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A Robust Regime Type Measure  
based on V-Dem

Anna Lührmann, Staffan I. Lindberg,  
Marcus Tannenberg

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Please address comments and/or queries for information to:

V-Dem Institute

Department of Political Science

University of Gothenburg

Sprängkullsgatan 19, PO Box 711

SE 40530 Gothenburg

Sweden

E-mail: [contact@v-dem.net](mailto:contact@v-dem.net)

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# Regimes In the World (RIW): A Robust Regime Type Measure based on V-Dem\*

Anna Lührmann      Staffan I. Lindberg      Marcus Tannenber

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## Abstract

Classifying political regimes has never been as difficult as in this day and age. Most regimes in the world now hold de-jure multiparty elections with universal suffrage. Yet, in some countries these elections ensure that political rulers are – at least somewhat – accountable to the electorate whereas in others they are a mere window dressing exercise for authoritarian politics. Hence, regime types need to be distinguished based on the de-facto implementation of democratic rules. To this end, researchers increasingly turn to expert-coded data sets such as the new Varieties of Democracy (V-Dem) dataset. Using V-Dem data, we propose an operationalization of four important regime types – closed and electoral autocracies; electoral and liberal democracies – with vast coverage (almost all countries from 1900 to 2016) and precision. Our new Regimes in the World (RIW) measure includes uncertainty estimates to identify countries in the grey zone between regime types and account for inter-coder disagreement. In cases of disagreement with other datasets (7-12% of the cases), we classify regimes with severe electoral manipulation and infringements of the political freedoms more frequently as electoral autocracies than other datasets, which suggests that our measure captures the opaqueness of contemporary autocracies better.

# Introduction

Classifying political regimes has never been as difficult as in this day and age. Most regimes in the world hold de-jure multiparty elections with universal suffrage. Yet, in some countries these elections ensure that political rulers are at least somewhat accountable to the electorate whereas in others they are a mere window dressing exercise for authoritarian politics.

Therefore we need experts to help us assess the *de-facto* characteristics of political regimes. Such expert-coded data is provided by the *Varieties of Democracy* (V-Dem) Project covering 177 countries from 1900 to 2016 (Coppedge et al., 2017c; Coppedge et al., 2017a). V-Dem is the first systematic effort to measure the *de-facto* existence of all institutions in Robert Dahl’s famous articulation of “Polyarchy” as electoral democracy (Coppedge et al., 2016; Dahl, 1971; Dahl, 1998). Liberal democracy is then conceptualized as the existence of electoral democracy in combination with three additional components: rule of law ensuring respect for civil liberties, and constraints on the executive by the judiciary, as well as by the legislature (Lindberg et al., 2014; Coppedge et al., 2017d).

In the V-Dem data set, the Electoral Democracy Index (EDI) and Liberal Component Index (LCI) reflect these principles, but only on a continuous scale (Coppedge et al., 2017c). Lindberg (2016) proposes ordinalized version of these indices but without developing and validating a consistent regime typology. However, much scholarly work relies on a relatively clear identification of regime types. For instance, Lührmann, McMann, and Van Ham (2017) study in which regime types democracy aid is effective. Likewise, studies on democratic diffusion (Gleditsch and Ward, 2006), backsliding (Erdmann, 2011), sequencing (Wang et al., 2017) and characteristics of authoritarian regimes (Schedler, 2013), use regime categories. In particular, a clear threshold between democracy and autocracy is important for studies on regime survival (Bernhard et al., 2015; Svoboda, 2008; Przeworski et al., 2000). A number of important questions on democratization, effects of institutions, and trajectories over time, benefit from a distinct regime typology spanning from the worst autocracies to the best democracies. It should naturally be theoretically justified, coherent and consistent, and meet empirical validity tests. That is what we aim to provide here.

We use the V-Dem data to classify countries in four regime categories. In closed autocracies, the chief executive is either not subjected to elections or there is no meaningful, *de-facto* competition in elections. Electoral autocracies hold *de-facto* multiparty elections for the chief executive, but they fall short of democratic standards due to significant irregu-

larities, limitations on party competition or other violations of Dahl’s institutional requisites for democracies. To be counted as electoral democracies, countries not only have to hold *de-facto* free and fair and multiparty elections, but also based on Dahl achieve a high level of institutional guarantees for democracies such as freedom of association, suffrage, clean elections, an elected executive, and freedom of expression. In addition to these principles, effective legislative and judicial oversight of the executive, protection of individual liberties and the rule of law denominate as liberal democracies.

Besides taking advantage of the latest and most comprehensive on democracy providing unique variables of *de-facto* institutional guarantees, a key innovation of our regime typology is that we also develop a method to let V-Dem’s estimates of uncertainty inform the regime type measures. This provides two distinct advantages. First, it allows us to distinguish cases that are most certainly in a particular regime category from others who are closer to falling out of it, or taking a step upwards, and making it possible to integrate this more fine-tuned information in analyses. Second, it makes it possible for the first time to estimate trends of how countries are placed in definite versus ambiguous regime types, something which is more important now than ever given the sharp rise of de-jure democratic institutions in non-democratic states. Finally, we provide a much vaster coverage than most extant regime typologies, with data for the current decade and reaching back to 1900.

In Part 1 of this paper we discuss prior approaches to drawing the line between regime types. Part 2 introduces our regime typology and Part 3 compares our regime typology to several of the most frequently used extant measures.

## 1 Prior Approaches to Drawing the Line between Regime Types

There is a longstanding academic discussion on the conceptual and methodological advantages of different measures of political regimes. One contentious issue is if democracy is a best understood as a multidimensional (Coppedge et al., 2011; Dahl, 1971; Vanhanen, 2005), continuous (Bollen and Jackman, 1989; Lindberg, 2006), polychotomous (Collier and Levitsky, 1997), or a dichotomous concept (Alvarez et al., 1996; Cheibub, Gandhi, and Vreeland, 2010). A related debate focuses on the differentiation between democratic and various types of autocratic regimes (Wahman, Teorell, and Hadenius, 2013; Geddes, Wright, and Frantz, 2014; Kailitz, 2013), sometimes including a grey zone (Diamond, 2002). These debates will

likely never be settled. From a philosophical perspective, we agree with Collier and Adcock (1999) that the appropriate type of regime measure depends on the nature of the research question at hand. We seek here to provide a robust and comprehensive regime type measure with associated estimates of uncertainty, for research requiring an ordinal or dichotomous measure.

The first step in any regime typology is drawing a line between democracies and autocracies. Extant dichotomous measures of democracy and autocracy are abundant but suffer from weaknesses of methodological or validity character (cf. Alvarez et al. (1996), Cheibub, Gandhi, and Vreeland (2010), Golder (2005), Boix, Miller, and Rosato (2013), and Ulfelder and Lustik (2007)). Other efforts focus on capturing various autocratic regime types (Geddes et al. 2014, Wahman et al. 2013, Kailitz 2013, Maglioni et al. 2013) failing to capture the entire regime spectrum from autocracy to democracy, but delineating autocracies from democracies.

