Thickening and Making Binary Indicators of Democracy More Transparent and Flexible Using the V-Dem Dataset

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Abstract

The most popular extant indicator in contemporary democratic survival analysis (ACLP) and its successors are based on a few simple observable criteria. As a measure of a complex multidimensional regime-type like democracy it is relatively thin. For instance, questions of comprehensive adult franchise or whether states have established a monopoly on the legitimate use of violence are not even considered in declaring whether a country is democratic. Other extant measures thicken the criteria used to determine democracy/not democracy, but are more difficult to duplicate due to less transparent coding decisions taken by their authors. In this paper, using components from the V-Dem dataset, we build a series of increasingly thicker operationalizations of democracy as a set of necessary conditions, using Dahl's criteria for polyarchy, contestation and inclusiveness, as well as Linz and Stepan's stateness criterion. We then use the relative thickness of the measures built to examine important findings from the literature on the relationship between economic development and democratic transition and survival. We reexamine the relative weakness of the finding on the endogenous relationship, and show that by testing the endogeneity thesis on measures that omit suffrage requirements that the samples used are biased against the finding of such a relationship.

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Introduction

Quantitative research on democratization has used two different approaches to operationalizing the concept of democracy. The most important datasets have adopted one of these two approaches depending on the conceptualization of democracy held by their creators. Some researchers see democracy as something that can be measured in degrees. Any form of rule can thus be classified on the basis of how democratic it is. Such a conceptualization lends itself to scalar measures of democracy. Among the most commonly used measures of this sort are Polity, Freedom House, and the main Varieties of Democracy indicators. These include more minimalist measures of "electoral democracy" and "polyarchy" as well as scales that measure thicker notions of democracy (liberal, deliberative, egalitarian, etc.).

The second approach sees democracy explicitly as a typological. Democracy and non-democracy are seen as differences in type, rather than differences in degree, as mutually exclusive objects rather than properties that are captured in degrees (Sartori 1987, 1991). Such operationalizations are based on stipulating the minimal definitional criteria that a regime must meet to be considered democratic. Failure to meet those conditions consigns a regime to a residual category of non-democracies.[1] As a result such measures create a set of mutually exclusive categories which are demarcated by dummy variables. In extant literature the most commonly used measure of this sort is associated with the work of Przeworski and his collaborators (Przeworski, Alvarez, Cheibub, and Limongi, 2000; Przeworski and Limongi, 1997), including recent updates by Cheibub, Ghandi, and Vreeland (2010). Three other competing datasets also take this approach: the "Political Regimes Project" dataset by Marc Gasiorowski (1996); the dataset designed by Bernhard, Nordstrom and Reenock (BNR) (2001) to study democratic

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[1] There is no reason that the non-democratic part of the regime spectrum should be consigned to no further qualification of regime. Gasiorowski from the outset included a separate variable for semi-democracy, and others have done important work in distinguishing forms of non-democratic rule. See the datasets by Geddes, Wright, and Franz (2014), as well as Wahman, Teorell and Hadenius (2013).

survival; and the Boix, Miller, and Rosato (BMR) (2013) dataset, extending all the way back to 1800. In this piece, we will frame a new minimal condition based operationalization of democracy based on the extensive set of disaggregated indicators of democracy compiled by the Varieties of Democracy project.

There is a healthy debate on which of these two approaches to measurement are superior. Generally speaking, the dichotomous measures are criticized for sacrificing too much information at the expense of definitional rigor and parsimony. Critics argue that the dividing line is not so clear in practice and that there are important differences in the degree of democracy present in those regime that miss cut-offs in dichotomous operationalizations. Critics of scalar measures point out the problems with aggregating the multiple characteristics that underlie these operationalizations into one scale. In particular, the intermediate range on such measures typically lack any sort of typological coherence with countries sharing the same value on the scale having radically different characteristics based on their subcomponents. There are also potential problems in using such scales in regression analysis in as much as findings can be driven by inferential leverage in part drawn from differences between different groups of non-democratic regimes that would not qualify as democracies when using a dichotomous measure.

Such controversies are not easily resolvable and like Collier and Adcock (1999), we believe that the choice of measure is best determined by the conception of democracy with which researchers are working. Those who are interested in the effect of or determinants of the level of democracy or democratic quality are much better off using a scalar measure to answer their questions. Those who are interested in understanding discrete transitions from one state to another, either meeting or failing to meet a set of minimum conditions, are better off using dichotomous measures. It is not a coincidence that the literature devoted to understanding the quality of democracy or democratic deterioration use scalar measures, whereas those trying to understand democratic transition or democratic breakdown more commonly use dichotomous measures or dichotomized versions of the scalar indicators.

Furthermore, we are not convinced that a premature resolution of the controversy would be a good thing. Both communities of scholars ask different questions both of which are important. And researchers using both approaches have contributed to the literature on democracy and democratization and in those areas where their results are congruent we can have greater confidence that our findings are robust.   Where they are not, we have controversies which can lead to new and interesting research questions. Our purpose in writing this article is to propose and critically assess a new dichotomous measure based on V-Dem's new and extensive collection of data to put at the disposal of users who are interested in questions that lend themselves to dichotomous measurement. In this sense it serves as a complement to the graded scales that V-Dem has developed to answer questions about the degree and quality of democracy.

Research using a dichotomous dependent variable has played a critical role in many of the ongoing debates about democratization. Among the areas where it has made major contributions includes the debate over whether the relationship between democracy and development is exogenous (Przeworski and Limongi, 1997, Przeworski et al. 2000) or endogenous (Boix and Stokes, 2003), the role of economic contraction in triggering regime change (Gasiorowski 1995; Bernhard, Reenock, and Nordstrom, 2003; Bernhard, Nordstrom, and Reenock, 2001), the negative impact of colonialism on democratic survival (Bernhard, Reenock, and Nordstrom 2004), democratic consolidation (Gasiorowski and Power 1998, Svolik, 2008), the irrelevance of a variety of democratic institutions to democratic survival (Cheibub 2007, Power and Gasiorowski, 1997), and the impact of income inequality on democratic transition and survival (Boix 2002, Ansell and Samuels 2010, Houle 2009, Acemoglu and Robinson 2006, Haggard and Kaufman 2016).

The V-Dem data offers three opportunities to improve binary indicators of democracy. First, V-Dem has over three hundred disaggregated indicators at its disposal. To date the dichotomous indicators are relatively thin as we shall see in the discussion of the extant datasets that follows this

introduction. First we want to create a somewhat thicker (Coppedge 1999) dichotomous indicator without going overboard. The advantage here is to increase and systematize the number of components to avoid miscategorization of regimes on the basis of just one or two easily available indicators. Second, the extant datasets are coded by small teams of committed researchers who are not specialists in the countries that they code. V-Dem uses both the easily observable indicators utilized broadly in the field and the knowledge of multiple experts on each country to arrive at point and uncertainty estimates of other indicators not readily observable using state of the art Item Response Theory methods (Pemstein, et al. 2015). V-Dem based measures are thus less prone to individual coder error or bias. In this sense its construction is more transparent. Third, because of this transparency, researchers will have the option of choosing among the different operationalizations we develop here or to vary the parameters of the measures to create different measures geared to specific research questions. For this reason, a V-Dem based operationalization allows researchers much greater flexibility in insuring that they have used an appropriate operationalization. For instance, if they consider any of the thresholds that we set for the V-Dem dichotomous democracy conditions for inclusion inappropriate, they can vary them and see if this affects results. They can also to use the V-Dem data to thicken our operationalization, or drop indicators if they seek a thinner one. Before presenting our operationalization, we survey the extant dichotomous measures.

