Democracy and dictatorship revisited

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Abstract We address the strengths and weaknesses of the main available measures of political regime and extend the dichotomous regime classification first introduced in Alvarez et al. (Stud. Comp. Int. Dev. 31(2):3–36, 1996). This extension focuses on how incumbents are removed from office. We argue that differences across regime measures must be taken seriously and that they should be evaluated in terms of whether they (1) serve to address important research questions, (2) can be interpreted meaningfully, and (3) are reproducible. We argue that existing measures of democracy are not interchangeable and that the choice of measure should be guided by its theoretical and empirical underpinnings. We show that the choice of regime measure matters by replicating studies published in leading journals.

Keywords Political regimes · Democracy · Dictatorship · Measurement

1 Introduction

An inspection of the main political science publications demonstrates the centrality of political regimes to the discipline's research agenda. Considerable effort has been spent testing empirically propositions about the conditions under which political regimes emerge and survive, and their consequences for a broad set of outcomes, notably their impact in promoting economic development and international peace. Part of this effort has been possible due to

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the proliferation of measures of political regimes covering a large number of countries over a relatively long period of time.

In the wake of such development, a debate has emerged over the most appropriate way to measure political regimes. Disagreement exists over what exactly should be measured and how it should be measured: What is the notion of democracy that underlies existing measures? Should a measure be continuous or categorical? If categorical, should it be dichotomous or polychotomous? Should the input into the measures be exclusively observable events or should subjective judgment be involved in generating them?

Important as these debates are, they have not been of much consequence since most scholars seem to believe that, in the end, measures of democracy are interchangeable. They correlate with each other and are believed to generate similar results when used against one another in robustness checks of empirical findings.

We disagree with this view. We believe that existing measures of political regimes are significantly different in terms of both their theoretical grounding and operationalization and, for this reason, should not be treated as interchangeable.[1] In our view, we should take the differences across measures more seriously and evaluate them in terms of whether they (1) serve to address important research questions, (2) can be interpreted meaningfully, and (3) are reproducible.

In this paper, we address the strengths and weaknesses of the main available measures of political regime and introduce a new database that extends—both in terms of country and year coverage and in terms of variables—the one first published in Alvarez et al. (1996).[2] The root of this dataset, which we call Democracy-Dictatorship (DD), is a minimalist dichotomous measure of political regime. The dataset also introduces various categories for each of these distinct regime types. Specifically, we present a six-fold regime classification covering 199 countries from January 1, 1946 (or date of independence) to December 31, 2008 (or date of state death/change). The panel is unbalanced because countries enter and leave the sample at different times, but there are no missing data; we codify all independent regimes for the post World War II period.

Since all the variables in the dataset are conditioned on the classification of political regimes as democracies and dictatorships, we begin by summarizing the rules that generate such a classification (Sect. 2). We then review the debates that have emerged around the measurement of political regimes, arguing that the charges commonly made against a dichotomous, minimalist measure of democracy are not valid and that there are good reasons to use it in analyses involving political regimes (Sect. 3). We argue against the substantive view of democracy that underlies the alternatives to our dichotomous measure, and show that these alternatives are based on vague and arbitrary operational rules. We argue that for all the problems the polychotomous measures entail, the middle categories actually add little information since their distributions are bimodal. For these reasons, existing measures of democracy are not interchangeable and the choice of measure should be guided by its theoretical and empirical underpinnings. In Sect. 4, we present the reasons and the rules for classifying democracies as parliamentary, mixed or presidential, and for classifying dictatorships as monarchic, military or civilian. We show that the choice of regime measure matters in Sect. 5 by replicating studies published in leading journals. Section 6 concludes.

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[1] As Casper and Tufis (2003) report, the use of different measures of democracy can produce different results, in spite of the fact that they are highly correlated.

[2] The regime classification that appeared in Alvarez et al. (1996) served as the basis for the work in Przeworski et al. (2000) and has been variously referred to as the ACLP, the Przeworski, the Democracy and Development, or DD measure. Here we will use the latter, to denote the fact that it classifies political regimes as democracies or dictatorships. We will also refer to the dataset that accompanies this paper as the DD dataset.

2 Democracies and dictatorships

The six-fold regime classification we present is rooted in the dichotomous classification of regimes as democracy and dictatorship introduced in Alvarez et al. (1996) and Przeworski et al. (2000), extended to cover more countries over a longer period of time. Given that there has not been any change in the rules for distinguishing between democracy and dictatorship, here we simply summarize these rules and compare the current with the previous classification. The changes to the data that did occur were entirely due to the fact that new information about specific cases was made available.

Democracies are regimes in which governmental offices are filled as a consequence of contested elections. This definition has two main parts: "offices" and "contestation." For a regime to be democratic, both the chief executive office and the legislative body must be filled by elections. Contestation occurs when there exists an opposition that has some chance of winning office as a consequence of elections. This entails three features (Przeworski 1991):

1. *Ex ante* uncertainty: the outcome of the election is not known before it takes place.
2. *Ex post* irreversibility: the winner of the electoral contest actually takes office.
3. Repeatability: elections that meet the first two criteria occur at regular and known intervals.

The challenge from the point of view of regime classification is to provide an operational definition for these features. We need rules to assess whether the relevant offices are filled through elections and whether elections are contested. Therefore, we adopt the following procedure. A regime is classified as a democracy if it meets the requirements stipulated in *all* of the following four rules:

1. The chief executive must be chosen by popular election or by a body that was itself popularly elected.
2. The legislature must be popularly elected.
3. There must be more than one party competing in the elections.
4. An alternation in power under electoral rules identical to the ones that brought the incumbent to office must have taken place.

The implementation of the first two rules is straightforward since it is simple to observe whether the relevant offices are filled as a result of elections. The third rule, although slightly more complex, is also straightforward: for a contested election to take place, voters must have at least two alternatives to choose from. Hence, elections in which a single party competes, or in which voters are presented with a single list, do not qualify as contested elections.[3] One complication in the application of this rule emerges from the fact that some incumbents who have come to power via contested elections have eliminated them while in office. Since this violates the *repeatability* condition for democracy, in cases like this we code as non-democratic all the years from the moment the incumbent came to power to the moment when contested elections were eliminated.[4]

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[3]That the occurrence of elections is not sufficient to characterize a regime as democratic can be easily seen when one considers that 728 of the 1457 legislative elections, and 268 of the 489 presidential elections, that took place between 1946 and 1996 were held under regimes we classify as dictatorships. Data on elections are from Golder (2005).

[4]See Przeworski et al. (2000: 20–22) for a discussion of this rule. The cases coded as non-democratic because of this rule are identified in the dataset by the variable INCUMB.

The implementation of the last rule is more complicated since it requires that we make one assumption and one decision about what kind of error we are willing to accept. It does not, however, require any subjective judgment on the part of the analyst and hence does not compromise the classification's reproducibility.

An alternation in power takes place when the incumbent occupying the chief executive office is replaced through elections that were organized under the same rules as the ones that brought him to office. The alternation issue becomes relevant only in the cases where the first three rules apply. The implementation of this rule, however, is complicated by the fact that, given the occurrence of elections in which two or more parties compete, it is difficult to distinguish (1) regimes where incumbents never lose power because they are popular but would step down if they did lose elections, from (2) regimes in which incumbents hold elections only because they know they will not lose them and would not step down if they did lose. Since there is nothing in any conception of democracy that precludes the emergence of a highly popular incumbent who is time and again returned to office by very pleased voters, the first case should be coded as a democracy. And since incumbents who are ready to call off elections at the moment they anticipate a defeat violate the *ex ante* uncertainty and repeatability conditions for contested elections, the second case should be coded as a dictatorship. Yet, these two cases are observationally equivalent, and it is thus impossible to distinguish between them without introducing subjectivity into the coding process.

Part of the problem can be addressed if we assume that current actions are revealing of what incumbents would have done at different points in time. Consider, for example, the cases of Malaysia and Japan. Between independence in 1957 and 1969, there were three multiparty elections in Malaysia. The incumbent party won an absolute majority in the first two, but not in the third one. As a result, the government declared a state of emergency, closed parliament, issued a harsh internal-security law, and rewrote the constitution in such a way that it never lost an election after parliament was reopened and elections resumed in 1971. We code Malaysia as a dictatorship *under the assumption* that the incumbents' actions in 1969–1971 demonstrated their predisposition of holding elections only to the extent to which they were assured of winning. In Japan, the Liberal Democratic Party was in office continuously from 1955 until the 1993 election. When they finally lost, they allowed the opposition to assume office. We code Japan as a democracy *under the assumption* that the LDP would have yielded power had it lost elections prior to 1993.

Yet, even if such assumptions are made, there are still cases that cannot readily be classified. The best example is Botswana, where, at this writing, eight multi-party elections have been held since independence in 1966 under conditions that most analysts consider to be free and fair (no constraints on the opposition, little visible repression, no apparent fraud), and the incumbent has won each of them by a very wide margin of victory. Had the Botswana Democratic Party lost one of these elections and allowed a different party to form a government, or had it closed parliament and changed the electoral rules, we would be able to identify the regime as a democracy or a dictatorship. As it is, however, we simply do not know, and until one of these events happens, we need to accept that we are not capable of coding Botswana and similar cases with our rules. We can exclude all cases such as Botswana from the data set, we can call them democracies, or we can call them dictatorships. Whatever we do, there will be some systematic error due to the fact that we cannot tell the cases apart.

Since these cases are readily identifiable, we can control for this error. We use caution in classifying regimes as democracies, and thus code cases such as Botswana dictatorships. But we also identify these cases through a variable called "Type II," an indicator variable coded one if the dictatorship represents a possible Type II error—i.e., a false negative—and zero

otherwise. This enables users of our dataset either to recode these cases as democracies—risking type I errors (false positives)—or to remove them from the analysis. Note that the Type II variable does not identify "intermediate" or "hybrid" cases, cases of semi-democracy or cases of semi-dictatorship. Under our conception of regime, all regimes are either democracy or dictatorship; but in these key cases we simply cannot tell which one given what we observe about the country (so far).

One of the consequences of this rule is that the uncertainty inherent in cases such as Botswana may be resolved as history unfolds. In the original classification (Przeworski et al. 2000), we were able to unambiguously classify 92% of the country-years between 1950 and 1990 with the four rules. In the current extension, the proportion of country-years that we classify as dictatorships on the grounds that they fail the alternation rule only is higher—11.9%, mostly due to the fact that many of the USSR successor countries, including Azerbaijan, Belarus, Kyrgyzstan, Kazakhstan and Russia, have held elections since they became independent that the incumbents always win. In some cases, however, history has provided the information we needed to determine the regime type, enabling us to revise the original coding (e.g., Mexico).

When incumbents who continuously win multiparty elections finally step down, new questions arise: while it is clear that the new government should be classified as a democracy according to our rules, should the government that allowed the alternation to take place also be classified as a democracy? If yes, how far back in time should the government be considered a democracy? Consider the case of Mexico, where the opposition won after a long period of incumbent victories in multiparty elections. Does the fact that Vicente Fox won office in Mexico in 2000 require that we recode the regime as a democracy all the way back to the 1920s, when the incumbent party, the *Partido Revolucionario Institucional* (PRI), first came to office? [5]

We address this issue by focusing on the rules under which the incumbent was elected. The rules that matter are the broad electoral rules—who votes, how votes are counted, and who counts the votes. If the opposition wins under rules that are identical to the ones that led to the victory of the incumbent, then we consider the incumbent democratic: the years under that person's rule meet all four rules for classifying a regime as a democracy. This is done with all previous governments up to the point where the electoral rules were changed. Thus, in the case of Mexico, we date the transition to democracy to 2000, when Fox, the candidate of one of the opposition parties, was sworn into the presidency. The electoral rules were changed under the Zedillo presidency (1994–2000) when, in 1996, an accord between the ruling PRI and the two opposition parties (PAN and PRD) ended the PRI's control of the Federal Electoral Institute.

