democracy	−.155*	−.155*	−.107*	.047
	(.050)	(.050)	(.036)	(.032)
Change in regional democracy	.173*	.161*	.109*	−.063*
	(.067)	(.066)	(.053)	(.038)
Dependence on fuel income	.250*	.207	.499*	.250*
	(.106)	(.131)	(.069)	(.072)
N observations	2023	2023	2023	2023
N countries	120	120	120	120
R^2	.026	.027	.020	.021
Residual standard deviation	2.868	2.865	2.063	1.726

$^*p < 0.05$. Fixed effects linear models with robust standard errors clustered by country in parentheses. Democracy is measured using the V-Dem Liberal Democracy index and is scaled from 0 to 100. All explanatory variables are lagged one year, unless otherwise indicated.

are substantively similar if we (1) use OLS with panel-corrected standard errors rather than multilevel models; (2) include all countries and years for which we have any support for democracy estimates (i.e., do not "trim" the time-series); (3) include income inequality and ethnolinguistic fractionalization as additional covariates; and (4) drop Western countries from the analysis.

Effects of Support on Democratic Emergence and Survival

The models presented thus far (Model 2.1 and Model 3.1) suggest a general relationship between support and change in democracy. We now examine more specific processes that might underpin such a general relationship. In other words, is support linked with democracy by aiding the emergence of democracy or its survival? To examine these more specific processes, we turn to our tests of the remaining hypotheses.

Model 2.2 (Table 2) and Model 3.1 (Table 3) follow Acemoglu et al. (2008) in separately estimating the effects of support within democratic and autocratic regimes. Results from both the dynamic and fixed effects specifications tell a similar story: within democracies, support is positively and significantly associated with subsequent changes in democracy; within autocracies, the effect is smaller and insignificant (although still positive). As such, the evidence from our data is consistent with H2a, but not consistent with H3a.

The third and fourth models in Tables 2 and 3 then follow Teorell (2010) and Boix (2011) in creating separate measures of democratic upturns (Models 2.3 and 3.3) and democratic downturns (Models 2.4 and 3.4). Is support associated with the emergence of democracy (H2b; Models 2.3 and 3.3)? Or, is it associated with the stabilization of democracy (Hbb; Models 2.4 and 3.4)? The results vary across our model specifications. Under the dynamic specification (Table 2), support has a weak and insignificant effect on democratic upturns, but a significant, negative effect on downturns. Under the fixed effects specification (Table 3), in contrast, support has a positive and significant effect on democratic upturns, but a weak and insignificant effect on downturns.

Thus, in sum, the evidence from Models 2.2 to 2.4 and 3.2 to 3.4 points toward support having possible effects on both democratic emergence and democratic survival. To be sure, most of the evidence – three of our four tests – is consistent with support shoring up already existing democracy. Yet the results of the fixed effects, upturns/downturns specification suggests that support might also drive democratization. Nevertheless, despite some uncertainty regarding the process by which support and democratic change are linked, our

results are consistently affirmative when it comes to the presence of this link itself.

Conclusion

From Latin America to Western Europe, Africa to North America, democracy is being undermined by authoritarian and populist leaders. The findings described in this paper are consistent with a classic theory for why this might occur – the support afforded to democracy by the public. As scholars such as Diamond (1999) and Rose, Mishler, and Haerpfer (1998) have long argued, if support is low, emerging democracies might fail to consolidate, or even descend into autocracy. Moreover, although Western democracies were thought to have consolidated, and thus escaped this purgatory, our evidence bolsters recent warnings that declining Western support for democracy might lead to even established democracies becoming "deconsolidated" (Foa and Mounk 2016; 2017).

While most of our evidence points toward support helping democracy to survive, we do find some evidence, from one out of our four tests, that support might also function as "demand for democracy" and drive further democratization (e.g., Qi and Shin 2011). It is perhaps not terribly surprising that support is more closely linked with bolstering and defending already-existing democratic rights and institutions, rather than pushing elites to establish these institutions or expand these rights. While political competition makes democracies at least somewhat responsive to public opinion – including opinion about whether the regime should be democratic or not – autocratic elites are arguably less pressured by popular sentiments. They also are more willing and able to suppress popular demands if need be.

In order to test the effects of support on democracy we gathered an expansive database of over 3,000 nationally-aggregated opinions, and estimated a smooth country-by-year panel with over 2,000 observations. We were thus able to increase the amount of available data on democratic support by an order of magnitude, with variation now over time as well as space. Yet by the standards of, for example, the literature on development and democracy, our data are still quite limited in geographic and temporal range. In particular, survey measures of

support for democracy begin only after the third wave of democracy crested in 1991. As a consequence, we cannot be sure that our findings pertain to previous periods of democratic decline, such as the "reverse wave" seen in the 1960s and 1970s. Indeed, the literature on development and democracy has shown that the link between the two has varied considerably over time (e.g., Boix 2011; Acemoglu et al. 2009).

We have also focused here on one variant of public support for democracy: explicit support. Inglehart and Welzel have argued instead that a more heterogenous and deeply-rooted cluster of cultural values provide implicit support for democracy (Inglehart and Welzel 2005). It would be a fruitful avenue for further research to investigate whether such "self-expression" values do indeed help sustain democracy, or perhaps even help it to emerge.

Our paper has also been silent on the mechanisms by which support bolsters democracy and lack of support undermines it. Perhaps low support allows populist and undemocratic leaders to emerge (Foa and Mounk 2016; Plattner 2017); in contrast, when such leaders attempt to undermine democratic procedures, perhaps high support triggers collective action by an outraged public (Booth and Seligson 2009). Given the current challenges to democracy, these are crucial question for scholars to investigate.

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