The Extant Measures

The most commonly used dataset for studying regime change using event history is known by the acronym ACLP, based on the original team of researchers that developed it (Alvarez, Cheibub, Limongi, and Przeworski 1996). It is based on a minimal definition of democracy which focuses on the electoral contestation of major offices. The original dataset was global in scope and ran from 1950-1990. It explicitly does not take into account the incorporation of the population into the electorate. This is, of course, a controversial move conceptually, but empirically it is not a very significant problem

for the years for which a reasonable battery of control variables is available (1950 to the present) due to the near universal character of suffrage after this date.

It uses a series of simple coding rules. For a country to be considered a democracy it needs to (1) elect the chief executive (directly or indirectly), (2) elect the lower house of the legislature (the upper house is not included), and (3) have more than one party participate in the elections (Alvarez, Cheibub, Limongi, and Przeworski 1996, 7-8). They also exclude regimes where incumbents have continuously held power since regime inception without turnover (the so-called "Botswana" rule). Such regimes can be coded as democracies in retrospect once there has been an alternation in power (1996, 10-11). An update of ACLP was undertaken by Vreeland, Ghandi, and Cheibub who extended it backwards to 1946 and up to 2008 (2010).

Boix and Rosato also developed a more extensive dataset which moved much further back in time (1850-1999) and used almost identical coding rules to ACLP. They reject the "Botswana" rule; countries that meet the basic criteria are considered democracies (2001).[2] Boix, Miller and Rosato have again updated this dataset to 1800-2007 and have added an additional criterion, making it the first of the ACLP derived codings to incorporate a franchise requirement. They limit democracies to those which have adult manhood franchise of fifty percent or higher (Boix, Miller, & Rosato, 2013). Boix, Miller, and Rosato claim that by doing this, they are capturing Dahl's concept of polyarchy. They are certainly moving the ACLP coding in this direction, but their participation threshold would seem to bundle what Dahl calls "competitive oligarchies" with polyarchies. Fifty percent male adult suffrage would seem to fall short of the highly inclusive criterion that Dahl establishes for the latter (1971).

Another major binary coding of democracy was authored by Marc Gasiorowski, the Political Regime Change Dataset (PRC). The original coding only covered 97 of the largest countries from the

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[2] This dataset is not available on-line but was used in Boix (2002) and Boix and Stokes (2003).

developing world. It went beyond coding whether a regime was just democratic or not, characterizing each country year from independence to 1992 on the basis of whether the country was democratic, semidemocratic, authoritarian, or transitional (Gasiorowski 1996).

Gasiorowski uses three criteria to distinguish democratic regimes (1996, 471):

(a) meaningful and extensive competition …among individuals and organized groups for all effective positions of government power, at regular intervals and excluding the use of force; (b) a highly inclusive level of political participation… such that no major (adult) social group is excluded; and (c) a sufficient level of civil and political liberties exists to insure the integrity of political competition and participation.

This is distinguished from semidemocracies in which there are substantial constraints on competition and freedom despite competition and authoritarian regimes in which "little or no freedom or competition exists" (Ibid). He also codes transitional years where efforts are in progress to move from one of the three regimes to another. The coding was done by the author himself, using standard historical sources (1996, 475). The PRC dataset was updated and expanded by Reich (2010), who expanded its geographic scope to include Europe, North America, and Oceania until 1998.

Finally, there is also the dataset created by Bernhard, Nordstrom, and Reenock, used in several articles. It attempts to gauge the breakdown of democracies. Democracy is based explicitly on the two components of Dahl's polyarchy, contestation and inclusiveness, and Linz and Stepan's "stateness" criterion. With regard to competitiveness, it includes countries that held elections for both the executive and lower house of the legislature, and in which more than one party contested the elections. However, it excludes cases in which there was generally acknowledged "outcome changing" vote fraud in the literature, in which there was either extensive or extreme violence that inhibited voters' preference expression, or in which political parties representing a substantial portion of the population were banned. Like Boix et al. (2013) it does not observe the "Botswana rule."

The minimal conditions for inclusiveness are the enfranchisement of over fifty percent of all adult citizens. It thus does not consider as democratic any country which fully disenfranchises women or broadly disenfranchises large populations on criteria tied to social class or ethnicity. The most unique aspect of this dataset was the inclusion of a "stateness" criterion. Post-colonial states do not enter the dataset until they hold elections under conditions of sovereignty and countries experiencing internal war or where greater than twenty percent of the population or territory was out of the control of the state were also excluded. Like the PRC dataset, the coding was done by the authors using historical sources.

The V-Dem Measures

The V-Dem measures are based explicitly on Dahl's notion of polyarchy, which has been the most broadly accepted standard of democracy in the discipline of political science. The concept is predicated on a two-dimensional conceptualization. Polyarchies need to be highly competitive and at the same time highly inclusive. They lie in the upper right-hand corner of Dahl's well-known property space of regimes (1971). V-Dem already has developed a polyarchy scale (Teorell et al. 2016), but it is a continuous measure, rather than discrete. Also, unlike the V-Dem polyarchy scale, we only include country years under external sovereignty. First, we only consider only nominally independent countries, according to the V-Dem v2svindep variable (based on an updated and adapted version of Gleditsch and Ward 1999). Second, question v2svdomaut in the battery asks coders to qualify domestic autonomy as "non-autonomous," "semi-autonomous" or "autonomous."[3] For a state to be even considered as having a regime, and thus to enter the dataset, we treat "autonomous" as a necessary condition.[4] This precludes the consideration of colonies, occupied countries, and quisling regimes as democracies.

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[3] The full wording of the questions is available in the V-Dem codebook (Coppedge et al. 2016a).
[4] More precisely, since this question has been coded by multiple country experts, we mapped the IRT measurement model scores back onto the original ordinal scale (0) non-autonomous, (1) semi-autonomous and (2) autonomous, and set the threshold at 2.

The binary V-Dem measure of democracy is then composed of several indicators. We discuss each of these indicators below and explain our cut points for minimal necessary conditions to be called a democracy. Countries are then coded zero or one dependent on whether they meet the threshold requirement and these binary mid-level measures are multiplied. The result will thus be democratic (scored a "one") only if they have met the minimal requirements to be scaled as a democracy on our binary measure. In addition we introduce a "stateness criterion" for inclusion in the set of democracies that we will use in our own future survival analysis.

Contestation

This is one of the areas where a V-Dem measure can improve upon existing measures by thickening the existing criteria used in determining whether regimes are truly competitive. In this regard ACLP and the measures derived from it are perhaps too thin, looking only at whether elections are contested whereas Dahl talks about more concrete rights-based criteria in his understanding of what constitutes competitive systems. In comparison to the measures that more thickly model competition (Gasiorowski, Reich, BNR), a V-Dem based measure is less dependent on the judgment of a few coders, instead relying on the collective assessment of multiple experts on each country coded (for a fuller description of the V-Dem methodology, see Coppedge et al. 2016b). The V-Dem data are unique in this regard: data on issues that requires in-depth knowledge of the case and a degree of judgment were collected from multiple country experts, mostly academics from each country in question. These experts have been recruited based on their academic or other credentials as field experts in the area for which they code (the V-Dem questionnaire is subdivided into 11 different areas of expertise, and most experts code a cluster of three such areas), on their seriousness of purpose and impartiality. At least 5 experts per country respond to each question and year going back to 1900. To separate signal from noise in these multiple ratings, V-Dem relies on a Bayesian item response theory (IRT) measurement model (see Pemstein et al. 2015).

