



# Empirical Dimensions of Electoral Democracy

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# Empirical Dimensions of Electoral Democracy\*

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## Abstract

This paper investigates conceptual ambiguities concerning the dimensionality of democracy and what it can tell us about political development. We explore variation in components of the Electoral Democracy Index from the Varieties of Democracy Project and evaluate the strength of their relationships to democratization and democratic stability. Factor analysis of these indicators reveals three latent dimensions that have different impacts on regime change. Regimes with greater levels of civic freedoms are associated with an increased likelihood of democratic transition and stability, whereas regimes in which suffrage was most predominant are among the least democratic. The three dimensions show noteworthy trends over time and space and constitute patterns that support conclusions about “paths to polyarchy” (Dahl 1971). The results challenge the notion that electoral democracy is two-dimensional and promote, instead, civic freedoms, vote quality, and suffrage as three distinct dimensions.

# Introduction

Does democracy consist of multiple underlying dimensions? If so, what do these dimensions represent, and do they matter for democratic development? Though scholars have theorized about the dimensionality of democracy,<sup>1</sup> until now empirical assessments of such dimensions have been difficult and comparatively few tests of latent dimensions exist.<sup>2</sup> In part, this is because data collection on aspects of democracy and the use of various democracy measures to discern patterns of democratization were only partially concerned with measuring the features on which such arguments were based. Considering the way in which the research on democracy and democracy measurement emerged points to an early divergence between conceptualization regarding dimensions of democracy and the criteria used to judge them, which, along with other issues, has had lasting impacts on scholars' conclusions about democracy across countries.

On a conceptual level, the work of Robert A. Dahl 1956; 1971; 1989—specifically, *Polyarchy*—has been highly influential because of its characterization of democracy as the product of institutional guarantees that form two core dimensions: contestation and participation. However, early measurements of democracy (e.g., Gurr 1974) focused on identifying differences in authority patterns. Subsequent crossnational work that involved democracy measures borrowed from both influences while also engaging in broader debates about concept and measurement validity. Though this area of research is rich with discussions about how to properly measure democracy, the research on democratic development has largely been influenced by a conceptualization of it that did not perfectly correspond to the empirical approaches used to measure it. There is, therefore, some mismatch between the early notions of “contestation” and “participation” and the multiplicity of measurements by which scholars have represented components of democracy. Beyond this, there is also some ambiguity about the concepts, and in turn, dimensions of democracy. Highlighting these issues rationalizes a more critical assessment

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<sup>1</sup>For example Dahl (1971), Schumpeter (1950), Gurr (1974), Gates et al. (2006), Miller (2015) or Boese et al. (2020).

<sup>2</sup>Bollen and Grandjean (1981), Coppedge et al. (2008) and Miller (2015) provide notable studies of such a difficult endeavour.

of whether such dimensions exist and greater scrutiny of the data used to represent them. The results have important implications for comparative political development, including extant conclusions about the relationship between democratic features and growth and the likelihood of democratic transitions and democratic survival (Armijo and Gervasoni 2010; Boix and Stokes 2003; Miller 2015; Przeworski et al. 2000; Wright 2008).

In light of the early work on underlying dimensions of democracy, the challenge of distinguishing between features that may represent them, and empirical treatments of democracy, we reassess the dimensions of electoral democracy conceptually as well as empirically. We examine 24 indicators that are part of the Electoral Democracy Index (EDI)<sup>3</sup> by the Varieties of Democracy Project (V-Dem). These indicators were based on the institutional guarantees outlined by Dahl (1971). Through factor analysis, we evaluate the extent to which the measures fall into different latent dimensions and how they have changed over time. We also consider how these dimensions relate to one another and how they affect the likelihood of both transitions to democracy and the survival of existing democracies.

Our results show that the indicators that compose the EDI fall into three latent dimensions corresponding to civic freedoms (civil liberties and media freedoms), vote quality (the fairness of votes in unrigged elections) and suffrage (the ability to exercise that vote). If one were to define participation as suffrage only, then the concept of contestation clearly emerges as two dimensions that represent election quality and civil liberties. If, on the other hand, participation were to be defined more broadly<sup>4</sup>, then electoral democracy falls into three distinct dimensions that are not easily mapped back onto contestation and participation.

Our analysis of global trends since 1900 reveals “waves” in which the majority of countries in each is characterized by regimes with a different predominant dimension. These waves roughly coincide with the waves of democratization identified by Huntington (1991). We also show that there are clear patterns of transition from one regime type to the other. Regimes in which suffrage is the most predominant dimension, for example,

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<sup>3</sup>*v2x\_polyarchy*, Source: Coppedge et al. (2020).

<sup>4</sup>As, for example, in the Broad Participation Model described by Boese et al. (2020).

are those with the lowest values of the EDI. When they develop into another type of regime, in the vast majority of cases they transition into regimes characterized by greater civic freedoms but low levels of vote quality.

When we consider differences between these factors, we observe that these notable trends over time help to explain which elements Dahl (1971) stressed and that they distinguish “third-wave” democratizers from previous transitions. Changes between the three dimensions follow common patterns that are valuable for explaining both transitions to democracy and democratic survival. Moreover, differentiating between the government’s ability to hold quality elections and citizens’ freedoms to engage in the democratic process provides a basis for qualifying varieties of non-democracy—specifically, those that may be considered electoral authoritarian regimes (Miller 2020; Morse 2012; Schedler 2006). Reevaluating past conclusions about dimensions of democracy, with a focus on concept validity, thus offers clearer insights into how democracies emerge as well as the pathways that prevent them and encourages further research on the dynamics between these dimensions.

In the following, we first provide a detailed review of previous theoretical and empirical work on democracy’s dimensions as well as of the main challenges in this area of research. Second, we outline our approach to obtaining latent variables, discuss the contents of each, and demonstrate their face validity using specific country examples. We then test the importance of the dimensions for democratization and democratic survival by replicating Miller (2015). As previous theories (e.g., Dahl 1971) and the results for these two last sections suggest, the relative strength of each dimension in comparison to the others matters for democratic transitions and survival. We therefore examine rank orderings between the dimensions and the paths through which democracy developed. The paper concludes with a discussion of our findings and their importance for research on comparative political development.

# The Challenges of Measuring Democratic Dimensions

There is widespread agreement that contestation and participation are fundamental building blocks of a minimalist standard of democracy, as defined by publicly contested elections (Boix et al. 2013; Cheibub et al. 2010; Przeworski et al. 2000; Schumpeter 1950). Here, we develop the argument that early conceptualization about these dimensions—and dimensions of democracy more generally—has been only partially tested and verified. Dahl argued that democracy developed along two lines, but subsequent empirical work became clouded by different focuses and data from alternative sources. Several issues therefore remain regarding dimensions of democracy and how they have changed over time, which has important implications for research on democratization and development.

## Measuring Democratic Dimensions

The origins of the minimalist definition of democracy can be traced back to Schumpeter (1950) and into the 1970s, when a number of scholars began to think about ways of conceptualizing and measuring democracy (Dahl 1971; Gurr 1974).<sup>5</sup> Dahl (1971) was one of the first to conceptualize attributes of democracy beyond voter turnout (Bollen 1980).<sup>6</sup> In *Polyarchy*, they<sup>7</sup> contemplated the conditions that supported democracy—a regime in which opposition organizes into parties and openly participates in free and fair elections—, arguing that eight “institutional guarantees” were required for citizens to be able to formulate and signify their preferences and to have those preferences weighted equally in the conduct of government. These guarantees include the freedom to form and join organizations, the freedom of expression, the right to vote, the right to be eligible for public office and compete for political support, alternative sources of information, free and fair elections, and institutions that are dependent upon votes and the expression of preferences. Dahl (1971) concluded that these guarantees supported democracy along two distinct dimensions, to which they referred as *public contestation* and *inclusiveness*.

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<sup>5</sup>We are abstracting from philosophers such as Plato and referring to modern day/20<sup>th</sup>-century research on democracy conceptualization and measurement here.

<sup>6</sup>See also Dahl (1956).

<sup>7</sup>Throughout the paper we use gender neutral language.



According to Dahl (1971), *contestation* concerned the “extent of permissible opposition, public contestation, or political competition,” while inclusiveness—or *participation*—was the “proportion of the population entitled to participate... in controlling and contesting the conduct of the government” (pg. 4). Differences in the level of public contestation and inclusiveness (participation), they argued, represented different types of regimes. *Closed hegemonies* exhibited low levels of contestation and participation, whereas *competitive oligarchies* had high levels of contestation and low levels of participation and *inclusive hegemonies* had the opposite. *Polyarchies*, or the most democratic regimes, had high levels of both contestation and participation.

Beyond introducing these dimensions, Dahl (1971) also theorized about their importance for democratic transitions and survival. They concluded that increasing participation first or in tandem with contestation was more difficult because it entailed a need to reconcile the potentially divergent preferences of a large number of people. More inclusive arrangements require the coordination of individuals with more diverse preferences and involve greater distributive pressures, which increase the threat of dissolution and conflict (Boix 2003; Haggard and Kaufman 1999; Huntington 1968). Instead, where elites were able to settle the terms of competition—to resolve mutual security dilemmas and practice without public pressures—, they should more reliably develop into polyarchies, for which competitive elections involving a small group of elites best supported the establishment of rules and norms prior to admitting new actors. Dahl (1971) anticipated greater stability in the contestation-first pathway to polyarchy, arguing that it should be easier to first establish political consensus among a small group of people with relatively homogeneous preferences and then open up political space.

The ability to bear out claims about political development and the dimensionality of democracy was limited by, among other things, the novelty of empirical approaches and the lack of available data. Within a few years of the publication of *Polyarchy*, however, notable contributions to the measurement of democracy occurred (Gurr 1974; Eckstein and Gurr 1975). Gurr (1974) was initially not concerned with characterizing democracy, but with identifying the patterns of authority that induced political stability within

a polity. They differentiated between the openness of executive recruitment, decision constraints on the chief executive, extent of political participation, scope of governmental control, and complexity of government structures. Gurr (1974) nevertheless argued that differences in authority patterns enabled one to distinguish between democratic and autocratic polities, respectively characterizable by “multiple institutionalized centers of power” versus “the institutionalized monopolization of power” and anocratic polities, which lack power and institutions.