The Democracy and Dictatorship (DD) measure of political regime is minimalist. The coding is clear and stark, so that precise information is conveyed by the coding of each observation, and the coding involves no subjectivity, so it is easily reproducible. In addition to DD, there are two other measures of political regimes that are widely used: the Freedom House (FH) measure of political rights and civil liberties and the Polity IV (POLITY) measure of political regime characteristics. [6] All three measures are similar in the sense that

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[5]The PRI was called the "National Revolutionary Party" in 1929 and then the name was changed to the "Party of the Mexican Revolution" in 1938. The name was finally changed to PRI in 1946.

[6]Several other measures have been proposed but they are not widely used, mostly because they are available for only a few years (Bollen 1980; Coppedge and Reinicke 1991), are not sufficiently defined (Arat 1991; Gasiorowski 1996), or include inappropriate indicators (Vanhanen 2000). Although occasional references to these measures will be made below, they will not be systematically discussed.

they cover a large number of countries for a relatively large number of years. But they are different in at least three important ways: (1) the conception of democracy that underlies each of them; (2) the nature of the data used to assess political regimes; and (3) the type of measurement they perform. We turn now to a discussion of each of these aspects as a way to assess the value of each of these three measures.

3 Comparing alternative regime measures

3.1 Conception of democracy

Measures of political regimes differ as to whether they adopt a strictly procedural, minimalist view of democracy as opposed to a more substantive one. In the first case, democracy depends exclusively on the presence of certain institutions, with no reference to the kinds of outcomes that are generated by their operation. Thus, underlying DD is the notion that democracy is a regime in which those who govern are selected through contested elections and, once identified, the occurrence of contested elections is necessary and sufficient to characterize a regime as democratic.

In substantive conceptions of democracy, institutions are seen as necessary but not sufficient to characterize a political regime. Although it may be that no democracy exists that does not have contested elections, not all regimes that are based on contested elections may be called democratic. What matters is that, through these elections, something else happens: the public good is achieved, citizen preferences are represented, governments become accountable, citizen participation in political life is maximized, economic equality is enhanced, rationality is implemented, economic conditions improve, and so on. Along these lines, FH offers two indices of "freedom": political rights and civil liberties, which are then used to indicate "democracy." Bollen (1980: 372), in turn, defines democracy as "the extent to which the political power of the elite is minimized and that of the non-elite is maximized." And Polity IV offers indicators of the authority of the executive—is it unlimited, somewhat checked by the legislature, or on par with or subjugated by the legislature?—and of the nature of political participation—is it regulated, suppressed, transitional, or plagued by violence?

Thus, one point of debate with respect to measures of political regimes is whether a minimalist conception of democracy, such as the one underlying DD, is sufficient to characterize political regimes. There are many researchers who believe it is not (e.g., Diamond 1999; Mainwaring et al. 2001; Weeden 2004). Yet one should consider the primary purpose for the categorization of political regimes: the conduct of empirical research. In this regard, a measure of democracy based on a minimalist conception, is compatible with most of the theoretical issues that animate empirical research on political regimes.

For instance, democracy is considered to undermine economic development because governments heed voters' short-term interests (De Schwinitz 1964; O'Donnell 1973), or they are considered to promote development because the possibility of punishment at the ballot box induces leaders to manage the economy well (Olson 1993). Additionally, macroeconomic performance may suffer because of governments' attempts to manipulate the economy for electoral purposes (Nordhaus 1975 and Tufte 1978 for early formulations, and Drazen 2000 for a review of recent developments) or, alternatively, long-term economic performance may improve because voters can sanction incumbents at the polls (Paldam 1991; Powell and Whitten 1993; Wilkin et al. 1997). Because elections allow citizens to influence policy by their control over leaders, they should result in lower inequality (Meltzer and Richards 1981;

Przeworski 1990), better provision of public goods (Bueno de Mesquita et al. 2003; Lake and Baum 2001), greater involvement in trade agreements (Mansfield et al. 2002), and the avoidance of catastrophes such as famine (Sen 2000). Market-oriented reforms, in turn, may not be attempted or implemented consistently because governments fear voter's reaction to them (Przeworski 1991; Haggard and Kaufman 1995) or, on the contrary, they may be attempted and implemented consistently because governments will be rewarded in future elections (Hellman 1998). Finally, the connection of voters to the government through elections is also central in arguments about the effect of political regime on the entry into and performance in war (Fearon 1994; Reiter and Stam 1998; Schultz 1999). In all of these areas of research, and many others, the mechanism that links political regimes to outcomes is the presence or absence of contested elections.

While the focus on elections undergirds many theoretical links between regime type and outcomes, one might ask: is there any harm in expanding the definition of democracy to include some normatively desirable outcomes? We answer in the affirmative for the following reasons. For one, substantive conceptions of democracy generate measures that are not amenable to the empirical investigation of at least some of these issues. If democracy is defined as the regime where rulers are accountable to the ruled, for example, then the issue of whether governments under democracy do indeed act in voters' best interests becomes redundant. If, besides political equality, democracy also requires economic equality, the finding that income distribution is more egalitarian under democracy only corroborates what is true by definition. If democracy requires civil liberties, political rights, freedom of the press, and other freedoms, then inquiries about the connection between democracy and such freedoms are also precluded.

Moreover, including more dimensions along which to classify political regimes makes it harder to specify the causal mechanisms that link regime and the outcomes of interest. A positive correlation between FH and economic development, for example, leads one to wonder what is it among the over 20 dimensions that enter into this measure of democracy that is driving the observed relationship. Relatedly, the intricacies of aggregating various component scores to create a single index of democracy raises additional questions regarding interpretation (Gleditsch and Ward 1997; Treier and Jackman 2008; Keech 2008). How, for example, should we substantively interpret the hundreds of possible response patterns that the components of the POLITY measure generate?[7]

Finally, expanding the notion of democracy to include more than contested elections may blur the boundaries between political regimes and other political entities, and lead to the inclusion of attributes that are, as Munck and Verkuilen (2002: 54) put it, "aspects of the state as opposed to a regime type." Some scholars argue that democracies are systems that require civilian control of the military, national autonomy or bureaucratic responsiveness to elected branches of the government (Coppedge 2002: 36). However, civilian control of the military, national autonomy with respect to the international system, and bureaucratic responsiveness to executive and legislative authorities, are attributes that vary across political systems, irrespective of the rules they follow to choose who makes decisions for the country. These are attributes of political systems in general, not of a specific type of political regime.

A minimalist definition of democracy such as the one we adopt in DD is compatible with a variety of specific ways in which social and political life is organized. It does not attach any weight to the specific way governments are formed, political parties compete, candidates are selected, voters vote, and votes counted; to the way justice is organized and

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[7]To be sure, indexes can be useful for grouping ostensibly heterogeneous cases, but such an exercise should be grounded in a specific theoretical context and conducted with care.

dispensed; to how much or in what ways the state intervenes in the economy or to whether private property is upheld. It recognizes that all governments are constrained in their actions, be it by those who hold guns or by those who own capital, domestic or international. All that a minimalist definition of democracy requires is that citizens be given periodically the opportunity to choose their leaders in electoral contests; that they be presented with more than one alternative; and that those who win become, indeed, the country's leaders. The specific characteristics listed above may be used to make further distinctions within or across each regime category. But the minimalist approach begins with the assumption of two sharply defined categories, democracies and dictatorships.

Note that the minimalist conception of democracy we adopt here is procedural in the sense that it sees democracy simply as a method for choosing rulers. However, not all procedural measures of democracy need be based on a minimalist conception of democracy. There are measures of democracy that are purely procedural, or at least claim to be so, but are not minimalist—they include *procedures* that will, for instance, maximize the power of the non-elites and minimize the power of the elites (Bollen 1980: 372), or that will produce accountability of governments to their citizens (Dahl 1971).

Even though we do believe that a minimalist conception of democracy is normatively and positively justified, one does not need to subscribe to such a view in order to find the regime measure we provide useful. Even if one does not believe contested elections are sufficient to characterize a political regime as democratic, all theories of democracy find them to be necessary. In this sense, the classification of democracies and dictatorships we provide can be interpreted simply as one component of a broader characterization that includes other features of political regimes. This is precisely what we do below when we distinguish democracies and dictatorships in terms of the mechanism for selecting and removing the executive. In this case, DD retains value not only for its validity, but also for its reliability. We now turn to a discussion of this latter feature.

3.2 Coding and aggregation rules

The reliability of a measure depends on whether knowledge of the rules and the relevant facts is sufficient to unambiguously lead different people to produce identical readings on specific cases. In assessing reliability, we can ask three questions of our measures. First, what type of information is used to produce the measure (e.g., objective facts vs. subjective evaluations)? Second, are there clear and transparent rules governing these processes (i.e., the collection of information)? Finally, how is the information put together (i.e., what is the aggregation rule)? In this section, we first answer these questions with regard to DD and then make comparisons to FH and POLITY.

The answers regarding DD are straightforward in view of what was said in Sect. 2. DD is strictly based on objective judgment and observational criteria—it relies on events, the occurrence of which are not difficult to ascertain: the holding of elections, the existence of more than one political party, and change in the leadership of the government. The rules for coding are transparent, including the instances in which the necessary information has not yet been produced by history. Finally, it stipulates a clear procedure for aggregating the information—all conditions must be met before a regime can be called a democracy—that follows from the definition of democracy that is employed. The same is not true about either FH or POLITY.

The FH measure of democracy originates in two seven-point scales: political rights and civil liberties. Countries are assigned a score on each of these scales by experts who consider a checklist of factors. For 2008, this checklist contains 62 items for political rights (broken

into ten categories plus two discretionary categories) and 80 items for civil rights (broken into 15 categories).[8] The coding rules change from year to year, and previous years are not updated to reflect the new rules. This makes the use of the measure for research over time questionable.[9] Even in a cross-section of just one year, however, the measure has low reliability. The checklists include questions such as: Are there *fair* electoral laws? Is the vote count *transparent* and reported *honestly*? Are the people *free from domination* by the military, foreign powers, totalitarian parties, religious hierarchies, economic oligarchies, or any other powerful group? Are there *free and independent* media? Are there *free* trade unions and other professional organizations, and is there *effective* collective bargaining? Is there personal *autonomy*? Is there *equality of opportunity*? Given the type of information necessary to answer these questions in constructing the measure, subjectivity is clearly involved.

Regarding aggregation, for each of the ten categories in the political rights checklist and the 15 categories of the civil liberties checklist, coders assign ratings from zero to four and the points are added so that a country can obtain a maximum score of 40 in political rights and 60 in civil rights. With five alternatives for each of ten and 15 categories, there are $5^{10} = 9,765,625$ possible ways to obtain a sum of scores between zero and 40 in political rights, and $5^{15} = 30,517,578,125$ possible ways to obtain a sum of scores between zero and 60 in civil liberties. All of these possible combinations are then distilled into the two seven-point scales of political rights and civil liberties. Some researchers use these seven-point scales separately, while others add them together to create a 2 to 14 scale (sometimes normalized to range between 1 and 100); still others use the categorical variable provided by FH, which further distills the scales into three categories: "free," "partly free," and "not free." In all of these cases, the aggregation rules are arbitrary.