The first necessary condition for polyarchy we consider, following ACLP and Boix et al. (2013), is that both (a) the legislature and (b) the chief executive are elected (condition *elecex*), the latter either directly through popular elections or indirectly through a popularly directly elected legislature that then appoints the chief executive. A "popular election" is minimally defined and also includes sham elections with limited suffrage and no competition. Similarly, "appointment" by legislature only implies selection and/or approval, not the power to dismiss.

Although this at face value would seem like a binary condition, the fulfillment of which should be fairly easily determined (and hence in no need for multiple expert coding or the imposition of thresholds), there are at least two complications to consider. The first is how to determine who is the "chief executive" in polities with a dual executive (Elgie 1998, Siaroff 2003), that is, where the head of state is not also head of government. In such instances (comprising 48 % of the country-years hitherto fully covered by our data), we rely on the country experts to determine who is the chief executive by comparing the two executives' power over the appointment and dismissal of cabinet ministers. If the head of state and head of government share equal powers over the appointment and dismissal of cabinet ministers (such as in semi-presidential systems), we require both of them to be directly or indirectly elected in order to code *elecex*=1. The second complication, for determining whether the legislature is elected and also arising in polities when the chief executive is not directly elected (73 % of the current sample), concerns how to deal with indirectly elected legislatures, or legislatures with a large share of executive appointees or reserved seats for certain groups. Our simple criterion in these instances is to count a legislature as "popularly elected" if, and only if, more than half of its membership is determined through direct elections. Since our first condition requires both an elected legislature and executive, countries with for example only an elected president, but an unelected legislature, are not considered as democracies.

The second necessary condition for polyarchy is whether competition was allowed at the polls. We tap into this criterion, first, by relying on the country experts to determine whether an election was multiparty or not (condition *multi*). This question – "Was this national election multiparty?" – was asked for each executive and/or legislative elections separately (unless they occurred on the same day, for which the question concerned both), with the following response options available to the coders:

0: No. No-party or single-party and there is no meaningful competition (includes situations where a few parties are legal but they are all *de facto* controlled by the dominant party).
1: Not really. No-party or single-party (defined as above) but multiple candidates from the same party and/or independents contest legislative seats or the presidency.
2: Constrained. At least one real opposition party is allowed to contest but competition is highly constrained – legally or informally.
3: Almost. Elections are multiparty in principle but either one main opposition party is prevented (*de jure* or *de facto*) from contesting, or conditions such as civil unrest (excluding natural disasters) prevent competition in a portion of the territory.
4: Yes. Elections are multiparty, even though a few marginal parties may not be permitted to contest (e.g. far-right/left extremist parties, anti-democratic religious or ethnic parties).

Since these response categories allows for some nuanced intermediate codes, one could of course discuss exactly where to draw the line. For present purposes, we decided that "Almost" should be considered competitiveness at a level that suffices for polyarchy in the minimal sense.[5] Since this condition is only observed for election years, we extrapolate it over time by simply repeating its value from the last election until either another election occurs or there is an "electoral interruption," defined as either (i) the dissolution/shut-down/replacement or in any sense termination of the elected body, or (ii) that the elected body in question, while still intact or in place, is no longer to be appointed through (direct) elections (as after an autogolpe).[6]

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[5] Since the output of the IRT model is at a non-anchored measurement scale, in principle running from negative to positive infinity, we decided to base this condition on the response category, taking the cutoffs into account, with the modal posterior probability. In essence, we thus mapped the measurement model scores back onto the original ordinal scale and set the threshold at a minimum of 3.

[6] Unlike the v2x_hosinter and v2lgx_leginter variables in the V-Dem dataset, however, we take the relative timing of interruptions during election years into account. More precisely, *multi* (as well as *cleanelec*, see below) is set to

Our second condition for determining whether competition was allowed at the polls, and thus our third necessary condition for polyarchy, is to look at election quality. Although the V-Dem questionnaire contains a host of detailed, diaggregated indicators of different types of election fraud and irregularities, we decided to draw on the country experts' summary judgment on whether the election was "free and fair" (condition *cleanelec*). More specifically, the experts were asked the question, "Taking all aspects of the pre-election period, election day, and the post-election process into account, would you consider this national election to be free and fair?" The response categories were:[7]

0: No, not at all. The elections were fundamentally flawed and the official results had little if anything to do with the 'will of the people' (i.e., who became president; or who won the legislative majority).
1: Not really. While the elections allowed for some competition, the irregularities in the end affected the outcome of the election (i.e., who became president; or who won the legislative majority).
2: Ambiguous. There was substantial competition and freedom of participation but there were also significant irregularities. It is hard to determine whether the irregularities affected the outcome or not (as defined above).
3: Yes, somewhat. There were deficiencies and some degree of fraud and irregularities but these did not in the end affect the outcome (as defined above).
4: Yes. There was some amount or human error and logistical restrictions but these were largely unintentional and without significant consequences.

We opted to draw the threshold at "Yes, somewhat",[8] which makes sense from the perspective of thinking of fraud or irregularities in these instances as not having any effect on the outcome. This value was then extended between election years as per above.

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0 in election years when the election was succeeded by a coup of some other electoral interruption (such as in Chile in 1973).

[7] The clarifications to the coders explicitly stated that the "only thing that should *not* be considered in coding this is the extent of suffrage (by law)".

[8] In technical terms, we mapped the IRT measurement model scores back onto the original ordinal scale and set the threshold at a minimum of 3 (see footnote 4 above).

We combine these three binary conditions, considered as necessary but jointly sufficient conditions for competition, by simple multiplication (competition=*elecex*multi*cleanelec*).[9] The result is a binary indicator of democracy which is restrictively minimalist or "Schumpeterian" in spirit, and hence conceptually (but not operationally) very similar to the ACLP measure in spirit.

Inclusiveness

Following Dahl's (1971) polyarchy concept, we must however also take inclusivity into account. From an electoral perspective, this implies looking at the extension of suffrage. The V-Dem data contains an estimate of the proportion of the electorate eligible to vote roughly based on the Paxton et al. (2003) methodology, with universal suffrage is coded as 100%, universal male suffrage coded as 50%, and rough estimates additionally subtracted in instances of qualifying criteria other than gender, such as property, tax payments, income, education, region, race, ethnicity, religion, and/or "economic independence."[10]

This is another instance where theory does not supply a crisp threshold for what level of suffrage should be deemed acceptable to count as a democracy. Boix et al. (2013, 1532) draw the line at

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[9] During the creation of our data set we were alerted to coding instances that did not conform to our criteria, particularly in cases of states emerging via decolonization. In several occasions, we noticed that otherwise free and fair, multiparty, elections that occurred in colonial dependencies prior to acquiring statehood resulted in the new states being classified as democratic immediately following their independence. In technical terms, we encountered the typical "electoral precedence" effect, in which the satisfaction of the two stateness conditions (independence and domestic autonomy) yielded democratic state-years given the antecedent satisfaction of the democracy criteria. We resolved this issue by requiring states to be both independent and autonomous before elections are classified as free and fair. The outcome of this practice is the reclassification of a total of 152 democratic state-years to nondemocratic. For a state to be democratic in our dataset, it thus had to have free and fair elections for both the legislature and the executive after independence.

[10] The additional penalties are based on the number and character of qualifying criteria and are generally translated into percentages in the following ways (if only male suffrage): property/income/taxes and education = 5%; property/income/taxes = 10%; education or property/income/taxes = 20%; 'economic dependency = 40%. If available, numbers of eligible or registered voters and information on population distribution are used to qualify the estimates. The measure does not take into consideration restrictions based on age, residence, citizenship, having been convicted for crime, being legally incompetent, or belonging to particular occupational groups such as the clergy, the armed forces, or election officials. It covers legal (de jure) restrictions, not restrictions that may be operative in practice (de facto). The variable has been hand-coded by Svend-Erik Skaaning, Aarhus University.