Gurr (1974) suggested that the nominal descriptors—e.g., “competitive” versus “ascriptive” forms of executive recruitment—could be used to create scales, given assumptions about their relative ordering. Although they noted that “many quite different operationalizations of the dimensions are equally or more appropriate” (Gurr 1974, pg. 1486), the approach advocated using the categories to develop indicators of “degree”. Gurr further developed the notion of authority patterns, leading to the creation of the Polity dataset. Based on the ordering of qualitative attributes related to the competitiveness of political participation, the openness and competitiveness of executive recruitment, and constraints on the executive, Eckstein and Gurr (1975) created an eleven-point Democracy scale as well as a similar scale for Autocracy that also accounted for the regulation of participation. The annual codings of authority traits gained traction in the 1980s to quantitatively represent democracy and autocracy, used by scholars such as Harmel (1980) and Lichbach (1984), and especially so in the 1990s.<sup>8</sup> In a subsequent update and extension of the Polity data, Jagers and Gurr (1995) subtracted the autocracy and democracy indices to create a single index that was employed to explain outcomes such as regime change (e.g., Gurses 2011) and conflict (e.g., Chiozza 2002).

A number of other continuous measures and indices of democracy proliferated in the 1990s, examples of which include Arat (1991), Coppedge and Reinicke (1990), Hadenius (1992), and Vanhanen (1990).<sup>9</sup> Discussion followed in the literature about the differences between the various democracy measures and issues related to concept and measurement validity (Adcock and Collier 2001; Bollen 1993; Casper and Tufis 2003; Elkins 2000;

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<sup>8</sup>See also Jagers and Gurr (1995).

<sup>9</sup>For a review of different measures of democracy, see Munck and Verkuilen (2002).

Munck and Verkuilen 2002; Schmitter and Karl 1991).<sup>10</sup> The conceptual challenge of measuring democracy, and the multiplicity of measures representing different aspects, also inspired efforts to identify latent estimates of democracy and associated dimensions from multiple measures (Bollen 1993; Coppedge et al. 2008; Miller 2015; Pemstein et al. 2010; Coppedge et al. 2018).

## The Challenges

Notwithstanding the progress in empirical indicators of democracy and the research they enabled, the question remains whether there are dimensions to democracy, and if so, what they are. A brief survey of the state of the art on the conceptualization and measurement of democracy underscores a divergence between early ideas about how democracy develops (e.g., Dahl 1971) and the measures that were used to evaluate them. Few datasets were explicitly concerned with creating measures that lined up with the institutional guarantees that Dahl (1971) outlined, making it difficult to validate claims about contestation and participation existing as separate dimensions on the basis of those guarantees.<sup>11</sup> Elaborating on the shape of democracy by constructing dimensions from multiple datasets is further complicated by the challenge of identifying the contributions of various features to each dimension. This, we argue, has had downstream effects on conclusions about the concept of democracy and patterns of democratization. Though the concepts of contestation and participation are theoretically appealing to many scholars, whether they exist as separate aspects of democracy has been obscured by challenges related to concept and measurement validity.

There are three primary issues that exemplify why the question should be revisited. The first is that it is not readily apparent how many dimensions there should be. Though Dahl (1971) theorized that democracy may be divisible into two, other scholars suggested that it might be more complex. Coppedge (2002), for example, referred to polyarchy as “a two-dimensional shadow of democracy” (pg. 36). They argued that “[t]he first

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<sup>10</sup>To date, there still does not seem to be a consensus over how to adequately measure democracy; see, for example, Boese (2019) or Skaaning (2018).

<sup>11</sup>One exception to this is Coppedge and Reinicke (1990), although they faced some limitations associated with the temporal domain of their coverage that we note elsewhere.

dimension..., contestation, has hidden qualities that have been ignored or taken for granted” (pg. 36) and that “inclusiveness itself may consist of two dimensions” (Coppedge 2002, pg. 37). Others asserted that democracy is differentiable into *three* dimensions that represent participation, electoral contestation, and executive constraints (Gates et al. 2006; Boese et al. 2020).

At the same time, many treatments focus on measuring democracy as a single dimension. Indeed, the creators of the Polity dataset later included the unidimensional Polity scale due to “its common usage by users in quantitative research” despite the fact that “the simple combination...runs contrary to the original theory stated by Eckstein and Gurr in *Patterns of Authority* (1975)” (Marshall et al. 2017, pgs. 16-17). Pemstein et al. (2010) combined information from ten different democracy scales to create a unified measure of democracy that is “at least as reliable as the most reliable of the component measures” (pg. 446). Though potentially valuable for gauging “democraticness”, such measures necessarily gloss over differences in underlying elements and require users to at least implicitly assume that change in democracy occurs along one dimension.

The question of whether democracy comprises multiple dimensions, and if so, how many there are, overlaps with a second issue concerning conceptual ambiguity—or *what* they are. Dahl (1971), for example, treated suffrage as the core feature of participation while also noting that “[t]he right to vote in free and fair elections...partakes of both [contestation and participation]” (Dahl 1971, pg. 4). They also recognized that “as the electorate grows, the traditional, mainly informal arrangements that worked well enough with a tiny group of voters... are simply inadequate” (pgs. 24-25) and that “the need to mobilize a bigger electorate triggers off the development of ‘modern’ party organizations” (Dahl 1971, pg. 24). As such, Coppedge (2002) argued that “inclusiveness should be more than just voting” (pg. 36). Still, whether political parties are more indicative of one dimension or another is not straightforward.

The third issue is that combining together measures of democracy that focused on different attributes may weaken validity as much as it might strengthen it. According to Munck and Verkuilen (2002), “the decision to draw, if to different degrees, on Dahl’s (1971,

pp. 4-6) influential insight that democracy consists of two attributes—contestation or competition and participation or inclusion—has done much to ensure that [the] measures of democracy are squarely focused on theoretically relevant attributes” (pg. 9). The set of “theoretically relevant attributes” encompassed by different datasets is nevertheless quite broad, as various operationalizations of democratic features were not focused on the same criteria. For Alvarez et al. (1996), democraticness in the minimalist sense was represented by the extent to which the executive and legislature are elected, while others distinguished between political liberties and the selection process (Bollen 1980). Still others, such as Freedom House, qualified countries based on political rights and civil liberties.<sup>12</sup>

Even measures that drew on the notions of contestation and participation differed considerably. Arat (1991), for example, measured “participation” based on executive and legislative selection, legislative effectiveness, and the competitiveness of the nomination process, and “competitiveness” based on party legitimacy and party competitiveness. Many datasets that spanned the post-WWII era also overlooked the participation dimension, since universal suffrage could be taken for granted. Even Coppedge and Reinicke (1990), who attempted to match the attributes to the institutional guarantees identified by Dahl, resorted to focusing on contestation alone. Scholars may therefore have been influenced by the way in which Dahl (1971) conceived of democratic dimensions but did not share a consensus on how to represent them.

The latent-variable approach to measurement acknowledges that particular constructs are difficult to observe and leverages multiple measures of related (correlated) phenomena to represent an underlying concept (Pemstein et al. 2010). Several scholars approached the dimensions question by using latent representations of inclusiveness and competitiveness to bear out arguments about trends in democratic development. Coppedge et al. (2008), for example, used principal component analysis on multiple measures of democracy attributes between 1950 and 2000 and identified two dimensions that they interpreted as representing contestation and inclusiveness, concluding that the

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<sup>12</sup>It bears mentioning that Dahl does not seem to be a leading inspiration behind the Polity data, as Dahl was never mentioned in the codebook or the presentation of data, though they were cited in Jagers and Gurr (1995).

placement of regimes and patterns over time validated Dahl (1971). Similarly, Miller (2015) used principal component analysis on a variety of indicators of democracy—closely resembling the approach of Coppedge et al. (2008)—, to produce composite measures of contestation and participation from 1815 onward, noting that higher levels of contestation over participation occurred in electoral regimes prior to 1940, after which participation appeared to overshadow contestation.

Though it can help to reduce idiosyncratic errors and uncertainty between measures, the effectiveness of the latent-variable approach as a form of “intercoder validation” depends on whether they are focused on the same concepts. To the extent that various datasets operationalized the concepts of contestation and participation differently (if at all), combining them together using a latent-variable approach incorporates different definitions and measurements that could make the latent indicators *less* valid representations of specific dimensions. That is to say, it may exacerbate the discrepancy between the definition and measurement of specific concepts, making it less clear what the dimensions are and how they support or undermine specific theoretical expectations. For example, the latent estimates of participation that Coppedge et al. (2008) and Miller (2015) created derived from disparate information that included adult suffrage, legislative selection, women’s political rights, effective executive selection, and an index of participation, while their estimates of contestation incorporated *Political Rights* from Freedom House, *Competitiveness of Participation* and *Executive Constraints* from Polity, and measures of party legitimacy and legislative effectiveness (Banks 1976). The latent-variable approach improved on validating and testing the concepts of contestation and participation in some ways but entailed combining several different attributes from varied sources that diverged from how they were initially conceptualized by scholars such as Dahl (1971).

All three of the aforementioned issues are present in the longstanding debate in comparative politics concerning the measurement of democracy and its subcomponents.<sup>13</sup> Some use a deductive, “top-down” approach, selecting and aggregating measures to

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<sup>13</sup>See Seawright and Collier (2014) on measurement validation and Munck and Verkuilen (2002) for summaries, comparisons, and criticisms of [then] prominent datasets on democracy.

represent an already established concept. The Electoral Democracy Index from the Varieties of Democracy Project, which combines estimates to capture the institutional guarantees outlined by Dahl (1971), exemplifies a deductive approach to index construction. Applications such as Coppedge et al. (2008) and Miller (2015) were more concerned with a “levels of measurement approach” (Seawright and Collier 2014), using lower-level variables to represent specific concepts. Others take a more inductive, “bottom-up” approach, examining a variety of regime qualities and inferring broader attributes based on trends in the data.

On the question of how to construct measures that represent elements of democracy, interesting parallels can be made to the question of selecting between dichotomous and continuous measures discussed by Collier and Adcock (1999). Drawing on Sartori (1987), the authors compared between “object concepts” and “property concepts” (Collier and Adcock 1999, 543-545). Concept formation involves deciding whether object or property concepts are the most logically appropriate treatment. However, Collier and Adcock (1999) warned against the prospect of “reification” of bounded wholes based on the “tacit belief” of one’s ability to accurately identify concepts:

“if a particular name resonates primarily due to this tacit belief, rather than because it provides an analytically appropriate slicing of reality, then this name can become a slogan that is employed in a sloppy and uncritical manner, with serious risk of reification. One possible consequence could be that the idea of bounded wholes is uncritically embraced for the wrong reasons.”

(pg. 544).

One possibility is that scholars’ adherence to contestation and participation reflects the perpetuation of beliefs in bounded wholes and not the most appropriate way to depict democratic development. Moreover, “in the face of changing social reality, shifting definitions of the subject matter, and evolving theoretical understanding and empirical knowledge, conceptualizations... can subsequently break down” (Collier and Adcock 1999, 544).

In this paper, we occupy a position somewhere between a conceptual and empirical approach to describing democratic changes over time. We use item-level attributes whose construction was informed by Dahl (1971)—in an inductive way—to validate and expound on conceptual dimensions of democracy. We therefore do not establish the concepts that we expect to measure up front, but interpret the relationships between items as features that affect how democracies develop. Our approach is closer to the “pragmatic” tradition identified by Seawright and Collier (2014), which is concerned with how indicators are applied to describe and test dynamics involving democratization.