In the literature there are two main approaches to conceptualizing and crafting dichotomous measures of democracy and autocracy: as a difference in kind or degree associated with a qualitative and a quantitative approach to measurement, respectively (Lindberg 2006, 22-27). The in-kind/qualitative approach typically proceeds in a Sartorian fashion by setting a number of necessary conditions that a regime must fulfill in order to be coded as a democracy (1970). For example, that there are competitive, multiparty elections with suffrage extended to a certain share of the population. The degree/quantitative strand usually introduces a cut off on a continuous measure of democracy, coding countries above the threshold as democratic and countries as autocratic. In the following, we go into detail on how six of the most influential datasets on regimes distinguish between democracies and autocracies.

#### *Drawing Line: In-kind/Qualitative Approaches*

Cheibub, Gandhi and Vreeland (2010; hereafter CGV) apply three criteria a regime must have in order to be coded as democratic: uncertainty, irreversibility and repeatability.<sup>1</sup> To fulfill these a country must have a legislature elected in popular elections and a chief executive that is either directly, or indirectly elected. Furthermore, there must be more than one legal party. Finally, they employ the controversial alternation rule: an alternation of power must have occurred under the same electoral rules that brought the incumbent into office. While these clear and parsimonious coding rules minimize the need for subjective judgments,

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<sup>1</sup>Their “Democracy and Dictatorship-” dataset builds on earlier work by an overlapping group of authors (Cheibub et al. 1996; Przeworski et al. 2000).

they also come at a cost. The latter two of these criteria raises concerns of conceptual validity. The mere existence of two legal parties hardly guarantees contestation, as understood in established democratic theory (Dahl, 1971), and the rule leads to errors of two kinds. First, as Wahman (2014) shows, the alternation rule can underestimate the number of democracies since incumbents often enjoy an electoral advantage even in established democracies. Democracies that change electoral rules will be less likely to see an alternation of power under the same set of rules no matter how democratic they are. Second, even manipulated and un-democratic elections may be lost, which leads to the alternation rule overestimating the number of autocracies (Wahman 2014: 222). These biases of the alternation rule have consequences for empirical research. For example, Knutsen and Wig (2015) show that the alternation rule leads to underestimating democracy’s effect on economic growth.

Geddes, Wright and Franz (2014; hereafter GWF) first sort all cases into either the democratic or autocratic bin, before proceeding to classify sub-categories of the latter. In doing so, GWF employ the following qualitative coding rules: a case is coded as democratic if the executive achieves power through “reasonably fair competitive” direct or indirect elections with suffrage exceeding to at least 10 percent of the population (Geddes et al. 2012: 6). This requires a fair amount of judgment on the coders’ side. For example, relying on reports from election observers to determine if an election was reasonably “fair and competitive” can be problematic as such organizations lack shared standards (Kelley, 2009). It is not clear what a “competitive” election or “large” party is by GWF’s standards, nor how GWF estimate the size of parties that did not enjoy legal rights (Wahman, Teorell, and Hadenius, 2013).

Boix, Miller and Rosato (2012; hereafter BMR) provide the dichotomous measure of democracy with the broadest historical scope, coding from 1800 to 2007. Similar to CGV and GWF, BMR rely on a set of necessary conditions. For a country to be coded as democratic, the executive must either be directly or indirectly elected in “popular” elections and the legislature in “free and fair” elections. They also require that a majority of the male population has the right to vote. BMR face a similar weakness as GWF they assess the freedom and fairness of elections without being minimizing bias due to coder potentially erroneous judgment.

#### *Drawing Line: Degree/Quantitative Approaches*

Other scholars apply a threshold on a continuous measure to distinguish between political regimes (Wahman, Teorell, and Hadenius, 2013; Lindberg, 2016; Schedler, 2013; Hadenius and Teorell, 2007). The most apparent difficulty with this approach is deciding where to



draw the line between democracies and autocracies, which is inevitably, an arbitrary decision (Bogaards, 2012). Even for the most commonly used large-N data sets Freedom House and Polity there is no consensus in the literature on where to draw the line. Bogaards (2012) identifies at least 14 different ways to use Freedom House ratings and at least 18 different ways to use the Polity scores to classify democracies.

Freedom House itself uses its political rights and civil liberty scores to label countries as “free”, “partly free” and “not free” (Freedom House, 2017). However, this three-level ordinal scale evades the question of which “partly free” country is a democracy and which not. Furthermore, it neglects any necessary conditions such as free and fair elections that are commonly found in the literature. Similarly, the Polity project (Marshall, Gurr, and Jaggers, 2014) provides various detailed assessments of different aspects of regime quality, but refrain from identifying an unambiguous cut-off point between democracy and autocracy. Polity suggests using the combined Polity score to cut the regime spectrum in three parts: autocracies (-10 to -6), democracies (6 to 10) and anocracies in-between the two categories.<sup>2</sup>

Wahman, Teorell, and Hadenius (2013, hereafter WTH) identify the cut-off point on a combined Freedom House and Polity scale that best represents five qualitative democracy measures, such as the ones we discussed above.<sup>3</sup> They proceed by estimating the mean score on the combined scale for the year before democratic breakdown and the year after transition as coded by the five measures. They then use the grand mean of seven of these years as their empirical cutoff point for democracy, while advising users to run robustness checks using the both the 6.5 and 7.5 levels respectively.

### *Moving Beyond the State of the Art*

In sum, both quantitative and qualitative approaches have their respective strengths and weaknesses. The strength of qualitative approaches is that they rely on a clearly defined set of necessary and sufficient criteria, which makes it easier to identify why countries are scored as democracies or not. On the other hand, these criteria tend to be quite narrow and election-focused and neglect key prerequisites for democratic processes such as freedom of association and speech (see Dahl 1971). The continuous measures that form the baseline for the quantitative approaches tend to reflect a broader notion of democracy - in particular

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<sup>2</sup>See: <http://www.systemicpeace.org/polityproject.html> (accessed: 17 May 2017). The standardized authority codes (-66, -77 and -88) used to indicate non-consolidated polities should also be placed in the anocratic spectrum.

<sup>3</sup>This scale ranges from 0 to 10 and aims at compensating for each measures respective weaknesses (Hadenius and Teorell, 2005).

Freedom House. However, by applying a simple cut-off point on a (quasi) continuous scale, it remains ambiguous, what exact characteristics countries have that are qualified as democracies. With the exception of CGV, all the above rely relatively heavily on the judgment of coders, without being fully transparent about the rules and procedures applied in this process. This risks reducing both reliability and validity of the measures (Coppedge et al., 2017b).

With the regime typology proposed in this paper we aim at combining the strengths of both methodologies: We use necessary criteria to mark the qualitative difference between the democratic and autocratic regime spectrum and an additional cut-off point on V-Dem’s relatively thick Electoral Democracy Index (EDI) in order not to operationalize democracy too narrowly. Furthermore, the V-Dem methodology avoids some of the shortcomings of earlier expert-coded data sets by using five coders per data point and a Bayesian IRT model to minimize coder bias (Coppedge et al., 2017d).