The problems of subjectivity and arbitrariness are further compounded by the opacity of the aggregation process. Data on any one of the questions contained in the FH political rights and civil liberties checklists might be useful to analysts, but Freedom House does not provide such information. The specific checklist data for the individual categories has never been provided.[10] However these categories may be coded, there appears to be no theory or justification as to the weight assigned to each category in the overall index. Adding to this ambiguity, "the survey team makes minor adjustments to account for factors such as extreme violence, the intensity of which may not be reflected in answering the checklist questions" (Freedom House 2002).

The FH scale should not be treated as either a continuous scale or an ordinal ranking. It is at best a categorical variable, where the various scores can be obtained literally *billions* of possible combinations of characteristics plus "minor adjustments." The collection of data is non-transparent and the aggregation rules are arbitrary. As Munck and Verkuilen (2002: 28) observe, Freedom House is an index "which [exemplifies] problems in all areas of conceptualization, measurement, and aggregation."

The POLITY measure of political regime, which approaches regime as the aggregation of "authority patterns" (Marshall et al. 2002), is similar in approach to FH.[11] Data for each of its components are provided, and there are only five: (1) Competitiveness of political

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[8]http://freedomhouse.org/template.cfm?page=351\&ana_page=341\&year=2008. Accessed 29 July 2008.

[9]For a description of the early years of what became the FH measure see Gastil (1991).

[10]Only for the past three years have some data on individual categories been made available but even these are not the actual data for the checklist items.

[11]For a history of the Polity measure, see Jaggers and Gurr (1995). Also see Kristian Gleditsch's Polity Data Archive (http://privatewww.essex.ac.uk/~ksg/polity.html).

participation, which ranges from -2 to $+3$, (2) Regulation of political participation, which ranges from -2 to 0, (3) Competitiveness of executive recruitment, which ranges from -2 to $+2$, (4) Openness of executive recruitment, which ranges from -1 to $+1$, and (5) Constraints on chief executive, which ranges from -3 to $+4$. Countries are scored on each of these dimensions and then the scores are combined into a 21-point overall scale of democracy, ranging from -10 to $+10$.[12]

3.3 Reliability

The usefulness of the Polity IV dataset lies in the components. The Constraints on the Chief Executive variable, for example, provides useful information about whether the chief executive has unlimited authority, whether there is a legislature with slight or moderate ability to check the power of the executive, whether the legislature has substantial ability to check the executive, or whether the executive has parity with or is subordinate to the legislature. Even this single dimension, however, has problems. In addition to the four substantive categories into which countries can be classified, there are three "intermediate" categories, whose coding rules are not entirely transparent. Over the years POLITY has made an explicit effort to increase its reliability by clarifying coding rules and introducing checks for inter-coder reliability (Marshall and Jaggers 2005). These rules, however, are just a listing of cases that should be included in each category. Whereas such a listing certainly improves inter-coder reliability, it fails to provide a *rule* whose application should be capable of orienting coding decisions about specific cases.

Other dimensions are also poorly conceptualized. Like DD, POLITY is attentive to whether elections determine the fate of incumbents. This is captured in the Competitiveness of Political Participation and the Regulation of Political Participation components. Yet these dimensions also code whether political violence, such as civil wars, is present in a country. So the measurement of the central concept undergirding all definitions of modern democracy—elections—is conflated with the measurement of political violence.

Given the problems with its components, it is important to point out that, just like FH, POLITY is not a continuous measure of democracy; nor is it a cardinal measure or even an ordinal ranking. In an excellent analysis and critique of the POLITY measure, Gleditsch and Ward (1997) show that the data are really categorical, and the categories are not precise. Scores can be arrived at through numerous different combinations: with six possible scores on the first dimension, three on the second, four on the third, three on the fourth, and seven on the fifth, the possible combinations total $6 \times 3 \times 4 \times 3 \times 7 = 1,512$. Gleditsch and Ward show that only a small portion of these combinations actually appear in the data. Factor analysis of the measure shows that most of the variation in POLITY is driven by changes in the Chief Executive Constraints dimension. As Treier and Jackman (2008) note, a fundamental deficiency of POLITY is the "arbitrariness" of the rule used to aggregate the data.

Finally, there is a more mundane factor contributing to the ambiguities and unreliability of FH and POLITY: the difficulty in obtaining the information they require. As we mentioned above, our dichotomous classification of regimes (based on the occurrence of contested elections) requires one to know whether an election occurred, how many parties competed, who won and who took office—a task that is only apparently simple. FH, in turn,

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[12]Technically, the Polity measure provides two variables, democracy and autocracy, which both range from 0 to 10 and are subtracted from each other to create the 21-point overall POLITY index, ranging -10 to 10. Both of these variables are constructed from the same five components listed above, The range that we identify for each of the five categories indicates the way in which the component enters into the overall 21-point measure.

requires knowledge of these facts in addition to how the electoral campaign was conducted, the content of party platforms and campaign financing laws and practices, the operation of the justice system, the structure of labor representation, collective bargaining, and more. POLITY requires less, since it focuses on the processes leading to the selection of the executive and the participation of "politically active" members of the political system. Yet, a good deal must be known about how these processes take place in order for one to be able to adjudicate a specific case among the several values of each of the component dimensions. Having experienced the difficulty of uncovering basic facts about national-level elections around the world since 1946, we can attest that the data required by FH and POLITY are hard, if not impossible, to obtain. Consequently, we suspect that these measures entail coding created on the basis of inferences, extensions, and perhaps even guesses.

3.4 Type of measurement

Whereas DD classifies political regimes as democracy or dictatorship, FH and POLITY offer polychotomous classifications. Among the debates that have engaged those who study political regimes empirically, this is probably the one that has generated the highest level of controversy, with many scholars coming down against the use of a dichotomous regime classification. Yet, leaving aside theoretical considerations, there are reasons to use a dichotomous measure based on observable features on the grounds of both validity and reliability.

A common claim among advocates of polychotomous measures of democracy is that they convey more information than a dichotomous version. Yet as we have discussed in the previous section, this depends on the way information is observed and aggregated, and on this front, existing polychotomous measures are not particularly informative. Given the degree of subjectivity and vagueness that goes into them, in addition to the multiple ways in which similar scores can be derived, what information they are conveying is not clear. What kind of information is imparted when we say that the level of democracy in Singapore in 1965 was -2, or that the Burmese junta scored a -6 in POLITY? Which measure conveys more information: the one that says that North Korea in 1978 (a) scored seven (FH), (b) scored -8 (POLITY), or (c) was a dictatorship because leaders were not selected on the basis of contested elections (DD)?

Finally, although FH and POLITY are polychotomous, their distributions are actually bimodal, with a high concentration of cases in their low and high ends: 56% of the cases are classified in the three lowest and highest categories of FH's 13-point scale; 71% of the cases have scores that are -7 and lower or seven and higher in the 21-point Polity IV scale. Hence, in spite of a larger number of categories, these measures add little if any additional information to a dichotomous classification of political regimes. For this reason, it is not surprising that the correlation among the three measures is high: the correlation between POLITY and FH is -0.90; POLITY predicts correctly 87% of the cases classified as democracies by DD and 93% of those classified as dictatorships; FH predicts 87% and 93%, respectively. However, once observations at the extremes of the distribution are excluded, the correlations among existing measures become significantly weaker: it is -0.67 between POLITY and FH; POLITY predicts 65% of the democracies in DD and 87% of dictatorships, whereas FH predicts 73% of democracies and 87% of dictatorships.

It is the uncontroversial cases that may be driving the high correlation among different measures of political regimes and, perhaps, are driving the empirical patterns identified in studies of political regimes. No measure will produce very different readings of political regimes in, say, the United Kingdom, Sweden, North Korea or Sudan. The difficulty will appear with cases such as Mexico, Botswana, Malaysia, Peru, Guatemala, and scores of

other countries that populate the middle of the distribution of FH and POLITY and for which the rules, as stated, do not apply clearly. What is it that these countries represent in terms of political regimes? What does it mean to be located in the middle range of the POLITY or FH distributions? Given that once we get to these cases no consensus seems to exist across measures, the choice of measure must be made on conceptual grounds. If we can make sense, for instance, of what it means to be a four, or to move from a four to a five on the POLITY or FH scales, then one should probably use them to gauge a country's political regime. If one cannot make sense of what this means, and, hence, is led to doubt the process through which these numbers are generated, then one might be better served by using a dichotomous measure that has clear theoretical and empirical meaning.

Furthermore, the critique about the low level of information conveyed by a dichotomous measure is based, in part, on a misunderstanding since it implicitly assumes that the dichotomous nature of DD is simply the product of a decision to measure at that level a phenomenon that is otherwise continuous. Such a misunderstanding likely has emerged because many scholars have chosen to simplify the measurement of political regime by "dichotomizing" an existing index, for example POLITY, by using an arbitrary cutoff point along the -10 to $+10$ scale, such as five, six or seven. We agree that this is highly problematic. But our dichotomous classification of political regimes is not driven by the desire to simplify the measurement process.[13] It does not imply imposing a cut-off point of any sort over an underlying, latent distribution of political regimes.[14]

In contrast, our dichotomous classification of political regimes is based on the notion that political regimes can be directly observed and that we can distinguish two main types, depending on whether the government is chosen through contested elections or not. Thus, the matter is not whether one should choose to measure democracy with a categorical or with a continuous instrument. The issue is whether one believes that political regimes come in types (e.g., democracies and dictatorships) or whether democracy is an (continuous) attribute of all political regimes.

There are two strong conceptual reasons for thinking about political regimes in terms of types. For one, the belief that democracy is an attribute that can be measured in all political regimes leads to assertions that would appear to violate common sense. According to FH, democracy improved in China in 1978, when its political rights score changed from seven to six; democracy in Bahrain between 1973 and 2007 ranged from between seven and four; in 1977 it had the same democracy score—four—as Brazil, which was then ruled by the military. The level of democracy in Chile between 1974 and 1980, averaged -7 according to the POLITY scale, and 11.6 according to the combined Freedom House scale. None of these regimes was a democracy, and to argue that one was more democratic than the other makes little sense. Yet if one believes that democracy can be measured over all regimes, one has to be prepared to argue that it makes sense to speak of positive levels of democracy in places like Bahrain, China in the 1970s, Chile under Pinochet or Brazil during the military dictatorship; that it makes sense to speak of a change from one value to another along these scales, even when the regime did not change; and, finally, that we can meaningfully interpret scores across countries.

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[13]Weeden (2004: 5) claims that adoption of a minimalist definition of democracy in DD "is, in part, a way of facilitating coding in the interest of scientific objectivity," a view that seems to be also espoused by Mainwaring et al. (2001: 38, 42). Yet, reproducibility of measurement, which depends on it being based on observables, is a desirable property regardless of the specific concept the measure is based on.

[14]Elkins' (2000), for example, assumes that the "true" distribution of political regimes is continuous. This being the case, it is only natural that more categories will be better than fewer categories at capturing the "true" value of democracy.

Second, in spite of a general preference for "continuous" measures of democracy, it is common to find work that categorizes either POLITY or FH. This is only natural since many of the questions motivating research are concerned with being in or out of a given state such as the political regime, and not with incremental changes over a gradation. The entire "transitions" literature, for example, is predicated on the notion that one can identify the point at which a political regime stops being a dictatorship and becomes a democracy. Since scale measures or the categories of the existing multinomial measures do not represent any of the states that are theoretically identified, researchers are required to collapse regimes into categories so that they can study what brings these states about and the consequences of being in them. Thus, it may be true, as Elkins (2000: 294–298) argues, that a dichotomous measure of democracy may fail to detect a significant relationship between democracy and a dependent variable where a continuous measure may reveal one. But it is also true that many of our theoretical propositions are about *being* a democracy. Rather than relying on arbitrary constructions, here we propose an alternative that is theoretically informed.