Despite empirical support for the idea that democracy may have multiple dimensions (Coppedge et al. 2008; Miller 2015), there are reasons to remain skeptical about whether the question has been satisfactorily answered. Research trends in the conceptualization of democracy, the measurement and construction of continuous indices, and methods for validating the dimensionality of the data exemplify the need to more carefully consider whether contestation and participation are distinct dimensions and, if so, how they have changed over time. The importance of this question is underscored by the conclusions of Bueno de Mesquita et al. (2005), who find that political participation in the form of multiparty competition—rather than the means of executive recruitment—may matter more for reducing human rights abuses: “Elections (indexed as the highest score on the executive competition dimension) neither make a democracy nor are they inherently the best place to begin statebuilding. Instead, elections are effective when other institutional changes that ensure accountability are put into place” (Bueno de Mesquita et al. 2005, pg. 456). There are, therefore, valuable implications for the state of the art on democracy and political development that come from re-examining democracy’s dimensions. In the following sections, we answer this question using data that were initially constructed with the eight “institutional guarantees” in mind.



## Research Design

To reexamine the extent to which democracy is differentiable into “contestation” and “participation”, we utilize the most recent version (version 10) of the Varieties of Democracy (V-Dem) data (Coppedge et al. 2020). The V-Dem Project provides data informed by the preceding theoretical and empirical discussions on the construction of democracy indicators. Scholars who had surveyed existing measures to evaluate the validity of Dahl’s arguments (e.g., Coppedge and Reinicke 1990 and Coppedge et al. 2008) were central to the construction of the V-Dem data. Arguing that previous measures did not capture Dahl’s components comprehensively, Coppedge et al. (2018) developed the project to estimate qualities associated with the “institutional guarantees”. The project therefore offers more fine-grained, singular data that aimed to operationalize the features that Dahl (1971) described.

The approach of V-Dem is to survey a large number of country experts and use a Bayesian IRT model to derive latent estimates of indicators of democracy (see Pemstein et al. 2019), for which they provide detailed descriptions and the disaggregated components. In addition to roughly 350 individual indicators that cover around 202 countries between 1789 and 2019, V-Dem constructs aggregate indices. One of the primary indices that it constructs from the indicators measures electoral democracy based on Dahl’s (1971, 1989) notion of polyarchy (Teorell et al. 2018). According to the codebook, “[the V-Dem Electoral Democracy Index] consists of five sub-components (each of these sub-components being indices themselves built from a number of indicators) that together capture Dahl’s seven institutions of polyarchy” (Coppedge et al. 2019, pg. 27).<sup>14</sup>

In this paper, we use the disaggregated nature of the V-Dem data to explore the relationships between indicators that make up the electoral democracy index

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<sup>14</sup>The electoral democracy index combines the weighted average of sub-indices that indicate the freeness and fairness of elections, freedom of expression, freedom of association, suffrage, and elected officials with their multiplicative interaction. The aggregation method is “a compromise between the two most well known aggregation formulas in the literature, both allowing partial ‘compensation’ in one sub-component for lack of polyarchy in the others, but also punishing countries not strong in one sub-component according to the ‘weakest link’ argument” (Coppedge et al. 2019, pg. 38).

(*v2x\_polyarchy*). Although V-Dem offers additional conceptualizations of democracy that include participatory and deliberative elements, electoral democracy is a minimalist definition that represents a relatively undisputed concept. According to the V-Dem codebook, “electoral democracy is understood as an essential element of any other conception of representative democracy—liberal, participatory, deliberative, egalitarian, or some other” (Coppedge et al. 2019, pg. 42). Assessing the dimensions of other high-level concepts of democracy may also be valuable for understanding democratic development; as a necessary first step, however, we focus on the one element that connects them all.

The electoral democracy index is based on 44 measures in total, which represent five distinct components that follow Dahl’s conceptualization of polyarchy: the extent to which officials are elected, the freeness and fairness of elections, freedom of expression, freedom of association, and suffrage. We omitted the 20 variables regarding the extent to which officials are elected, for three reasons. First, they include ancillary information such as appointment procedures and direct versus indirect elections and “should not necessarily be interpreted as an important element of democracy in its own right” (Coppedge et al. 2019, pg. 47). Second, “popularly elected” includes “sham elections with limited suffrage and no competition” (Coppedge et al. 2019, pg. 47). Third, the majority of the variables that compose the elected officials index are categorical or dichotomous, which violates a standard assumption in factor analysis that variables are continuous and normally distributed. These caveats do not apply to the other sub-components of the electoral democracy index, for which we use the remaining 24 covariates to derive estimates of the latent dimensions of electoral democracy. The Online Appendix discusses these remaining components of the EDI in more detail.

V-Dem’s focus on operationalizing the elements listed by Dahl is valuable for determining whether they fall into “dimensions” that they theorized. To do so, we use factor analysis to derive latent variables representing combinations of the measures provided by V-Dem. Both factor analysis and principal component analysis are data reduction techniques, but principal components involves creating linear combinations of

variables whereas factor analysis linearly represents the variance between variables as one or more values that tap into a shared (unmeasured) component. We opted to use factor analysis to avoid making subjective assumptions/decisions about how variables should be combined and the extent of common variance between the measures. We nevertheless compare variable loadings based on factor analysis to components derived using principal component analysis as a robustness check.

Examining dimensionality in the 24 variables that contribute to the electoral democracy index addresses each of the issues raised in the discussion of democracy measures and their use to evaluate contestation and participation. First, their construction was explicitly motivated by Dahl (1971), making them the closest approximation of measuring the institutional guarantees that they outlined. Moreover, this approach draws from one set of data that were measured in the same way, rather than many. Second, using factor analysis and tests for determining the ideal number of factors (as well as the amount of variance explained) provides guidance on whether it is appropriate to conceive of democracy as existing along one, two, or more dimensions, rather than arbitrarily creating a specific number of indexed items. The individual variables provided by the V-Dem dataset help to prevent information compression by allowing us to consider the way in which specific features interact. We therefore use a dataset that aims to measure the items discussed by Dahl (1971) to derive dimensions among them and examine what they are, providing a more faithful test of the ideas presented in *Polyarchy*.

## **Empirical Dimensions of Democracy**

The first and most striking result from the factor analysis is that rather than falling into two dimensions resembling contestation and participation, three latent factors emerge. Comparing the eigenvalues from factor analysis to eigenvalues computed from random data (i.e., parallel analysis) suggests that three factors are optimal. Cumulatively, these factors explain roughly 75 percent of the variance.

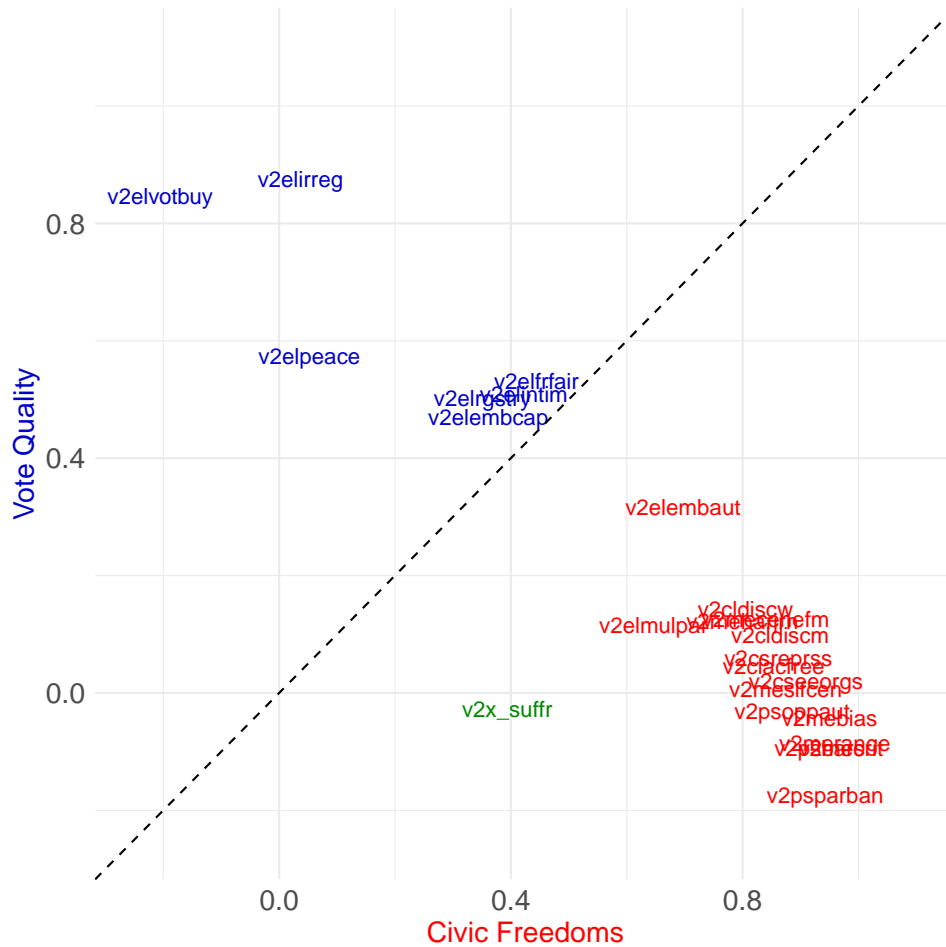


Figure 1: Illustration of factor loadings.  
*(Color denotes primary loading.)*

Figure 1 illustrates how the variables correlate with these three factors, matching them by color to the dimension with which they are most strongly associated. As the figure shows, variables related to the freedoms of association, expression and media are predominately correlated with factor 1. These variables represent attributes of the political system that shape *civic freedoms*—that is to say, they reflect citizens’ abilities to organize and to convey information. Factor 2, on the other hand, seems to be most strongly correlated with variables capturing the extent to which an individual’s vote can de facto make a difference in the system, i.e. the *vote quality*. Election management bodies lacking the resources to carry out a well-administered national election<sup>15</sup>, or voting irregularities such as vote buying or election day violence, greatly decrease the vote quality.

<sup>15</sup>This is captured by the variable *v2elembcap*, see Coppedge et al. (2019), pg. 55.

Interestingly, the V-Dem variable indicating the share of population with suffrage (*v2x\_suffr*) is the only variable that loads predominately on factor 3 (see Figure A1 in the Appendix). For this reason, in our analyses we present results for the “suffrage factor” as well as the original V-Dem suffrage variable. Although suffrage is slightly more closely related to the first factor than the second, it distinctly stands apart from the other measures. When suffrage is excluded, tests suggest that two factors are preferred (with similar factor loadings to the three-factor case).

