

Introducing the Historical Varieties of Democracy Dataset: Political Institutions in the Long 19th Century*

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Abstract

The Historical Varieties of Democracy Dataset (Historical V-Dem) is a new dataset containing about 260 indicators, both factual and evaluative, describing various aspects of political regimes and state institutions. The dataset covers 91 polities globally – including most large, sovereign states, as well as some semi-sovereign entities and large colonies – from 1789 to 1920 for many cases. The majority of the indicators are also included in the Varieties of Democracy dataset, which covers the period from 1900 to the present – and together these two datasets cover the bulk of “modern history”. Historical V-Dem also includes several new indicators, covering features that are pertinent for 19th century polities. We describe the data, the process of coding, and the different strategies employed in Historical V-Dem to cope with issues of reliability and validity and ensure inter-temporal- and cross-country comparability. To illustrate the potential uses of the dataset we provide a descriptive account of patterns of democratization in the “long 19th century.” Finally, we perform an empirical investigation of how inter-state war relates to subsequent democratization.

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1. Introduction

Although many datasets describe political institutions in countries across the world, the Varieties of Democracy (V-Dem) dataset (Coppedge et al., 2018a,b) is the most wide-ranging, including several hundred indicators and indices. While V-Dem’s country coverage is impressive, historical coverage begins in 1900, omitting half of the period commonly labeled “modern history”. This omission poses a hindrance to systematic comparative description of institutional and political developments during this era, but also implies that several theories of political development lack the requisite data for testing.

The Historical Varieties of Democracy (Historical V-Dem) dataset remedies this situation. Historical V-Dem spans all major countries and several other polities, globally, between 1789 and 1920, encapsulating what Hobsbawm (1962, 1975, 1987) has called the “Long 19th Century”. With Historical V-Dem, most indicators contained in V-Dem now extend back to 1789, offering a continuous time series across more than 225 years for many polities. Historical V-Dem also provides several new indicators, many of them focused on features of state institutions and capacity, as well as the type of coalitions that supported political regimes.

In this article, we describe the dataset and data collection process. Next, we address issues of reliability, validity, and inter-temporal- and cross-country comparability, and describe our strategy for dealing with these concerns. Finally, we illustrate the potential uses of the data with two applications. First, we map global patterns of democratization across the “long 19th century” using measures from Historical V-Dem and comparing these patterns with those displayed by Polity2. Second, we analyze the relationship between international war and subsequent regime change along different dimensions. War participation correlates positively with indicators related to the electoral dimension of democracy, such as clean elections and suffrage, but not with other aspects of democracy.

2. Historical V-Dem and extant datasets

Despite the proliferation of high-quality datasets describing 20th and 21st century political institutions, there is a dearth of data for the 19th century. Of the widely used indices, only a few (e.g., Marshall, Jaggers & Gurr, 2015; Boix, Miller & Rosato, 2013) extend back to 1800. Moreover, the quality and level of detail for the 19th century coding of extant measures such as Polity2 are sometimes questionable, as we detail below. Further, they cover a limited range of institutional features, grounded in a specific conception of democracy.

One issue stemming from the dearth of systematically compiled and comparable cross- country data on historical institutions is incomplete descriptive information on institutional features and developments in the long 19th century. Key questions in comparative politics are thus left open. For example, did the long first wave of democratization stretch back to the beginning of the 19th century (Huntington, 1991) or erupt only after WWI (Doorenspleet, 2005)? Were there separate sub-waves of democratization after the 1848 revolutions (Weyland, 2014)? Was the movement toward democracy across the long 19th century discontinuous or gradual, and was it monotonic or characterized by reversals (Congleton, 2011; Ziblatt, 2017)?

The lack of data also means that scholars have been unable to address important questions pertaining to the causes and consequences of institutional development. The link between institutions and many potential determinants and outcomes is difficult to parse because of limited variation and the sluggish nature of institutions (and many outcomes). Only with a suitably long time-series can one hope to disentangle cause and effect (Knutson, Møller & Skaaning, 2016). Historical V-Dem thus

opens up new opportunities for social scientists studying both the historical trajectories of political-institutional developments and the causes and effects of political-institutional developments.

3. What does Historical V-Dem cover?

Historical V-Dem is divided into 10 surveys, covering different areas of political life: Elections; Parties; Executive; Legislature; Judiciary; Civil Liberties; State; Civil Society; Media; and Political Equality. There are two types of indicators: factual indicators coded by RAs (“*A* indicators”) and evaluative indicators coded by country experts (“*C* indicators”). *A* indicators involve features such as election dates, names of local government entities, the legal status of slavery, and existence of statistical agencies or national banks. *C* indicators pertain to features such as the extent of election violence, relative power of elected and non-elected offices at the local level, *de facto* freedom from forced labor, and the extent to which recruitment to the bureaucracy is merit-based.

There are 149 *C* indicators and 110 *A* indicators in Historical V-Dem. Appendix II provides condensed lists of all indicators (full details in the V-Dem codebook). 129 *C* indicators are adopted from V-Dem, whereas there 20 are new *C* indicators. About 50 *A* indicators are new to Historical V-Dem. Many of the new indicators are of special relevance for the 19th century.

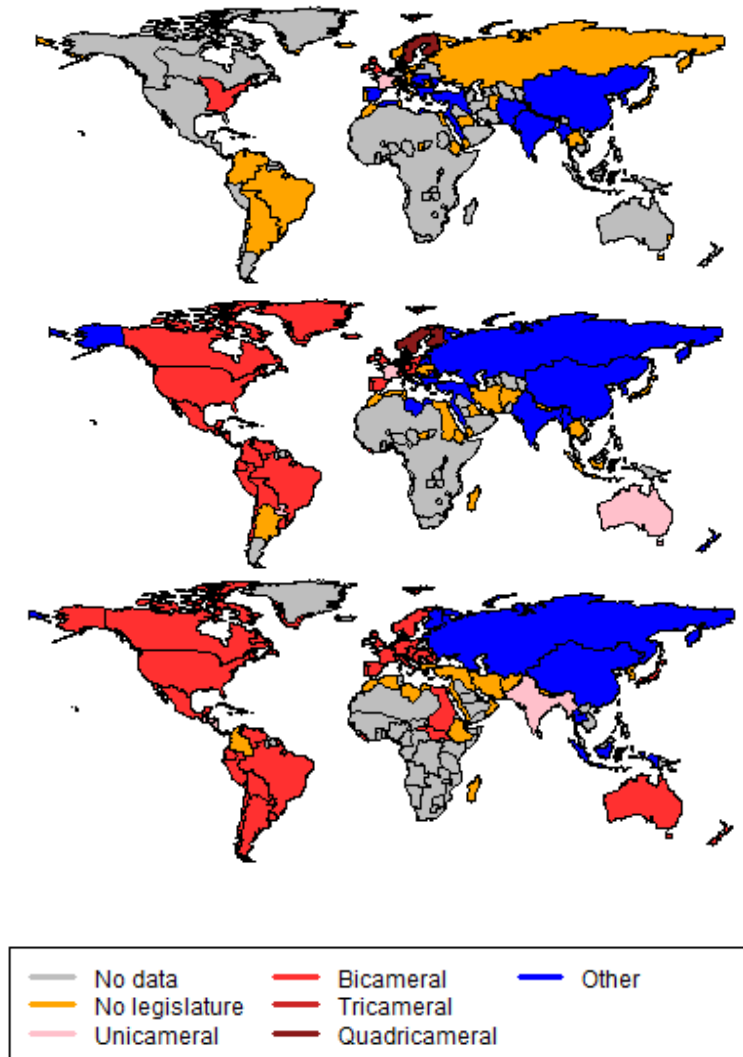
The 19th century was an era of state-building, and Historical V-Dem contains several new indicators pertaining to the development of state bureaucracies, armed forces, and various other agencies relevant for the capacity of states to gather information, monitor citizens and project power. For example, Historical V-Dem includes several indicators focused on the recruitment and remuneration of bureaucrats (and army officers) – capturing important dimensions of a “Weberian” bureaucracy. These variables allow, e.g., for systematic, empirical studies of processes of modern state formation – a core area of political science where most empirical contributions have been based on lengthy case narratives (e.g., Fukuyama, 2014).

Historical V-Dem also includes new indicators pertaining to “regimes” – understood here as a set of formal and/or informal rules that govern the choice of political leaders and their exercise of power. For instance, indicators capture when and how a particular regime ended, the size of regime support coalitions, and the social groups included in that coalition. These data will allow for empirical testing of arguments pertaining to particular social groups, e.g., agrarian elites or urban middle class, and their relevance for regime change (e.g., Moore, 1966; Ansell and Samuels, 2015). Likewise, they allow for testing whether size of regime support coalition has implications for policymaking in foreign and domestic policy arenas (Bueno de Mesquita et al., 2003).

Polities included in Historical V-Dem are a) sizeable (>250000 inhabitants); b) sovereign during an extended time period between 1789 and 1900, either in a formal-juridical or *de facto* sense; and, c) are by and large continuous with present-day states.¹ The resulting sample includes 91 polities – 14 from Africa and the Middle East, 21 from the Americas, 14 from Asia and the Pacific, and 42 from Europe – whereof 71 are listed by Gleditsch & Ward (1999). Details on the sample are presented in Appendix I.

¹ Regarding b), we cover 1789-1920 even if a unit was not independent during the entire period, if the area is not covered by another polity. To exemplify, Brazil is coded from 1789-1920, even if Brazil became truly independent from Portugal only in 1822.

Figure 1: Existence and type of legislature (*v3lgbicam*) for 1790 (top), 1850 (middle), and 1899 (bottom).



Note: The maps are produced for Historical V-Dem by digitizing and editing online map sources (see anonymized reference). Correspondence with Historical V-Dem units is, however, still not entirely accurate, especially for non-sovereign entities.

The modal time series is 1789-1920. More specifically, 41 polities are coded from 1789 to 1920 (66 start in 1789). However, some polities cease to exist as independent entities well before 1920, such as Bavaria (coded 1789-1871) after the creation of the German Empire. Others cease to exist for some time before they reappear. Tuscany, for example, is not coded 1807-1814 as it was annexed by France under Napoleon. The rule is that a particular area should not be coded for more than one political entity in a single year, and we have carefully gone through the history of border changes and specified the entities for the different parts of the time period (see V-Dem Countries document for details). Figure 1 maps the polities included in Historical V-Dem in 1790, 1850 and 1899, respectively, coloring countries by existence and chamber structure of the legislature (*v3lgbicam*), one of the indicators that cover all 91 polities.

4. How was Historical V-Dem constructed?

Constructing this dataset required significant human and financial resources. Planning started in 2013, using the contemporary V-Dem codebook as the point of departure. Successive rounds of deliberation were required to identify which contemporary V-Dem questions to a) omit, b) adjust (to fit the historical context), or c) create anew. We conducted pilot surveys on Denmark and Colombia in 2014, after which we received comments and identified potentially problematic questions that needed to be dropped or revised.

Although V-Dem coding for the contemporary era (1900–) uses multiple coders (generally about five per country-question), it was infeasible to achieve the same complement for the historical era. Detailed historical knowledge of political affairs is rarer than knowledge of contemporary political affairs, especially with respect to small and understudied countries. Only a few experts around the world are able to code, say, Bavaria, Madagascar, or Oman in 1800. Thus, we followed a narrow strategy of recruitment, seeking to identify one or two highly qualified experts for each historical case. We also compensated experts fairly generously (1250-2000 Euro per country, depending on estimated workload), with the understanding that they would need to consult sources to answer many of the questions.