Note that classifying regimes as democracies and dictatorships does not imply that we cannot distinguish amongst democracies or that all dictatorships are alike. Indeed, we offer below a codification of various types of democracies and various types of dictatorships. Democratic regimes may even differ as to how democratic they are, and one may reasonably devise an instrument to assess their degree of democratic-ness Similarly, dictatorships may differ in their degree and type of authoritarianism. Note, however, that before this is done, the distinction between these fundamental regime types has been drawn. Only after democracies and dictatorships are clearly defined do we inquire about their different types or the extent to which they vary along some continuous dimension. Thus, our approach assumes that some regimes fail at least one of the requirements for them to be called democratic; these regimes are qualitatively different from those regimes that meet all of these requirements. Further distinctions, of whatever type, are not precluded, as we now demonstrate.

4 Types of democracies and dictatorships

4.1 Parliamentary, semipresidential and presidential democracies

Democracies are frequently distinguished by their form of government, that is, by the rules that regulate the way executives are formed and unformed. These rules are considered to be central for a large number of political, economic and social outcomes: they may influence the prospects for survival of democratic regimes (Linz 1964; Stepan and Skach 1993; Cheibub 2007); the ability of voters to hold governments accountable (Persson and Tabellini 2003; Samuels 2004); the nature of the party system (Filippov et al. 1999); the extent to which policies are oriented towards public (as opposed to private) goods (Shugart 1999; Shugart and Haggard 2001); economic development (Gerring et al. 2005); or inter-state war (Elman 2000). In this section we provide a classification of democratic regimes as parliamentary, presidential or mixed (which we also refer to as semi-presidential).

Classifications of forms of democratic government abound in the literature. There seems to be a general consensus that there are two "pure" types of systems—parliamentary and presidential—and one system that combines features of both—commonly called mixed, semi-presidential, or parliamentary-presidential systems.[15] Our classification is not different in that it also groups democracies into these three categories. What is distinctive about

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[15]Shugart and Carey (1992) seem to depart from this consensus in that they distinguish two "non-pure" regime types: premier-presidential and president-parliamentary. Their distinction, however, is subsumed by

the classification we offer here is that it provides a clear set of operational criteria to classify democratic regimes according to their form of government; it has wider coverage in terms of countries and years than other datasets; and it classifies all democracies, thus allowing the study of the relative merits of each sub-regime type.[16]

The form of government in a democracy depends on the relationship between the executive and the legislative assembly. The main issue is whether the government can be removed by the assembly in the course of its constitutional term in office. Systems in which governments cannot be removed by the assembly are "presidential;" those in which they can are either "parliamentary" or, where there is a popularly elected president, "mixed" or "semi-presidential." The mechanisms of government removal in assembly confidence systems include the vote of no-confidence initiated by the legislature, the vote of confidence, initiated by the government itself (Huber 1996), or early elections, when the government falls by virtue of the fact that parliament is dissolved.

There are several other important aspects related to the nature and/or operation of the government in democracies, some of which have been made into defining features of democratic forms of government. They include the nature of the executive power, thought to be collective or collegial in parliamentarism and individual in presidentialism (Verney 1992; Lijphart 1999: 118); the separation of heads of state and government under parliamentarism and their fusion under presidentialism (Verney 1992); the indirect election of government in parliamentarism and popular election in presidentialism (Lijphart 1999: 117); the existence of a president with "constitutionally granted lawmaking authority" in presidential regimes or with "considerable powers" in "mixed" regimes (Shugart and Carey 1992: 19, 24).

These features of democracies, however, are not sufficient to distinguish forms of governments. Uruguay is a presidential democracy that had at some point (1952–1967), a collective executive, composed of nine members drawn from the majority (six) and minority (three) parties; Israel popularly elected its prime ministers between 1996 and 2003 and yet cannot be considered to have been a presidential democracy during this time since the government remained responsible to the legislature; in Bolivia the president is, under some circumstances, elected by the assembly and yet it is not parliamentary since, once elected, the government cannot be removed from office in the middle of its term; Venezuela prior to the 1999 constitution had a president with no constitutionally mandated powers and yet was fully recognized as a presidential democracy since the legislature did not affect the survival of the government.

Some might suggest that these constitute anomalous, intermediate cases, hybrid regimes that fall into neither the parliamentary nor the presidential categories (Mainwaring 1993; Lijphart 1999). Yet, unless we are able to provide a positive criterion for identifying these regimes, this does not seem to be a satisfactory solution as it simply creates a residual category that lumps together very heterogeneous cases.[17] Thus we need to produce a set of

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our classification in that all of their cases of premier-presidential and president-parliamentary fall within our category of mixed regimes.

[16]To our surprise, there are very few datasets that systematically code democratic regimes by their form of government in a way that combines broad coverage, explicit rules and completeness. Some classifications have relatively limited coverage and employ rules that are not entirely explicit (e.g., Beck et al. 2001; Gasiorowski 1996; Lijphart 1999). Others adopt explicit rules and have broad coverage, but are restricted to only one of the regime categories. Thus, Elgie (2008) provides a classification of all countries that have adopted a semi-presidential constitution since 1918 but, unfortunately, he does not distinguish between democracies and dictatorships and does not classify parliamentary and presidential cases.

[17]Incidentally, the "mixed" democracy in our classification, as will become clear shortly, is not a residual category and is not meant to convey any notion that the cases thus classified are intermediate between the two "ideal types" of parliamentarism and presidentialism.
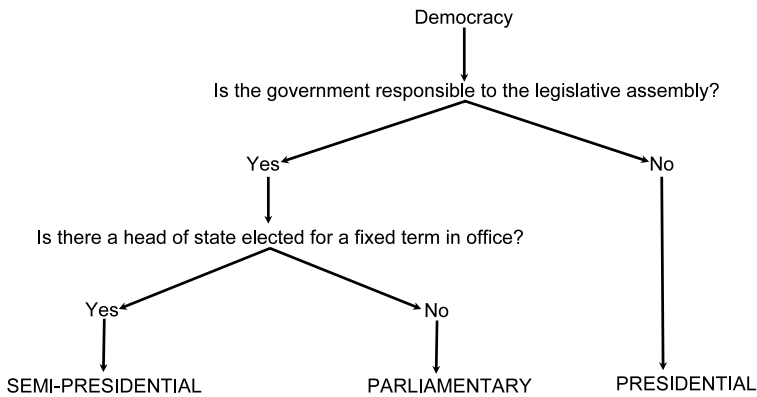
Fig. 1 Classifying forms of democratic government

criteria that unambiguously classify democratic regimes according to their form of government.

Operationally, the following two questions are sufficient to unambiguously identify presidential, parliamentary and mixed (semipresidential) democracies:

1. *Is the government responsible to the assembly?*
2. *Is there a head of state popularly elected for a fixed term in office?*

If the answer to the first question is negative, the regime is considered to be presidential. Note that, in these cases, we do not take into consideration the manner in which the government is selected, or its nature (collective or not). What matters is that, once in office, the assembly cannot remove the government through a vote of no confidence. Thus, we code Switzerland, where the assembly invests a collective government for a fixed term in office, as presidential. If the answer to the first question is positive, then the type of regime will depend on the answer to the second question. If the head of state is popularly elected, the regime is considered mixed or semi-presidential; if the head of state is not popularly elected, then it is considered parliamentary. This coding scheme is represented in Fig. 1.

Assembly responsibility means that a legislative majority has the constitutional power to *remove* the government from office. Formally, assemblies may affect both the formation and the survival of governments, and whether it does one or the other, or both, has been made one of the dimensions along which democratic regimes are classified (Shugart and Carey 1992; Mainwaring 1993). Yet, the crucial aspect for assembly responsibility is survival and not formation of the government. Theoretically the former subsumes the latter: an assembly that is deprived of the right to elect the government but which can pass a vote of no confidence can do so immediately following the formation of the government, thus effectively preventing it from coming into existence. Conversely, an assembly that is allowed to elect the government may, as in Switzerland and Bolivia, be barred from removing it from office. As Strom (2000: 265) has pointed out, "in the real world... parliamentarism rarely means that the legislature actually elects the executive."[18] What matters, he continues, "is that the cabinet must be tolerated by the parliamentary majority, not that the latter actually plays

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[18]As a matter of fact, such an election is not that rare. According to Laver and Schofield (1998: 64), it is required in nine out of twenty European parliamentary democracies. But still, a formal vote of investiture is not at all required in a significant number of parliamentary democracies.

any direct role in the selection of the former" (1998: 265). Note, also, that the nature of the executive—collective or not—is immaterial for the classification of forms of democratic regimes. Thus, Switzerland, where legislatures elect a collective government which cannot be removed before the end of its term, is classified as a presidential regime: the assembly does not affect the survival of the government.

Our classification is as much as possible based on the rules prescribed in the country's constitution. This decision is justified, in part, by the fact that we are dealing with a set of countries that have been classified as democratic on other grounds.[19] Therefore, it makes sense to take the constitution as the document that effectively stipulates the way in which governments are formed and survive in power. In the vast majority of cases this leads to clear and uncontroversial decisions since the rules of government formation are well defined and political practice conforms to the constitutional provisions. In a few cases, however, there will be ambiguity, mostly because some of the scenarios prescribed by the constitution have never materialized, but also because of misconceptions induced by the language adopted in the constitution (or in the translation the authors had to rely on in order to do this work).

The best example of the latter issue comes from South Africa, where the head of state and government are one and the same person, who is named the President. However, according to the 1996 constitution (as well as the interim 1994 constitution), this "president" is subject to a vote of non confidence by a majority of the National Assembly, which, if approved, requires his/her resignation and the formation of a new government. The fact that votes of non-confidence have been far from likely in South Africa has nothing to do with the form of government and, we believe, everything to do with the fact that parliament has been dominated by a party holding about two-thirds of the seats since competitive elections were held in 1994. Had such a large majority not existed, the relation between the government and the parliament in South Africa would have been considerably different, with issues of government survival due to legislative action at the forefront.

Regarding the former issue—constitutional scenarios that do not materialize—the major uncertainty emerges with respect to mixed democracies where the room for ambiguity is the largest, and the sense that a mixed regime is a pure form of parliamentarism or presidentialism in disguise is the strongest. In Iceland, for example, the directly elected president is commonly perceived as "a figurehead and symbol of unity rather than a political leader" (Kristinsson 1999: 87). Hence, as Kristinsson puts it (1999: 86), "it is customary in Iceland to regard the form of government as a parliamentary one, essentially similar to the Danish one, despite the different ways heads of states come into office." Yet, the Icelandic constitution is ambiguous with regard to the powers of the president. At the same time that the president may dissolve parliament (article 24) and appoint and discharge ministers, including the prime minister (article 15), the constitution also states that ministers execute the power of the president (article 13), thus providing the grounds for a view of a passive presidency. On the opposite extreme, while many African countries have adopted "French-style," that is, mixed constitutions, there is a strong sense that real power lies with the president (Bratton and van de Walle 1997; Carlson 1999).