The factors resembling civic freedoms and vote quality are correlated at 0.519. They are correlated with the suffrage factor at 0.067 and -0.042, respectively. Factors 1 and 2 are also correlated with V-Dem’s suffrage variable at 0.417 and 0.160, respectively, while the suffrage factor and V-Dem’s suffrage variable are correlated at 0.699. Suffrage-as-participation therefore emerges as a distinct feature, yet aspects traditionally treated as belonging to contestation do not fall neatly into one dimension. The first two factors are quite different from each other and correspond to different features that are caught up in the measures of contestation and participation that Miller (2015) employed (see Figure A2 in the Appendix).

Civic freedoms, vote quality and suffrage are three latent variables emerging from a factor analysis of the Electoral Democracy Index’s components. We abstain from mapping these variables back to the concept of contestation and participation for several reasons. First and most importantly, our aim is to empirically disentangle the dimensions of electoral democracy and to consequently assess their importance for democratic transitions and stability. The three latent factors that emerge clearly from the factor analysis suggest that the two dimensions represented by previous research are more adequately represented by three. Second, the conceptual ambiguities that we discussed above would permeate and impede a re-mapping of the factors back onto two dimensions. We therefore adhere to the three latent variables and proceed by evaluating their face validity.

The top panel (a) of Figure 2 illustrates how the sample of observations falls along the first two factors, showing that observations are largely spread out across the full range of values. There is, however, heavy clustering of observations that score high on

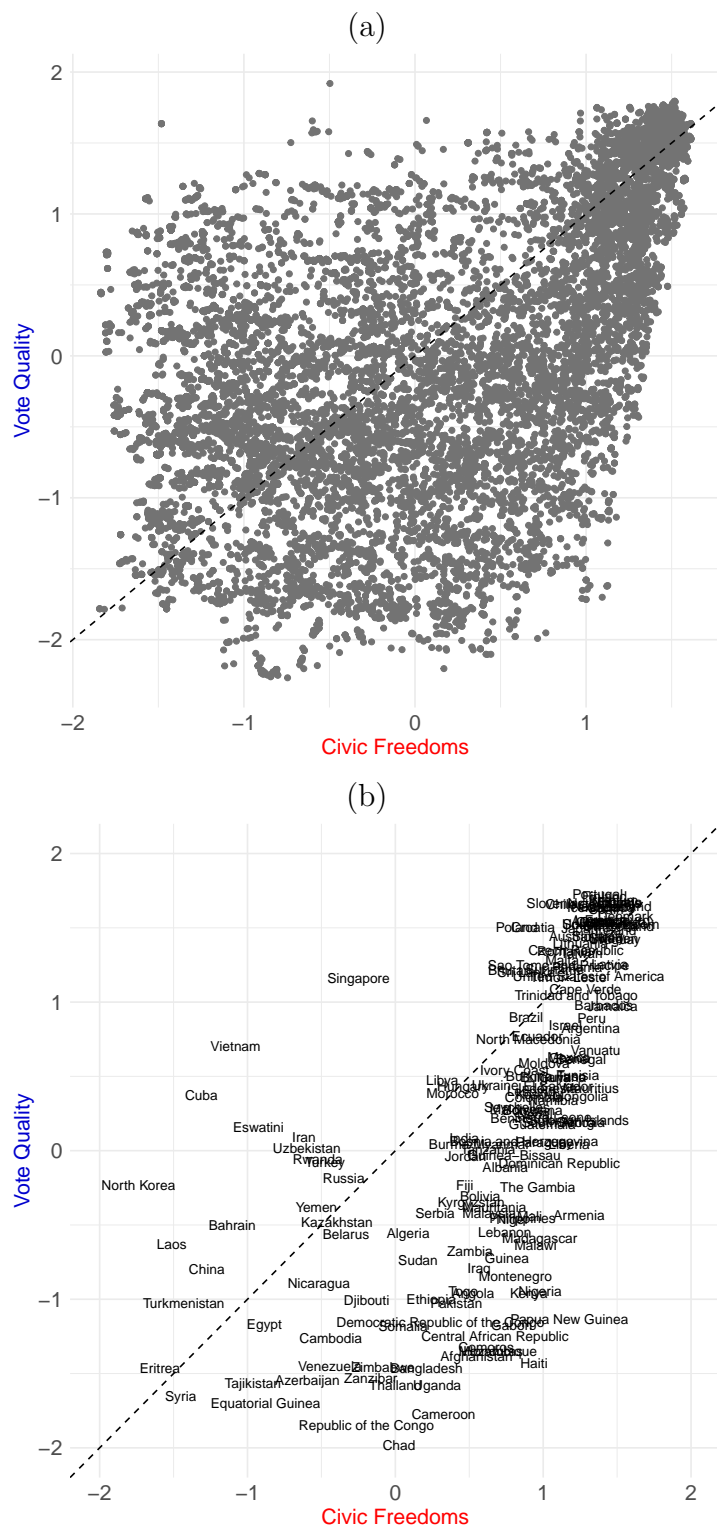


Figure 2: Observations across the first two factors (a); Country scores in 2019 (b).

both factors, and many observations that score relatively high on factor 1 (corresponding to high levels of civil liberties) but less so for vote quality. The bottom panel (b) displays the scores for countries in 2019. Among countries that scored higher on the civic freedoms dimension than vote quality are Honduras, Haiti, the Democratic Republic of the Congo, and Papua New Guinea. Many of these cases have been beset by protests or political instability. In comparatively free(er) environments, impediments to vote quality should augment citizens' likelihood of organizing, making them more prone to political instability. This alignment would support the argument that regimes that are incapable of accommodating competing pressures are at risk of failure (e.g., Huntington 1968).

The opposite would seem to be, somewhat counterintuitively, a hallmark of modern authoritarianism. Countries that scored low on civic freedoms and slightly higher for values of vote quality in 2019 appear to be some of the more stable party-based regimes that hold elections but have restrictions on political expression and activity. This set includes countries that might be considered electoral authoritarian regimes or "illiberal democratic" regimes (Zakaria 1997), such as Vietnam, Cuba, and Iran. Scholars point out that many electoral authoritarian regimes satisfy criteria to be considered minimally competitive, or even "competitive authoritarian regimes" (Howard and Roessler 2006; Levitsky and Way 2002; Schedler 2006). The regimes that occupy the space connoted by competitive elements without major citizen involvement would seem different from the "competitive oligarchies" that Dahl (1971) argued eventually gave way to polyarchy. At the same time, transitions to democracy are thought to be more likely when there is a dominant party whose interests are not threatened by the transition (Albertus and Menaldo 2014; Karl 1990; O'Donnell and Whitehead 1986). Factor 2 may therefore represent one aspect of contestation that taps into the ability to hold elections that are regular, peaceful, and free from large-scale institutional manipulation (the occurrence of the contest), while factor 1 represents a second aspect—citizens' stakes in the contest and the extent to which their actions enhance its competitiveness.

Understanding how the factors that we identified characterize trends in specific cases—and whether such depictions match with conventional knowledge about those

cases—is critical for gauging their explanatory power. The first four plots in Figure 3 show four countries in the Americas, highlighting incidences of democratization and democratic erosion in Mexico, Venezuela, and Bolivia, and comparing them to the United States. In the United States, the factor representing civic freedoms was almost always higher than the factor for vote quality, which was also higher than the suffrage dimension. In Mexico, the period of electoral dominance by the PRI (*Partido Revolucionario Institucional*) saw higher values for the suffrage factor but the same ordering emerged after democratization in 2000. The same factor order also characterized the period of “Punto Fijo” in Venezuela, which involved powersharing between the two dominant parties, but changed substantially during the tenure of Hugo Chávez. Changes in the factors representing civic freedoms and vote quality also evidence democratization in Bolivia in the 1980s, during which a similar factor ordering occurs (Domingo 2005). These cases indicate that the strength of civic freedoms and vote quality, relative to suffrage, may matter for distinguishing democratic from non-democratic regimes. The democratic periods were also characterized by civic freedoms being somewhat stronger than the vote quality.

Figure 3 shows similar plots for countries that at some point represented established cases of party-based autocracy. In Tanzania, the period of de facto party dominance by the CCM (*Chama Cha Mapinduzi*) from independence until the first multiparty elections in 1995 entailed relatively stable elections despite low civic freedoms. Though scholars have described movement towards democracy in Tanzania as gradual and controlled, others have argued that associational autonomy has played an important role in its transformation (Gyimah-Boadi 1998; Hydén 1999; Tripp 2000). Elsewhere, politics in the Soviet Union, China after the 1949 Communist Revolution, and Cuba after 1959 are distinguishable by high levels of suffrage and relatively low levels for both civic freedoms and vote quality. In this way, the three cases differ from Tanzania, although in all four cases civic freedoms ranked lower than the vote quality. In contrast, in Mexico during the PRI hegemony suffrage was highest but civic freedoms was higher than the vote quality, for which its development pattern more closely resembles that of the United States.



Comparing cases shows that different configurations of the three factors are associated with democratic and autocratic periods. Among the cases examined, the more democratic environments seem to be characterized by high levels of civic freedom and more autocratic environments by low levels. Whether democratic development depends more on the relationship between civic freedoms and vote quality, the strength of both relative to suffrage, or some other combination, however, is less clear. All the same, changes in the three dimensions validate general depictions of political development in specific cases and suggest that their differences may have meaningful consequences for explaining transitions to democracy and democratic stability.