Team members and research assistants compiled long lists of potential country experts, employing scholarly networks and web- and literature searches. Ideal experts have an academic track record working on a country's political history. Experts with identifiable competencies in various political-institutional features were prioritized, as were experts with comparative knowledge of other countries, *ceteris paribus*. In the end, most experts were historians or historically oriented political scientists. A few experts were asked to code more than one polity if they had comprehensive knowledge of different polities (for example, the expert for Baden also coded Württemberg). Coding was conducted through a web-platform constructed for V-Dem and customized for Historical V-Dem. Experts could contact the team with questions of clarification and to provide information about potential issues with the pre-coded data on, e.g., election dates or heads of state and government. The team discussed these issues, correcting identified errors before the expert continued coding.

Country-expert coding started in December 2015 and is ongoing, currently with a special focus on adding a second historical expert for selected countries. (Our ambition is to have a large proportion of Historical V-Dem countries with two or more coders within a few years.) Research assistants at several universities coded the *A* variables. A team member or another RA validated these codings, and possibly adjusted them after deliberation.

5. Methodological problems and solutions

The specificity of most Historical V-Dem indicators ameliorates the fuzziness of measures in other datasets, which often pertain to diffuse topics as “executive constraints” or “competitiveness of executive recruitment” (Polity IV). However, this specificity also places a tremendous burden on coders to ascertain the historical facts, e.g., to pin down the extent of vote fraud in an election. Most experts agreed to be publicly acknowledged for their work on a particular country, ensuring full transparency and offering an additional incentive to provide accurate coding.

As with contemporary V-Dem, we face a challenge in achieving equivalence across countries and experts. For example, we want to ensure that when scores between France and Russia in 1880 differ, this is because the situations in these two countries diverge and not simply because our expert on

France is more or less “strict” than the Russia expert. We therefore employ a latent variable model—more specifically, the V-Dem measurement model—to generate estimates based on various sources of information, anchoring scores across time and space to a common scale (Pemstein et al., 2017). Uncertainty estimates accompany point estimates to reflect measurement error; for additional information regarding uncertainty, experts also rate their own subjective certainty (from 0-100) for each observation. Issues of uncertainty are perhaps even more pertinent for the historical period than more recent years, due to fewer sources and scholars that specialize in the political institutions of this period. Accordingly, uncertainty about historical point estimates is generally higher than in contemporary V-Dem.

Incorporating historical ratings into the V-Dem modeling framework required several model refinements.² Regarding key sources of information fed into the measurement model, we, first, encouraged historical experts with an additional monetary incentive to code three extra countries from a list of six (USA, UK, France, Mexico, China, and Russia), for the first year after 1900 with an election for each selected country. This procedure provides us with important information to assess how historical experts differ in their understanding of the question scale.

Second, *all* historical experts coded an identical set of indicator-specific anchoring vignettes (King & Wand, 2007) prior to coding their cases. Vignettes provide a powerful tool for addressing differences in ordinal scale perception (“Differential Item Functioning”) by allowing us to compare coders who do not share expertise across cases. In our case, vignettes represent hypothetical cases specific to each indicator that have two plausible scores on the question scale (see Appendix III).

Third, experts also coded an overlap period with contemporary V-Dem of about twenty years, typically 1900-1920, for the polity that they coded prior to 1900 *or* that country’s successor state (e.g., Italy for Modena). Overlap years thus include data from historical *and* contemporary experts. By comparing an historical expert’s scores during this period to those of her contemporary colleagues, the measurement model algorithm can assess both her reliability and the degree to which she systematically codes different ordinal categories than her peers. In conjunction with the vignettes, this overlap period bridges historical experts to the contemporary coders.

However, preliminary analyses indicated that there were too few overlapping observations for the original measurement model to adequately adjust for differences in expert scale perception. Specifically, in initial runs of the model we discovered disjunctures between the pre- and post-1900 periods. An inspection of raw coder scores indicated that these disjunctures were due to historical experts systematically diverging in their codings from their contemporary V-Dem counterparts. Intuitively, experts appear to adjust their scales to the range of institutional quality across the observations that they consider – with historical experts applying more favorable judgments to the quality of democracy in the 19th century, presumably because they are implicitly “historicizing” their subject matter. To compensate for this effect, we adjusted the measurement model to include country-specific offsets into the prior values for years that historical experts coded.³

² See Pemstein et. al., (2017) for a full technical description of V-Dem’s latent modeling framework. Section 2.7 provides an in-depth description of issues related to Historical V-Dem.

³ We model our prior belief about the value of a historical observation as the sum of the ordinal value provided by the expert for that observation and the average difference between her yearly codings during the overlap period (typically 1900-1920) and the average yearly codings of the contemporary experts, restricted such that the value does not go beyond the ordinal scale’s range. This sum is normalized across all country-years (contemporary and historical) to calculate the prior.

Potential users of the data should bear in mind several notes of caution. First, nineteenth century data is inherently less certain than twentieth century data. Sources are fewer, and errors in those sources more likely. This caveat applies to *any* historical coding. Second, the sample of coded units expands in 1900 as Contemporary V-Dem codes a much larger number of colonies. Researchers studying global or regional trends should thus take note of discontinuities due to changing sample composition. Third, within- country discontinuities between historical and contemporary coding might persist, despite our attempt to overcome this problem. We advise researchers to examine the time-series (for variables of interest) or include time-period controls in their analysis. Finally, because of the difficulty of achieving inter-coder equivalence, comparisons through time are apt to be more acute than comparisons across cases. Consequently, models that include country fixed-effects are probably more reliable.

6. Patterns of democratization in the early part of modern history

Historical V-Dem includes data for 91 countries; however, coverage varies across questions. We focus here on 72 polities with data for all components entering the V-Dem Polyarchy (“Electoral democracy”) index (Teorell et al., 2018). (In subsequent editions of the dataset we hope to rectify missingness so that almost all 91 countries are included.) We start by considering the average trend in Polyarchy from 1789 to 1944, including a 95% confidence interval (in blue) reflecting the underlying uncertainty in the point estimates. We extend the time period beyond 1920 in order to include not only Huntington’s (1991) “first wave of democratization” but also the “first reverse wave” in the inter-war years. This also highlights the continuity of the V-Dem time series beyond the time period covered by Historical V-Dem.

Figure 2. The First Wave, 1789-1944

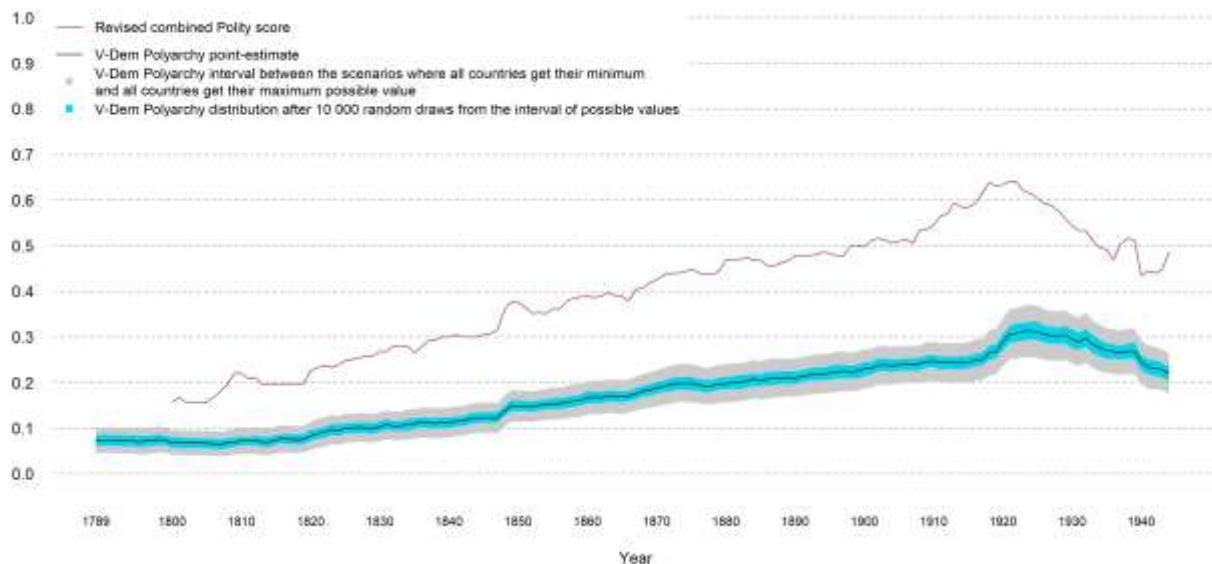
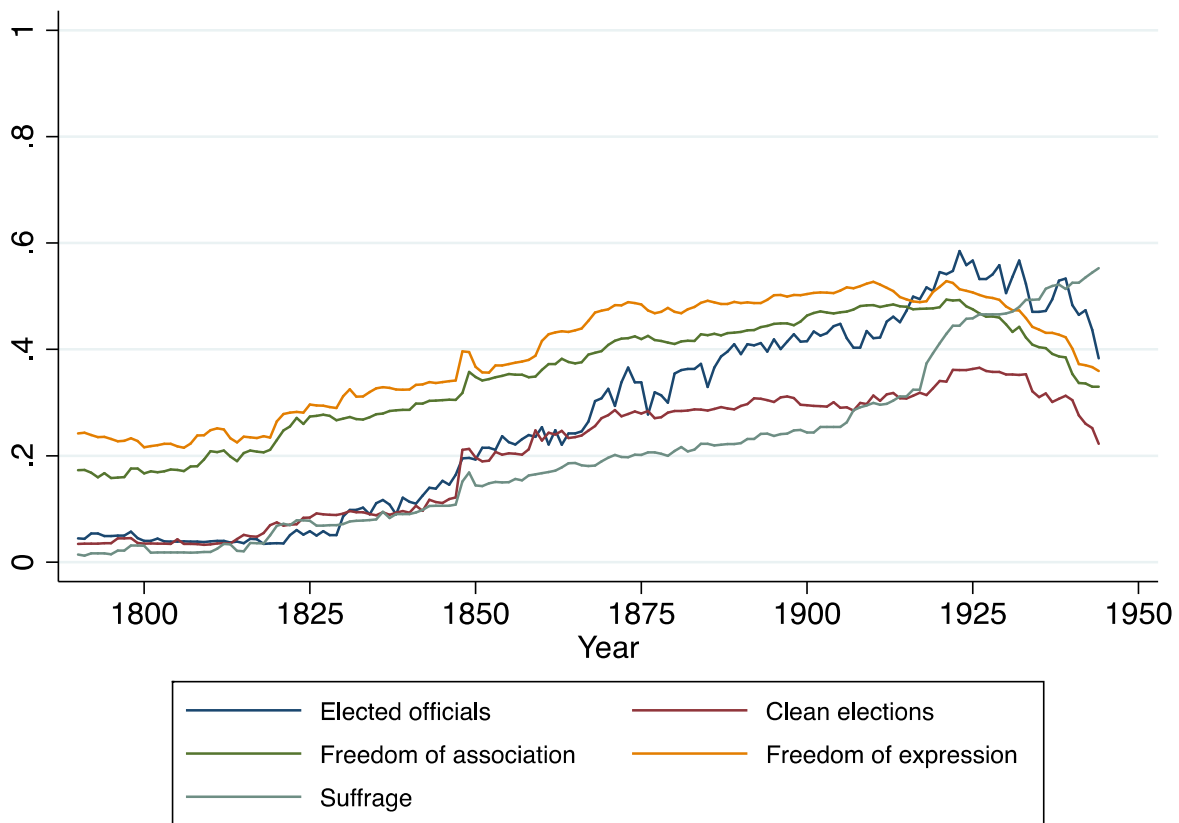


Figure 2 reveals that the upward trend in Polyarchy from 1789 to WWI is gradual. There is a small dent around the revolutionary year of 1848, but overall, as argued by Weyland (2014), several of the

revolutionary events were largely contained within the respective countries and did not ripple across either Europe or other continents. Only with the truly international event of WWI comes a large spike in Polyarchy. Overall, the trend follows Congleton's (2011) description of the 19th century as an era of multiple, minor, liberal reforms. The first wave was not only a long wave; it was also a slow wave.