Note, however, that it should matter whether the rules in a country *allow* for behavior that is proscribed in another. In almost every instance where the formal rules do not seem to match practice at a first glance, we find examples of behavior that conform to the constitutional prerogatives of the president and/or the assembly. Thus, in Iceland, for example,

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[19]We classify Type II observations as well.

the president's constitutional prerogative of choosing the formateur was crucial for bringing to power the coalition between the Social Democratic Party and the Independence Party that governed between 1959 and 1971. Similarly, the head of state's decision to form a nonpartisan government after two legislative elections and successive failed attempts at government formation by different parties played an important role in the formation of future governments in Iceland (Kristinsson 1999: 93–94)

With respect to the mixed democracies that may look more like presidential ones, examples of government changes due to confidence votes, or threats of confidence votes, abound: on April 11, 1995, the prime minister of Central African Republic, Jean-Luc Mandaba resigned upon the filing of a no-confidence motion signed by a majority of National Assembly members; on May 19, 1993, the prime minister of the Comoro Islands resigned after losing a vote of no-confidence in the legislature; on June 18, 1995, the Comoran president dissolved the assembly to forestall a vote of no-confidence in the government; the Congolese government of Stéphane Maurice Bongho-Nouarra fell on November 14, 1992, as a result of a vote of no-confidence approved by the assembly; the government of prime minister Rosny Smarth in Haiti survived a vote of no-confidence on March 27, 1997; in Madagascar, the government of prime minister Emmanuel Rakotovahiny fell on May 17, 1996, after a motion of no confidence was approved by 109 to 15 votes; in Niger, the government of Souley Abdoulaye resigned on October 16, 1994 after losing a non-confidence vote in the assembly; faced with the choice of appointing a prime minister supported by opposition parties or dissolving the National Assembly, Niger's president Mahamane Ousmane chose to dissolve the assembly and call elections for January 1995; the government of Abdirizak Hadji Husseing in Somalia lost a vote of non-confidence on July 13, 1964, after which it resigned. In other countries, such as Albania, Armenia, Brazil (in 1962), Senegal, Sri Lanka and Taiwan, there is evidence that political practice was clearly guided by the possibility that the legislature could pass a vote of no confidence in the government.

We thus take constitutional provisions regarding government formation seriously in classifying parliamentary, presidential and mixed democracies. Yet, they are not sufficient, particularly when it comes to assembly confidence. There is, of course, the case of the United Kingdom, where in spite of the lack of a written constitution, the government is parliamentary in any conceivable way. But many other parliamentary democracies evolved out of constitutional monarchies and one is unable to find in their constitutions any reference to the fact that the government is responsible to the parliament and may be removed by a vote of no confidence. In these cases we take the absence of a popularly elected president and fact that votes of no confidence actually happen as sufficient to classify the system as parliamentary.

4.2 Monarchic, military and civilian dictatorships

After being treated as a residual category for much time—everything that democracy is not, dictatorships increasingly are recognized as a political regime encompassing different ways of organizing political life that have consequences for understanding policies, outcomes, and the stability of authoritarianism itself. Differences in authoritarian regimes account for variance in their economic growth and investment (Wright 2008), conflict behavior (Peceny et al. 2002; Lai and Slater 2006; Weeks 2008), political survival (Geddes 1999), prospects for democratization (Linz and Stepan 1996; Bratton and van de Walle 1997; Hadenius and Teorell 2007) and democratic consolidation (Svolik 2008).

Yet precisely because the term "non-democracy" encompasses all forms of regimes in which voters do not choose their leaders through contested elections, there is no clear agreement on the dimension along which dictatorships should be distinguished. Levitsky and Way

(2002) differentiate "competitive authoritarianism" while Schedler (2002) discerns "electoral authoritarianism"—both emphasizing the degree of political competition as the salient dimension. Classifying dictatorships on the basis of differences in "control over access to power and influence rather than formal institutions," Geddes (1999: 123) distinguishes military, party, and personalist regimes. Yet Hadenius and Teorell (2007) reject "personalism" as a distinct category, arguing that it is, in fact, a trait shared by all dictatorships to some degree. Instead, they focus on the different ways in which autocrats retain power: monarchies that involve hereditary succession, military regimes that use or threaten the use of force, and electoral regimes that can be further distinguished by the degree of party competition permitted in national-level elections.

Here we have argued that the way in which governments are removed from power drives the distinction between democracies and dictatorships and differentiates among types of democracies. The method of removal of the government is no less important for dictatorships. Yet in dictatorships, we know that there is no one institution, such as elections or lottery, which determines the removal and succession of authoritarian leaders. Dictatorial regimes, in fact, frequently succumb to internal disputes over leadership succession.

We also know, however, that members of the ruling elite constitute the first major threat to dictators (Geddes 1999; Svolik 2009). Dictators, in fact, are frequently deposed by a fellow member of the regime. In Guatemala, for example, power has changed hands among various military rulers thirteen times since World War II. In communist Poland, Gierek staged a palace coup within the Politburo to force Gomulka's resignation in 1970, only to befall the same fate at Kania's hands ten years later. As a member of the ruling elite, the usurper is in a privileged position to gain the guns and support he needs to successfully depose the incumbent. So to mitigate the threat posed by elites, dictators frequently establish inner sanctums where real decisions are made and potential rivals are kept under close scrutiny.

Consequently, dictatorships can be distinguished according to the characteristics of these inner sanctums. Monarchs rely on family and kin networks along with consultative councils; military rulers confine key potential rivals from the armed forces within juntas; and, civilian dictators usually create a smaller body within a regime party—a political bureau—to co-opt potential rivals. Because real decision-making power lies within these small institutions, they generally indicate how power is organized within the regime, to which forces dictators are responsible, and who may be likely to remove them. They produce different incentives and constraints on dictators which, in turn, should have an impact on their decisions and performance. In addition, distinction of these types is possible through clear observable criteria. This is what we proceed to show.

4.2.1 Monarchs

What is noteworthy of monarchs, both traditionally and currently, is their reliance on their family and kin networks to come to power and maintain it.[20] Monarchs rely on their family and kin networks very strongly in the governance of their regimes. Khalifa in Qatar, for example, reshuffled his cabinet in 1992 so that his closest family members would serve as his ministers: his sons were Ministers of Defense, Finance and Petroleum, Interior, and Finance, Economy, and Trade; his grandson was in charge of State for Defense Affairs;

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[20]Throughout the history of political thought, monarchs were marked as distinct from tyrants. Yet because they are not selected by competitive election, they are included in our sample of dictatorships. Constitutional monarchs, however, are not included since in these systems, the monarch is not the effective head of government.

and, his nephews were in Public Health and Islamic Affairs (Herb 1999: 123). Similarly, in Saudi Arabia, King Fahd appointed his six full brothers—with Fahd, nicknamed the "Sudairi Seven"—to major posts in the Saudi government.

The matter in which most family and kin members play a direct role is that of succession. Hereditary succession is the rule among monarchs, but primogeniture is not. As a consequence, family members can play a crucial role in deliberating on succession to the throne and by extension, on other important matters. In Kuwait, succession alternates between two branches of the Sabah family, but "the most basic rule of the succession is that family 'elects' the ruler by consensus, based on the perception by family leaders of their own best interests" (Herb 1999: 80). In Oman, the next-in-line must be a male descendant from the al-Said family, but must also be chosen by a family council. Saudi succession became resolved by a more consensual process after Faysal established the Higher Committee of Princes as an advisory council to the king on issues of succession. The Committee's composition was designed to rally the entire family, and the Committee was even given the authority to supervise the succession in the event of Faysal's death (Bligh 1984: 88).

If there are rules of succession, they may not always be followed. But when they are broken, it typically happens with the blessing of key family members. Faysal did not depose Sa'ud, his father's designated heir, until he received the support of other Saudi princes. That support was quickly extended due to Sa'ud's incompetence. Nevertheless, Faysal had to obtain it. Khalifa of Qatar was deposed in 1995 while vacationing in Switzerland. But he was pushed aside by his own son, Hamad, reflecting the fact that the main threat to monarchs originates from the family members, who are the only people legitimately qualified to succeed them. And Hamad would not have seized the throne unless he knew that members of the family elite supported him. Overall, around 70 percent of monarchs are replaced by family members.

4.2.2 Military dictators

Military rulers have been distinguished from civilian dictators for a number of reasons: their motivations for seizing power, the institutions through which they organize their rule, and the ways in which they leave power.[21] Their motives for staging coups appear varied. Military rulers often view themselves as "guardians of the national interest," saving the nation from the disaster wrought by corrupt and myopic civilian politicians. They justify their position as "neutral" arbiters on the basis of their membership within the armed forces, an institution that is supposed to stand above politics. It is little wonder, then, that so many juntas adopt titles, such as "National Redemption Council,"[22] "Committee of National Restoration,"[23] or "National Liberation Committee."[24] Other reasons, however, may be at work: coups may be motivated by class or corporate interests (Stepan 1971; Nordlinger 1977; Finer 1988).[25]

Once in power, military dictators organize it uniquely and often harness the organizational apparatus of the armed forces to consolidate their rule. Military leaders typically rule

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[21]For these reasons, military rulers are believed to produce outcomes different from those under civilian dictators. The proposition has been empirically tested, and results are mixed (Nordlinger 1970; Schmitter 1971; McKinlay and Cohan 1975, 1976; Ames and Goff 1975; Remmer 1978).

[22]Junta under Ignatius Acheampong in Ghana.

[23]Junta under Guinea's Lansana Conte.

[24]Junta under Moussa Traore in Mali.

[25]Again results are mixed: Zuk and Thompson (1982), for example, find no evidence that military governments are more committed to the welfare of the armed forces in terms of their size or expenditures.

as a junta, selecting one of its members to be the head. For generals who take power on behalf of the institutional military, their juntas typically are small and include heads of the various service branches. For lower-ranked members who seize power in a factional coup, their juntas tend to be larger based on their need to attract members to their cause. Finer (1988: 260) reports that in contrast to most Latin American juntas that are composed of the three or four heads of the service branches, by the 1980s, juntas outside of the region, organized by middle-ranking officers, on average had 11 members.

The armed forces already control the territory through their monopoly of violence. It takes little imagination to use this apparatus to serve the regime. The Indonesian regime under General Suharto, for example, extensively used military personnel to extend its rule: a fifth of the parliament's seats were reserved for members of the armed forces, and a soldier was stationed in each of Indonesia's thousands of villages, serving as the military's representative (Brooker 1995). The military may play an equally active role in decision-making. In Argentina under the *Proceso*, for example, legislation underwent review by various sub-committees within each service branch and the Legislative Action Committee, composed of members of each branch, before it was considered by members of the junta (Fontana 1987). This way, the junta incorporated the opinions of its most important constituency in a neutral way that did not appear to favor any one particular branch.

Internecine fighting among the branches is common. In Chile under Pinochet, for example, each service branch had its own intelligence service that spied not only on the population, but on members of other branches (Barros 2002). In fact, it is this internal fighting that may be one of the biggest constraints on military rulers while in power. The result of this delegation of power and distribution of spoils through the military's branches sometimes just serves to strengthen other members of the military who then overthrow the current military dictator. In Argentina, for example, General Videla was deposed by General Viola, his fellow junta member, while Viola, in turn, was later ousted by General Galtieri. These palace coups occurred in spite of the Argentina generals' careful attempt to regulate succession. Similarly, in Nigeria, Major General Muhammad Buhari was deposed by senior members of the Supreme Military Council, which then decided to install Major General Ibrahim Babangida as the head of government. It is no surprise, then, that in almost half of all cases, military dictators are replaced by other members of the military.