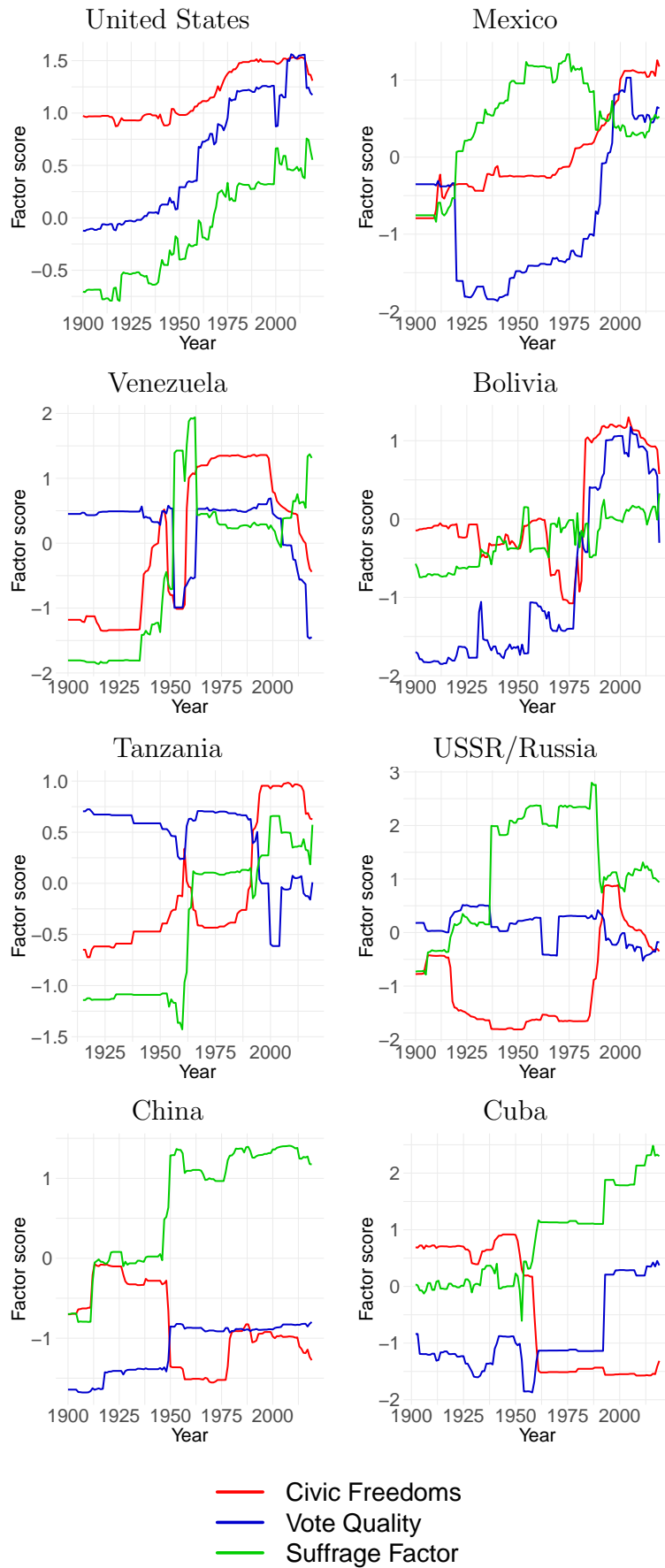


Figure 3: Comparison of factor scores across time for select cases.

# Determinants of Democratic Transitions & Survival

Given the prospect of three factors that represent different dimensions of democracy, we compare them to existing models of democratization and democratic survival to determine whether the conclusions change. We replicate the results of Miller (2015), who considered how contestation and participation influences both outcomes. For simplicity, we show only the results associated with the variables of interest in the main text and provide full tables in the Appendix (Tables A1 and A2).<sup>16</sup> Table 1 replicates Model 3 in Table 3 of Miller (2015), which found that contestation is a positive predictor of the transition to democracy but that participation is not.<sup>17</sup> Models replacing their measures of contestation and participation with factors derived from the V-Dem measures show two important items. First, the dimension associated with civil rights and liberties—which includes the freedom of expression and freedom of association—is more strongly related to democratization than the measure of vote quality in terms of coefficient size, although both measures have a positive and statistically significant association. Second, neither the suffrage factor nor V-Dem’s suffrage variable is related to the transition to democracy.<sup>18</sup>

Similarly, Table 2 replicates Model 4 in Table 3 of Miller (2015), which found that both contestation and participation are positively associated with democratic survival but that its association with participation was slightly weaker. Replacing Miller’s principal components with our factors shows that both civic freedoms and vote quality are positively and significantly related to democratic survival.<sup>19</sup> The factor that correlates most strongly with suffrage does not significantly relate to democratic survival, although the measure of suffrage itself shows a positive relationship significant below a ten-percent probability of error. Like Miller (2015), the results suggest that both contestation and

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<sup>16</sup>Control variables include military size, resource dependence, prior democratic breakdowns, regional Polity average, dummies for former British colony or never colonized, per capita GDP, and prior democratic experience. For more information, refer to Miller (2015).

<sup>17</sup>Models 1 and 2 of Table 1 include 138 countries between 1900 and 2004.

<sup>18</sup>While the models in Miller (2015) include weighted sums that reflect countries’ electoral experiences (see Miller 2015, page 27), we focus on the current level of each dimension and leave a consideration of their *historical* impacts to future research.

<sup>19</sup>Models 1 and 2 of Table 2 include 101 countries between 1920 and 2004.

Table 1: Replication and extension of Model 3, Table 3 from Miller (2015).

DV: Democratic transition	Orig.	(1)	(2)
$\Sigma$ Contestation	1.667*** (0.365)		
$\Sigma$ Participation	-0.500 (0.333)		
Civic Freedoms		0.816*** (0.095)	0.796*** (0.091)
Vote Quality		0.215*** (0.070)	0.189*** (0.067)
Suffrage Factor		0.123 (0.089)	
% Population with Suffrage			0.081 (0.281)
+ Controls			
Duration splines	Yes	Yes	Yes
Decade FEs	Yes	Yes	Yes
Region FEs	Yes	Yes	Yes
N	5971	5166	5166
log-Lik.	-427.866	-362.5869	-363.3941
Standard errors in parentheses. ***p<0.01; **p<0.05; *p<0.1.			

participation are positively related to democratic survival, but that its association with suffrage-as-participation is not as strong.

The analyses demonstrate that the factors representing civic freedoms and vote quality matter substantially for both democratic transitions and survival. Suffrage also shows an association to democratic survival but no meaningful relation to democratic transitions. These findings support the conclusions of Miller (2015) by confirming that the elements that are conventionally subsumed under “contestation” may be more strongly related to democratic transitions and democratic survival than suffrage. At the same time, however, the results indicate that the strength of civic freedoms and vote quality are independently associated with these outcomes, underscoring the value of considering these two elements separately. The new models have slightly higher log-likelihoods and lower AICs and BICs than the original, suggesting a better fit.

Table 2: Replication and extension of Model 4, Table 3 from Miller (2015).

DV: Democratic survival	Orig.	(1)	(2)
$\Sigma$ Contestation	2.378** (0.982)		
$\Sigma$ Participation	1.739* (1.045)		
Civic Freedoms		0.534* (0.296)	0.580** (0.273)
Vote Quality		0.326*** (0.110)	0.295** (0.115)
Suffrage Factor		0.142 (0.199)	
% Population with Suffrage			0.879* (0.514)
+ Controls			
Duration splines	Yes	Yes	Yes
Decade FEs	Yes	Yes	Yes
Region FEs	Yes	Yes	Yes
N	2943	2927	2927
log-Lik.	-206.6676	-196.1039	-195.2987

Standard errors in parentheses. \*\*\*p<0.01; \*\*p<0.05; \*p<0.1.

## Pathways to Polyarchy

The three factors derived from components of the electoral democracy index coincide with periods of democratic or autocratic rule and account for the likelihood of transitions to democracy and democratic stability. Differences between them are also related to the overall level of democracy. As Figure A3 in the Appendix illustrates, observations in which values for the factor representing civic freedoms are highest tend to be more democratic than those in which the suffrage factor is higher than the other two factors. Among observations in which vote quality is highest, there is considerable differentiation; those in which civic freedoms is lowest are much less democratic, while those in which the suffrage factor is lowest show a bimodal distribution of democracy scores.

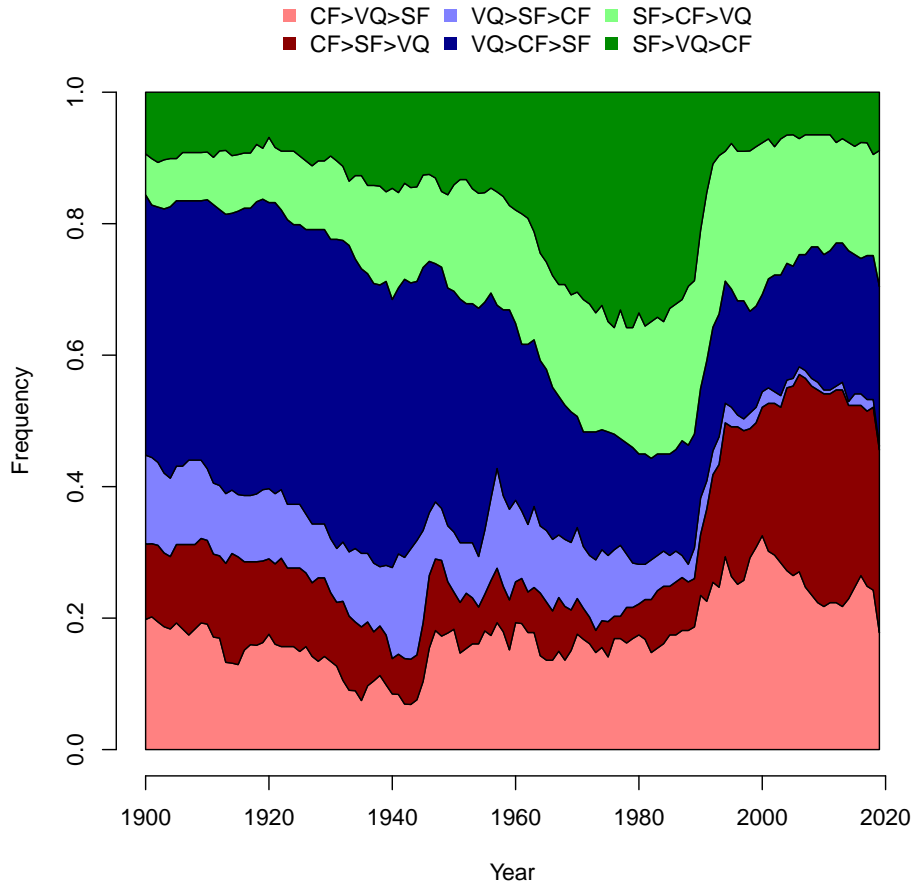
An important question that remains, therefore, is whether divergent outcomes are best explained by differences between the strength of civic freedoms and vote quality, between the two and suffrage, or between all three. We examine this question by rank-ordering the factors. Rather than compare the distance between factors—as would

be indicated by subtracting one from another—we simply considered whether each was higher or lower than the other factors. This has the benefit of allowing us to differentiate between regimes without classifying them on the basis of potentially arbitrary threshold values (whether it is in terms of absolute levels of each factor or the values of their differences). Rank-ordering the three factors yields six possible states, or types, that are quite distinct. From hereon, we refer to each type based on which of the three factors is highest/most developed and which is lowest/least developed.

Figure 4 illustrates the frequency of each of the states over time. Prior to around 1960, the most common state was one in which vote quality was more developed than either civic freedoms or suffrage. This ordering of factors characterized countries such as Belgium and the Netherlands, Australia and New Zealand, and Nordic countries during this period. Between 1964 and 1990, there was a wave of countries characterized by suffrage outpacing vote quality, which was in turn higher than civic freedoms factor. Many of them were well-known hegemonic-party regimes, such as China, Cuba, Iran, the Soviet Union, and Vietnam (refer to Figure 3). After 1990, the most common type of regime displayed higher values for civic freedoms than the other two factors. Those in which vote quality was also higher than the suffrage factor include Canada, France, the United Kingdom, and the United States, while those in which the suffrage factor was higher than vote quality include Colombia and the Philippines.