"at least half of men enfranchised" based on a practical concern for how much of Huntington's (1991) "first wave of democracy" would be lost by asserting a stricter criterion. While we can easily replicate this criterion in our data (condition suffrage≥25 %), we have also coded a variant with a more inclusive criterion, namely that at least half of the voting age population should be enfranchised (suffrage≥50%). Since women in practice always make up at least half of a population, this implies that (at least some) female suffrage is made into a necessary condition for polyarchy. Yet non-gender based, ethnic or socio-economic restrictions to the suffrage are still deemed acceptable.

By also taking this binary condition (called *suffr50*) into consideration, we arrive at a dichotomous polyarchy measure by simple multiplication (polyarchy=*elecex*multi*cleanelec*suffr50*). This is thus a measure conceptually (but not operationally) very close to the Boix et al. (2013) measure in spirit.

Stateness

Democracy like all regime-types characterizes a set of attributes by which the state governs, specifically who exercises state power and the rules by which they do so. Linz and Stepan argue that the ability of a state to exercise binding authority over its territory and population is a prerequisite to the establishment of democracy (and we would add any coherent regime). They also point out that relatively little effort has been made to model this factor. Barring that minimum condition, they argue:

> Unless an organization with these state-like attributes exists in a territory, a government (even if "democratically" elected) could not effectively exercise its claim to the monopoly of the legitimate use of force on its territory, could not collect taxes (and thus provide any public services), and could not implement a judicial system. As our discussion of the five areas of a consolidated democracy made clear, without these capacities there could be no democratic governance. Logically and empirically therefore, the argument leads to the same conclusion, that the absence of an organization with the attributes of a modern state… precludes democratic governance over the whole territory of the state, although it might not preclude areas of segmented political authority (1996, 18).

The V-Dem sovereignty battery allows us to address this concern systematically through two questions tapping into the ability of states to exercise authority over its territory (as defined by international law) and its population. This aspect of state power, discussed as the "territorial" notion of the state (based on the Weberian territorial monopoly of violence), according to Mazzuca and Munck (2014), is the concept of the state which most readily works with the notion that democracy is not possible without the existence of the state. Questions v2svstterr and v2svstpop tap into this by gauging the percentages of territory and population over which a state exercises effective control. In these questions, the coders were ask to judge the extent of recognition of the preeminent authority of the state over its territory and people, and over which in a contest of wills it can assert its control over political forces that reject its authority. These questions get at situations in which insurgent groups, criminals or warlords exert regional control in contravention of state authority as well as failed states where the central government cannot assert control over its territory or population. Since the control over territory and population are so strongly correlated (at .85 in the current sample of 16,620 country years), we focus on population only and construct two versions: one where the country experts consider a level of eighty percent control on average (condition *conterr80*), one with a level of sixty on average (condition *conterr60*), as the minimum threshold required for democracy.

We thus construct two additional dichotomous democracy variables by multiplying *polyarchy* with these two binary conditions, respectively (*polyarchy60= elecex*multi*cleanelec*suffr50*conterr60*; *polyarchy80= elecex*multi*cleanelec*suffr50*conterr80*). These are most similar in spirit to the Bernhard, Nortstrom & Reenock (2001) measure of democracy.[11]

To summarize, for purposes of this paper we have created five different V-Dem binary indicators.

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[11] Since these are interval-level coding, the measurement model does not transform them, though it does add a confidence interval around them by bootstrapping.

V-Dem Min -- this indicator uses V-Dem subcomponents to capture the elements specified by Alvarez et al. (1996) and it updates – election of executives, multiparty elections for both the executive and the legislature, and whether those elections were free and fair.

V-Dem Suf25 – this indicator simulates the coding by Boix, Miller and Rosato (2012), adding an over 50 percent male suffrage threshold to V-ACLP.

V-Dem Suf50 – this indicator ups the suffrage criterion on V-BMR25 to over fifty percent of all adults.

V-Dem CT60 – this indicator simulates the Bernhard, Nordstrom and Reenock (2001) coding by adding a territorial control threshold of sixty percent to capture a minimal degree of stateness to the V-BMR25 variable.

V-Dem CT80 – this indicator strengthens the territorial control threshold of the V-Dem CT60 to eighty percent.

Putting the V-Dem Indicators to the Test

We test the utility of the V-Dem measure by examining one of the central questions in the literature on democratization, the relationship between democracy and development. The more recent debate on this reconsider the reasons behind the correlation between development and democracy. Przeworski and his collaborators (Przeworski and Limongi 1997; Przeworski, Alvarez, Cheibub, and Limongi 2000) argued that, whereas countries became democratic for numerous reasons, the correlation was a function of the fact that countries with a higher level of GDP/capita were likely to remain democratic once they became so. This "exogenous" theory is based on the much higher rates of survival of wealthy democracies compared to those with lower levels of GDP/capita.

This stood in contrast to an "endogenous" theory of the relationship predicated on the causal mechanisms specified by Lipset (1959) to explain the correlation, such as the role of the middle class and the cross-cutting cleavage patterns of more developed societies. This view had broad purchase in the discipline until Przeworski and his collaborators challenged it. To be fair to the theory, Przeworski and his collaborators did find a small endogenous effect, but in comparison to the exogenous it seemed to explain far less of the correlation (Przeworski, Alvarez, Cheibub, & Limongi, 2000).

Several other researchers defended the endogenous theory and produced findings to that effect. The most influential counterargument has been provided by Boix and Stokes (2003), who building on Boix's (2002) earlier work, provide evidence that there is an endogenous effect. However, their research also does not refute the exogenous effect, it shows that they both exist and like Przeworski and his collaborators that the exogenous is much more powerful. Similar results are produced by Epstein et al. (2006) using ranges in Polity, rather than a dichotomous measure to capture democracy. Again, they do not refute the exogenous finding but do turn up evidence that higher levels of GDP promote democratic transitions. They also introduce a trichotomous measure of regime, adding a category of semi-democracy based on Polity scores. They show that development exerts a strong impact on the transition from semi-democracies to democracies (2006).

Finally, Feng and Zak (1999) also provide some evidence of an endogenous effect using Gasiorowski's data on a smaller sample of regimes, approximately seventy developing countries in the period 1962-1992. Their initial tests do not yield support for endogenous theory but when they drop education (correlated with GDP/capita at 0.66) as an independent variable from subsequent tests development comes through as a significant predictor of democratic transition. The net takeaway from the findings of the three studies would seem to be that there is both an endogenous and exogenous effect of development on democracy, but that the exogenous effect is stronger.[12]

While Geddes (2007) has called the relationship between development and democracy, the most enduring finding of whole literature on democratization, there are some who challenge the finding. Notably, Acemoglu et al. (2008) show that the effect of development on democracy disappears using fixed effects regressions and scalar measures of democracy. In a follow-up piece (2009) they also

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[12] The "exogenous" vs. "endogenous" debate has not relied solely on having a dichotomous measure. By distinguishing between effects at different levels of democracy at t-1 (Hadenius & Teorell, 2005) or upturns and downturns (essentially positive and negative change on the graded scale), as in Teorell (2010) and Boix (2011), the same kinds of predictions can be tested with a gradual measure. By and large, these three tests support the exogenous model after WWII.

show that the results using event-history modelling is more fragile than previously argued. The problem

in using fixed effects regression with binary indicators is that observations that are consistently

democratic or authoritarian cannot be incorporated into the sample thus ignoring countries that have

remained poor and authoritarian and those which have attained high levels of development and have

remain consistently democratic.[13] In this regard, we cannot be sure if these findings are just a product

of sample bias produced by the use of fixed effect logits.