Figure 2 also shows that Polity2 reports a largely similar aggregate pattern. However, these data sources are quite different in other respects. First, since Polyarchy combines information from a number of underlying indicators, we are able to drill down to view the evolution of its constituent parts. (Polity2 also offers opportunities for disaggregation. However, this index has just a few components, which are themselves highly aggregated.) In Figure 3, we show the trajectories of all five of Dahl's (1998) institutional guarantees (the components of Polyarchy): elected officials, free and fair elections, freedom of association, freedom of expression, and suffrage.⁴ With few exceptions, they trend upwards throughout the long 19th century, but they also reveal some hitherto unexplored patterns.

Figure 3. Polyarchy Components, 1789-1944



⁴ Elected officials, free and fair elections, freedom of association, freedom of expression, and suffrage respectively draw on 16, 8, 6, 8, and 1 indicators. Freedom of expression is the only part of the index construction that differs (though only slightly) from contemporary V-Dem: one media indicator (v2mecenefm) was not included in the historical survey.

First, while direct comparisons across indices should be conducted with caution, we note that the “freedom” components have the highest values, whereas the more strictly political ones, concerning electability of executives and legislatures, fairness of elections, and suffrage extension, display much lower average scores throughout most of the 19th century. This is markedly different after WWII, where suffrage and elected officials are the clearly highest-ranking components of Polyarchy. Moreover, Figure 3 shows that suffrage is the aspect of Polyarchy that had the lowest average scores, at least from 1850 to WWI. Universal suffrage has often been treated as the “crowning event” of democratization during the first wave.

Polyarchy’s consistently lower values in Figure 2 signals a second conspicuous difference: Polity2 offers a more lenient standard of democracy. To show this difference more precisely, Figure 4 plots Polyarchy against Polity2 scores (re-scaled 0-1), averaged across 1800 (start year of Polity) to 1944, for the 58 countries covered by both measures. The diagonal line marks no average differences (which might mask yearly differences that cancel each other out), so countries above the line have higher Polyarchy scores, and countries below have higher Polity2 scores. Consistent with the over-time trends, few countries have higher Polity2 than Polyarchy scores on average. We have highlighted the three top countries in the former group (Baden, Bavaria, and Modena), and ten in the latter.

Figure 4. Comparing V-Dem Polyarchy to Polity2, 1800-1944

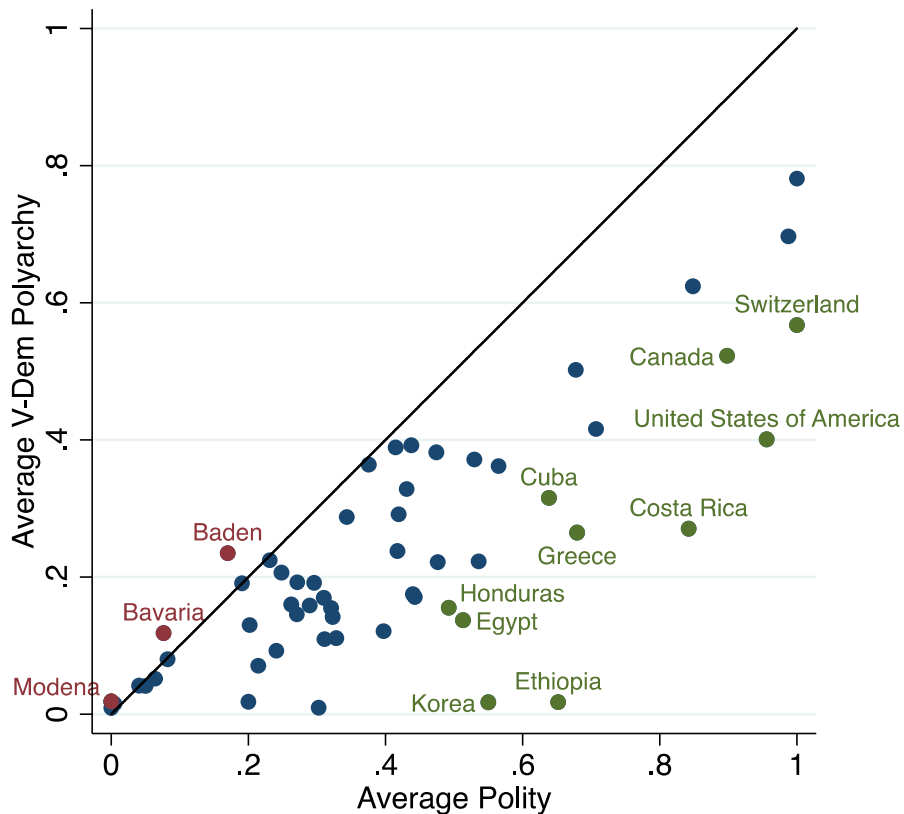
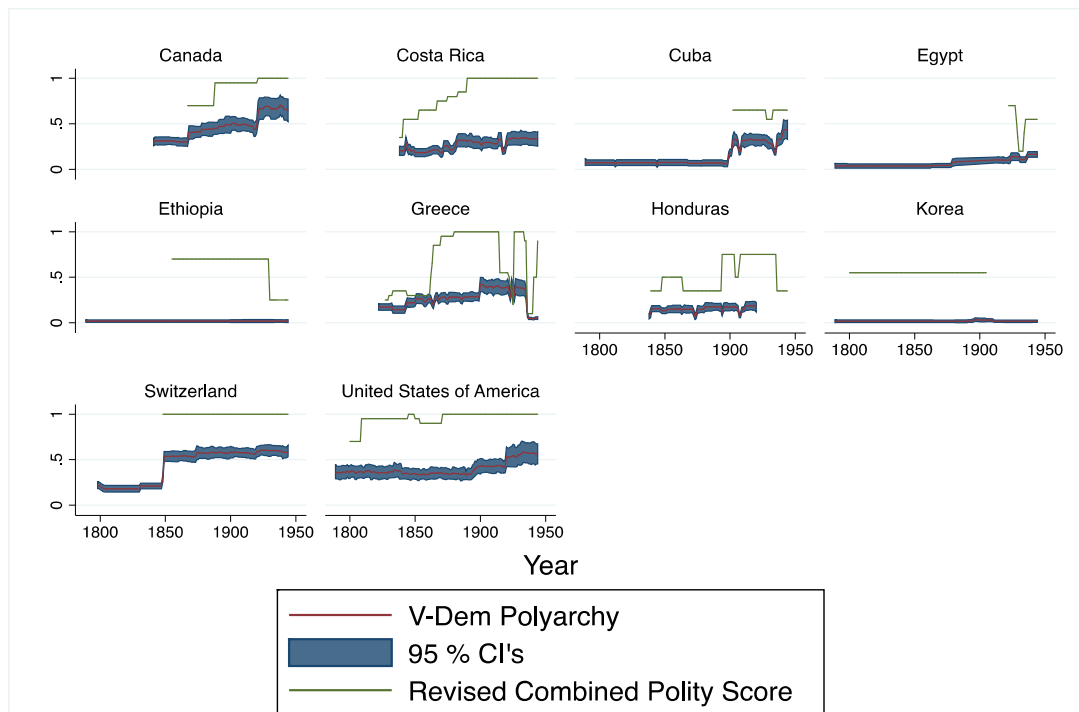


Figure 5 plots the latter “top ten” countries over time, including 95% confidence intervals for Polyarchy. The differences are substantial. Polity2 scores the US at its maximum already in 1871, and does not pick up any subsequent change in democracy, despite *de jure* and *de facto* restrictions on voting rights for large parts of the population, including women and African-Americans (especially) in the South. Similarly, Polity2 ignores suffrage restrictions in Canada, Costa Rica, Greece, and Switzerland. Polity2 also has a surprisingly high appraisal of democracy in Ethiopia and Korea, despite these polities never holding elections and, with the partial exception of the Great Korean Empire from 1897 until Japanese annexation in 1910, severely restricted freedoms of expression and association. The main explanation appears to be Polity2’s high appraisal of the executive constraints in these countries (likewise for Egypt after independence in 1922). In Honduras and Cuba, finally, the discrepancies seem to mainly reflect that Polity2 codes their elections as both fully open and competitive, almost from inception, despite severe incidences of fraud and irregularities reported by our expert coders.

Figure 5. Ten Largest Country Discrepancies in Polyarchy vs. Polity2, 1789-1944



7. The role of war in democratization across modern history

Finally, we employ Historical V-Dem data to investigate a potential determinant of democracy: international conflict. Key criticisms of the democratic peace literature have argued that the latter is “putting the cart before the horse” (Thompson, 1996): war affects regime type and not (just) vice versa. Gibler (2012) provides a recent, comprehensive empirical treatment, arguing that (territorial) war breeds autocracy. According to Gibler, wars create larger armies, which can be used for internal repression. Wars also induce political centralization, which can lead to dictatorship. Further, populations facing external threats supposedly become more willing to defer to ascendant autocrats.

Others have argued that war can favor subsequent democratization. Summarizing the record in Europe after the two world wars, Therborn (1977, 19) proposes that “democracy is largely a martial accomplishment”. Regimes ruling countries that lose in inter-state wars are sometimes toppled through external intervention (Pickering & Peceny, 2006; Grimm, 2008), although – contingent on the intervening state’s interests and anticipated policies under different regimes in the target state – such interventions can lead to no democratic improvements, or even backsliding (Bueno de Mesquita & Downs, 2006). Nonetheless, war, and especially loss in war, can also alter the relative power of key domestic groups, sometimes undermining entrenched autocrats and strengthening domestic constituencies favoring regime change.

The empirical evidence is mixed. There are some indications that war hinders democratization, at least in the short run (e.g., Reiter, 2001; Mitchell, Gates & Hegre, 1999). Other studies yield mainly null-findings, using different measures of international conflict such as number of militarized interstate disputes (Oneal & Russett, 2000; see also Reiter, 2001), extra-systemic and inter-state wars (Mansfield & Snyder, 2010), or interstate wars fought against major powers or bordering nations (Mousseau & Shi, 1999).

Assessing how war affects regime type requires data with long time series that also capture detailed institutional features. This is especially important given (a) the paucity of inter-state wars; (b) the possibility of temporal heterogeneity, given changes to the international system and power structure (see Boix, 2011); and (c) the possibility that war affects only some aspects of democracy, but not others. For example, suffrage expansions are often viewed as concessions in return for mass-conscription (for men) or female labor force participation during times of warfare (Ticchi & Vindigni, 2008).

We employ the Interstate War Dataset’s (IWD) list of inter-state wars (Reiter, Stam & Horowitz, 2016), an augmented and improved list of wars based on the Correlates of War (COW) (Sarkees et al., 2010), covering 1817-2007. To capture the impact of war, we register number of years a country has experienced war between $t-1$ and $t-5$. Since an ongoing war may have different implications for current regime type than past war exposure, we control for ongoing war at t . We focus on the V-Dem Polyarchy measure, but contrast results with Polity2 to investigate whether estimates hinge on the measurement of democracy. Our baseline specification is intentionally sparse, controlling only for GDP per capita, population, and year-fixed effects. Population and GDP measures are from Fariss et al. (2017), who draw on several data sources and use a dynamic latent trait model to handle issues of measurement error. Specifically, we use their estimates benchmarked by the extensive Maddison time series. We cluster errors by country to account for serial correlation within panels.