## 2 Introducing the Regimes In the World (RIW) Typology

After this (admittedly brief) review of some of the main extant regime typologies, we endeavor to classify regime in four categories: closed autocracy, electoral autocracy, electoral democracy and liberal democracy (Table 1). First, we separate between the democratic and the autocratic regime spectrum and then develop the democratic and autocratic subtypes.<sup>4</sup> In democracies, rulers are accountable to citizens through periodic elections and in autocracies they are not.<sup>5</sup> To be counted as democracies, regimes therefore have to fulfill three criteria: (1) hold free and fair and (2) de-facto multiparty elections, and (3) achieve at least a minimal level of institutional guarantees such as freedom of association, suffrage, clean elections, an elected executive, and freedom of expression following Dahl’s (1971, 1998) widely accepted theory of polyarchy.

This notion of democracy goes beyond minimalist (Schumpeterian) definitions of democracy since it considers not only the electoral event but also to what extent the political

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<sup>4</sup>This strategy follows common advice for concept formation (e.g. Collier and Adcock (1999), Sartori (1970), and Goertz (2006).

<sup>5</sup>This definition reflects the electoral principle of democracy (Coppedge et al., 2016, : 583). Many would agree with Pastor (1999, : 123) that ‘[t]he essence of democratic government is accountability.’

Table 1: Regime Classification

Closed Autocracy	Electoral Autocracy	Electoral Democracy	Liberal Democracy
No free and fair, de-facto multiparty elections or minimal institutional prerequisites not fulfilled		Free and fair and multiparty elections and minimal institutional prerequisites fulfilled	
No multiparty elections for the chief executive	Elections for the chief executive with a minimal level of multiparty competition	Liberal principles not satisfied	Liberal principles satisfied

environment enables meaningful competition. It is thus closer to Dahl’s (1971, 1989) understanding of democracy as ‘polyarchy’. At the same time, our definition does not reflect more demanding notions of democracy requiring, for instance, respect for minority rights (Hamilton, Jay, and Madison, 1787), a certain quality of public deliberation (Habermas, 1996), or a degree of consolidation of democracy (Linz and Stepan, 1996).

Among democracies, we distinguish between *electoral democracies* that only achieve the three fundamental criteria for democracy outlined above, and liberal democracies. We chose to focus on the electoral/liberal divide, because this is the most common distinction within the democratic regime spectrum (Merkel, 2004; Munck, 2009; Diamond, 1999; Diamond, 2002). *Liberal democracies* also protect individual rights and place constraints on the executive arm of government. Such in Dahl’s words – “Madisonian” democracies strike a balance between the principle of rule by the people and the protection of minorities (Dahl, 1956, : 4)). Key checks and balances are effective by legislative and judicial oversight over the executive, protection of individual liberties, and equality before rule of law. From a liberal standpoint such norms and institutions are ends in themselves and not simply means to achieve political competition (Coppedge et al. 2017d: 21, Lindberg et al. 2014).

Autocracies are regimes where rulers are not accountable to citizens in periodic elections. They may hold elections and indeed most autocracies have introduced some form of elections in recent decades. Yet, authoritarian rulers use various formal and informal instruments to tilt the electoral playing field in their favor and evade electoral accountability (Diamond, 2002; Schedler, 2002; Gandhi and Lust-Okar, 2009; Levitsky and Way, 2010). Such tools

include blatant manipulation on election day (from ballot box stuffing to the fabrication of voting results) but also more evasive activities such as restriction of media freedom and opposition activities (Schedler 2002). Hence, there is an emerging consensus to differentiate between political regimes based on the degree of competitiveness of their elections.<sup>6</sup> *Electoral autocracies* hold multiparty elections for the chief executive, but they fall short of democratic standards due to significant irregularities, limitations on party competition, or other violations of Dahl’s institutional requisites. This definition builds on Schedler’s influential work on electoral authoritarianism (2002; 2006; 2013) and the notion of competitive authoritarianism developed by (Levitsky and Way, 2010).

In *closed autocracies*, the chief executive is either not subjected to elections, or there is no de-facto competition in elections such as in one-party regimes. Regimes with elections only for the legislature (even if somewhat competitive) also fall into this category (Schedler, 2013; Donno, 2013; Roessler and Howard, 2009: 112; Brownlee, 2009: 137). Some scholars (e.g. Gandhi and Lust-Okar (2009)) categorize countries with elections only for the legislature (e.g. Jordan) or countries with elections under single-party rule (e.g. North Korea) as “Hegemonic Autocracies”. However, from our perspective the key difference in the authoritarian spectrum is whether the office of the chief executive is subject to direct or indirect multiparty elections. Therefore, we place countries without multiparty elections for the chief executive in the category of closed autocracies.

## 2.1 Operationalization with V-Dem Data

We operationalize our regime typology using new data from the Varieties of Democracy (V-Dem) project. Released in May 2017, Version 7.0 covers 177 countries from 1900 to the end of 2016. Approximately half of the indicators in the V-Dem dataset are based on factual information from official documents such as constitutions. The remainder consists of expert assessments on topics like the quality of elections and *de-facto* compliance with constitutional standards. On such issues, typically five experts provide ratings for the country, thematic area and time period for which they are specialists. To address coder error and issues of comparability across countries and over time, V-Dem has developed a Bayesian measurement model (Marquardt and Pemstein, 2017; Pemstein et al., 2017).

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<sup>6</sup>There are also other approaches of characterizing autocracies, which do not emphasize the role of elections, but distinguish autocracies based on other features such as the characteristics of the ruling coalition, e.g. military, personalist, or civilian. (e.g. Geddes et al. 2014), sources of legitimation (Kailitz, 2013).

We use several V-Dem indicators and indices for our regime typology.<sup>7</sup> To draw the line between democracy and autocracy, we rely on the V-Dem Electoral Democracy Index (EDI, `v2x_polyarchy`), which aims to capture Dahl’s notion of the institutional requisites for polyarchy and the V-Dem indicators for multi-party (`v2elmpar_osp`) and free and fair (`v2elfrefair_osp`) elections.<sup>8</sup> The EDI measures not only the extent to which regimes hold clean, free and fair elections, but also the existence of freedom of expression, alternative sources of information, and association (including no barriers for political parties), as well as universal suffrage and the degree to which government policy is vested in elected political officials. The index runs from 0 (not democratic) to 1 (fully democratic) and is based on separate indices for each of those institutions, which in turn are aggregated from 41 indicators (Coppedge et al. 2016; Coppedge et al. 2017a).<sup>9</sup>

To qualify as a democracy, regimes have to fulfill at least a minimal level of the prerequisites of the electoral democracy as captured by the EDI. Based on Lindberg (2016: 90) we draw the line at a score of above 0.5 on the EDI and introduce two additional necessary conditions: (1) de-facto multiparty elections as indicated by a score above 2 on the V-Dem indicator for multiparty elections (`v2elmpar_osp`;<sup>10</sup> and (2) elections have to be free and fair in sense of allowing at least for substantial competition and freedom of participation as indicated by a score above 2 on the V-Dem indicator for free and fair elections

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<sup>7</sup>This regime typology can be found in the V-Dem Data Set V7 under the variable name “`e_v2x_regime`” (Coppedge et al. 2017a, 2017b).