Still, there is good reason to have some skepticism given the nature of dependent variables used

in the pieces, especially those that conduct the more extensive temporal and geographic testing.

Specifically, neither the Polity data used by Epstein et al., nor the Boix and Rosato data (2001) used by

Boix and Stokes (2003) include the incorporation of citizens into the system of contestation. If we

subscribe to the widely-held belief that development in some sense makes it easier to incorporate

citizens into competitive politics because the stakes of distributive politics are diminished (Przeworski,

2005), then omitting participation can be problematic. The measures used essentially capture the

emergence of competitive regimes, not necessarily those in which a large portion of the citizenry are

empowered to participate.

The absence of the participation criterion in defining democracy means that countries that are

closer to what Dahl (1971) labels competitive oligarchies, rather than polyarchies, are included in the

sample as making transitions to democracy. And since it is much easier at lower levels of development

to introduce elite competition rather than mass democracy, the sample of cases used to explore the

question will be biased against finding an endogenous relationship, as it will consider democratic a

number of non-democratic countries with lower levels of development. This means that the extant

tests have used samples that make detecting an endogenous effect more difficult. Specifically, it is

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[13] This problem still exists using graded measures as well (if there is no within-country variation, they also drop out). An additional statistical problem has been raised with binary measures is that fixed-effects logits or probits can be biased and are often inconsistent.

much easier for authoritarian incumbents to allow competition if the system excludes the lower classes and the potential redistributive demands they may make.

To see if this is the case we will compare whether there is, and what is the magnitude of, the impact on level of development on democratic transition using our operationalizations that include different suffrage criteria. Specifically, we examine the results for three regressions that substitute our minimalist (no suffrage criterion), with the versions that include the universal male suffrage (V-Dem suf25) and more than universal male suffrage (V-Dem suf50). If we are correct the endogenous effect of democracy should be magnified by higher levels of suffrage as a definitional criterion for democracy.

With regard to exogenous theories, we believe that the omission of stateness from those considerations is also potentially problematic. Specifically, a number of scholars have begun to argue that regime survival is not only a product of socioeconomic development but the ends to which the resources that it produces are put. In his classic consideration of the causes of democratic breakdown, Linz (1978) pinpointed effectiveness in response to crisis as one of key dimensions that allowed for the reequilibration of democracy under threat. Since then, on a theoretical level both Diamond (2007) and Fukuyama (2004) have argued that democracy-building projects are doomed unless there is a functioning state in place. The extant large-n statistical work on the state and democratic survival is slim. Andersen et al. (2014) focus on bureaucratic quality and find that democracies with higher degrees of administrative capacity survive longer than those who do not.

We take a somewhat different approach to this question here. Specifically, when the state cannot effectively establish its rule over a substantial portion of the territory it claims exercise a monopoly on the legitimate of violence, this calls the nature of the regime itself into question. The existence of such dual-power situations, where opponents of the regime establish competing and, more often than not, arbitrary forms of authority over large swaths of territory means that democracy is not the national form of rule. Such situations are not rare. The control of large portions of the Sunni

territory in Iraq renders the way in which the government in Baghdad is selected an inconsequential political fact for the inhabitants of that area. Similarly, at the height of their power, the Revolutionary Armed Forces of Columbia (FARC) and other guerilla groups were estimated to once have controlled forty percent of the territory of Colombia (Richani 2002: 50).

It is our belief that the failure of authority and the emergence of dual power situations introduces an endogeneity bias into the sample (or at best introduces a set of cases that are strongly predisposed to failure). Specifically, democracies that lose control of their territory are already in some sense in the process of breakdown, despite a small probability of restoring a democratic equilibrium. Thus, we believe using a sample that includes democratic governments that find themselves in dual power situations biases estimations, including observations that are already in the process of breaking down or have already broken down due to state failure. There are two ways to cope with this problem, depending on one's ontological assumptions. If one is convinced that in order to be effectively considered a regime (like Linz and Stepan 1996), then one should handle the problem by definition and correct the problem through sampling. If those concerned are not shared, then the same problem can be handled by the introduction of a control variable.

If our contention is correct we can test it using the V-Dem binary measures of democracy we have constructed. We will run four competing regressions and compare the results. If the coefficient on development when using V-Dem suf50 as the dependent variable shows a smaller effect than those in which CP80 and CP60 are the dependent variable then our contention is validated. We will also run a regression with suf50 and the control of territory as a control. If the coefficient on the latter is positive and this increases the marginal effect of development this would also validate our contention. The results of these tests will have to wait to the next iteration of the paper.

Research Design

Sample: Our dataset includes all observations for independent and autonomous states present in the V-Dem v6.2 data set between 1900 and 2006, encompassing 10,109 observations. The truncation of the sample at 2006 is due to the limitations of the *resource dependence"* control variable (see below). We have bifurcated the sample into transition and breakdown datasets. The democratization dataset includes time series of all authoritarian country-years (coded "0") and terminates with a transition event (coded "1"). Subsequent democracy years are dropped from the sample until reentry via breakdown. Series that terminate in an authoritarian observation in 2006 are right-censored. The breakdown dataset includes time series of all democratic country years (coded "0") and terminates with a breakdown event (coded "1"). Subsequent autocracy years are dropped from the sample until reentry via redemocratization. Series that terminate in a democratic episode in 2006 are right censored.

Estimation: In order to assess the effects of temporal dependence on the hazard of democratization and breakdown we employ event history analysis (EHA) techniques. Since our theory is agnostic on the shape and form of temporal dependence we rely on the Cox semi-parametric proportional hazards model with repeated failures and robust standard errors (Box-Steffensmeier and Jones 2004). For robustness, we also estimate logistical models with cubic polynomial of time (Carter and Signorino 2010). Cox regression has advantages for our purposes over other EHA models (e.g. Gompertz, log-logistic, Weibull etc.) as it leaves the hazard function unspecified and does not require us to provide a theoretical justification for an a priori specification of the cumulative effect of the estimators over time, allowing for a non-monotonic fluctuation of the duration dependency.   Over-determination of the covariates' effects and systematic bias will, therefore, be avoided.

An important assumption of the Cox model is that of equiproportionality, otherwise known as the proportional hazards assumption (PHA). The PHA requires the hazard ratio of each predictor (i.e. the hazard rate for the ith "individual" divided by the baseline hazard) to be independent of time and

expressed as a fixed proportion (Box-Steffensmeier and Jones 2004: 48). Essentially, the PHA expects the impact of an estimator on the hazard rate to be expressed as a constant factor of proportionality (Box-Steffensmeier and Zorn 2001: 973). A violation of the assumption of proportionality greatly affects the estimation process since it unintentionally parameterizes the baseline hazard function for a variable k and a case i, resulting in biased estimations. For those models that a violation of the PHA was detected we have applied the Box-Steffensmeier and Zorn (2001) correction, in which an interaction term of any offending variable(s) and the natural log of time is inserted in the model. We then interpret the constitutive effect of those variable in accordance with Licht (2011).

Dependent Variables: In our estimations we use our three different operationalizations of democracy/non-democracy which yield slightly different samples. The first, V-Dem Min, is the multiplicative product of three necessary conditions, namely an elected executive, free and fair elections, and a competitive (multiparty) electoral system The second, V-Dem Suf25, introduces the added suffrage of at least half male population should be enfranchised. The third, V-Dem Suf50, increases the suffrage threshold, a more than fifty percent of the population enfranchisement criterion. (Running survival models for our two binary democracy variables incorporating stateness is our next step on the research agenda.)