Column 1, Table 1 presents results for Polity2 for all observations with available data (1817–2006). The war experience (past 5 years) coefficient is significant and negative, indicating that downturns in Polity2 often follow wars. The point estimates suggest that an additional war year reduces Polity2, which extends from -10 to 10, by 0.1 points in year t , and by 3.3 points in the long run.⁵

⁵ Long-run coefficients are calculated as $War\ past\ 5\ years / (1-LDV)$.

Table 1. Regressing interstate war on Polity2 and Polyarchy

	(1)	(2)	(3)	(4)	(5)	(5)
	Polity2	Polyarchy	Polity2	Polyarchy	Polity2	Polyarchy
	1817-2006	1817-2006	1817-1918	1817-1918	1918-2006	1918-2006
	LDV	LDV	LDV	LDV	LDV	LDV
War past 5 years	-0.102** (-2.03)	0.004*** (2.75)	-0.001 (-0.02)	0.003** (2.33)	-0.154** (-2.33)	0.005** (2.15)
Ongoing war	0.104 (1.56)	-0.002 (-1.21)	0.209* (1.68)	-0.000 (-0.14)	0.085 (0.98)	-0.002 (-0.64)
Ln(GDPpc)	0.097*** (5.51)	0.002*** (2.79)	0.064*** (3.41)	0.001** (2.18)	0.114*** (4.58)	0.002** (2.52)
Ln(population)	0.023** (2.23)	-0.000 (-0.48)	0.015* (1.78)	-0.000 (-0.27)	0.027** (2.20)	-0.000 (-0.05)
Lagged DV	0.969*** (272.19)	0.987*** (406.58)	0.987*** (364.86)	0.999*** (395.97)	0.963*** (202.32)	0.985*** (346.29)
Year-FE	Y	Y	Y	Y	Y	Y
N	14291	17081	4883	5649	9353	11349
R ²	0.956	0.979	0.977	0.985	0.947	0.975

Notes: ***p<0.01; **p<0.05; *p<0.1. All models are OLS with errors clustered by country. T-values reported in parentheses.

Column 2 reports a model using Polyarchy. In stark contrast to the Polity2 result, war experience is positive and precisely estimated for Polyarchy, suggesting that interstate war corresponds with subsequent democratization. An extra war year is estimated to increase Polyarchy, extending from 0-1, by 0.004 in year t , and by 0.31 in the long run. The more extensive coverage on Polyarchy gives 2790 additional observations in Column 2 compared to Polity2 (Column 1). When re-estimating on the same sample, we find that most of the discrepancy is due to differences in measurement. However, war experience is attenuated (to 0.002) and statistically insignificant ($t=1.6$) in the limited sample (see Appendix IV). Thus, the clear, positive relationship in Column 2 at least partly results from Polyarchy allowing us to include observations not covered by Polity.

Columns 3-4 re-estimate Columns 1-2, restricted to 1817-1918. While there is no clear evidence for a relationship between war experience and democratization in this period when using Polity, there is a positive relationship for Polyarchy. When only studying the post-WWI period, we find similar results as for the full sample (see Columns 5-6): war experience is negatively related to democracy when the dependent variable is Polity, but positively related when it is Polyarchy. For Polyarchy, war experience is somewhat larger in the post-WWI sample, which may partly result from more foreign-imposed democratic transitions, e.g. in Italy, Germany and Japan after WWII. However, the difference in coefficients between the samples is statistically insignificant.

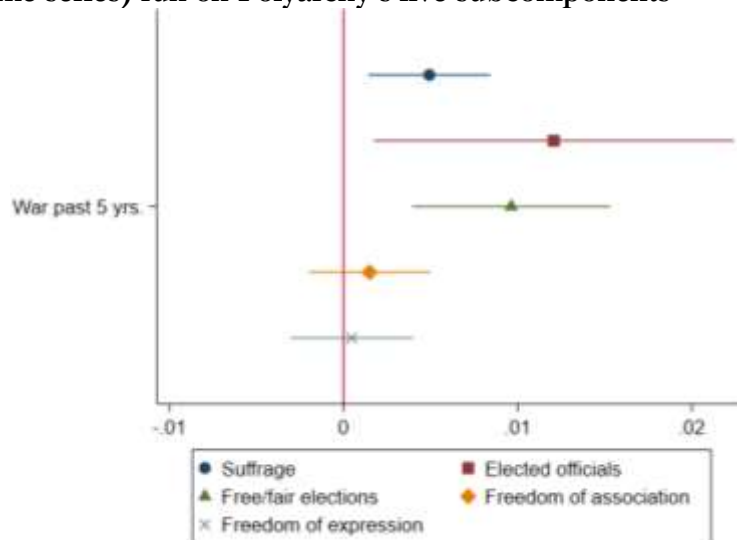
We mostly find similar results in models that add country-fixed effects (see Appendix IV for all robustness tests). We also control for additional covariates, namely average regional democracy score (capturing diffusion mechanisms; Gleditsch, 2002) and civil war (intrastate war from COW). While the war experience coefficient is somewhat attenuated, it remains significant at 5 percent for Polyarchy. Likewise, it remains negative and significant for Polity. We also control for urbanization and natural resource dependence (data from Miller, 2015), which attenuates the estimate for war experience on Polyarchy, and turns it insignificant; this result is, however, due to the large drop in observations from list-wise deletion (the benchmark gives virtually identical results on the truncated

sample). Results are also robust to using the COW coding of interstate wars and to incorporating uncertainty estimates from the V-Dem measurement model.

Regime type may influence war behavior, raising concerns of reverse causality bias. The lagged dependent variable and measuring regime type after war experience somewhat mitigates these concerns. But, to further probe the issue of causal direction, we ran various Granger tests with Polyarchy and war experience as dependent variables, respectively (see also Mitchell, Gates & Hegre, 1999; Oneal & Russett, 2000). The tests, reported in Appendix IV, are mixed on the relevance of war experience for predicting democracy, though war experience is a stronger predictor when using longer time lags. Further, past democracy levels predict war experience. These results caution against drawing too strong causal conclusions from our results.

Finally, to probe deeper into what might be driving the relationship between war and democracy, we disaggregate Polyarchy into its subcomponents, and use them as dependent variables in our benchmark specification on the full sample. These results (Figure 6) show that freedom of association and freedom of expression are not clearly related to past war exposure. In contrast, the suffrage-, elected officials-, and clean elections indices are all positively correlated with past war exposure. Thus, the positive relationship between war and democracy seems primarily to work through the electoral channel. This result is consistent with the notion that participation in free and fair elections (suffrage) is widened by experiences with interstate conflict, perhaps due to dynamics relating to mass mobilization and subsequent bargaining with elites (Ticchi & Vindigni, 2008).

Figure 6. Coefficient estimates with 95% confidence intervals for “War past 5 years” from benchmark (full time series) run on Polyarchy’s five subcomponents



In sum, when employing our data, war exposure correlates positively with democracy, and particularly when focusing on electoral components such as suffrage extension and cleanness of elections. The choice of democracy measure matters: the Polyarchy measure shows a clear positive association between prior war exposure and democracy. This relationship is different with Polity2. While these differences are partly due to Polyarchy covering more observations, the difference also seem to partly stem from differences in components included in the measures. For example, Polity2 essentially ignores suffrage, a vital component in Polyarchy.

8. Conclusion

We have laid out the general features and content of Historical V-Dem, and described how it addresses issues of reliability, validity, inter-temporal- and cross-country comparability. When combined with contemporary V-Dem, the more than 250 indicators contained in Historical V-Dem open up new possibilities for drawing on information from the entirety of “modern history” to inform studies of democracy and related phenomena such as state-building. Here, we have shown how the detailed nature of V-Dem data can be used to identify trends in democracy and explore the relationship between interstate war and democratization. Subsequent research can use these data to delve more closely into potential determinants and effects of different varieties of democracy, as well as effects of more specific political institutions.

References

- Anonymous (2018) "Ports and Democracy". Working paper.
- Ansell, Ben & David Samuels (2015). *Inequality and Democratization: An Elite-Competition Approach*. New York: Cambridge University Press.
- Boix, Carles (2011) Democracy, Development, and the International System. *American Political Science Review* 105(4): 809-828.
- Boix, Carles; Michael Miller & Sebastian Rosato (2013) A Complete Dataset of Political Regimes, 1800-2007. *Comparative Political Studies* 46(12): 1523-1554
- Bueno de Mesquita, Bruce; Alastair Smith, Randolph M. Siverson & James D. Morrow (2003) *The Logic of Political Survival*. Cambridge, MA.: The MIT Press.
- Bueno de Mesquita, Bruce & George Downs (2006) Intervention and Democracy. *International Organization* 60(3): 627-49
- Congleton, Roger (2011) *Perfecting Parliament. Constitutional Reform, Liberalism, and the Rise of Western Democracy*. Cambridge: Cambridge University Press.
- Coppedge, Michael; John Gerring, Carl Henrik Knutsen, Staffan I. Lindberg, Svend-Erik Skaaning, Jan Teorell, David Altman, Michael Bernhard, Agnes Cornell, M. Steven Fish, Haakon Gjerløw, Adam Glynn, Allen Hicken, Joshua Krusell, Anna Lührmann, Kyle L. Marquardt, Kelly McMann, Valeriya Mechkova, Moa Olin, Pamela Paxton, Daniel Pemstein, Brigitte Seim, Rachel Sigman, Jeffrey Staton, Aksel Sundtröm, Eitan Tzelgov, Luca Uberti, Yi-ting Wang, Tore Wig, & Daniel Ziblatt (2018a) *V-Dem Codebook v8*. Varieties of Democracy (V-Dem) Project.
- Coppedge, Michael; John Gerring, Carl Henrik Knutsen, Staffan I. Lindberg, Svend-Erik Skaaning, Jan Teorell, David Altman, Michael Bernhard, M. Steven Fish, Agnes Cornell, Sirianne Dahlum, Haakon Gjerløw, Adam Glynn, Allen Hicken, Joshua Krusell, Anna Lührmann, Kyle L. Marquardt, Kelly McMann, Valeriya Mechkova, Juraj Medzihorsky, Moa Olin, Pamela Paxton, Daniel Pemstein, Josefine Pernes, Johannes von Römer, Brigitte Seim, Rachel Sigman, Jeffrey Staton, Natalia Stepanova, Aksel Sundström, Eitan Tzelgov, Yi-ting Wang, Tore Wig, Steven Wilson, & Daniel Ziblatt (2018b) *V-Dem [Country-Year/Country-Date] Dataset v8*. Varieties of Democracy (V-Dem) Project. <https://doi.org/10.23696/vdemcy18>.
- Dahl, Robert (1971) *Polyarchy*. New Haven & London: Yale University Press.
- Dahl, Robert (1998) *On Democracy*. New Haven & London: Yale University Press.
- Doorenspleet, Renske (2005) *Democratic Transitions: Exploring the Structural Sources of the Fourth Wave*. Boulder and London: Lynne Rienner
- Fariss, Christopher J., Charles D. Crabtree, Therese Anders, Zachary M. Jones, Fridolin J. Linder & Jonathan N. Markowitz (2017) Latent Estimation of GDP, GDP per capita, and Population from Historic and Contemporary Sources. Working paper.
- Fukuyama, Francis (2014) *Political order and political decay : from the industrial revolution to the globalization of democracy*. New York: Farrar, Straus and Giroux.