<sup>8</sup>The V-Dem measurement model converts rater scores to interval-level point estimates (Pemstein et al., 2017). We use a version of the data in which these interval-level estimates were converted to original 0-4 scale, which is indicated by the suffix `_osp`.

<sup>9</sup>The aggregation rule for the EDI incorporates both “compensation” where one strong sub-component can partially compensate for lack of electoral democracy in others, and “punishment” for countries weak in one sub-component according to the “weakest link” argument. Thus, the index is formed in one half by the weighted average of its component indices and in the other half by the multiplication of those indices (Coppedge et al. 2016; 2017a).

<sup>10</sup>V-Dem asked coders to assess: “Was this election multiparty?” Response options were: “0: No. No-party or single-party and there is no meaningful competition (includes situations where a few parties are legal but they are all de-facto controlled by the dominant party). 1: Not really. No-party or single-party (defined as above) but multiple candidates from the same party and/or independents contest legislative seats or the presidency. 2: Constrained. At least one real opposition party is allowed to contest but competition is highly constrained legally or informally. 3: Almost. Elections are multiparty in principle but either one main opposition party is prevented (de-jure or de-facto) from contesting, or conditions such as civil unrest (excluding natural disasters) prevent competition in a portion of the territory. 4: Yes. Elections are multiparty, even though a few marginal parties may not be permitted to contest (e.g. far-right/left extremist parties, anti-democratic religious or ethnic parties).” (Coppedge et al. 2017a: 81).

(v2elfrfair\_osp).<sup>1112</sup> These two additional necessary criteria ensure that the electoral core of democracy is at least minimally achieved in all regimes classified as democracies. Compared to merely taking a cut-off point on the EDI, our choice of adding two additional criteria also helps to mitigate concerns that moving from continuous scales to categorical measures is a somewhat arbitrary decision (see for example Bogaards (2010)). We consciously decided not to take additional criteria from Dahl’s list of prerequisites as necessary criteria in order to allow for weaknesses in one area to be balanced by strengths in another area.

We operationalize liberal democracies by the same criteria as electoral democracies, but they must additionally satisfy the liberal principles of respect for personal liberties, rule of law, and judicial as well as legislative constraints on the executive, as indicated by a score above 0.8 on the V-Dem Liberal Component Index (v2x\_liberal).<sup>13</sup> Electoral autocracies fail to meet one or more of the above-mentioned criteria of electoral democracies, but subject the chief executive to elections at least a minimal level of multiparty competition as indicated by a score above 1 on the V-Dem multiparty elections indicator (v2elmulpar\_osp).<sup>14</sup> Closed autocracies do not satisfy the latter criterion.

Figure 1 illustrates the distribution of regime types in the world in 2016. The good news is that most regimes are in the democratic spectrum (56%): 45 countries qualify as

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<sup>11</sup>V-Dem country expert coders were asked to assess: “Taking all aspects of the pre-election period, election day, and the post-election process into account, would you consider this national election to be free and fair?” Response options are: “0: No, not at all. The elections were fundamentally flawed and the official results had little if anything to do with the ‘will of the people’ (i.e., who became president; or who won the legislative majority). 1: Not really. While the elections allowed for some competition, the irregularities in the end affected the outcome of the election (i.e., who became president; or who won the legislative majority). 2: Ambiguous. There was substantial competition and freedom of participation but there were also significant irregularities. It is hard to determine whether the irregularities affected the outcome or not (as defined above). 3: Yes, somewhat. There were deficiencies and some degree of fraud and irregularities but these did not in the end affect the outcome (as defined above). 4: Yes. There was some amount of human error and logistical restrictions but these were largely unintentional and without significant consequences.” (Coppedge et al. 2017a: 96).

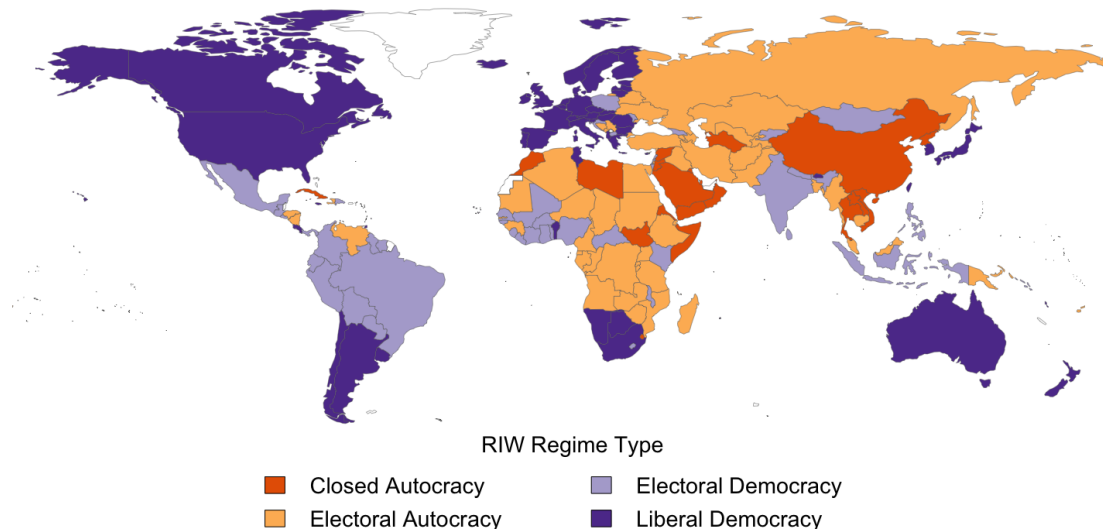
<sup>12</sup>These coding rules follow Lindbergs (2016: 90) scheme of coding a four-categorical version of the EDI (e\_v2x\_polyarchy\_4C).

<sup>13</sup>This index gives the average of following indices on a scale from 0 (not at all satisfied) to 1 (satisfied): equality before the law and individual liberties (v2xcl\_rol), judicial constraints on the executive (v2x\_jucon), and legislative constraints on the executive (v2xlg\_legcon) (Coppedge et al. 2017a: 47).

<sup>14</sup>The V-Dem indicator v2ex\_hosw identifies if the Head of State (HoS) (v2ex\_hosw=1) or Head of Government (HoG) (v2ex\_hosw<1) is the chief executive. If the HoG is the chief executive, the indicator v2expathhg indicates whether the HoG is directly (8) or indirectly (7) elected or appointed by the HoS (6). In the first case, we take the multiparty indicator for executive elections (v2elmulpar\_osp\_ex), in the second case for legislative elections (v2elmulpar\_osp\_leg) and in the third case the score for HoS as follows. If the HoS is the chief executive, the indicator v2expathhs indicates whether the HoS is directly (7) or indirectly (6) elected. In the first case, we take the multiparty indicator for executive elections (v2elmulpar\_osp\_ex), in the second case for legislative elections (v2elmulpar\_osp\_leg)

electoral democracies and 52 as liberal democracies (of 174 countries). 56 countries (32%) are electoral autocracies and 21 (12%) are closed autocracies. For a complete list see Table 3 in the Appendix.