4.2.3 Civilian dictators

Unlike monarchs and military dictators, civilian rulers do not have a ready-made organization on which to rely. Most civilian dictators do not have sufficient family and kin networks to establish permanent dynastic succession.[26] In addition, civilian rulers can not appeal to the armed forces in the way that a military dictator can. At the mercy of the armed forces while they rule, civilian dictators are also deposed by the military with some frequency: 28 percent of civilian rulers were succeeded by the military.

To counteract their precarious position and to have an organization through which they may govern, civilian dictators usually have a regime party, the necessity of which was most forcefully recognized by Lenin (1921).[27] A party is an instrument by which the dictatorship

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[26]Familial succession of the Somozas in Nicaragua, the Duvaliers in Haiti, the Assads in Syria, and the Kims in North Korea has not exceeded two generations.

[27]"… only the political party of the working class, i.e., the Communist Party, is capable of uniting, training and organizing a vanguard of the proletariat and of the whole mass of the working people that alone will
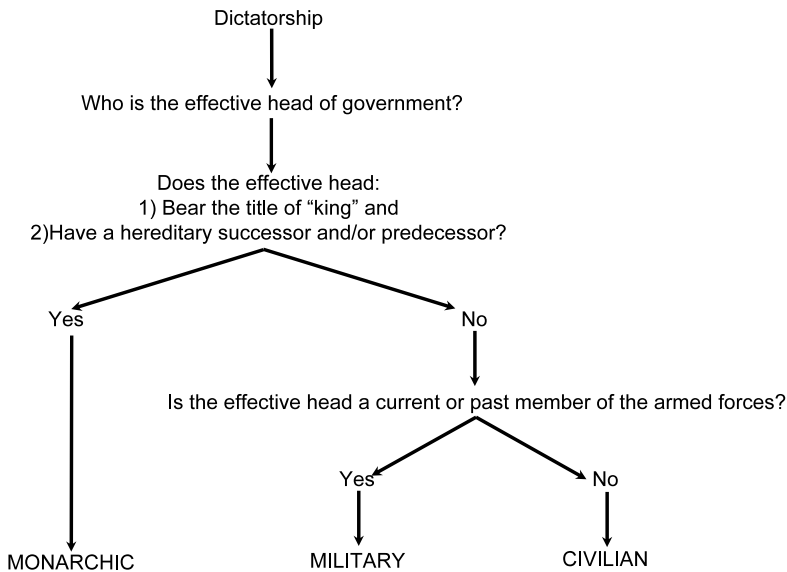
Fig. 2 Classifying forms of dictatorial government

can penetrate and control the society (Huntington and Moore 1970). Members of a single party mobilize popular support and supervise behaviors of people unwilling to identify themselves with the dictator. In exchange, the party offers individuals willing to collaborate with the regime a vehicle for advancing their careers within a stable system of patronage. The party also extends access and legitimacy to particular groups in making demands on the government, and usually a smaller body within the regime party is used to co-opt rivals.

It seems, thus, that, not unlike democracies, we may distinguish types of dictatorships in terms of the nature of their executive office. Regimes in which the executive comes to and maintains power on the basis of family and kin networks are classified as monarchies. Regimes in which the executive relies on the armed forces to come to and stay in power are military. All other dictatorships, many of which are characterized by the presence of a regime party, are civilian. Using these criteria, we then need to specify operational rules for identifying these types. Figure 2 summarizes the steps necessary for unambiguously identifying each type of dictatorship.

Who rules? The first step is to identify who is the effective ruler. In democracies, identification of the effective head of government is easy: they are presidents in presidential democracies and prime ministers in parliamentary and mixed democracies. In dictatorships, identification is frequently unproblematic: usually heads of government are presidents, kings and, less frequently, prime ministers; but sometimes they are designated "heads of military juntas," "leaders of the ruling party," or "executers of the state of emergency."

There are some exceptions, however. In communist states, for example, the general secretary of the communist party is usually the effective head of government even though the

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be capable of… guiding all the united activities of the whole of the proletariat, i.e., of leading it politically, and through it, the whole mass of the working people. Without this the dictatorship of the proletariat is impossible" (Lenin 1921).

chairman of the Council of State, or president, is the head of state.[28] In other cases, an *éminence grise* lurks behind the scenes as elections duly occur and presidents change according to constitutional rules. For example, Somoza and his sons installed figurehead presidents in Nicaragua to formally comply with term limits.

Identification of the effective head is also difficult when a country's political history is largely about fighting over who is the effective head. Until 1951, politics in Nepal was dominated by fighting between the king and the prime minister over how much power each of them should have. Pakistan has witnessed a similar type of struggle between the president and the prime minister. Identification of the head becomes even more difficult when numerous individuals stake claims as the legitimate government, as in states experiencing civil conflict, such as Somalia. As a result, the effective head of government may differ from the nominal one.

Does the head of government bear the title of "king" and have a hereditary successor and/or predecessor? The ruler is a monarch if he, first, bears the title of "king" or "emir," and, second, takes power or is replaced by rules of hereditary succession. Most monarchs are identified by the first rule. The title of "king" is bestowed to only those members of the Hashemite dynasty in Jordan or of the Saud family in Saudi Arabia who are deemed the rightful successor by birth. For these cases, the second rule is redundant.

The second rule is for slightly more complicated cases in which the title of "king" has been taken more recently. In two instances during the post-war period, a member of the armed forces seized power and declared himself king. If he succeeded in passing power to a family member, as did Reza Khan to his son, Mohammad Reza Pahlavi, in Iran, both members are considered to be monarchs. If, however, the ruler fails in his succession plans, he is not considered to be a monarch. Jean-Bedel Bokassa of the Central African Republic falls into the latter category. A colonel in the army, he seized power in 1966, declared himself Emperor, and planned to have his son succeed him. His dynastic plans collapsed, however, once he was deposed in 1979. This rule highlights an important point about modern-day monarchs. In considering whether a ruler is a "rightful successor," we look only at whether the ruler belongs to the current family in power. We do not determine whether that family or individual has historically well-founded claims to the throne since contemporary monarchs rule in countries that often were carved by colonial powers without reference to historical claims or social considerations. British colonial authorities created the Transjordan state, for example, and installed Abdullah, a member of the Hashemite family, on its throne. Because he was succeeded by a family member, both Abdullah and his successors are considered monarchs.

Is the head of government a current or past member of the armed forces? The effective head of government is a military ruler if he is or was a member of the institutionalized military prior to taking power.[29] Even if retired from service, the shedding of his uniform does not eliminate his military status. Attempts to appear more palatable to voters who are more accustomed to civilian rule do not erase these rulers' connections and access to the armed forces.

Not included as military dictators are those rulers who come to power as heads of guerilla movements. Successful insurgency leaders, such as Castro in Cuba, Musaveni in Uganda,

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[28]There are exceptions even here. Deng Xiaoping in China, for example, ruled as the effective head for decades without an official title.

[29]Leaders who belonged to the armed forces during World War II, but then left, are an exception. Because almost all able-bodied men at the time either volunteered or were drafted, membership in the military during only this period does not count towards one's type. This exception mostly affects those communist rulers of eastern Europe who fought in World War II.

and Kagame in Rwanda, are considered to be civilian rulers. One might object that heads of guerilla movements, often like military rulers, come to power using violence. In addition, once in power, these rulers often give themselves military titles or become heads of the armed forces. Yet there are three good reasons not to consider those involved in guerilla movements as military leaders. First, not all leaders who originated from guerilla movements were involved in fighting. Typically, guerilla movements have an armed faction and a civilian wing. Members of the civilian, political arm of the successful movement have no more experience in warfare than the average civilian on the street. Ben Bella of the FLN in Algeria is a good example. In addition, some guerilla leaders, once they take power, never assume a formal military role. Castro, for example, was head of the guerilla movement that removed Batista. Even though he wears fatigues, he became leader of the country, leaving the leadership of the armed forces to his brother Raoul. Finally, and most importantly, having never been a member of the armed forces, these leaders do not answer to that institution. And since the constraints and support offered by the armed forces to one of their members in power is the main reason for distinguishing military from non-military leaders, guerilla leaders do not fall into this category.

Is the head neither monarchic nor military? As discussed above, civilian leaders often create a regime party through which they govern. Yet, unlike kin networks with monarchs and the armed forces with military rulers, the party does not define the civilian ruler. The diversity of modes of government is what characterizes them and, for this reason, we think it is best to leave them as a residual category. Thus, if dictators do not qualify as either monarchs or military rulers, they are civilian.

The classification of dictatorships presented here is unique in combining a single theoretical dimension—specifically, the focus on how dictators are likely to be removed—with the use of strictly observable criteria for identification. We agree with Geddes (1999: 7) that "who exactly the constituents of authoritarian leaders are, how satisfied they have to be, and what factors besides satisfaction with regime performance affect their level of acquiescence" are important. How dictators can be removed and by whom affect how they structure their rule: their institutions and their policies, and the outcomes thus generated. By focusing on this single aspect of dictatorships, we make no assumptions about dictators' behavior, allowing for the testing of hypotheses related to the institutional structure of dictatorships. We can determine if, in fact, military dictators are more likely to allocate greater resources to the armed forces; we can investigate whether the survival of dictators is due to their economic resources or their monarchical structure; we can examine whether civilian dictators may be more likely to build "personalist" coalitions by spending on private goods since they do not have a ready-made organization with which to rule. In addition, by coding on the basis of transparent criteria that relies on observable characteristics, we mitigate problems arising from subjective judgments and opaque procedures.

It is likely that the types of dictatorship, as we have defined them, will not explain all of the variation we observe. But our classification provides a base upon which further work can build. Suppose for example, that military dictators vary quite significantly in their duration in power, with some surviving for no more than one or two years while others hold on to power for quite a long time. We, then, can determine whether the difference is due to the conditions under which they govern or some other objective trait about the military dictators themselves, such as their rank. But making such further distinctions is impossible if we do not first objectively identify the set of military dictators and determine the degree to which membership in the armed forces is an explanatory factor. Similarly, if some civilian dictators are better able to consolidate power, we can determine whether other factors, such as their previous political experience or their control of a nationalist movement, explain

their success. The answer will not be found by *ex ante* collapsing these leaders into a single category with a new label.

5 Does it really matter?

Any discussion of different measures is likely to raise the question of whether these differences really matter in our conduct of empirical research and understanding of the world. While we disagree with the notion that conceptual debates are unimportant, we understand the desire to understand the practical relevance of these disagreements. To address this concern, we show that the treatment of measurement issues as irrelevant is done at one's own peril: the measure one employs profoundly affects the conclusions one reaches about the consequences of political regimes.

Our strategy is to replicate published studies that use POLITY as their main regime measure to demonstrate the importance of sharply defined and meaningful instruments to observe political regimes. We exemplify the different ways in which substantive conclusions are affected by arbitrary decisions one must make when using POLITY. We do so by examining three areas of research: (1) the effect of political regime on economic growth; (2) the relationship between political regimes and civil wars; and (3) the impact of economic development on democratization.

5.1 Regime transition

In a paper published in the *American Economic Review*, Rodrik and Wacziarg (2005) study the impact of regime transition on economic growth. They find that "new democracies" have higher rates of economic growth than regimes that have never experienced a transition. Once these "new democracies" become established, they find that regime type no longer has an effect on economic growth. Rodrik and Wacziarg also find that "new" or "established" autocracies have no effect on growth. "Small Regime Changes" have a positive and statistically significant effect on growth, which the authors call "a somewhat surprising finding that is worth more analysis in future work" (Rodrik and Wacziarg 2005: 52). Finally, they find that "failed states" have lower growth rates than non-failed states, an effect that is statistically significant at the 0.001 level.