- Gibler, Douglas M. (2012) *The territorial peace: Borders, state development, and international conflict*. Cambridge: Cambridge University Press.
- Gleditsch, Kristian S (2002) *All International Politics is Local: The Diffusion of Conflict, Integration, and Democratization*. Ann Arbor: University of Michigan Press.
- Gleditsch, Kristian S. & Michael D. Ward (1999) Interstate System Membership: A Revised List of the Independent States since 1816. *International Interactions* 25(4): 393-413.
- Grimm, Sonja (2008) External Democratization after War: Success and Failure. *Democratization* 15(3): 525-49.
- Hobsbawm, Eric (1962) *The Age of Revolution 1789–1848*. London: Weidenfeld and Nicolson.
- Hobsbawm, Eric (1975) *The Age of Capital 1848–1875*. London: Weidenfeld and Nicolson.
- Hobsbawm, Eric (1987) *The Age of Empire 1875–1914*. London: Weidenfeld and Nicolson.
- Huntington, Samuel (1991) *The Third Wave: Democratization in the Late Twentieth Century*. Norman and London: University of Oklahoma Press.
- King, Gary & Jonathan Wand (2007) Comparing Incomparable Survey Responses: Evaluating and Selecting Anchoring Vignettes. *Political Analysis* 15(1):46-66.
- Knutsen, Carl Henrik; Jørgen Møller & Svend-Erik Skaaning (2016) Going historical: Measuring democraticness before the age of mass democracy. *International Political Science Review*, 37(5): 679-689.
- Marshall, Monty G.; Keith Jagers & Tedd R. Gurr (2015) *Polity IV project: Political regime characteristics and transitions, 1800-2013. Dataset users' manual, version 2014*. Fort Collins: Colorado State University.
- Mansfield, Edward & James Snyder (2010) Does War Influence Democratization? In: Kier, E. & R Krebs (eds.) *In War's Wake. International Conflict and the Fate of Liberal Democracy*. Cambridge: Cambridge University Press.
- Mitchell, Sara McLaughlin; Scott Gates, & Håvard Hegre (1999) Evolution in democracy-war dynamics. *Journal of Conflict Resolution* 43(6): 771-792.
- Moore, Barrington (1966) *Social origins of dictatorship and democracy : lord and peasant in the making of the modern world*. Boston: Beacon.
- Mousseau, Michael & Yuhang Shi (1999) A Test for Reverse Causality in the Democratic Peace Relationship. *Journal of Peace Research* 36(6): 639-663.
- Oneal, John & Bruce Russett (2000) Why 'An Identified Systemic Model of the Democracy- Peace Nexus' Does Not Persuade. *Defence and Peace Economics* 11(2): 197-214.
- Pemstein, Dan; Kyle L. Marquardt, Eitan Tzelgov, Yi-ting Wang, Joshua Krussel & Farhad Miri (2018) *The V-Dem Measurement Model: Latent Variable Analysis for Cross-National and Cross-Temporal Expert-Coded Data*. V-Dem Working Paper 21 [Updated version, April 2018].
- Pickering, Jeffrey & Mark Peceny (2006) Forging Democracy at Gunpoint. *International Studies Quarterly* 50: 539-59.
- Reiter, Dan (2001) Does peace nurture democracy? *Journal of Politics* 63(3): 935-948.

- Reiter, Dan; Allan C. Stam & Michael C. Horowitz (2016) A deeper look at interstate war data: Interstate War Data version 1.1. *Research & Politics*. *Link:*
<https://doi.org/10.1177/2053168016683840>
- Sarkees, Meredith Reid & Frank Wayman (2010) *Resort to War: 1816-2007*. Washington D.C.: CQ Press.
- Teorell, Jan; Michael Coppedge, Svend-Erik Skaaning & Stafan I. Lindberg (2018) Measuring Polyarchy across the Globe, 1900-2016. *Studies in Comparative International Development*. Forthcoming.
- Therborn, Göran (1977) The Rule of Capital and the Rise of Democracy. *New Left Review* I/103: 3-41.
- Thompson, William R. (1996) Democracy and peace: putting the cart before the horse? *International Organization* 50(1): 141-174.
- Weyland, Kurt (2014) *Making Waves: Democratic Contention in Europe and Latin America since the Revolutions of 1848*. Cambridge: Cambridge University Press.
- Ziblatt, Daniel (2017) *Conservative Parties and the Birth of Democracy*. Cambridge: Cambridge University Press.

Online Appendices

Appendix I: Sample

The authoritative list by Gleditsch & Ward (1999) served as the point of departure for delimiting the current sample.ⁱ More specifically, the main criteria for including polities is that they are a) fairly sizeable (>250000 inhabitants); b) sovereign during an extended time period between 1789 and 1900, either in a formal-juridical or *de facto* sense; and, that they c) match present-day state units.

Historical V-Dem includes another 20 polities not covered by Gleditsch & Ward (1999). After a careful mapping of potential polities to be included these are polities that corresponds to a contemporary state and that, despite the lack of international sovereignty, wielded sufficient *de facto* domestic sovereignty (over an extended period prior to 1900) for being considered as at least semi-sovereign. This means that we included Australia, Finland, Hungary, Kuwait, Norway, New Zealand, Poland and Yemen as well as two “precursor” polities of contemporary states where borders do not quite fit the latter (Nejd/Saudi Arabia, Bukhara/Uzbekistan). In addition, we included a selection of colonies/protectorates, including the two most populous, namely British India and the Dutch West Indies (Indonesia), plus three smaller, namely Cuba, Singapore and Zanzibar. Finally, due to a particular extra grant, we included five additional pre-unification German principalities below the 250,000 population threshold (Brunswick, Hamburg, Oldenburg, Nassau and Saxe-Weimar).

Table A.I lists the time series for each polity included in Historical V-Dem.

ⁱ Gleditsch and Ward (1999) identify 75 independent polities pre-1900. Two polities from this list, which do not neatly map onto borders of a contemporary state entity (Orange Free State and Transvaal), plus one short-lived polity (Algeria prior to the French conquest), are currently not included in Historical V-Dem. Since we also treat Colombia and Gran Colombia, as well as Guatemala and the United Provinces of Central America, as one case each, but Piedmont-Sardinia as separate from pre-unification Italy, we end up with 91 polities after adding 20 extra polities (75-3-2+1+20=91).

Table A.I: Countries and years covered in Historical V-Dem

Unit	Years covered	Polity	Years covered
Afghanistan	1789-1920	Mecklenburg Schwerin	1789-1867
Argentina	1789-1920	Mexico	1789-1920
Australia	1789-1920	Modena	1789-1797; 1814-1859
Austria	1789-1938	Montenegro	1789-1918
Baden	1789-1871	Morocco	1789-1920
Bavaria	1789-1871	Nassau	1806-1866; 1900-1920
Belgium	1789-1795; 1830-1920	Nepal	1789-1920
Bolivia	1825-1920	Netherlands	1789-1810; 1813-1920
Brazil	1789-1920	New Zealand	1841-1920
Brunswick	1789-1807; 1813-1867	Nicaragua	1838-1920
Bulgaria	1878-1920	Norway	1789-1920
Burma/Myanmar	1789-1920	Oldenburg	1789-1810; 1813-1867
Canada	1841-1920	Oman	1789-1920
Chile	1789-1920	Orange Free State	1854-1910
China	1789-1920	Papal States	1789-1809; 1814-1870
Colombia	1789-1920	Paraguay	1811-1920
Costa Rica	1838-1920	Parma	1789-1802; 1814-1859
Cuba	1789-1920	Peru	1789-1920
Denmark	1789-1920	Piedmont-Sardinia	1789-1861
Dominican Republic	1789-1822; 1844-1920	Poland	1789-1795; 1807-1867; 1918-1938
Ecuador	1830-1920	Portugal	1789-1920
Egypt	1789-1920	Romania	1789-1920
El Salvador	1838-1920	Russia	1789-1920
Ethiopia	1789-1920	Saudi Arabia	1789-1818; 1822-1952
Finland	1809-1920	Saxe-Weimar-Eisenach	1809-1867
France	1789-1920	Saxony	1789-1867
Germany	1789-1920	Serbia	1804-1813; 1815-1918
Greece	1822-1920	Singapore	1867-1920
Guatemala	1789-1822; 1823-1920	Spain	1789-1920
Haiti	1789-1920	Sweden	1789-1920
Hamburg	1789-1810; 1813-1867	Switzerland	1798-1920
Hanover	1789-1810; 1813-1866	Thailand	1789-1920
Hesse-Darmstadt	1789-1871	Transvaal	1852-1910
Hesse-Kassel	1789-1866	Tunisia	1789-1920
Honduras	1838-1920	Turkey	1789-1920
Hungary	1789-1938	Tuscany	1789-1807; 1814-1861
India	1789-1920	Two Sicilies	1789-1860
Indonesia	1800-1920	United Kingdom	1789-1920
Iran	1789-1920	United States of America	1789-1920
Italy	1861-1920	Uruguay	1825-1920
Japan	1789-1920	Uzbekistan	1789-1920; 1990-2010
Korea, South	1789-1920	Venezuela	1789-1819; 1830-1920
Kuwait	1789-1920	Vietnam, Republic of	1802-1922
Liberia	1821-1920	Wurtemberg	1789-1871
Libya	1789-1834; 1911-1933; 1952-1972	Yemen	1789-1850; 1918-1938
Luxembourg	1815-1920	Zanzibar	1856-1920
Madagascar	1817-1920		

Note: This is the maximum coverage in the dataset, pertaining to some of the included (A) variables. Coverage varies between variables.

Appendix II: Variables included

Table A.II: “A variables” included in Historical V-Dem.

Variable tag	Variable name
v3canagelc	Minimum candidate age parliament/lower chamber
v3canageuc	Minimum candidate age upper chamber
v3clslavery	Slavery
v3elage	Minimum voting age parliament/lower chamber
v3elagepr	Minimum voting age presidency
v3elageuc	Minimum voting age upper chamber
v3eldirelc	Direct parliamentary/lower chamber elections
v3eldirepr	Direct presidential elections
v3eldireuc	Direct upper chamber elections
v3elfemrst	Female suffrage restricted
v3elloelsy	Lower chamber electoral system, fine-grained
v3elloseat	Lower chamber election seats
v3ellostlg	Lower chamber election seats won by largest party
v3ellostsl	Lower chamber election seat share won by largest party
v3ellostsm	Lower chamber election seats won by second largest party
v3ellostss	Lower chamber election seat share won by second largest party
v3ellosttm	Lower chamber election seats won by third largest party
v3ellostts	Lower chamber election seat share won by third largest party
v3ellovtlg	Lower chamber election vote share of largest vote-getter
v3ellovtsm	Lower chamber election vote share of second-largest vote-getter
v3ellovttm	Lower chamber election vote share of third-largest vote-getter
v3elnbcmaj	Minority or majority government
v3elncbpr	Effective number of cabinet parties
v3elparlel	Lower chamber electoral system
v3elrstrlc	Candidate exclusions (<i>de jure</i>) parliament/lower chamber
v3elrstrpr	Candidate exclusions (<i>de jure</i>) presidential elections
v3elrstrup	Candidate exclusions (<i>de jure</i>) upper chamber
v3elsec	(<i>De jure</i>) ballot secrecy
v3elsuffrage	Percentage of population with suffrage
v3eltrnout	Election turnout
v3eltvrig	Lower chamber election turnover
v3eltvriguc	Upper chamber election turnover
v3elupseat	Upper chamber election seats
v3elupstsl	Upper chamber election seats won by largest party
v3elupstsm	Upper chamber election seats won by second largest party
v3elupvtlg	Upper chamber election vote share of largest vote-getter
v3elupvtsm	Upper chamber election vote share of second-largest vote-getter
v3elvotlrg	Presidential election vote share of largest vote-getter