Figure 1: Regimes In the World (RIW) 2016



*Source: V-Dem Data Set (Version 7; Coppedge et al. (2017c), variable e\_v2x\_regime).*

## 2.2 Estimating Uncertainty: Confidence Intervals

A principal objection leveraged against degree/quantitative approaches to measuring regime types, is the specter of misclassification of countries close to thresholds between categories, and resulting misidentification of democratic transitions or breakdowns once they cross the threshold (e.g. Boix et al. (2012)). However, qualitative approaches are not free from similar problems, because they are based on the assessments of – often individual – coders, who have their own thresholds of judging in which bin a particular regime belongs. The trend in recent years where countries more often experience gradual backsliding rather than sudden breakdown, and incremental democratization rather than a complete transition, makes this concern more acute than ever before. The comparative advantage of quantitative approaches is that at least the thresholds are known and the consequences of moving a threshold can be tested (Lindberg 2016: 81).

The uncertainty estimates provided for each indicator and index in the V-Dem dataset, provides a new and unique opportunity. These allow us to provide a non-arbitrary designation of cases with an ambiguous classification by statistical standards. Therefore, we

present here a second version of the RIW typology (RIWci) taking this uncertainty into account.<sup>15</sup> The V-Dem data set provides upper and lower bound estimates, which represent a range of probable values for a given observation.<sup>16</sup> These confidence intervals increase with uncertainty of the underlying data calculated by the Bayesian IRT model. Hence, we use these confidence intervals to identify countries belonging to the upper or lower bound of a regime category. If the point estimates of the indicators we use to classify countries into regime types places country X in say, the electoral democracy category, but the upper or lower bounds of the same indicators overlap the threshold to an adjacent category, we place it in the upper or lower bound of the regime category.

For example, Macedonia’s score on the EDI was 0.53 in 2016, slightly above the threshold for electoral democracy (0.5) and the values on multiparty (3.9) and free and fair (3.0) elections clearly fulfill the criteria of electoral democracy. However, the lower bound of the EDI score (v2x\_polyarchy\_codelow) for Macedonia is 0.48 and thus falls in the range for electoral autocracy. In the RIWci measure, we label the country as “Electoral Democracy Lower Bound” reflecting this uncertainty associated with the classification. Substantively, it makes sense, because there are credible reports that freedom of expression has been restricted in Macedonia in recent years.<sup>17</sup> Similarly, Poland lost its status as liberal democracy in 2016, because the Liberal Component Index (v2x\_liberal) dropped with 0.798 slightly below the threshold of 0.8. However, the upper bound of the Liberal Component Index (v2x\_liberal\_codehigh) remains with 0.858 above the threshold. Therefore, we categorize the country as “Electoral Democracy Upper Bound”.

In addition to offering a more nuanced ordinal measure of regime types, this provides the first real opportunity to calculate and analyze how the world has changed over time with regards to shares of countries in grey zones between regime types. Figure 2 shows that almost all countries were unambiguously in one regime category or the other at the

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<sup>15</sup>This regime typology can be found in the V-Dem Data Set V7 under the variable name “e.v2x\_regime\_ci” (Coppedge et al. 2017c). We are grateful to Valeriya Mechkova for the idea of estimating uncertainty in a regime typology.

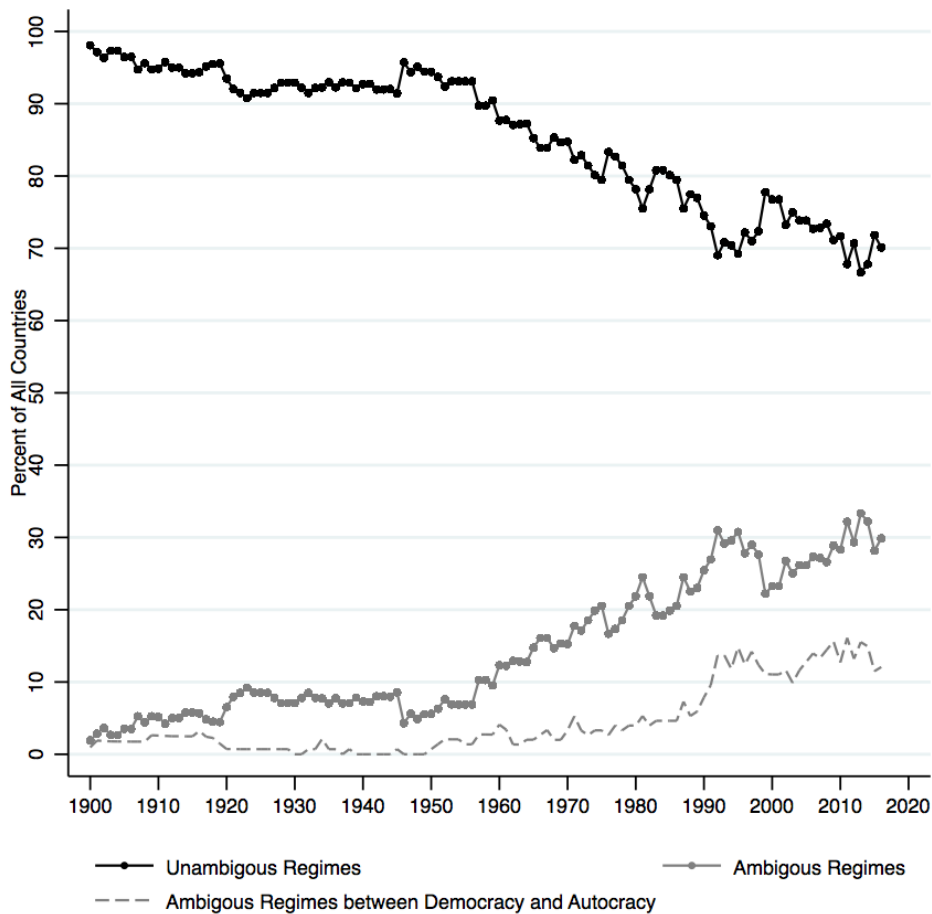
<sup>16</sup>These estimates are based on the interval in which the V-Dem measurement model places 68 percent of the probability mass for each country-year score (Pemstein et al., 2017). For the aggregated indices, such as the EDI, the confidence bands are based on one standard deviation from the mean point estimate. They reflect country-year variance in the underlying mid-level indices (BFAs), which reflects the variance in the estimates of their component indicators. Both estimation procedures, for the aggregated indices and the indicators, largely reflect the level of coder disagreement.