Central to this analysis is, of course, determining when countries experience a regime transition. Rodrik and Wacziarg use the definition of a "major democratic transition" provided by POLITY: a "six points or greater increase in POLITY score over a period of three years or less including a shift from an autocratic POLITY value (-10 to 0) to a partial democratic POLITY value ($+1$ to $+6$) or full democratic POLITY value ($+7$ to $+10$) or a shift from a partial democratic value to a full democratic value" (Marshall and Jaggers 2005: 34). With this they then defined the variables they are interested in: "New Democracy" is an indicator variable that "takes on a value of 1 in the year(s) and subsequent five years of any major democratization (as defined by Polity IV), unless the process is interrupted by another major regime change, in which case the dummy is coded as 1 until the interruption" (Rodrik and Wacziarg 2005: 51); "Established Democracy" is an indicator variable coded one for the sixth and subsequent years of a democracy; "New Autocracy" and "Established Autocracies" are dummy variables that code non-democracies similarly to their democratic counter-parts; "Small Regime Change" is a dummy variable coded one if a country has experienced any change in POLITY value that is too small to qualify as a major transition; finally,

Table 1 The effect of regime transition on economic growth

Variable	POLITY	DD
New Democracy	0.89[**]	0.15
	(0.42)	(0.40)
Established Democracy	−0.14	0.03
	(0.47)	(0.44)
New Autocracy	0.17	−0.21
	(0.46)	(0.56)
Established Autocracy	−0.23	1.05[*]
	(0.47)	(0.61)
Small Regime Change	0.94[**]	
	(0.28)	
State Failure	−6.14[**]	−6.50[**]
	(0.95)	(0.94)
Constant	1.63[**]	1.78[**]
	(0.79)	(0.79)
Number of observations	5,465	5,465
Number of groups	154	154

Notes: The label of each column indicates the measure of political regime employed to generate the variables listed in the variable column. Both models allow for serially correlated (AR1) disturbances. Standard errors in parenthesis

[**]Indicates significance at the 0.05 level

[*]Indicates significance at the 0.10 level

"State Failure" is coded one for the 49 instances in their dataset of what POLITY calls "complete collapse of central authority," and zero otherwise. Inspection of the replication data[30] and the Polity IV codebook indicates that only observations of countries that have never experienced any change in POLITY are coded 0 for all of the five regime change variables: "New Democracy," "Established Democracy," "New Autocracy," "Established Autocracy," and "Small Regime Change."

The problem with this approach is that the key explanatory variable—regime transition—is not crisply defined. As discussed above in Sect. 3.2, POLITY is constructed from five component variables: Competitiveness of political participation (PARCOMP), which ranges $[−2, +3]$; Regulation of political participation (PARREG), which ranges $[−2, 0]$; Competitiveness of executive recruitment (XRCOMP), which ranges $[−2, +2]$; Openness of executive recruitment (XROPEN), which ranges $[−1, +1]$; and Constraints on the chief executive (XCONST), which ranges $[−3, +4]$. "Major" democratizations or autocratizations, as they are defined by POLITY, involve changes of six-points or greater in the overall 21 point index. So regime transitions involve many different types of changes in the POLITY data.

For the data used in Table 1, there are 85 instances of "democratization" ranging from six-point to 16-point changes in POLITY. Of these, 36 involve changes from interregnums or situations of anarchy, for which data on the component variables are not provided. For the remaining 49, changes in PARCOMP range $[0, +5]$, changes in PARREG range $[0, +2]$, changes in XRCOMP range $[0, +4]$, changes in XROPEN range $[0, +2]$, and changes in XCONST range $[0, +7]$. In other words, a major "democratization" may involve no change in any given component of POLITY. Autocratization involves similarly bizarre changes. There are 58 instances of "autocratization" ranging from six-point to 18-point changes in POLITY. Of these, 10 involve changes from interregnums or situations of anarchy, for which data on the component variables are not provided. For the remaining 48, changes in PARCOMP range $[−5, 0]$, changes in PARREG range $[−2, +1]$, changes in XRCOMP range

[−4, 0], changes in XROPEN range [−1, +1], and changes in XCONST range [−7, 0]. So, a major "autocratization" may involve a positive, a negative, or no change in any given component of POLITY. From a substantive point of view, therefore, regime transition is defined with a lack of precision—it may involve many different types of substantive changes. While we acknowledge that such changes in POLITY may involve dramatic changes to the political system, we contend it is important that an indicator of regime transition convey a clear substantive meaning.

Thus, we introduce a new set of transition variables using DD. Following Rodrik and Wacziarg (2005), "New Democracy" is coded 1 for the year (plus five additional years) that a country transitions from dictatorship to democracy. "Established Democracy" is coded 1 thereafter, unless there is a transition to dictatorship. "New Autocracy" and "Established Autocracy" are similarly defined. Obviously, our dichotomous variable has no "small changes," so this variable is not employed.[31] We also control for Rodrik and Wacziarg's (2005) "State Failure" variable as identified by Polity IV. Our results are drastically different from the ones obtained by Rodrik and Wacziarg, except for the fact that the 49 observations identified by Polity IV as total state failures have lower growth rates than the remaining 5,416 observations. "New Democracy" has, as in the original analysis, a positive coefficient but a standard error that is far too large for us to consider its impact on economic growth statistically significant. "Established Democracy" and "New Autocracy" also fail to have a statistically significant effect on growth rates. Established autocracies, however, seem to have a positive effect that is significant at the 0.10 level.

Thus, when we use DD, which defines regime transition according to precise substantive criteria, we obtain profoundly different results than when we use POLITY. The interpretation of the DD result is clear: countries where contested elections were abolished and the regime that was installed lasted for more than five years experience higher economic growth on average than other countries.

Note that we do not put much faith in this specific finding: the five year cutoff for distinguishing between new and established regimes, which we implement for replication purposes alone, strikes us as arbitrary; questions of endogeneity plague the analysis;[32] and the "Established Autocracy" result is not robust. Our goal here is simply to underscore the fact that the measure of political regime matters for the findings one obtains regarding the effects of regime transitions on economic growth. The analysis of Rodrik and Wacziarg (2005) is transparent and their replication materials quite easy to implement; it is the coding of transitions in the Polity IV data, which they follow carefully, that is less clear.

5.2 Regimes and civil war

Fearon and Laitin (2003), following Hegre et al. (2001), consider a non-linear hypothesis about political regime and civil war. They argue that "anocracy," which they define as a regime that "mixes democratic with autocratic features" (Fearon and Laitin 2003: 81), is more susceptible to civil war than either "full" democracies or "full" dictatorships. To test this hypotheses, they use POLITY to generate a dichotomous measure of anocracy, which

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[31]However, it would not be impossible to create such a variable. There are several ways in which one may be able to test hypotheses that contrast changes between democracy and dictatorship with other changes. To provide only one example, one could contrast changes that occur within democracies and dictatorships as defined in Sect. 4 with changes between democracy and dictatorship.

[32]See Przeworski et al. (2000) for a thorough treatment of the question of non-random selection and regime transitions.

is coded one for the "middle" of the range (−5 to +5) and zero otherwise. They report that, even after controlling for other determinants of civil war, their POLITY-based measure of anocracy has a positive and significant impact on the onset of civil wars. We reproduce this result in the first column of table two (labeled "POLITY").

But what does the middle of POLITY actually capture? As noted in Sect. 3.4, the correlation between POLITY and FH, as well as the correlation of these two measures with DD, is considerably reduced once these variables are trimmed of their extreme values. So, hypotheses that focus on the middle of these distributions should spell out what is it about these middles that matter for civil war. Given the five component variables that make up the POLITY regime measure, countries may be coded in the middle of the distribution through literally hundreds of combinations, thus making the middle values entirely unclear. Gandhi and Vreeland (2004), for example, show that for a score of zero on the POLITY scale, its exact middle, there are 17 distinct combinations of the five components.

It is true that the purpose of any index is to group ostensibly heterogeneous cases. But it is also true that the aggregation of these cases into similar categories should be grounded in theory, with careful attention to the dependent variable in question. This consideration makes the use of POLITY to evaluate the impact of "anocracies" on the onset of civil wars utterly problematic. Two of the POLITY components—PARREG and PARCOMP—are actually coded with explicit reference to political violence, thus making it virtually tautological to employ these components to test hypotheses about civil war. At best, a measure of "anocracy" based on POLITY tests the relationship between varying levels of political violence and civil war, not the relationship between political institutions and civil war.

When the effects of each of the five POLITY components are analyzed separately, only the two components defined with respect to political violence have a statistically significant relationship with civil war, while the three other components (XCONST, XRCOMP, and XROPEN), that is, the ones that are not contaminated in their coding by information about political violence, do not. One of these components (XCONST) does not even have the correct sign (see Vreeland 2008). When "anocracy" is coded on the basis of a POLITY measure that leaves out the two suspect components, we find that it has no statistically significant relationship with civil war. This result is shown in the second column of table two (labeled "X-POLITY").[33]

We categorically reject the notion that there is a middle between the clear concepts of democracy and dictatorship, as we define them in DD. We do acknowledge, however, that there are different types of democracies and dictatorships, as we describe (non-exhaustively) in Sect. 4. We find the broad definitions of anocracy employed by Fearon and Laitin (2003) and others to be imprecise, such that there are many combinations of political institutions that might be considered to be some kind of a "mix" of "democratic" and "autocratic" features. Different "mixes" might produce different effects on civil war. For example, consider one type of institutional arrangement that Gandhi (2008) studies in her work on dictatorships with seemingly democratic institutions—dictatorships with legislatures. We introduce into Fearon and Laitin's (2003) civil war specification a dummy coded one for dictatorships that have legislatures and zero otherwise (we do not include Type II dictatorships). We find that the variable has a statistically significant *negative* effect on civil war. This effect is consistent with what one would expect from Gandhi's theory about the role of seemingly democratic

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[33]The exercise presented in Table 2 is similar to what Vreeland (2008) does. Our approach is different in that we leave out PARREG and PARCOMP from all of the POLITY-based variables used in Fearon and Laitin (2003): Polity—middle dummy, Democracy, and Instability. Vreeland (2008) leaves Democracy unchanged. The results are qualitatively the same.