v3elvotsml	Presidential election vote share of second-largest vote-getter
v3elvstrlc	Suffrage exclusions (<i>de jure</i>) parliament/lower chamber
v3elvstrpr	Suffrage exclusions (<i>de jure</i>) presidential elections
v3elvstruc	Suffrage exclusions (<i>de jure</i>) upper chamber
v3elwomcab	Election women in the cabinet
v3exagehog	HOG age
v3exagehos	HOS age
v3exaphogp	HOG selection by legislature in practice
v3exaphos	HOS selection by legislature in practice
v3exapup	Chief executive appointment by upper chamber
v3exapupap	Chief executive appointment by upper chamber implicit approval
v3exdeathog	HOG year of death
v3exdeathos	HOS year of death
v3exothhgl	HOG other appointing body in practice
v3exothhs	HOS other appointing body in practice
v3expathhg	HOG appointment in practice
v3expathhs	HOS appointment in practice
v3lgamend	Legislature amends constitution
v3lgamnsty	Legislature amnesties
v3lgcamoth	Legislature other than uni- or bicameral
v3lgelecup	Upper chamber elected
v3lgello	Lower chamber elected
v3lginello	Lower chamber indirectly elected
v3lginelup	Upper chamber indirectly elected
v3lgintblo	Lower chamber introduces bills
v3lgintbup	Upper chamber introduces bills
v3lglegllo	Lower chamber legislates by law
v3lgleglup	Upper chamber legislates by law
v3lgqumin	Lower chamber quota for social groups
v3lgtreaty	Legislature approval of treaties by law
v3lgwarlaw	Legislature declares war by law
v3lpname	Name of largest party
v3pechilabl	Child labor laws
v3peminwage	Minimum wage
v3peminwagerestr	Minimum wage provision
v3psagefirst	Party age largest
v3psagepm	Party age executive
v3psagesecond	Party age second largest
v3psagethird	Party age third largest
v3regendtypems	Regime end type
v3regint	Regime interregnum
v3serfdeju	Serfdom
v3slpname	Name of second largest party
v3stcensus	Census
v3stcitlaw	Citizenship laws

v3stflag	Flag
v3stnatant	National anthem
v3stnatbank	National bank
v3ststatag	Statistical agency
v3ststybcov	Statistical yearbook covered
v3ststybpub	Statistical yearbook published
v3tlpname	Name of third largest party
v3ttlvote	Total votes

Note: A variables are coded by research assistants. See V-Dem v.8 codebook for specifics on questions, clarifications, and answer categories. HOG=Head of Government. HOS=Head of State.

Table A.III: “A* variables” included in Historical V-Dem (see V-Dem v.8 codebook for specifics).

Variable tag	Variable name
v3ellocelc	Local government elected
v3ellocgov	Local government exists
v3ellocnam	Local government name
v3elreggov	Regional government exists
v3elregnam	Regional government name
v3elsrgel	Regional government elected
v3eltype	Election type
v3exhoshog	HOS = HOG
v3exnamhog	HOG name
v3exnamhos	HOS name
v3extithog	Title of HOG
v3extithos	HOS title
v3juhname	High court name
v3juhcourt	High court existence
v3lgbicam	Legislature bicameral
v3lgnamelo	Lower chamber legislature name
v3lgnameup	Upper chamber name
v3regendtype	Regime end type
v3reginfo	Regime information

Note: A* variables are pre-coded by research assistants and are entered as relevant information in the expert surveys. These variables may be adjusted based on expert feedback. See V-Dem v.8 codebook for specifics on questions, clarifications, and answer categories. HOG=Head of Government. HOS=Head of State.

Table A.IV: “C variables” included in Historical V-Dem

Variable tag	Variable name
v3clacfree	Freedom of academic and cultural expression
v3clacjstm	Access to justice for men
v3clacjstw	Access to justice for women
v3clacjust	Social class equality in respect for civil liberty
v3cldiscm	Freedom of discussion for men
v3cldiscw	Freedom of discussion for women
v3cldmovem	Freedom of domestic movement for men
v3cldmovew	Freedom of domestic movement for women
v3clfmov	Freedom of foreign movement
v3clkill	Freedom from political killings
v3cllabrig	Labor rights
v3clprptym	Property rights for men
v3clprptyw	Property rights for women
v3clrelig	Freedom of religion
v3clrgunev	Regional unevenness in respect for civil liberties
v3clrspect	Rigorous and impartial public administration
v3clslavf	Freedom from forced labor for women
v3clslavm	Freedom from forced labor for men
v3clsocgrp	Social group equality in respect for civil liberties
v3clstown	State ownership of economy
v3cltort	Freedom from torture
v3cltrnslw	Transparent laws with predictable enforcement
v3csanmvch	CSO anti-system movement character
v3csantimv	CSO anti-system movements
v3cscnsult	CSO consultation
v3cseeorgs	CSO entry and exit
v3csgender	CSO women’s participation
v3csprtpt	CSO participatory environment
v3csreprss	CSO repression
v3csrlgcon	Religious organization consultation
v3csrlgprep	Religious organization repression
v3csstruc	CSO structure
v3dlconslt	Range of consultation
v3dlencmps	Particularistic or public goods
v3dlengage	Engaged society
v3elaccept	Election losers accept results
v3elasmoff	Election assume office
v3elbalpap	Voting, voice or ballot
v3elbalstat	Ballot printing
v3elboycot	Election boycotts
v3elcomvot	Compulsory voting
v3eldonate	Disclosure of campaign donations

v3elecsedf	Secret ballot, <i>de facto</i>
v3elembaut	EMB autonomy
v3elembcap	EMB capacity
v3elffelr	Subnational elections free and fair
v3elfrfair	Election free and fair
v3elintim	Election government intimidation
v3elirreg	Election other voting irregularities
v3ellocpwr	Local offices relative power
v3elmalalc	Malapportionment legislature/lower chamber
v3elmalauc	Malapportionment upper chamber
v3elmalsuf	Election male suffrage in practice
v3elmulpar	Elections multiparty
v3elpeace	Election other electoral violence
v3elpubfin	Public campaign finance
v3elreapplc	Reapportionment legislature/lower chamber
v3elreappuc	Reapportionment upper chamber
v3elrgpwr	Regional offices relative power
v3elrgstry	Election voter registry
v3elsnlfff	Subnational election unevenness
v3elvotbuy	Election vote buying
v3equavolc	Equal vote legislature/lower chamber
v3equavouc	Equal vote upper chamber
v3exbribe	Executive bribery and corrupt exchanges
v3excrtps	Public sector corrupt exchanges
v3exctlhg	HOG control over
v3exctlhog	HOG other body controls
v3exctlhos	HOS other body controls
v3exctlhs	HOS control over
v3exdfcbhs	HOS appoints cabinet in practice
v3exdfdmhs	HOS dismisses ministers in practice
v3exdfdshg	HOG dismisses ministers in practice
v3exdfdshs	HOS dissolution in practice
v3exdfpphg	HOG proposes legislation in practice
v3exdfpphs	HOS proposes legislation in practice
v3exdfvthg	HOG veto power in practice
v3exdfvths	HOS veto power in practice
v3exdjcbhg	HOG appoints cabinet in practice
v3exdjdshg	HOG dissolution in practice
v3exembez	Executive embezzlement and theft
v3exremhog	HOG removal by legislature in practice
v3exremhsp	HOS removal by legislature in practice
v3exrescon	Executive respects constitution
v3exrmhgnp	HOG removal by other in practice
v3exrmhgop	HOG other body remove HOG in practice
v3exrmhsnl	HOS other body removes in practice

v3exrmhsol	HOS removal by other in practice
v3exthtfts	Public sector theft
v3juacct	Judicial accountability
v3jucomp	Compliance with judiciary
v3jucorrdc	Judicial corruption decision
v3juhccomp	Compliance with high court
v3juhcind	High court independence
v3juncind	Lower court independence
v3jureview	Judicial review
v3lgbudglo	Lower chamber budget
v3lgbudgup	Upper chamber budget
v3lgcomslo	Lower chamber committees
v3lgcrrpt	Legislature corrupt activities
v3lgdomchm	Legislature dominant chamber
v3lgfunds	Legislature controls resources
v3lginses	Lower chamber in session
v3lginsesup	Upper chamber in session
v3lginvstp	Legislature investigates in practice
v3lglegplo	Lower chamber legislates in practice
v3lglegpup	Upper chamber legislates in practice
v3lgoppart	Legislature opposition parties
v3lgotovst	Executive oversight
v3lgqstexp	Legislature questions officials in practice
v3lgsrvlo	Lower chamber members serve in government
v3meaccess	Media access
v3mebias	Media bias
v3mecrit	Print/broadcast media critical
v3meharjrn	Harassment of journalists
v3merange	Print/broadcast media perspectives
v3meslfcen	Media self-censorship
v3partyid	Party identification
v3pepwrngen	Power distributed by gender
v3pepwrse	Power distributed by socioeconomic position
v3pepwrsoc	Power distributed by social group
v3psbantar	Party ban target
v3psbars	Barriers to parties
v3pscnslnl	Candidate selection---national/local
v3pscohesv	Legislative party cohesion
v3pscompgrg	Party competition across regions
v3psoppaut	Opposition parties autonomy
v3psorgs	Party organizations
v3psparban	Party ban
v3psplats	Distinct party platforms
v3psprbrch	Party branches
v3psprlnks	Party linkages

v3pssunpar	Subnational party control
v3psswitch	Party switching
v3regimpgroup	Regime most important support group
v3regsupgroups	Regime support groups
v3regsupgroupssize	Regime support groups size
v3regsuploc	Regime support location
v3stcritapparm	Criteria for appointment decisions in the armed forces
v3stcritrecadm	Criteria for appointment decisions in the state administration
v3stfisccap	State fiscal capacity
v3strenadm	Bureaucratic remuneration
v3strenarm	Remuneration in the Armed Forces
v3struinvadm	Rulers' involvement in the state administration
v3ststeecap	State steering capacity
v3svdomaut	Domestic autonomy
v3svinlaut	International autonomy
v3svstpop	State authority over population
v3svstterr	State authority over territory

Note: C variables are coded by country experts, and scores are subsequently adjusted in the V-Dem measurement model to achieve cross-country and inter-temporal comparability. See V-Dem v.8 codebook for specifics on questions, clarifications, and answer categories. HOG=Head of Government. HOS=Head of State. EMB=Election Monitoring Board. CSO=Civil Society Organization.

Appendix III: Anchoring vignettes

Historical V-Dem makes extensive use of anchoring vignettes to improve cross-country comparability (King et al., 2004; King and Wand, 2007; Bakker et al., 2014). Anchoring vignettes are descriptions of specific, but hypothetical – or at least unnamed – cases that provide the information required to answer a certain question. In the context of V-Dem, they are descriptions of hypothetical country-years that focus on describing the country’s status specific to one V-Dem indicator. Coders’ ratings of the hypothetical cases, once combined, provide information about differences in how they translate concrete aspects of cases into ordinal ratings. There are several reasons vignettes are a powerful and efficient tool for addressing differential item functioning (DIF) in V-Dem ratings.

- Raters have all the information about the case in question at their fingertips. Coding vignettes, therefore, requires substantially less coder effort than evaluating actual cases. This makes vignettes substantially less costly for coders than bridge or lateral coding and raters can provide more vignette responses in a given set of time.
- Vignettes require no case knowledge, so everyone can do them, even experts who are not qualified to rate multiple countries.
- Vignettes provide perfect overlap, because every rater answers the same questions.
- Vignettes provide high threshold variability, because we control their content and strive to maximize that variability.
- Because we know that every rater considers the same information when they rate a vignette, we can assume potentially low random error in the rating process and treat all cross-coder variation as evidence of threshold differences.
- In asking all coders to code vignettes, we address potential selection bias introduced by having only those who opt in to bridge and lateral coding - i.e., those who are either most knowledgeable about the world or those who just think they are - provide data to adjust for cross-country comparability.