Independent variables: Our primary explanatory variables are GDP per capita (logged) and GDP growth, based on the Maddison Project (Bolt and van Zandern 2014). Control variables include binary indicators for generic and British colonial legacies respectively (ICOW Colonial History data set; Hensel 2014), a quantitative measure of resource dependence (Miller 2015), a logged measure of a state's military size (COW NMC v5.0; Singer et al. 1972; Singer 1987), and a count of previous democratic (for the transition sample) or authoritarian episodes (for the breakdown sample). These predictors chronologically cover the period from 1900 to 2012 with the exception of *resource dependence*, which ends in 2006.

Results

Our purpose here is at least initially to test drive the new binary measures of democracy we have created for purposes of studying democratic transition and survival. Given the consistency of strength of the association between democratic regime change and development (Geddes 2007), we thus frame tests to revisit the question of whether the relationship between democracy and development is endogenous, exogenous, or both. With regard to the first, we are interested in seeing if the suffrage criterion built into the different measures affects the outcomes as hypothesized above. Our hypotheses with regard to the additional stateness criteria above, will have to wait until the next iteration of the paper.

The Endogenous Relationship

Table 1 reports our Cox and logit estimates of the effect of covariates on the onset of democratic episodes, e.g. transition models, to test for an endogenous effect (whether modernization causes transitions to democracy). The first thing of note is that there are differences in size of the samples. We notice that stricter suffrage criteria increase our baseline sample size from models 1 and 4 by approximately 1% in models 2 and 5 and 10% in models 3 and 6. This is due to a greater number of autocracy years when the criteria for democracy are stricter.

[Table 1 here]

We begin our discussion by comparing the impact of level of development on transition across our three different operationalizations. As we expected, lower criteria for suffrage in operationalizing democracy is prejudicial to finding an endogenous effect between democracy on development. In the Cox models, the log of GDP/capita violates the proportional hazard assumption. In models one and two, with the lower suffrage criteria, both the coefficient on main term and TVC correction are insignificant, providing little indication of an endogenous relationship. However, in model 3 we do find evidence thereof. While its coefficient is statistically insignificant and negative, with TVC correction (interaction

with the log of time), it is positive and marginally significant in Model 3, suggesting a sign reversal from

negative to positive after about 15 months in the episode.[14]   A simple calculation of the turnaround

point, however, does not reveal when the combined effect of the two covariates (i.e. the original and

the interaction term) loses or gains statistical significance. For that reason, a graphical representation is

necessary in order to discern their joint effect over time.

[Figure 1]

Figure 1 shows the comparison of lnGDPpc's constitutive impact across Models 1-3. As

anticipated, the predictor does not pass the traditional threshold of statistical significance in the first

two models, doing so only when regressed against V-Dem Suf50. More specifically, we find that after an

initial period of about 7 years, lnGDPpc has a positive and accentuating impact on democratic transition

that eventually plateaus after a half century. In substantive terms, a one-point increase in lnGDPpc

raises the baseline hazard of democratization by an average of 65% in our study. Put simply, we find that

richer countries face a substantively higher likelihood of democratization, in accordance to the

literature. The logit models largely confirm these results. The coefficient for the minimalist

operationalization of democracy (model 4) is insignificant, for the fifty percent male suffrage criterion it

becomes marginally significant (model 5, p>0.1), and only attains conventional significance levels with

the fifty percent or higher suffrage criterion (Model 6).

Turning to economic performance, the expectation is that growth should insulate authoritarian

regimes from democratization (Gasiorowski 1995; Przeworski et al. 2000; Smith 2005). This presents the

potential, and to date unexplored, tension that sustained long-term growth (which increases

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[14] The turnaround point can be calculated by using the following formula (b_o is the original coefficient and b_i is that of the interaction term; Licht 2011: 235):

$$T = e^{\left|\frac{b_o}{b_i}\right|}$$

development) should inhibit democratization. While this theoretically might explain why the literature previously found a weaker endogenous effect of development on democracy, we find little evidence of that here in either set of models. The coefficient on growth is consistently negative but only significant in model 1, where GDP growth seems to *reduce* the hazard of democratic transitions by about 3.3% for each additional point of growth per year, on average.

With respect to the control variables, former colonies (the omitted category) are consistently found to be less likely to democratize as opposed to states without colonial histories, and we see little evidence for a positive effect for a British colonial legacy. Resource dependence, another potential confounding covariate, mimics the performance of GDPpc, in that its combined effect is consistently significant only in Model 3 (see Figure 2). In panel 3 of the figure the net effect of the coefficient and the TVC correction shows that in rentier states democratic transitions are less likely to occur, though this effect only kicks in after the first decade in an authoritarian episode.

[Figure 2 here]

The size of a state's military also seems to inhibit the prospects of democratization; countries belonging on the top quantile of military size face an average of 58.3% reduction on the hazard of transition. Last, but not least, we find that states with previous democratic experience are more likely to re-democratize during the first year of an electoral interruption (by a factor of more than one thousand) than states without a democratic past. For each subsequent year of authoritarianism, however, the effect of democratic experience is shown to steadily and rapidly dissipate, although its combined positive impact remains in place for more than a century (see Figure 3).

[Figure 3 here]

The Exogenous Relationship

We next turn our attention to the impact of development on democratic breakdown, testing for the exogenous relationship between development and democracy (whether modernization causes democratic survival). In Table 2, the estimates are consistent across the board. In all three Cox models GDP per capita retains its equiproportionality and is shown to have a significant and negative effect on the hazard of breakdown. The results of the logit robustness models are highly consistent with these results.

[Table 2 here]

There is very little of consequence and consistency with the other variables. Economic performance is inconsistent in predicting democratic interruptions (cf. Bernhard et al. 2001, 2003). It is only signed and significant in the two logit models which use lower suffrage thresholds (models 4 and 5) though it is consistently signed negatively throughout. Contrary to the democratic transition models, a state's colonial background has practically zero impact in all models (cf. Bernhard et al. 2004), as does resource dependence. The one covariate which does seem to have an impact is the size of the military. We observe that more powerful states face a reduced hazard of de-democratization, an empirical pattern quite similar to the one presented in transition models. It is likely that this variable taps into the strength of the state and is consistent with the literature on the state and democratization (Andersen et al. 2014). Finally, a history of past authoritarianism appears to promote democratic breakdown. If we take account of the time varying covariates and correction in model 3, we see this decay over time, but still increases the hazard of breakdown by an average of 161% during the first decade of a democratic episode (see Figure 4).

[Figure 4 here]

In Lieu of a Conclusion

Our main purpose here was to test the new V-Dem binary indicators of democracy and to see if they were suitable for use in event-history investigations of democratic transition and survival. Overall, we are pleased with these preliminary results. Using fairly stripped down models, we were able to detect both an endogenous and exogenous impact of development on democracy. One concern that still remains is the inconsistent behavior of the confounding variables in the exogenous models. We expected both the colonial variables and growth variables to behave in line with the previous literature and they did not. However, the survival models we presented in the paper were relatively stripped down compared to the literature. The next step in our ongoing investigate will be to add controls for e.g. previous regime type, presidentialism, and legislative fractionalization and see if this changes our results.

The results for endogenous models present the most novel and interesting findings. We hypothesized that previous work on the endogenous effect of development on democracy were biased against finding such a relationship because of either the absence or weakness of suffrage criteria for democracy. Our findings suggest this is the case. By using low suffrage criteria, earlier work included cases that were able to sustain competitive regimes that disenfranchised lower class participants and allowed them to be coded as democracies at lower levels of development, because it is easier to maintain competition without lower class enfranchisement. When we raised the bar on suffrage the endogenous relationship in our models emerged as stronger.