Notably, the frequency of states over time provides support for the global trends that Dahl (1971) described. As Figure 4 shows, the publication of *Polyarchy* coincided with an increase in regimes in which citizens had the ability to vote but vote quality and civic freedoms lagged behind. Furthermore, the historical cases from which Dahl (1971) drew were more likely to have had better developed elections than both suffrage and associational freedoms. This helps to explain why the characterization of regime developments by Dahl (1971) stressed elections and suffrage among citizens without much focus on the role of political parties.

Inasmuch as the state frequencies reflect the development of different regimes over time, we can describe patterns of regime change based on the transition rates between

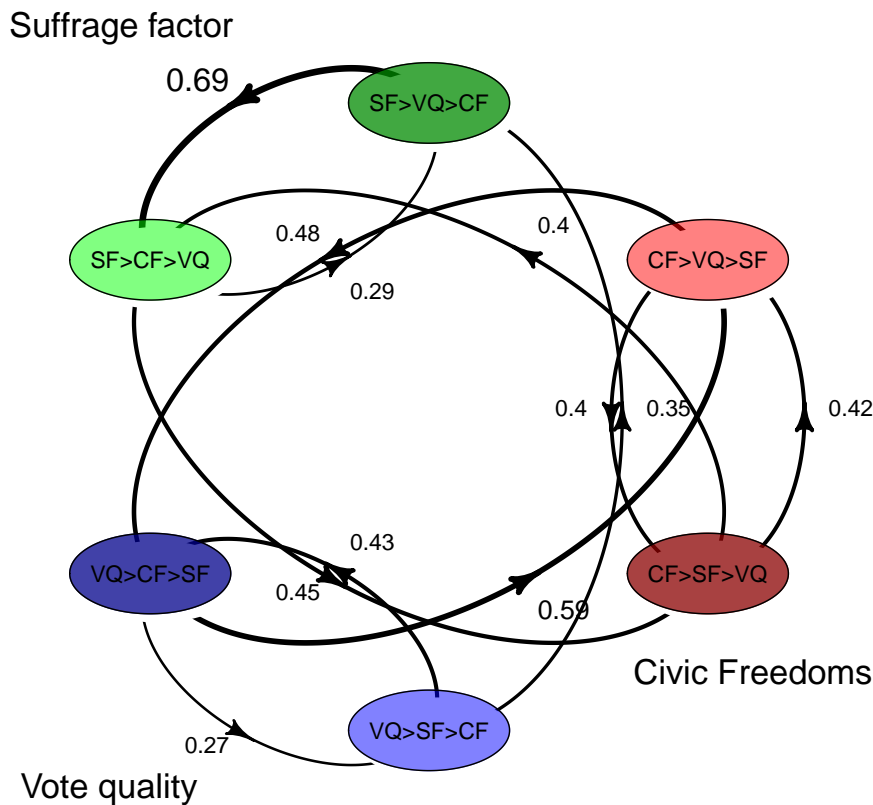


$CF = \text{Civic Freedoms (factor 1)}$   
 $VQ = \text{Vote Quality (factor 2)}$   
 $SF = \text{Suffrage Factor (factor 3)}$

Figure 4: Frequencies of states based on factor orderings over time.

states. The transition rates, which are provided in the Appendix (Table A3), are also illustrated by Figure 5, for which values represent the proportion of transitions that occurred from each type. To highlight the more predominant transitions, Figure 5 only shows transition rates greater than 0.2. The thickness of each line further indicates the likelihood of each transition, with the corresponding probability lying to the right of the arrow. The observation “types” connoted by ranking the three factors show common transition patterns that lend credibility to arguments about path dependence.

The figure shows several interesting properties concerning the likelihood of changes between regimes represented by the relative ordering of the three dimensions. The first is that transitions are more likely between states with the same dominant dimension. Such



$CF = Civic\ Freedoms\ (factor\ 1)$   
 $VQ = Vote\ Quality\ (factor\ 2)$   
 $SF = Suffrage\ Factor\ (factor\ 3)$

Figure 5: Transition rates between states based on factor orderings.  
*(Showing only proportions of state change greater than 0.2.)*

“regime changes” involved a reordering of the two less developed dimensions. Second, many changes entailed a reordering of the two *more* developed dimensions, with one notable exception. Observations that transitioned from the state in which suffrage was highest and civic freedoms was weakest were only likely to see either vote quality worsen or civic freedoms strengthen. This state, which is associated with significantly lower democracy scores, may therefore represent the most entrenched authoritarian states and may only be escaped by the enhancement of civic freedoms. Third, the transition rates suggest that change was gradual, inasmuch as the lowest-ranking dimension was almost never likely to become the highest-ranking dimension in the following year.



As Table A3 in the Appendix confirms, the most steady states—those least likely to change—were the state in which suffrage outpaced vote quality and both outranked civic freedoms or where vote quality ranked higher than civic freedoms and both were greater than suffrage. Differences in the transition rates between states and levels of democracy in each may matter for explaining when states transition to democracy and whether they remain democratic. Replacing the factors in the analyses of the previous section with dummy variables for each of the six states, as shown in Table A4, confirms an important distinction: the relative strength of suffrage (as indicated by factor 3) and civic freedoms (as indicated by factor 1) critically affects the likelihood that a country transitions to democracy. Those states in which suffrage ranked above civic freedoms are significantly less likely to transition to democracy compared to observations in which civic freedoms outranked vote quality and both were higher than suffrage. Its difference from other observation types is not statistically differentiable from zero, however. This suggests that societies in which more citizens are able to vote but the freedoms of association and expression are restricted are much less likely to result in a transition to democracy.

The results also indicate that the survival of democracies may depend on the relative strengths of vote quality and suffrage; countries in which suffrage outpaced the quality of the vote were less likely to survive, a difference that is significant below a one-percent probability of error. Those in which vote quality ranked highest and suffrage lowest were also *more* likely to survive as democracies. Though far from indicating necessary and sufficient conditions, the relative ranking of the three dimensions adds valuable nuances that map onto both democratic transitions and democratic survival. They suggest that while the strength of civic freedoms and the quality of the vote are significant predictors of both transitions to democracy and democratic survival, the relationship between each and suffrage has different implications. The strength of civic freedoms relative to suffrage is more strongly related to the likelihood of democratic transitions, while the quality of the vote relative to suffrage better explains democratic survival. These nuances are extremely valuable for understanding why the broader notion of contestation matters and in which ways, pointing to civil society as a potential driver of democratization and

Table 3: Dynamic probit with rank-order dummies.

DV:	(1) Dem. Transition	(2) Dem. Survival
<b>Civic Freedoms: highest factor</b>		
lowest factor: Suffrage	<i>Reference category</i>	
lowest factor: Vote Quality	-0.214 (0.162)	-0.376** (0.146)
<b>Vote Quality: highest factor</b>		
lowest factor: Civic Freedoms	-0.574*** (0.248)	-0.082 (0.347)
lowest factor: Suffrage	-0.040 (0.211)	0.388* (0.229)
<b>Suffrage: highest factor</b>		
lowest factor: Civic Freedoms	-1.186*** (0.189)	-3.087*** (0.467)
lowest: Vote Quality	-0.731*** (0.142)	-0.356 (0.270)
+ Controls		
Duration splines	Yes	Yes
Decade FEs	Yes	Yes
Region FEs	Yes	Yes
N	5188	2927
log-Lik.	-394.608	-196.048

Standard errors in parentheses.

\*\*\*p<0.01; \*\*p<0.05; \*p<0.1.

to election quality as a democratic safeguard. They also provide promising avenues for building on classic insights from comparative democratization and further using them to explain empirical patterns.

## Discussion

Until now, empirical validations of the claim that electoral democracy comprised the related concepts of contestation and participation have been difficult. Mostly, as we have argued, this is due to the fact that data generation in the decades immediately after *Polyarchy* either did not attempt to measure the institutional guarantees that they outlined or only partly operationalized them. Extant arguments and treatments

of democracy as having fewer or more dimensions, in combination with the difficulty of attributing specific features and the conceptual vagueness risked by drawing from a variety of different measures, further render the questions of whether there are dimensions to democracy and what they are relevant and not fully answered. This paper reviewed the connection between early conceptual work and measurement, and past efforts to identify latent aspects of democracy, to highlight limitations and justify a renewed look at the underlying features that support it. Despite considerable gains in the conceptualization and measurement of democracy, there may yet be a more convincing way to bear out and describe the ways that regimes have changed over time.

This was the starting point for this paper. We studied whether electoral democracy is divisible into coherent dimensions, what these dimensions correspond to, and whether they matter for specific outcomes. Emphasizing concept-, measurement-, and face validity, we found that three factors representing civic freedoms, election quality, and suffrage more adequately capture variance in the individual components composing V-Dem's *Electoral Democracy Index, v2x\_polyarchy* (Teorell et al. 2019). Our analysis has the benefit of drawing from one dataset (Coppedge et al. 2020) that specifically aimed to measure the institutional guarantees discussed by Dahl (1971). In doing so, we are able to avoid the above-mentioned past difficulties arising from estimates derived from multiple sources of data that are not necessarily concerned with capturing democracy's dimensions. The V-Dem data also provide more nuanced assessments of different aspects of these institutional guarantees than would be available from existing sources. As we have shown, the three factors match well with the characterization of specific regimes, distinguishing cases that are considered electoral authoritarian regimes as well as chronically unstable countries, and change in tandem with established periods of regime change.

To assess the importance of democracy's dimensions for democratic transitions and democratic stability, we replicate a previous study, Miller (2015), first with their contestation and participation dimensions and second, with our three dimensions. In the first analyses we found support for their conclusions about the relationship between contestation and participation. Contestation is significantly related to transitions to

democracy, while both contestation and participation support democratic survival. In the second set of analysis that includes three dimensions, however, we demonstrated the importance of separating features that some scholars thought of as connoting contestation. Civic freedoms are more strongly related to democratization in terms of the size of the relationship, while the independent relationship between electoral conduct and democratic survival is statistically stronger. Moreover, differences in the strength of suffrage and civic freedoms matter more for explaining democratic transitions, while the relationship between suffrage and election quality is stronger for democratic survival. We therefore find relationships that are consistent with previous work but also heavily point to a need for greater conceptual clarity.