Ultimately, Historical V-Dem included vignettes for the vast majority of its expert coded (C) questions, with multiple vignettes for each of these questions. This section of the appendix describes our approach to this exercise and explains the choices we made.

Where possible, the V-Dem vignettes approach followed the prevailing best practices according to the literature. However, the literature provides little guidance on a number of problems that are specific to V-Dem. In particular, the raw size of the V-Dem survey, and our reliance on a limited pool of expert coders, introduces a number of logistical constraints. First, we had to decide which questions should be vignetted. The literature tells us to vignette any question that could be subject to cross-country coding differences. However, vignetting all questions that would fall in this category was not feasible. We were therefore in the position of attempting to define what would constitute “high priority” vignette questions. We evaluated each question on 73 characteristics that we thought would affect coding difficulty and, in turn, increase cross-country rating differences (e.g., length of the question, whether or not relative terms of degree differentiate the answer categories, and whether the question was getting at one or more underlying concepts). Using these characteristics, we selected the questions we thought were vulnerable to DIF, for a total of 117 questions, out of 149 C-questions in total.

The next task was to determine how we would construct vignettes for these selected questions. The literature suggests constructing many vignettes for each question, so as to generate as much information as possible about each coder's thresholds, and to maximize the probability of producing vignettes that are discriminating and effectively span the latent scale in question (Hopkins and King, 2010). But, mainly because we did not want to ask too much of our coders – and also because time constraints made producing sufficient quantities of vignettes difficult – we fielded only a few vignettes for each question. We attempted to field vignettes that would give us the greatest DIF information for least coder time. Since thresholds are effectively a coder's border between two answer categories, we decided to attempt to construct vignettes that were right on these thresholds, designed to be challenging to code as they appeared to straddle two answer categories. This would give us information about coder's thresholds in that we would learn whether a coder tended to code these border vignettes as belonging in the higher category or the lower category. If a question has k answer categories, then it has $k-1$ borders between answer categories.

However, given how the vignettes were embedded in the data collection tool within Historical V-Dem (described below), we were concerned about the potential for coders – either consciously or subconsciously – to order the vignettes as they coded them. This would mean that the data obtained from the vignettes would not be a clear signal of DIF, but instead would be tainted by the degree to which a logical order was apparent across the set of vignettes for a given question. To address this, we decided to include “decoy” vignettes for some questions – extra vignettes for one or two border categories to preclude - or at least obstruct - the ordering of the vignettes by the coders. Out of the 117 questions to receive vignettes in historical V-Dem, we randomly assigned questions to receive either $k-1$ vignettes (one for each border category), k vignettes (one for each border category and one decoy), or $k+1$ vignettes (one for each border category and two decoys).

We then had to design a process to write the vignettes. We did not want to require Project Managers (PMs) and Principal Investigators (PIs) to write many paragraphs about fake countries, but we nonetheless wanted them to vet the vignettes. To strike a balance, a group of masters students at the University of Gothenburg wrote the vignettes (editing each other's work in an iterated process), and then the V-Dem Project Manager in charge of the question edited the vignettes for that question. The overarching guidelines for writing the vignettes were as follows:

- **ON ONE HAND:** Each vignette should be as specific as possible. It should include details about all aspects of the answer categories.
- **ON THE OTHER HAND:** Vignettes should NOT include details that are not part of the answer categories. Even the shortest word (e.g. adding the word "small" or "European" to describe the country) can add an irrelevant case detail that affects coding.
- Vignettes should be 1-2 paragraphs long.
- Vignettes should not obviously map to a question category. One way to ensure this is not the case is to vary the order of pieces of information in the vignette compared to pieces of information in the answer categories. For example, if an answer category talks about the geographic spread of fraud and then the kind of fraud, either reverse the order in the vignette or find a way to talk about both together.
- Vignettes should not obviously map to real cases. If coders can discern the case on which a vignette is based, then they could be influenced by the irrelevant details of that case. In other words, drawing content from a real case is fine, but please make sure it is not obvious.

An example of question wording and corresponding border vignettes appears in Table A.V.ⁱⁱ

Table A.V: Vignettes for V-Dem Question on “Election Vote Buying”

Border Category	Vignette
0-1	In Country A, vote buying was a common strategy for several parties attempting to gather votes in the last election. The largest party is known for bribing people at all levels to vote for them. Some other parties approach only citizens in the poorer areas, offering cash or other handouts to place a vote for them on Election Day. However, one party probably did not engage in vote buying.
1-2	In Country B, a few of the well-resourced parties went around in many areas distributing cash handouts and material gifts such as clothing before the last elections. However, some news media reported that citizens in these areas sometimes accepted gifts from more than one party, so it is unclear how much this was about vote buying or just encouraging the voters in these areas to take the parties’ candidates seriously. Yet, other citizens testified that they only took gifts from the party they would vote for.
2-3	In Country C, national laws outlaw the transaction of money for votes. However, in the last election, some parties managed to circumvent these laws by providing other materials, such as food items or cheap personal electronics, and it seems that cash may also have been handed out in certain districts. Due to the small scope, it is unclear if the parties in question sought to persuade potential voters or if it was just about recognizing some citizens who have been loyal supporters. In any case, it is unlikely to have affected election results.
3-4	In Country D, nearly no parties in the national parliament attempt the method of luring voters by material gifts during campaigning. Prior to the latest election, there were some reports of one party providing inducements to attend rallies and that it possibly also tried convincing some of the poorest communities by distributing gifts, but legal action was taken against this party.

Once the vignette texts were ready, we had to decide how to incorporate them in the data collection tool that coders used. Past literature has revealed that it is best to provide respondents with vignettes before they code, as this “anchors” them to a common scale (Hopkins and King, 2010). Accordingly, the coders were asked to code the vignettes for a given question before completing the question. To guard against coders attempting to order the vignettes as they coded them for each question, each question was randomly assigned one of five scrambled sequences for its vignettes.

References

ⁱⁱ Note that the election vote buying represents a rather difficult question to vignette. The question requires a clarification and the answer categories touch on number of aspects of vote-buying (i.e. percentage of population involved, fraction of parties involved, geographical spread, the extent to which bribes bought turnout and votes), even though the concept is purported to be uni-dimensional. Thus, we use this question as an example because it highlights how reliant vignettes - but also IRT-based methods more generally - are on the qualities of the underlying questions.

Bakker, R., E. Edwards, S. Jolly, J. Polk, J. Rovny & M. Steenbergen. 2014. "Anchoring Experts: Using Vignettes to Compare Party Ideology Across Countries." *Research and Politics* 1(3):1-8.

Hopkins, Daniel J. & Gary King. 2010. "Improving Anchoring Vignettes Designing Surveys to Correct Interpersonal Incomparability." *Public Opinion Quarterly* 74(2):201-222.

King, Gary, Christopher J L Murray, Joshua a Salomon & Ajay Tandon. 2004. "Enhancing the Validity and Cross-Cultural Comparability of Measurement in Survey Research." *American Political Science Review* 98(1):191-207.

King, Gary & Jonathan Wand. 2007. "Comparing Incomparable Survey Responses: Evaluating and Selecting Anchoring Vignettes." *Political Analysis* 15(1):46-66.

Miller, Michael K. "Democratic pieces: Autocratic elections and democratic development since 1815." *British Journal of Political Science* 45.3 (2015): 501-530.

Appendix IV: Robustness tests for analysis on interstate war and democracy

This appendix contains tables with additional results mentioned, but not reported, in the paper. We first display a table for analysis on the benchmark holding the sample constant across regressions with different democracy measures. Next, we show tables including additional covariates and country-fixed effects in the benchmark. Thereafter, we report a robustness test using the COW list of interstate wars rather than the augmented IWD list for creating our measures of war experience and ongoing wars. After that, we provide a brief discussion on uncertainty estimates in the V-Dem data and show plots of regressions incorporating measurement errors for our benchmark specification on Polyarchy. Finally, we report a table with various Granger tests, using either Polyarchy or war experience as dependent variables.

Table A.VI: Regressing interstate war on Polity2 and Polyarchy, holding the sample constant

	(1)	(2)	(3)	(4)	(5)	(6)
	Polity2	Polyarchy	Polity2	Polyarchy	Polity	Polyarchy
	1817-2006	1817-2006	1817-1918	1817-1918	1918-2006	1918-2006
War past 5 yrs.	-0.109** (-2.06)	0.002 (1.59)	-0.004 (-0.05)	0.002* (1.81)	-0.154** (-2.32)	0.003 (1.30)
Ongoing war	0.108 (1.59)	-0.002 (-1.32)	0.230* (1.73)	0.000 (0.13)	0.085 (0.97)	-0.003 (-1.38)
Ln(GDP p.c.)	0.099*** (5.40)	0.003*** (4.36)	0.065*** (2.90)	0.001*** (3.10)	0.114*** (4.55)	0.003*** (3.74)
Ln(Population)	0.022** (2.13)	0.000 (0.92)	0.014 (1.41)	0.000 (0.84)	0.026** (2.17)	0.000 (0.55)
LDV	Y	Y	Y	Y	Y	Y
Decade-FE	Y	Y	Y	Y	Y	Y
N	13492	13492	4115	4115	9323	9323
R ²	0.954	0.978	0.975	0.984	0.947	0.975

Notes: ***p<0.01; **p<0.05; *p<0.1. All models are OLS with errors clustered by country. T-values reported in parentheses.

Table A.VII: Regressing interstate war on Polity2 and Polyarchy, controlling for regional democracy and civil war

	(1)	(2)	(3)	(4)	(5)	(6)
	Polity2	Polyarchy	Polity2	Polyarchy	Polity	Polyarchy
	1817-2006	1817-2006	1817-1918	1817-1918	1918-2006	1918-2006
War past 5 yrs.	-0.109** (-2.07)	0.003** (2.36)	-0.006 (-0.09)	0.002** (2.03)	-0.163** (-2.38)	0.004** (2.08)
Ongoing war	0.109 (1.57)	-0.002 (-1.25)	0.245* (1.85)	0.000 (0.03)	0.079 (0.87)	-0.003 (-1.43)
Regional dem.	0.033***		0.017***		0.040***	
(Polity)	(6.30)		(2.86)		(5.79)	
Civil war	-0.031 (-0.91)	-0.003** (-2.50)	0.002 (0.06)	-0.001 (-0.83)	-0.030 (-0.55)	-0.005*** (-2.90)
Ln(GDP p.c.)	0.055*** (3.15)	0.001 (1.56)	0.041* (1.82)	0.000 (0.76)	0.064*** (2.74)	0.001 (1.30)
Ln(Population)	0.013 (1.04)	-0.000 (-0.25)	0.004 (0.43)	-0.000 (-0.81)	0.021 (1.40)	-0.000 (-0.02)
Regional dem.		0.019***		0.016***		0.020***
(Polyarchy)		(5.75)		(4.37)		(5.07)
LDV	Y	Y	Y	Y	Y	Y
Decade-FE	Y	Y	Y	Y	Y	Y
N	13538	16037	4349	5096	9135	10858
R ²	0.953	0.978	0.974	0.985	0.947	0.975

Table A.VIII: Regressing interstate war on Polity2 and Polyarchy, controlling for natural resource dependence and urbanization