Finally, we need to address the problem of stateness in the exogenous models. Because previous codings do not account for weak states that do not control large parts of their territories or populations, it considers countries which are contending with dual power situations and thus not fully democratic in terms of the stateness criteria as democratic. We hypothesize that this leads to an underestimation of the exogenous impact of development on democracy. Our next step is to

operationalize binary democracy variables that take account of state control of territory and see if it

enhances the exogenous effect.

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Table 1: Democratic Transition

Transition	Cox			Logit with CP		
	(1) **V-Dem Min**	**(2)** **V-Dem Suf25**	**(3)** **V-Dem Suf50**	**(4)** **V-Dem Min**	**(5)** **V-Dem Suf25**	**(6)** **V-Dem Suf50**
GDPpc(ln)	.042 (.316)	.086 (.313)	-.036 (.281)	.197 (.126)	.212* (.125)	.390** (.152)
GDPgrowth	-.034*** (.011)	-.025 (.016)	-.020 (.013)	-.011 (.012)	-.011 (.013)	-.026 (.016)
No Colony	.826*** (.270)	.742*** (.268)	.578*** (.189)	.307* (.184)	.302* (.183)	.781*** (.268)
Brit Colony	.433 (.268)	.362 (.268)	.164 (.241)	.287 (.223)	.300 (.222)	.492 (.307)
Resource Dependence	.024** (.012)	.029* (.016)	.023** (.010)	-.027* (.015)	-.027* (.015)	-.025 (.017)
COW Military Size	-.173** (.084)	-.150* (.085)	-.181*** (.060)	-.171*** (.056)	-.174*** (.053)	-.216*** (.078)
Previous Dem Episodes	7.073*** (.844)	7.095*** (.942)	6.879*** (.926)	2.096*** (.288)	2.064*** (.284)	2.238*** (.320)
<u>TVCs</u>						
GDPpc(ln)	.098 (.120)	.077 (.119)	.161* (.098)	---	---	---
Resource Dependence	-.016** (.007)	-.016** (.007)	-.018*** (.006)	---	---	---
Previous Dem Episodes	-1.469*** (.244)	-1.476*** (.275)	-1.334*** (.250)	---	---	---
t1	---	---	---	-.170*** (.028)	-.160*** (.028)	-.029 (.039)
t2	---	---	---	.003*** (.001)	.003*** (.001)	.000 (.001)
t3	---	---	---	-.000*** (.000)	-.000*** (.000)	.000 (.000)
Constant	---	---	---	-3.190*** (0.954)	-3.351*** (.948)	5.779*** (1.180)
Wald x2	223.64*** (10)	228.23*** (10)	223.18*** (10)	117.46*** (10)	117.94*** (10)	103.82*** (10)
Failures (Events)	122	122	140	122	122	140
N	4003	4040	4421	4003	4040	4421

Cell entries report coefficients and robust standard errors (in parentheses). *p<.10, **p<.05, ***p<.01.

Table 2: Democratic Survival

Breakdown	Cox			Logit with CP		
	(1) **V-Dem Min**	**(2)** **V-Dem Suf25**	**(3)** **V-Dem Suf50**	**(4)** **V-Dem Min**	**(5)** **V-Dem Suf25**	**(6)** **V-Dem Suf50**
GDPpc(ln)	-.460*** (.128)	-.467*** (.125)	-.448*** (.111)	-.567*** (.148)	-.562*** (.146)	-.656** (.148)
GDPgrowth	-.014 (.009)	-.013 (.009)	-.004 (.008)	-.022* (.013)	-.022* (.013)	-.001 (.015)
No Colony	-.272 (.235)	-.222 (.228)	.004 (.198)	-.380* (.229)	-.353 (.230)	.176 (.254)
Brit Colony	-.147 (.174)	-.167 (.171)	-.151 (.147)	-.154 (.248)	-.199 (.247)	-.244 (.230)
Resource Dependence	.009* (.005)	.008 (.005)	.004 (.004)	.014 (.010)	.013 (.010)	.009 (.009)
COW Military Size	-.015*** (.053)	-.015*** (.049)	-.008 (.053)	-.014*** (.049)	-.016*** (.051)	-.111 (.077)
Previous Aut Episodes	.818*** (.109)	.968*** (.111)	1.752*** (.243)	.875*** (.086)	.921*** (.086)	1.265*** (.158)
TVCs						
Previous Aut Episodes	---	---	-.319*** (.091)	---	---	---
t1	---	---	---	-.325*** (.055)	-.373*** (.053)	-.824*** (.108)
t2	---	---	---	.009*** (.003)	.012*** (.003)	.039*** (.008)
t3	---	---	---	-.000** (.000)	-.000*** (.000)	-.001*** (.000)
Constant	---	---	---	3.481*** (1.039)	3.625*** (1.031)	5.767*** (1.121)
Wald x2	229.38*** (7)	223.28*** (7)	170.95*** (8)	240.09*** (10)	255.11*** (10)	218.46*** (10)
Failures (Events)	123	123	141	123	123	141
N	3428	3392	2988	3428	3392	2988

Cell entries report coefficients and robust standard errors (in parentheses). *p<.10, **p<.05, ***p<.01.

Figure 1: The Impact of GDP per/capita on Democratic Transition
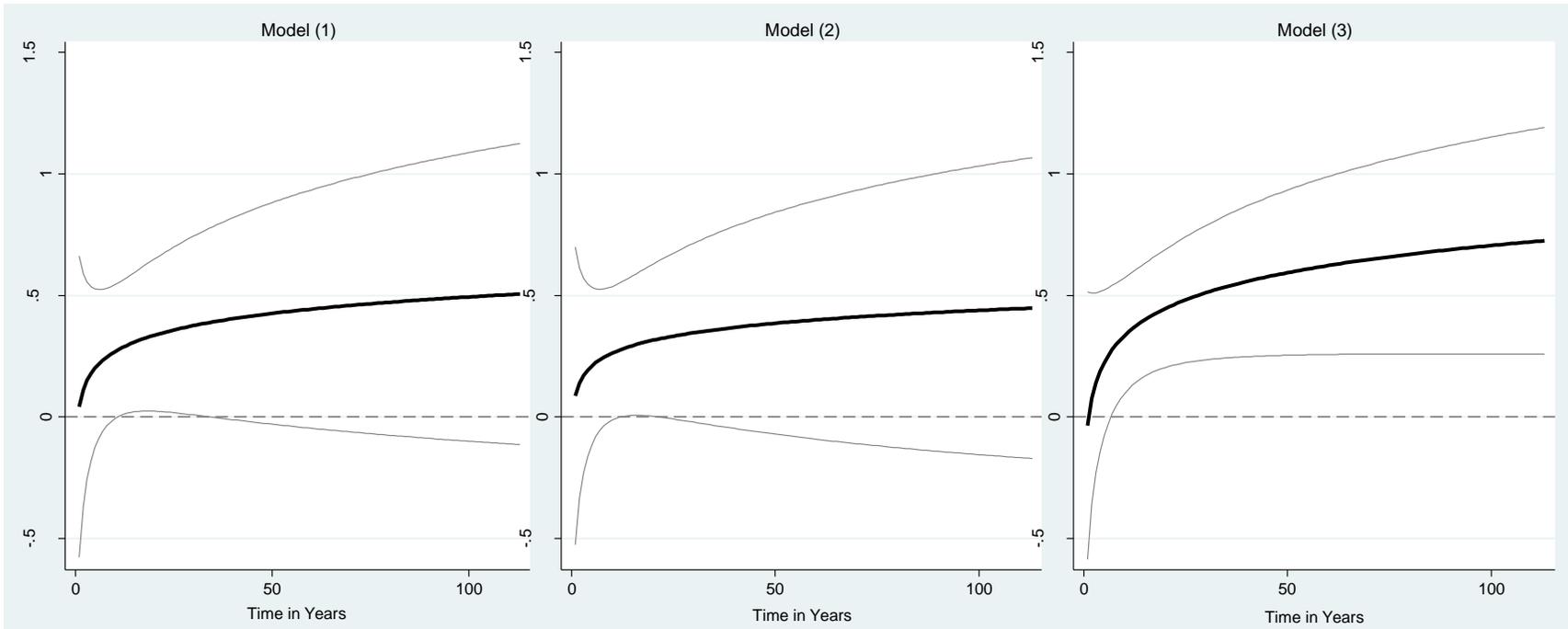(with 95% Confidence Intervals)