In our analysis of the components of the EDI, we do not take issue with the index construction (see, for example, Treier and Jackman 2008, nor with how the indices for subcomponents (e.g., freedom of expression) were created. It is not that specific concepts are improperly measured, *per se*; rather, one concept might be better represented as two moving parts, and alternative ways of combining information might be valuable for explaining certain outcomes. This study helps to advance the discussion because contestation and participation are fuzzy concepts that can have “thick” or “thin” definitions (see, for example, Boese et al. 2020). As we noted, it is unclear what exactly goes in each—some items satisfy a little of both—and the concepts represent a specific level of generality (ways of grouping and classifying items). An explicit focus on contestation and participation is also based on an assumption that democratization is best understood as involving changes in two dimensions. If the order of the elements that compose the two concepts matter for outcomes related to the development of democracy, deconstructing them is valuable for understanding those outcomes. This is true both for the broader notion of democracy as well as its subcomponents. We demonstrated that dimensions derived from elements associated with contestation and participation have different relationships with transitions to democracy and democratic breakdown. As such, our primary contribution is not the way in which we combined items, but the observation that they do not necessarily contribute in the two-dimensional way as implied by the

distinction between the concepts of contestation and participation. Important follow-up questions for future research, therefore, are what they indicate and what they might be able to tell us about timing.

Perhaps the most important contribution of this study is that there is virtually no empirical support that democracy is best described by the dimensions of contestation and participation. By considering the relative levels of each of three factors, we found differences that elucidate on the focus of Dahl (1971) on aspects of *procedural* democracy and suffrage. However, democratization in the late-20<sup>th</sup> century entailed expanded civil liberties, which helps to explain differences in democratization outcomes across different “waves”. Connoting suffrage with participation and treating most other features as attributes of contestation overly simplifies the interactions between electoral procedures and civic freedoms and obscures how they contribute to democracy. We argue, therefore, that “contestation” as it has previously been identified should instead be divided into two concepts representing the electoral procedure and civic freedoms—the freedoms of expression and association—that enables citizens to be more involved in fielding and supporting candidates. In doing so, however, the traditional distinction between contestation and participation breaks down and is not easily reconstructed. Forming political parties and running in elections clearly overlaps with the notion of contestation; notwithstanding, the way in which citizens’ participation is institutionalized is valuable for differentiating between competitive oligarchies, in which citizens were largely excluded, and popular regimes that mobilize citizen support and maintain important connections to them through political parties and information dissemination.

Another important finding concerns the difference between factors representing civic freedoms and vote quality. Not only does the strength of civic freedoms appear to matter more for explaining transitions to democracy, there is a consistent ranking of regimes based on the relative level of suffrage and civic freedoms that explains democratization. This finding highlights the importance of civil society for initiating movement towards democracy, despite the uncertainty of the transition (Grimes 2013; Peruzzotti and Smulovitz 2006). The association of “quality” elections and low levels

of civic freedoms with hegemonic-party or electoral-authoritarian regimes demonstrates that elections in the absence of a strong (and independent) civil society can be used to prevent democracy (Knutsen et al. 2017). It should be noted that although elections in authoritarian regimes are rarely of high caliber, one reason that we find an association between known party-based authoritarian regimes and *vote quality*—which is negatively associated with vote buying and intimidation and positively associated with election management body capacity and peace—is that regimes in which the dominant party has an established hold should be less likely to resort to fraud to win. While both civic freedoms and vote quality matter for democratic survival, there is also a clear ranking between regimes, on the basis of relative levels of vote quality and suffrage, regarding the likelihood of democratic breakdown. Thus, among more established democracies, maintaining quality elections seems especially important for their survival. Scholars should therefore differentiate citizens’ abilities to organize and share information from the conduct of elections in relation to their right to vote.

There is still much more that can be done with the findings presented here. Further extensions might consider the complementarity between the dimensions, or the degrees to which specific elements contribute to them, as well as how the order in which they emerged and the “legacies” or “stock” of each affect political development. A critically important question increasingly of interest to scholars is how these dimensions might affect democratic *erosion*. Differences between the three dimensions may also be valuable for explaining other outcomes such as conflict and authoritarian stability. Notably, our focus was on the dimensions of *electoral* democracy and not *liberal* democracy. An important contribution that we did not explore here would incorporate constraints on the executive—e.g., legislative and judicial constraints—and show how they also affect important political outcomes. Nevertheless, our work demonstrates that there may actually be two distinct dimensions “hiding” in the notion of contestation and that juxtaposing it against suffrage is not sufficient for explaining differences in transitions to democracy and democratic survival.

## Conclusion

The purpose of this study was to reassess the question of whether there are dimensions of electoral democracy. Although others have explored the extent to which available data validate their expectations about changes in the concepts of contestation and participation over time, they drew from multiple sources that were not directly concerned with measuring those concepts. This paper outlined the development of works that focused on conceptualizing and measuring democracy, showing divergence that would ultimately affect subsequent theoretical conclusions. We used data that were explicitly motivated by Dahl (1971) to explore the dimensions of contestation and participation, suggesting that too much weight has been placed on the concept of contestation relative to participation. We argued that the “institutional guarantees” that Dahl (1971) and others have thought of as representing the competitive nature of democracy are better divided into qualities related to the conduct of elections and the means by which citizens collectively organize and share information.

The results corroborate the extant findings of other scholars regarding the potential relationship between contestation and suffrage but also support the research on authoritarian institutions that differentiates between holding elections and expanding civil liberties. The relative differences between dimensions representing civic freedoms, vote quality, and suffrage show fairly clear trends over time—the “waves” of democratization that scholars have observed are characterized very differently by these three dimensions. Changes between the three dimensions also constitute common patterns that help to explain both outcomes, but in different ways. We show that they have independent effects on the likelihood of transitions to democracy versus democratic survival. Reevaluating the dimensionality of democracy and the pathways by which states have developed, focusing on the relationships between civil society, election quality, and suffrage, is therefore consequential for explaining important outcomes in political science.

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# Online Appendix to “Empirical Dimensions of Electoral Democracy”

## 1 Factor loadings and variable descriptions

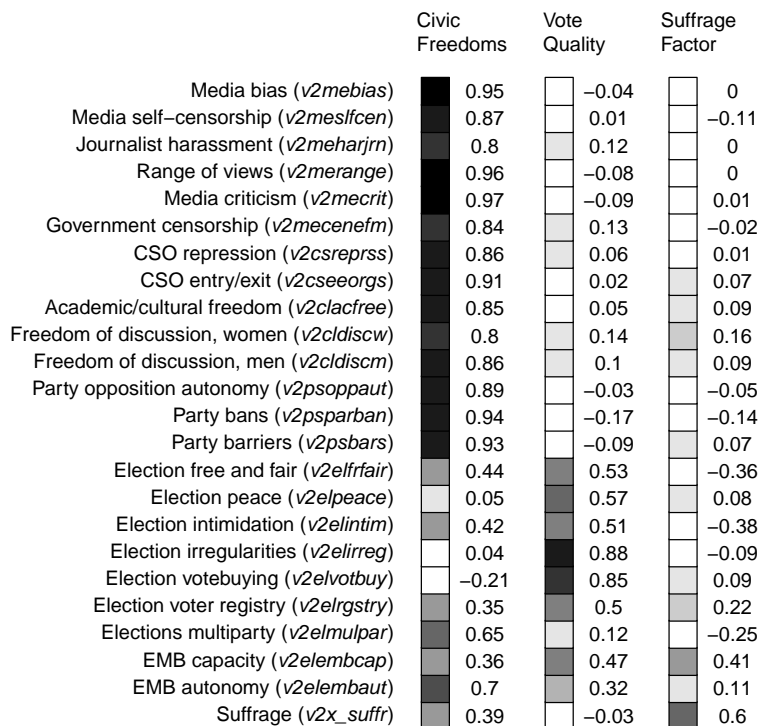


Figure A1: Factor loadings for each variable.

The freedom and fairness of elections (*v2xel\_frefair*) is an index that combines estimates of overall freeness and fairness (*v2elfrfair*), election peace (*v2elpeace*), government intimidation (*v2elintim*), election irregularities and votebuying (*v2elirreg* and *v2elvotbuy*), the use of voter registries (*v2elecereg*), and the capacity and autonomy of election management bodies (*v2elembcap* and *v2elembaut*). Freedom of expression (*v2x\_freexp\_altinf*) concerns the extent to which the government respects freedom of expression and citizens have access to alternative information, which includes estimates of media bias and the range of views provided (*v2mebias* and *v2merange*), media self-censorship and government censorship (*v2meslfcen* and *v2mecenefm*), harassment of journalists (*v2meharjrn*), media criticism of government (*v2mecrit*), the freedom of discussion for men and women (*v2cldiscm* and *v2cldiscw*), and academic and cultural freedom (*v2clacfree*). Lastly, freedom of association (*v2x\_frassoc\_thick*) combines information on party bans and party barriers (*v2psparban* and *v2psbars*), the autonomy of opposition parties (*v2psoppaut*), civil society organization entry and exit and repression (*v2cseeorgs* and *v2csreprss*), and the extent to which elections are multiparty (*v2elmulpar*).