	(1)	(2)	(3)	(4)	(5)	(6)
	Polity2	Polyarchy	Polity2	Polyarchy	Polity	Polyarchy
	1817-2006	1817-2006	1817-1918	1817-1918	1918-2006	1918-2006
War past 5 yrs.	-0.080 (-1.28)	0.002 (1.31)	0.041 (0.42)	0.004*** (2.81)	-0.122* (-1.78)	0.002 (0.86)
Ongoing war	0.062 (0.85)	-0.002 (-1.25)	0.161 (0.98)	-0.002 (-0.53)	0.052 (0.59)	-0.003 (-1.38)
Resource dep.	-0.009*** (-6.11)	-0.000*** (-4.00)	-0.005 (-0.63)	-0.000 (-1.38)	-0.010*** (-5.92)	-0.000*** (-3.84)
Urbanization	0.002 (1.55)	0.000 (1.46)	0.004 (1.53)	0.000 (0.90)	0.002 (1.30)	0.000 (1.05)
Ln(GDP p.c.)	0.119*** (4.41)	0.003*** (3.64)	0.082** (2.28)	0.002** (2.16)	0.133*** (4.06)	0.003*** (3.25)
Ln(Population)	0.021* (1.87)	0.000 (1.38)	0.015 (1.06)	0.000 (1.06)	0.022* (1.79)	0.000 (1.12)
LDV	Y	Y	Y	Y	Y	Y
Decade-FE	Y	Y	Y	Y	Y	Y
N	10979	10831	2289	2026	8650	8762
R ²	0.951	0.975	0.971	0.979	0.947	0.974

Table A.IX: Regressing interstate war on Polity2 and Polyarchy, estimated with country-fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)
	Polity2	Polyarchy	Polity2	Polity2	Polyarchy	Polyarchy
	1817-2006	1817-2006	1817-1918	1918-2006	1817-1918	1918-2006
War past 5 yrs.	-0.071 (-1.24)	0.004*** (2.76)	0.025 (0.37)	-0.115 (-1.54)	0.003** (2.61)	0.005** (2.25)
Ongoing war	0.099 (1.44)	-0.002 (-1.26)	0.214* (1.69)	0.065 (0.75)	-0.001 (-0.36)	-0.003 (-1.41)
Ln(GDP p.c.)	0.084*** (2.70)	0.002** (2.37)	0.207*** (3.78)	-0.058 (-0.84)	0.005*** (4.67)	-0.001 (-0.34)
Ln(Population)	-0.065 (-1.27)	-0.002 (-1.47)	-0.038 (-0.67)	-0.050 (-0.46)	0.002 (1.23)	-0.004* (-1.68)
LDV	Y	Y	Y	Y	Y	Y
Decade-FE	Y	Y	Y	Y	Y	Y
Country-FE	Y	Y	Y	Y	Y	Y
N	14291	17081	4883	9353	5649	11349
R ²	0.904	0.956	0.920	0.860	0.937	0.931

Table A.X: Benchmark model with COW instead of IWD

	(1)	(2)	(3)	(4)	(5)	(6)
	Polity2	Polyarchy	Polity2	Polity2	Polyarchy	Polyarchy
	1817-2006	1817-2006	1817-1918	1918-2006	1817-1918	1918-2006
War past 5 years	-0.101*	0.004***	0.026	-0.158**	0.003**	0.005**
	(-1.96)	(2.99)	(0.39)	(-2.44)	(2.48)	(2.58)
Ongoing war	0.116	-0.002	0.149	0.105	-0.001	-0.002
	(1.58)	(-0.83)	(1.36)	(1.12)	(-0.46)	(-0.67)
Ln(GDP p.c.)	0.097***	0.001***	0.065***	0.115***	0.001**	0.002**
	(5.51)	(2.76)	(3.44)	(4.59)	(2.23)	(2.39)
Ln(Population)	0.023**	-0.000	0.016*	0.026**	-0.000	-0.000
	(2.23)	(-0.59)	(1.88)	(2.17)	(-0.20)	(-0.59)
LDV	Y	Y	Y	Y	Y	Y
Decade-FE	Y	Y	Y	Y	Y	Y
N	14291	17081	4883	9353	5649	11349
R ²	0.956	0.979	0.977	0.947	0.985	0.975

As discussed in the paper, estimates for indicators and indices based on expert scores from Historical V-Dem and V-Dem indicators come not only with point estimates but also with uncertainty bounds generated by the measurement model. The same goes for the calculated values on indices, such as Polyarchy, constructed (fully or partly) on the basis of expert-coded indicators. This allows us to gauge whether our results on Polyarchy and interstate war experiences change when we account for measurement uncertainty and draw from the full range of possible realizations of countries' Polyarchy scores that are within the confidence bounds.

To investigate the robustness of our benchmark specification (Column 2, Table 1 in the paper), we sample 1000 times from a normal distribution bounded by confidence intervals defined by 1.96 times the standard deviation provided by the measurement model. With these scores, we then run 1000 regressions, one for each realization of the sampled democracy scores. The resulting model coefficients for our main independent variable (*War past 5 years*) are displayed in Figure A1 below. This histogram shows that the positive relationship between war in the past five years and democratization is positive across the spectrum of realized democracy scores. Further, Figure A2 shows that for the vast majority of specifications – 87.3% to be exact – past war experience is also statistically different from zero at the 5% significance level.

Figure A.I – Coefficients for *War past 5-years* for different realizations of Polyarchy

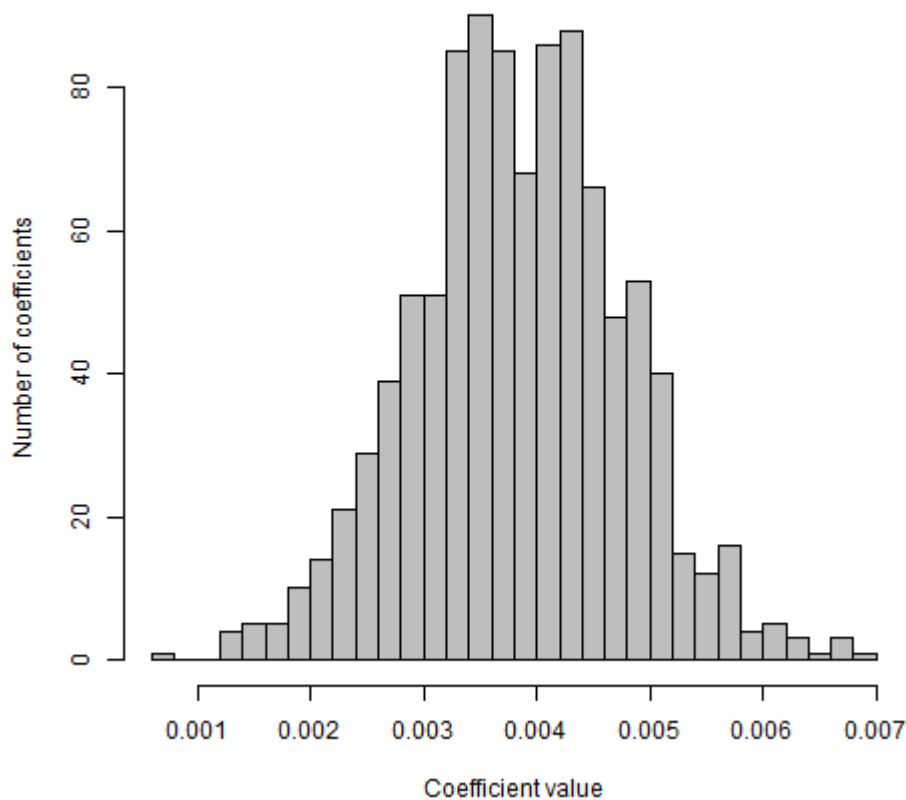


Figure A.II – T-values and coefficient sizes for *War past 5-years* for *different realizations of Polyarchy* (coefficients that are statistically insignificant at the 5% level are marked in red).

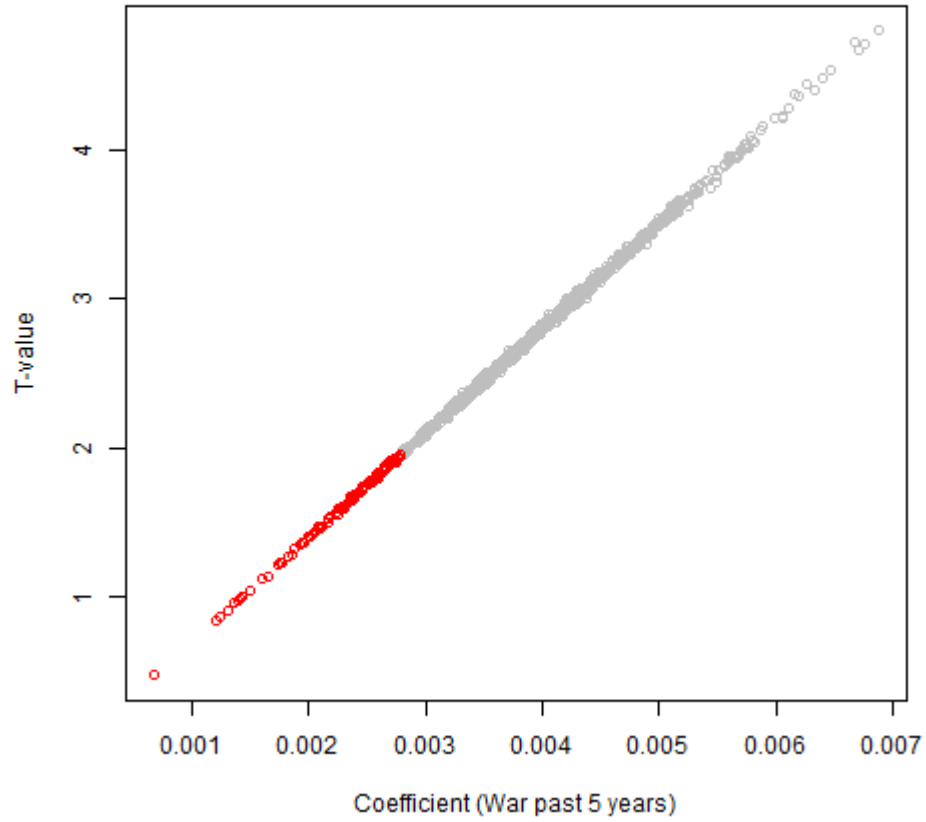


Table A.XI: Testing for Granger causation between Polyarchy and War-experience past 5 years

	(1) Polyarchy	(2) Polyarchy	(3) Polyarchy	(4) War past 5 years	(5) War past 5 years	(6) War past 5 years
War past 5 years t-5	-0.001 (-0.34)	-0.004*** (-2.64)	0.010 (1.57)	0.471*** (23.88)	-0.036*** (-5.55)	0.426*** (22.92)
War past 5 years t-1		0.001 (0.50)			0.897*** (119.30)	
War past 5 years t-2		0.000 (0.00)			0.006 (0.88)	
War past 5 years t-3		-0.001 (-0.89)			0.001 (0.32)	
War past 5 years t-4		0.004 (1.64)			-0.011** (-1.98)	
War past 5 years t-10			-0.004 (-1.24)			0.081*** (4.68)
War past 5 years t-15			-0.017*** (-4.30)			0.080*** (7.49)
Polyarchy t-1		1.236*** (79.61)			-0.119*** (-2.62)	
Polyarchy t-2		-0.306*** (-12.49)			0.182*** (2.93)	
Polyarchy t-3		0.074*** (3.81)			-0.159*** (-2.77)	
Polyarchy t-4		-0.029** (-2.25)			0.006 (0.10)	
Polyarchy t-5	0.970*** (180.40)	0.020** (2.42)	0.892*** (33.62)	-0.027 (-0.99)	0.086** (2.23)	
Polyarchy t-10			0.026 (0.77)			-0.006 (-0.10)
Polyarchy t-15			0.062** (2.48)			0.141*** (3.07)
N	21041	21012	18886	21077	21020	18909
r2	0.874	0.982	0.873	0.273	0.793	0.292
F-test joint significance		2.04	8.39***		5.81**	4.61**