<sup>17</sup>On the recent developments in Macedonia see BBC (<http://www.bbc.com/news/world-europe-36031417>) and the European Digital Rights association (<https://edri.org/huge-protest-against-corruption-surveillance-in-macedonia/>).



beginning of the last century (black line). The level of ambiguity started increasing from around 1960 and has become worse during the third wave of democratization. By 2016, almost 30 percent of all countries are in one of the ambiguous categories while 12 percent fall in the critical grey zone between democracy and autocracy. Two interrelated developments seem to drive this trend in the data: More and more countries move in the grey zone between regime categories because they have de jure democratic institutions, but in reality undermine their effectiveness. Therefore, first, the point estimates for the relevant indicators move closer to the thresholds for the regime categories and, second, the confidence intervals of the underlying V-Dem indicators increase in recent decades, indicating greater uncertainty about the actual conditions from year to year.

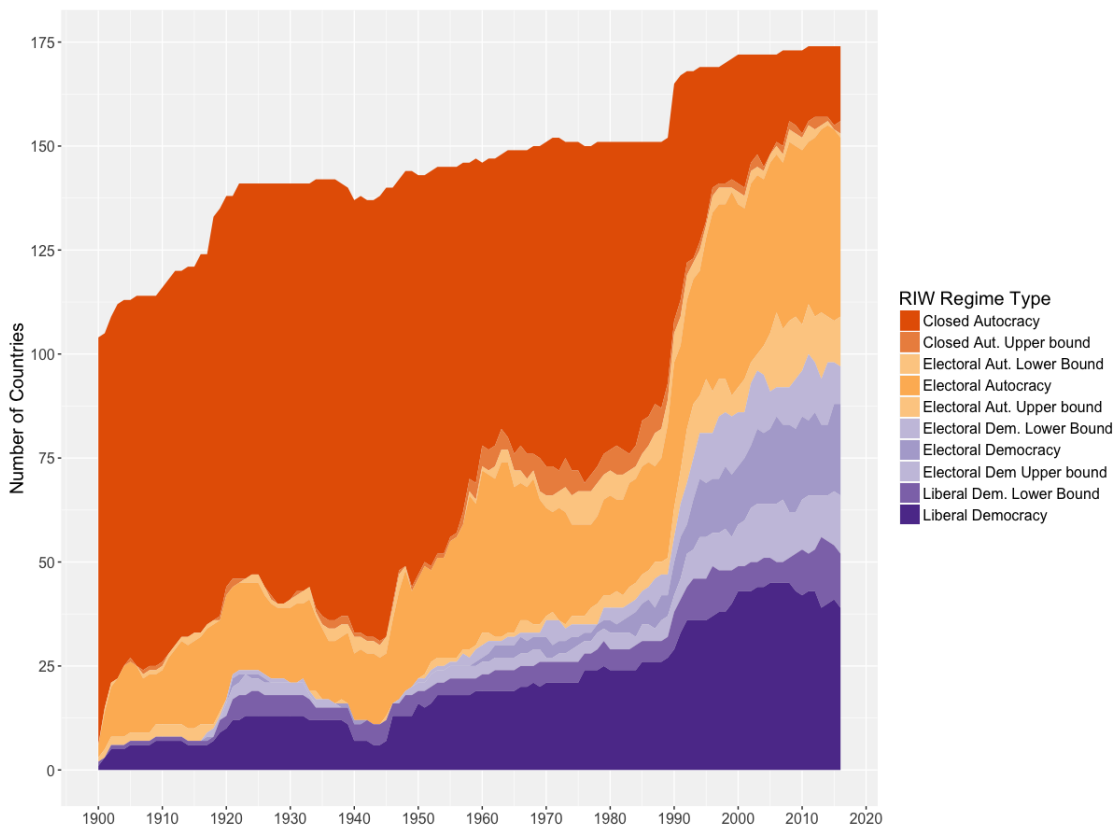
Figure 2: The Development of Ambiguity in RIW Regime Categorization from 1900 to Today



*Note: Unambiguous regimes clearly meet the criteria of a specific regime category. Ambiguous regimes are placed in one of the intermediary categories due to scoring close to the threshold or coder disagreement. Source: V-Dem Data Set V7 (variable e\_v2x\_regime\_ci).*

Figure 3 shows the development over time of the RIWci regime types (tinted colors indicate ambiguous cases). The most striking development is the sharp decline of closed autocracies particularly since the 1980's, in favor for electoral autocracies and electoral democracies. Equally striking is that the number of regimes with ambiguous status increased in recent decades (tinted colors). The three waves of democratization (Huntington, 1992) protrude clearly with a first wave lasting until 1922, a second wave starting at the end of World War II, and the third sparked off by the Carnation Revolution in Portugal in 1974, peaking in the years following the fall of the Berlin Wall.

Figure 3: Regimes in the World (RIW) 1900-2016



Note: Source: V-Dem Data Set (Version 7; Coppedge et al. (2017c), variable *e\_v2x\_regime\_ci*)

### 3 Exploring the Threshold: Comparing RIW to Dichotomous Measures of Democracy

The distinction between democracy and autocracy is arguably the most important aspect of a regime typology. The RIW measure lends itself also to needs for a dichotomous measure by collapsing the two categories of democracy, and then two autocratic types, respectively. In this section, we compare our distinction between democracy and autocracy to the most relevant extant measures, namely those provided by Boix, Miller and Rosato (BMR; 2012); Cheibub, Gandhi and Vreeland (CGV; 2010); Geddes, Wright and Franz (GWF; 2014); and Freedom House (FH 2017), Polity (Marshall et al. 2016) and Wahman, Teorell and Hadenius (WTH; 2013). The most striking difference is that the coverage of our data set is much vaster than that of any other extant measure with the notable exception of BMR and Polity. We go back to 1900 and plan yearly updates whereas other datasets typically start their coding after World War II and have no observations in the current decade.

Table 2 compares the RIW measure to the other key measures used in the literature. The third column shows that the rate of agreement is relatively high, varying between 88.5 percent (CGV) and 93.1 percent (WTH). Excluding cases that our typology qualifies as ambiguous, the level of agreement varies between 91.7 percent (CGV) and 93.5 percent (GWF). When there is disagreement between RIW and other measures, our classification tends to be more conservative and set a higher bar for what counts as a democracy, i.e. classifying countries as autocracies that others place in the democratic regime spectrum.

Figure 4, 5, 6 and 7 show how our measures compare over time (restricted to overlapping country years only to make them comparable). The bulk of our disagreements are pre 1970s and concern early periods of post-colonial states, which may have introduced elections, yet fall far short of de-facto establishing the institutional features necessary for a meaningful democratic process. Subsequently, we discuss our disagreement with each measure in more detail.