Table 2 The effect of anocracy on civil war

Variable	1 POLITY	2 X-POLITY	3 DD	4 POLITY—Narrow anocracy	5 POLITY—Democracy-high standard	6 POLITY—Democracy low standard
Dictatorships with legislatures			-0.37^*			
			(0.22)			
Anocracy (Polity-middle dummy)	0.52^{**}	0.08		0.23		
	(0.24)	(0.33)		(0.25)		
Democracy	0.13	0.01		-0.04	-0.88^*	0.40^*
	(0.30)	(0.28)		(0.29)	(0.50)	(0.23)
Instability	0.51^{**}	0.48^*		0.60^{**}		
	(0.24)	(0.26)		(0.24)		
Prior war	-0.92^{**}	-0.89^{**}	-0.89^{**}	-0.92^{**}	-0.87^{**}	-0.92^{**}
	(0.31)	(0.34)	(0.32)	(0.31)	(0.31)	(0.32)
Per capita income	-0.32^{**}	-0.30^{**}	-0.33^{**}	-0.31^{**}	-0.29^{**}	-0.37^{**}
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Log(population)	0.27^{**}	0.25^{**}	0.28^{**}	0.26^{**}	0.24^{**}	0.26^{**}
	(0.07)	(0.08)	(0.07)	(0.07)	(0.07)	(0.07)
Log(% mountainous)	0.20^{**}	0.20^{**}	0.22^{**}	0.21^{**}	0.22^{**}	0.23^{**}
	(0.08)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
Noncontiguous state	0.43	0.52^*	0.37	0.50^*	0.65^{**}	0.44
	(0.27)	(0.29)	(0.27)	(0.27)	(0.27)	(0.27)
Oil exporter	0.75^{**}	0.74^{**}	0.85^{**}	0.76^{**}	0.72^{**}	0.92^{**}
	(0.28)	(0.30)	(0.27)	(0.28)	(0.28)	(0.28)
New state	1.66^{**}	1.59^{**}	1.69^{**}	1.73^{**}	1.61^{**}	1.57^{**}
	(0.34)	(0.43)	(0.33)	(0.34)	(0.33)	(0.33)
Ethnic fractionalization	0.16	0.24	0.25	0.16	0.18	0.17
	(0.37)	(0.40)	(0.38)	(0.37)	(0.37)	(0.37)
Religious fractionalization	0.33	0.04	0.40	0.26	0.31	0.29
	(0.51)	(0.55)	(0.52)	(0.51)	(0.51)	(0.51)
Constant	-7.02^{**}	-6.70^{**}	-6.81^{**}	-6.84^{**}	-6.51^{**}	-6.68^{**}
	(0.75)	(0.78)	(0.73)	(0.74)	(0.72)	(0.72)
Number of observations	6,327	6,034	6,248	6,327	6,327	6,327
Log likelihood	-478.67	-430.13	-469.24	-480.63	-482.99	-483.39

Notes: The label of each column indicates the original measure of political regime (POLITY or DD) employed to create the regime variable used in the model (heading the table rows). In column 1 (labeled "POLITY"), "POLITY middle dummy" is coded 1 for POLITY greater than −6 and less than 6 (0 otherwise), and "Democracy" is coded 1 if POLITY is greater than 5 (0 otherwise). In column 2 (labeled "XPOLITY"), the components of POLITY coded with direct reference to political violence are removed. In this case, "POLITY middle dummy" is coded 1 for X-POLITY greater than −4 and less than 5 (as X-POLITY's range is −6 to 7), and "Democracy" is coded 1 if POLITY is greater than 4. In column 3 we use DD to identify dictatorships with legislatures. In column 4 ("POLITY—Narrow anocracy"), "POLITY middle dummy" is redefined, coded 1 for POLITY greater than −5 and less than 5 (0 otherwise). Other variables are coded as they are in column 1. In column 5 ("POLITY—Democracy-high standard"), "Democracy" is redefined, coded 1 for POLITY greater than 8 (0 otherwise). In column 6 ("POLITY—Democracy-low standard"), "Democracy" is redefined, coded 1 for POLITY greater than 2 (0 otherwise). Standard errors in parenthesis

**Indicates significance at the 0.05 level

*Indicates significance at the 0.10 level

institutions under dictatorship—they co-opt segments of society into the dictatorship, allow-ing greater prospects for the regime's survival. It runs counter to the prediction that mixing democratic with autocratic features provokes civil war.

As with the exercise above regarding regime transitions, our goal here is simply to un-derscore the point that the measure one uses matters for the result one obtains. The use of a well-defined measure of "anocracy" produces opposite results from what is produced by the middle of POLITY. Were we interested in this finding per se, we would have to address several issues that arise in the study of political institutions and civil war onset, whether one uses POLITY or DD. Prominent among them would be the issue of endogeneity, which, to our knowledge, has not been addressed in the civil war literature. Several dictatorships close the legislature the year a civil war begins, suggesting that the anticipation of civil war leads dictatorships to reshape their institutions.[34] Thus, causality may very well run from civil war to institutions, and not the other way around as the "anocracy" hypothesis postulates.

Yet, continuing with our analysis of the Fearon and Laitin (2003) study of civil war, we now return to their original specification, ignoring the issues raised above. Here we alter the ways in which the "anocracy" and "democracy" indicator variables are coded.

Recall that "anocracy" is an indicator variable coded one if POLITY is greater than −6 and less than +6, zero otherwise. In column six of table two (labeled "POLITY—Narrow anocracy"), we slightly change the rule for coding anocracy so that the variable is now one if POLITY is greater than −5 and less than +5, zero otherwise. The narrower coding rule eliminates 363 observations of anocracies (5.5% of the total observations). All other variables are coded as they are in the original specification presented in column one of table two. As can be seen, the positive effect of anocracy, which is significant at the 5% level in the original analysis, is not significant when the cut-points are slightly adjusted.[35]

Adjusting the cut-point for the democracy variable produces even more disturbing results. In the original specification, democracy is coded one for POLITY greater than five (zero otherwise) and is found to have no statistically significant effect on civil war onset. If we impose a higher standard for democracy and code it as one when POLITY is greater than eight (zero otherwise), we find that democracy has a negative effect on civil war, significant at the 10% level. Democracies are *less* likely to suffer from civil war than non-democracies. If, however, we allow for a lower standard for democracy and code it as one when POLITY is greater than two (zero otherwise), the variable has a positive effect on civil war, significant at the 10% level. Democracies are *more* likely to suffer from civil war than dictatorships. There are no theoretical reasons—or observable events—that justify imposing the cut-point for democracy at two, five or eight. In such a case we should expect that the results should be robust to relatively small adjustments of these cut-points. It is serious enough that the level of significance raises or drops as the coding rules of the main variable are slightly adjusted. It should be reason for great concern that the sign of the coefficient flips as one does so. At the minimum, one must be able to account for the features of the cases that cause a change in results as they are included in or excluded from the analysis.

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[34]Indeed, when we lag the "dictatorships with legislatures" indicator variable, the effect on civil war onset loses statistical significance.

[35]Surprisingly, the change in the coding of the anocracy variable has nontrivial implications for the rest of the analysis, as the positive effect of the "Noncontiguous state" indicator variable becomes statistically significant.

5.3 Economic development and democratization

While the arbitrariness of cut-points may produce results that are not robust to relatively small changes in coding rules, it may also lead to the opposite situation, namely, to a situation in which results are just too robust.

Recognizing that previous research shows per capita income has no effect on the emergence of democracy, Epstein et al. (2006) argue that, once countries are classified as autocracies, democracies and "partial democracies"—which they define as the cases falling, respectively, in the $[-10, 0]$, $[+8, +10]$, and $[+1, +7]$ POLITY intervals—they are able to demonstrate "that higher incomes per capita significantly increased the likelihood of democratic regimes, both by enhancing the consolidation of existing democracies and by promoting transitions from authoritarian to democratic systems" (p. 566). They do so by employing Markov methods. The simplest form of their regression includes lagged values of an autocracy indicator (with coefficient β_1) and an indicator of autocracy and partial democracy (with coefficient β_2), GDP per capita (with coefficient β_3) and the interaction of GDP per capita with the indicator of partial democracies (with coefficient β_4). As they explain, positive and significant $(\beta_3 + \beta_4)$ indicates the effect of GDP on democratization when the initial regime is an autocracy or a partial democracy. A positive and significant β_3 indicates the effect of GDP on democratization when the initial regime is a full democracy.

Epstein et al. (2006) report positive and significant $(\beta_3 + \beta_4)$ and β_3, a result that is robust to the inclusion of several controls and, as they emphasize, to the cut points they employ. As they explain, they estimated their regressions "with the cut points between adjacent categories moved one or two units in either direction, and the result did not change." They conclude, therefore, that their "findings are not the result of an arbitrary choice of measure" (p. 555). This is, however, where the problem lies. Our analysis of the Epstein et al. (2006) data indicates that their findings do not change, regardless of how partial democracies are classified; the findings remain the same—positive and significant (and actually larger) $(\beta_3 + \beta_4)$ and positive and significant β_3—as the lower bound of the middle regime is moved from $+1$ all the way to -9, and the upper bound is moved from $+7$ to $+8$. When full democracies are coded as the cases scoring 10 in the POLITY measure, β_3 remains positive but not significant, but $(\beta_3 + \beta_4)$ remain both positive and significant.[36]

For Epstein et al. (2006: 566), partial democracies are "critical to the understanding of democratic transitions." As they argue, "More volatile than either straight autocracies or democracies, their movements seem at the moment to be largely unpredictable. One of our major conclusions, then, is that it is this category—the partial democracies—upon which future research should focus." (p. 566). But what is this category? Is it the category that contains the 811 observations in the POLITY interval $[+1, +7]$, or are they the 4,205 cases contained in the interval $[-9, +8]$? Unless we have a theoretical reason to classify regimes in a particular way—something substantive that tells us that regimes that are between $+1$ and $+6$ are different from regimes that are below $+1$ and above $+6$—then the very notion of "partial democracy" makes no sense.

Thus, to conclude this section, we assert once again, that the measure of political regimes researchers employ matters for the conclusions they reach. The fact that the overall correlation among alternative measures is high does not constitute an argument for treating these measures as exchangeable. Issues of categorization of political regimes will always emerge;

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[36]All of our replications can be found at the same website where the regime classification is posted: https://netfiles.uiuc.edu/cheibub/www/DD_page.html. We would like to thank James Fearon, David Laitin, as well as David Epstein and his co-authors, for sharing their data with us.

yet, there are no theoretical or factual reasons that justify where to place category boundaries. As we have demonstrated, these boundaries are consequential for analysis—results about political regimes depend on where one places cut-points and how regime transitions are identified. Our preference for a sharply defined measure of political regime rests on our desire to work with regime categories that simply make sense. The fact that the specific measure we propose is dichotomous, that it is based on a "minimalist" theory of democracy, that we classify democracies into presidential, parliamentary, and semi-presidential, and that we classify dictatorships into civilian, military, and monarchic regimes is incidental to the issue at stake. What matters is that this measure means something. If statistical analysis is to be used in the study of political regimes, where one estimates magnitudes of and uncertainties associated with the impact of regime change, or the impact of some factor on regime change, it is useful to know exactly what—substantively—a change in political regime implies.

6 Conclusion

The empirical testing of hypotheses related to the emergence and survival of regimes, and their consequences for policies and outcomes, remains the focus of much research effort. We join an increasingly large number of scholars who advocate careful choice of measurement as a function of the research questions under investigation, as well as conceptual and operational clarity of the instrument to be used (e.g., Gleditsch and Ward 1997; Reiter and Tillman 2002; Treier and Jackman 2008). We also offer an alternative to existing measures of political regimes.

We have, thus, a six-fold classification of political regimes that emphasizes the institutions capable of removing the government from power. This classification is rooted in the distinction between democracies and dictatorships, that is, those regimes in which executive and legislative offices are filled through contested elections and those in which they are not. Among democracies, we distinguish those that are parliamentary (only the legislature can remove the government), presidential (only the president can remove the government) and mixed or semipresidential (the legislature can remove the government and there is a directly elected head of state). In dictatorships we distinguish those that are monarchic (family and kin networks remove the government), military (the armed forces remove the government) and civilian (a residual category often characterized by the presence of a political party as the institution capable of determining the fate of existing governments).

This classification is not the only possible one, as both democracies and dictatorships may and have been distinguished in many different ways. Yet, it does possess the same attributes of the classification of regimes as democracies and dictatorships on which it is rooted. Because it is based on observational data, it is reproducible, a characteristic that is not present in any of the existing alternative measures of political regimes. Moreover, the regime classification presented here, again contrary to other measures, can be meaningfully interpreted as it is based on attributes of political regimes that are identifiable and recognized as important by most researchers. Finally, as suggested throughout the paper, this classification is useful in addressing a number of important research questions that have been shaping the agenda of contemporary political research.

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