Figure 2: The Impact of Resource Dependence on Democratic Transition
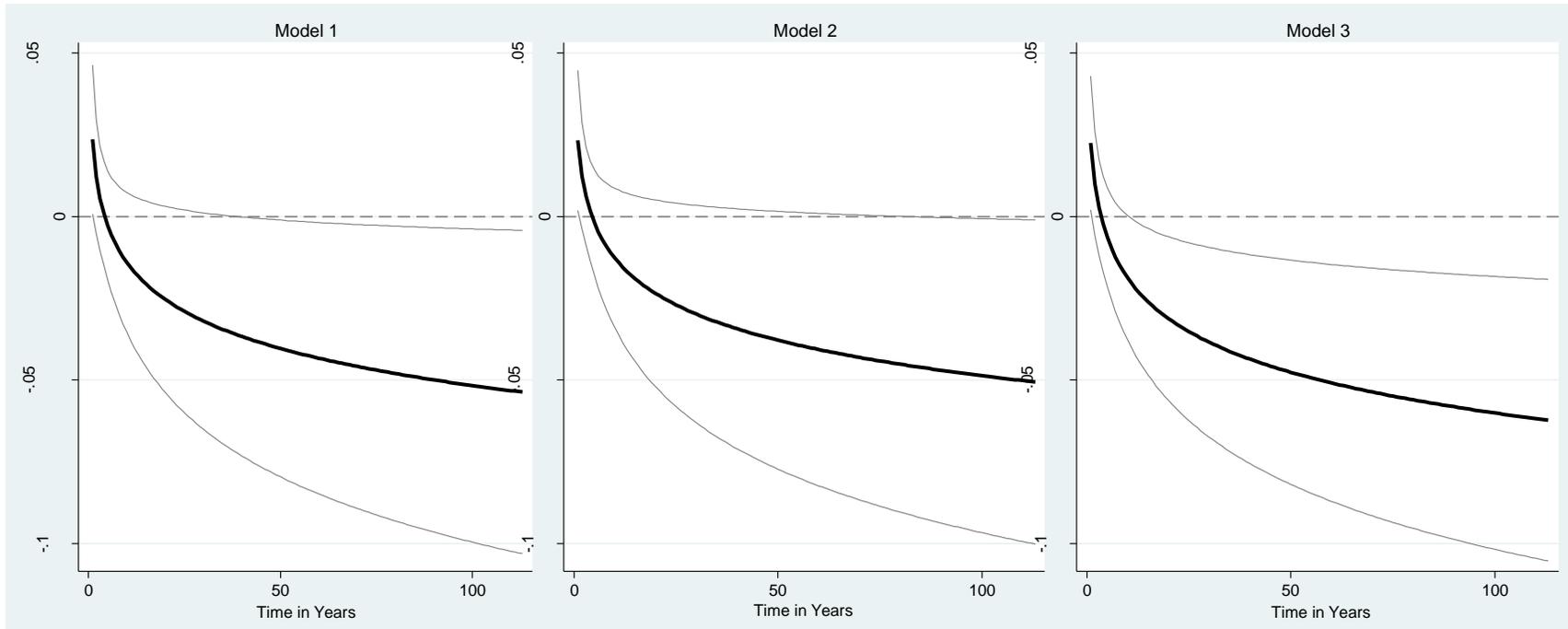(with 95% Confidence Intervals)

Figure 3: The Impact of Previous Democratic Episodes on Democratic Transition
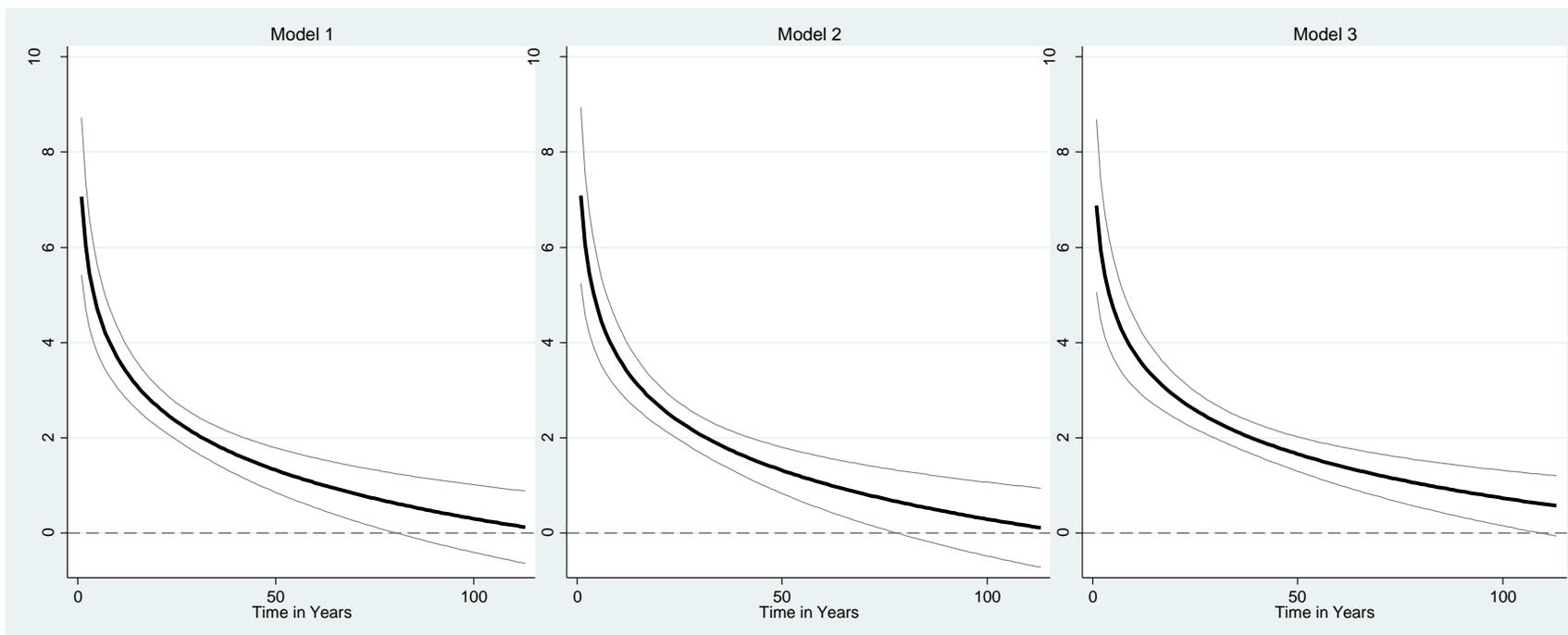(with 95% Confidence Intervals)

Figure 4: The Impact of Previous Autocratic Episodes on Democratic Survival
(with 95% Confidence Intervals)