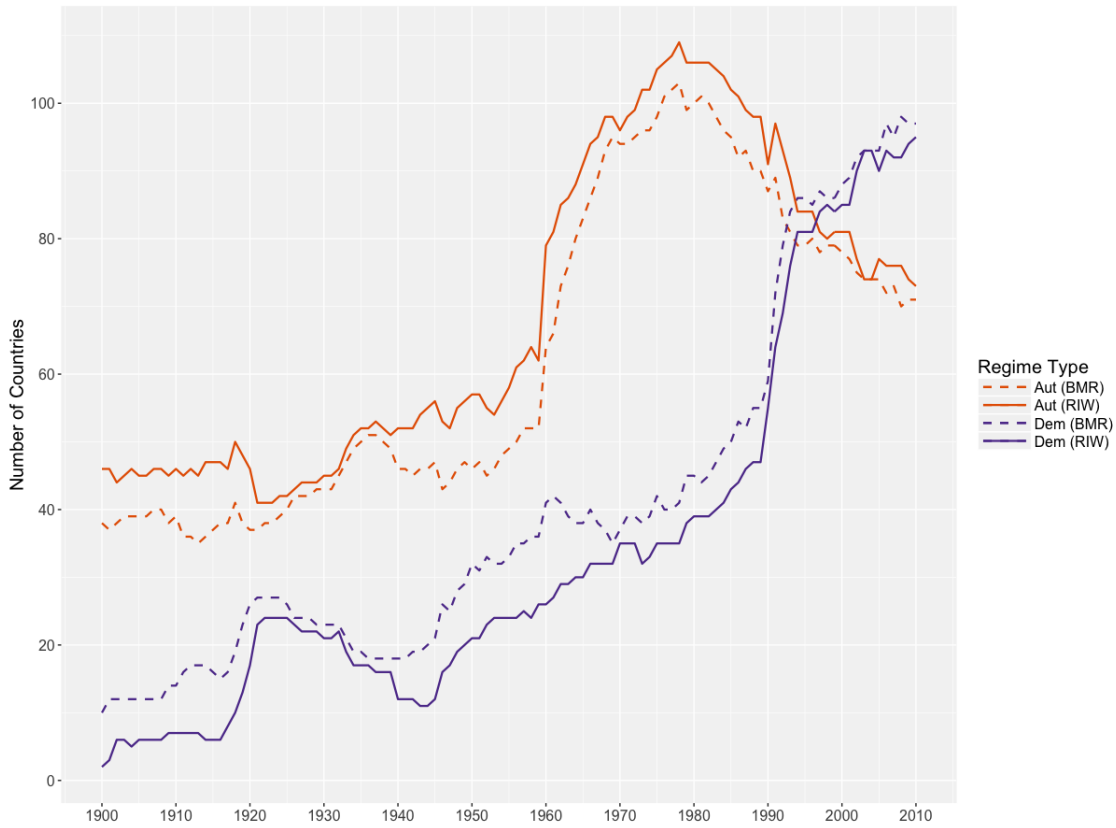
The RIW measure has second largest number of overlapping country-year observations with BMR (11, 262 cases) and agree on the classification in 90.8 percent of these observations. The level of agreement increases to 93.5 percent if we exclude observations that fall into the RIWci ambiguous categories. The disagreement between the two measures is mainly due to BMR classifying countries as democracies that are coded as autocracies in RIW (84 percent of all disagreements), i.e. in general BMR have a lower threshold for democracy. Due

Table 2: Comparison with six dichotomous measures to RIW

	Country Years	Coverage	Country-Year Overlap with RIW	Agree with RIW	RIW Autocracy Other Democracy	RIW Democracy Other Autocracy
RIW	17140	1900- 2016				
BMR	16988	1800- 2010	11,262	90.8% (93.5%)	7.7% (5.8%)	1.5% (0.7%)
Polity	16826	1800- 2015	11,394	92.1% (94.3%)	5.4% (4.1%)	2.5% (1.6%)
CGV	9117	1946- 2008	8,187	88.5% (91.7%)	8.5% (6.4%)	2.9% (1.9%)
GWF	7956	1946- 2010	7,688	90.2% (92.8%)	7.4% (5.7%)	2.4% (1.4%)
WTH	6279	1970- 2010	6,277	93.1% (96.8%)	2.8% (1.3%)	4.0% (1.9%)
FH	6277	1973- 2014	6,275	88.8% (93.3%)	1.7% (0.9%)	9.6% (4.6%)

*Note: Numbers in brackets are calculated excluding ambiguous cases (see part 2).*

Figure 4: Comparing Regimes 1900 to 2007 - RIW and BMR



*Note: The graph only compares observations that are covered in both data sets hence is limited to 1900-2007*

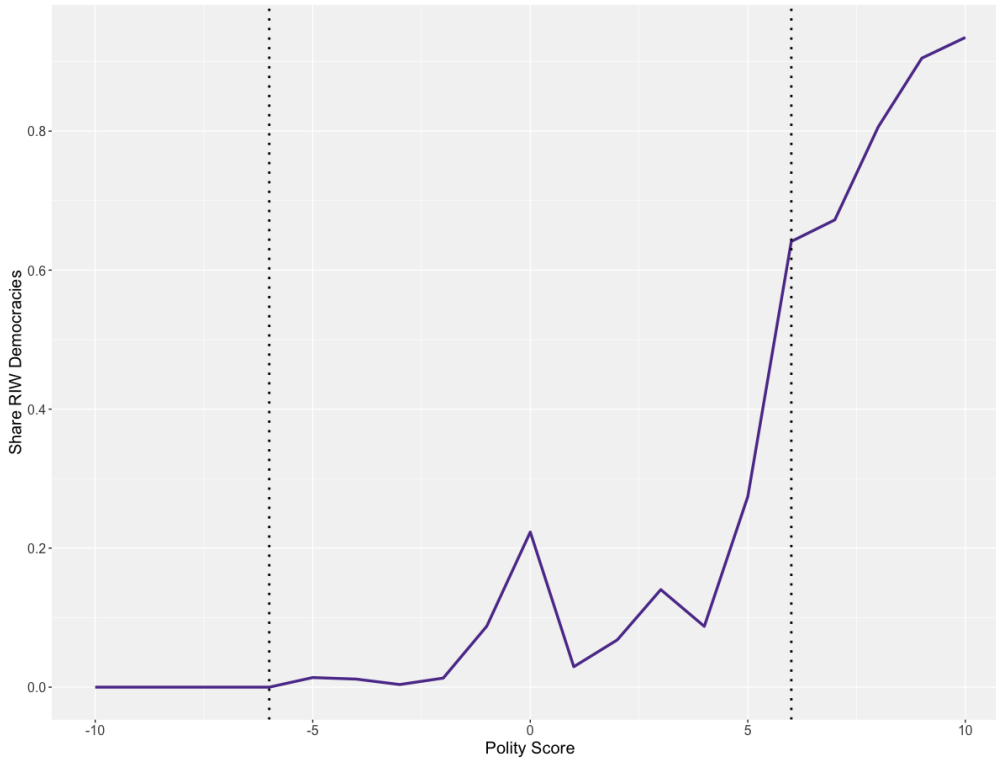
to their neglect for female suffrage, BMR code Chile between 1909 and 1949 as democratic even though only 25 to 35 percent of the adult population enjoyed the right to vote. Furthermore, while BMR (and CGV) code Guatemala as democratic after the general election in 1958 up until the civil war onset in 1981, RIW captures the absence of de-facto minimum level of institutional requirements of democracy during this period and classify it as an electoral autocracy. We think the RIW classification has greater face validity. Illiterate women were banned from voting up until 1966 (OAS 2008), and according to V-Dem data, parties faced severe obstacles to both form and participate in elections. Electoral intimidation was common throughout the period, and civil society organizations were not free to form and operate. Another set of examples that can be mentioned is that the BMR codes Czechoslovakia (1939-1945), Norway, Belgium, the Netherlands (1940-1945), and Denmark (1943-44), as democratic during the years of German occupation whereas RIW does not (see Figure 4). Out of the few BMR autocracies that are coded as RIW democracies half concern our am-

biguous categories (RIWci). For the other half, however we are confident in categorization, and countries like; Ecuador (2000-2002); Fiji (1993-2005); and Senegal (1993-99) had indeed a set of minimum democratic requirements in place.