## 2 Supplementary Tables and Figures

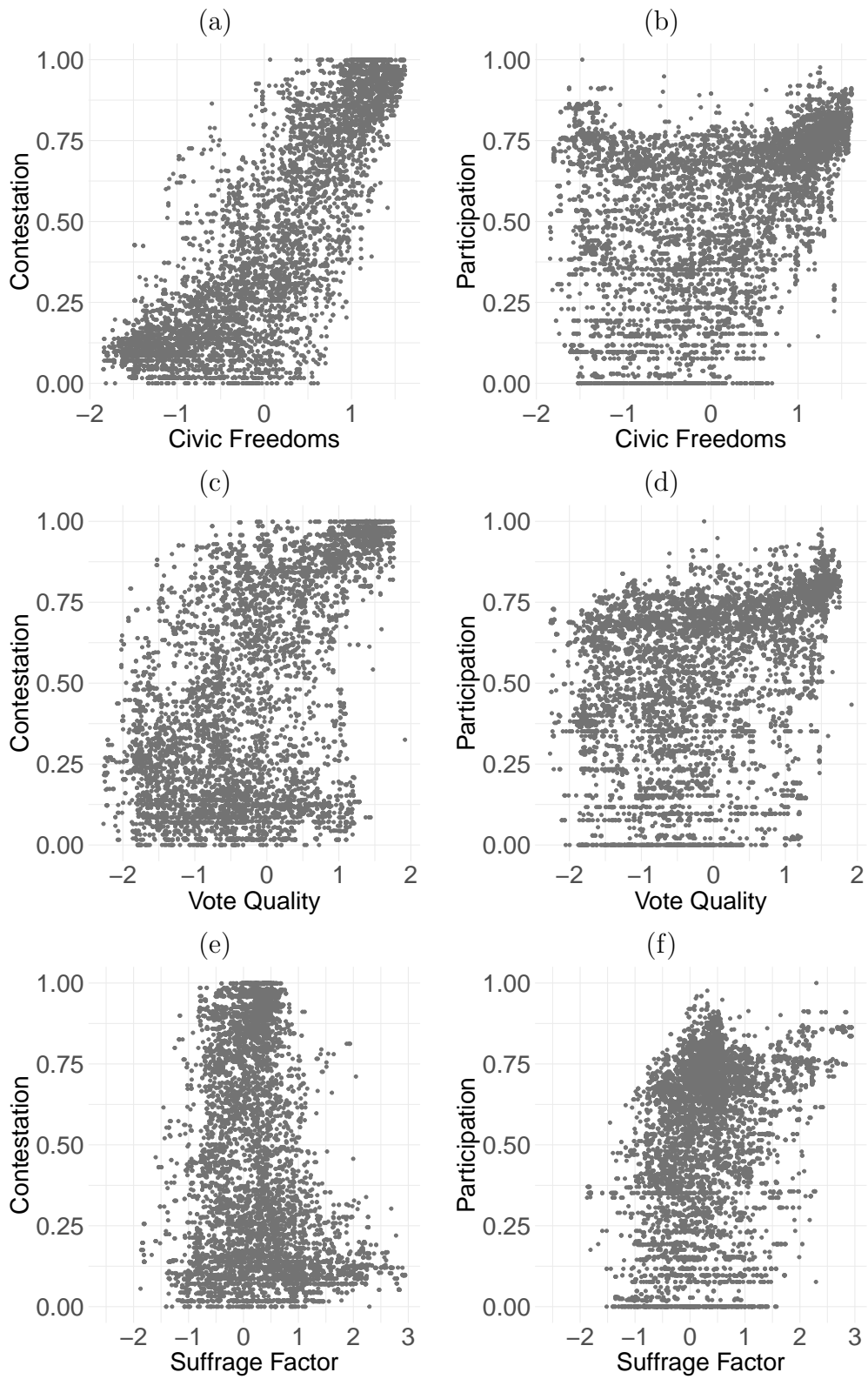
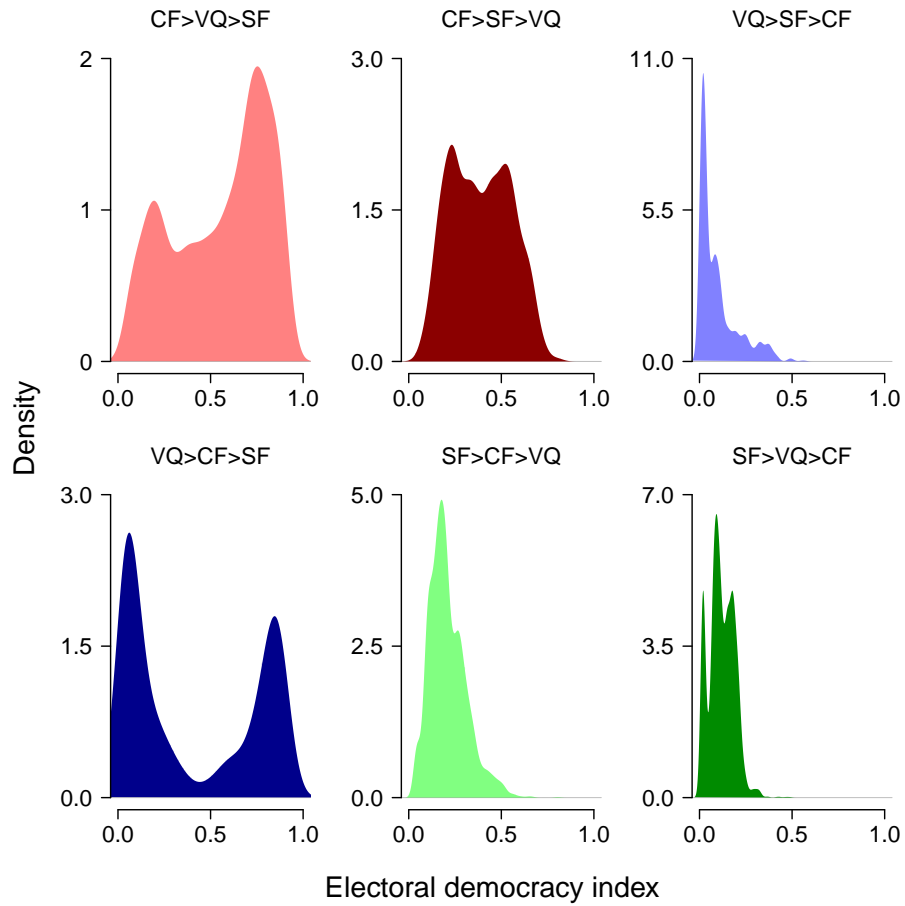


Figure A2: Comparison of factors with measures constructed by Miller (2015).



*CF = civic freedoms (factor 1)*  
*VQ = Vote quality (factor 2)*  
*SF = Suffrage factor (factor 3)*

Figure A3: Democracy scores across states based on factor orderings.

Table A1: Replication and extension of Model 3, Table 3 from Miller (2015).

DV: Democratic transition	Orig.	(1)	(2)
$\Sigma$ Contestation	1.667*** (0.365)		
$\Sigma$ Participation	-0.500 (0.333)		
Civic Freedoms		0.816*** (0.095)	0.796*** (0.091)
Vote Quality		0.215*** (0.070)	0.189*** (0.067)
Suffrage Factor		0.123 (0.089)	
% Population with Suffrage			0.081 (0.281)
Military Size	-0.037 (0.075)	0.014 (0.097)	0.026 (0.097)
Resource Dependence	-0.004 (0.007)	-0.001 (0.007)	-0.001 (0.007)
Democratic Breakdowns	0.090 (0.066)	0.231*** (0.085)	0.222*** (0.081)
Region Polity	1.148** (0.460)	0.606 (0.604)	0.488 (0.597)
Never Colonized	0.155 (0.276)	0.430** (0.203)	0.480** (0.200)
British Colony	-0.105 (0.156)	-0.167 (0.176)	-0.186 (0.174)
GDP Per Capita (ln)	0.089 (0.076)	0.030 (0.099)	0.055 (0.097)
GDP Growth	-0.006 (0.006)	-0.007 (0.006)	-0.007 (0.006)
$\Sigma$ Democracy	-0.535 (0.410)	-0.376 (0.353)	-0.358 (0.353)
Duration splines	Yes	Yes	Yes
Decade FEs	Yes	Yes	Yes
Region FEs	Yes	Yes	Yes
N	5971	5166	5166
log-Lik.	-427.866	-362.5869	-363.3941

Standard errors in parentheses. \*\*\*p<0.01; \*\*p<0.05; \*p<0.1.



Table A2: Replication and extension of Model 4, Table 3 from Miller (2015).

DV: Democratic survival	Orig.	(1)	(2)
$\Sigma$ Contestation	2.378** (0.982)		
$\Sigma$ Participation	1.739* (1.045)		
Civic Freedoms		0.534* (0.296)	0.580** (0.273)
Vote Quality		0.326*** (0.110)	0.295** (0.115)
Suffrage Factor		0.142 (0.199)	
% Population with Suffrage			0.879* (0.514)
Military Size	-0.478*** (0.128)	-0.262** (0.120)	-0.258** (0.120)
Resource	0.013 (0.015)	-0.002 (0.008)	-0.001 (0.008)
Dependence			
Democratic	-0.167 (0.112)	-0.298** (0.126)	-0.320** (0.129)
Breakdowns			
Region Polity	1.752 (1.074)	0.564 (1.110)	0.493 (1.112)
Never Colonized	0.435 (0.355)	-0.074 (0.314)	-0.080 (0.313)
British Colony	-0.148 (0.272)	-0.106 (0.264)	-0.163 (0.278)
GDP Per Capita (ln)	0.508** (0.205)	0.276 (0.190)	0.315 (0.192)
GDP Growth	0.025** (0.011)	0.035*** (0.012)	0.036*** (0.012)
$\Sigma$ Democracy	-1.403** (0.649)	0.551 (0.339)	0.474 (0.348)
Duration splines	Yes	Yes	Yes
Decade FEs	Yes	Yes	Yes
Region FEs	Yes	Yes	Yes
N	2943	2927	2927
log-Lik.	-206.6676	-196.1039	-195.2987

Standard errors in parentheses. \*\*\*p<0.01; \*\*p<0.05; \*p<0.1.

Table A3: Transition rates between states.

	CF> VQ> SF	CF> SF> VQ	VQ> SF> CF	VQ> CF> SF	SF> VQ> CF	SF> CF> VQ
CF>VQ>SF	0.907	0.038	0.002	0.045	0.007	0.001
CF>SF>VQ	0.045	0.892	0.005	0.009	0.043	0.006
VQ>SF>CF	0.006	0.002	0.913	0.038	0.011	0.03
VQ>CF>SF	0.03	0.002	0.013	0.95	0.004	0.002
SF>VQ>CF	0.01	0.041	0.004	0.009	0.91	0.026
SF>CF>VQ	0.001	0.004	0.006	0.004	0.035	0.949

*CF* = Civic Freedoms (factor 1)

*VQ* = Vote Quality (factor 2)

*SF* = Suffrage Factor (factor 3)

Table A4: Dynamic probit with rank-order dummies.

DV:	(1) Dem. Transition	(2) Dem. Survival
<b>Civic Freedoms: highest factor</b>		
lowest factor: Suffrage	<i>Reference category</i>	
lowest factor: Vote Quality	-0.214 (0.162)	-0.376** (0.146)
<b>Vote Quality: highest factor</b>		
lowest factor: Civic Freedoms	-0.574*** (0.248)	-0.082 (0.347)
lowest factor: Suffrage	-0.040 (0.211)	0.388* (0.229)
<b>Suffrage: highest factor</b>		
lowest factor: Civic Freedoms	-1.186*** (0.189)	-3.087*** (0.467)
lowest: Vote Quality	-0.731*** (0.142)	-0.356 (0.270)
Military Size	0.012 (0.084)	-0.292** (0.129)
Resource Dependence	-0.005 (0.008)	0.010 (0.012)
Democratic Breakdowns	0.129* (0.070)	-0.212** (0.107)
Region Polity	1.108** (0.533)	1.191 (1.056)
Never Colonized	0.502** (0.195)	-0.132 (0.346)
British Colony	-0.112 (0.148)	-0.211 (0.267)
GDP Per Capita (ln)	0.211** (0.086)	0.473** (0.188)
GDP Growth	-0.007 (0.005)	0.034*** (0.011)
$\Sigma$ Democracy	0.094 (0.309)	0.605 (0.390)
Duration splines	Yes	Yes
Decade FEs	Yes	Yes
Region FEs	Yes	Yes
N	5188	2927
log-Lik.	-394.608	-196.048

Standard errors in parentheses. \*\*\*p&lt;0.01; \*\*p&lt;0.05; \*p&lt;0.1.