Polity IV is the data source with the greatest number of country-years overlapping with RIW (11, 394). Following Marshall et al. (2014) suggestion to treat countries above and equal to 6 on the their combined Polity2 scale as democracies, we get a dichotomous measure of democracy that agree with RIW in 92.1 percent of all country-years that overlap (94.3 percent excluding ambiguous cases). Most disagreements are again due to RIW autocracies coded by Polity as democracies. For example, Polity codes Burundi (2005-2013), Malawi (1994-2013) and Malaysia (2008-2012) as a democracies while V-Dem coders observe severe obstacles to democracy resulting in the country years being coded as RIW autocracies. There also disagreement of the other sort, for example, while Polity code Suriname just short of being a democracy (score 5) since 1991, V-Dem's indicators rate the country as a liberal democracy for the same time period. Figure 5 shows the share of countries coded as RIW democracies for each value on the combined Polity scale. In general, higher values on the Polity scale corresponds to a higher share of RIW democracies. The spike at the polity score of 0 is the result of few observations at particular score and is driven by Burkina Faso (2001-2013) and Uruguay (1939-1951), which are RIW democracies. According to V-Dem coders Burkina Faso had relatively strong democratic institutions, both de-jure and de-facto during these years. While Uruguay did not guarantee full political freedoms in the first three years following the dictatorship of Gabriel Terra (1933-1938), Uruguay can indeed be considered a full-fledged liberal democracy after the introduction of the new constitution in 1942.

All observations in the WTH data set are covered in RIW with the exception of Mozambique 1975-77. Out of all measure compared in this paper, WTH's has the highest level of concordance with the RIW agreeing on 93.1 percent of all observations (Figure 6; 96.8 percent excluding ambiguous cases). WTH is based on the Freedom House (FH) and Polity ratings (see discussion in Part 1). When defining only countries that FH codes "free" as democracies FH and RIW agree on the coding of 88.8 percent of all observations, and 93.3 percent when excluding the RIWci ambiguous cases. The bulk of disagreements stems from countries that we classify as democracies but that are "Partly free" according to Freedom House. However, lowering the dichotomous threshold to include all "Partly free" countries as democracies reduce the concordance between the measures to 75.5 percent, indicating that a majority of countries that FH code as partly free are coded as autocracies in RIW. Hence, overall the agreement between RIW and the WTH datasets is greater than when comparing

Figure 5: Share of RIW Democracies for each Polity value



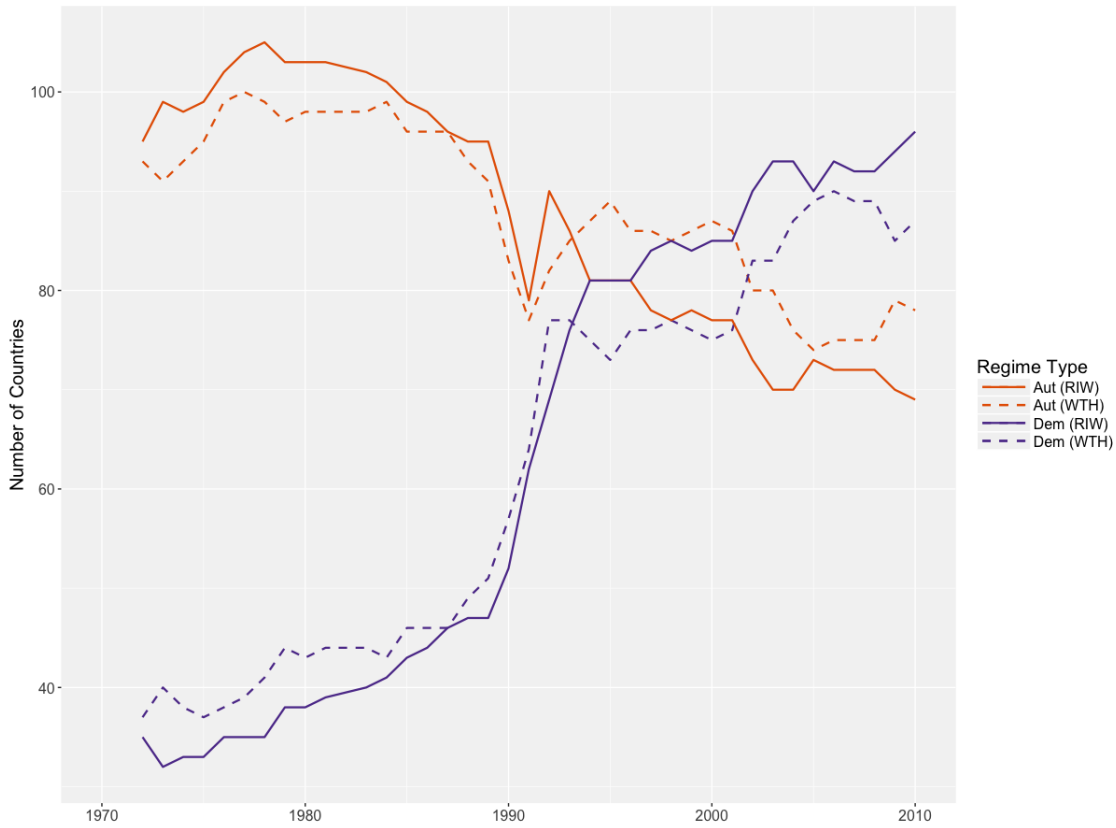
*Note: The dotted vertical lines mark Polity’s suggested thresholds of autocracy ( $\leq -6$ ) and democracy ( $\geq 6$ ), with anocracy in between. Cases of foreign interruption, interregnum or anarchy and transitions (polity codes: -66, -77, and -88), are excluded from this comparison*

RIW to FH and Polity separately.

CGV provides regime classifications for 9,117 country-years and there are 8,187 observations that overlap with RIW. The classification of observations into democracies and autocracies agree in 88.5 percent of all overlapping country years.<sup>18</sup> Out of the 933 cases that we disagree on, most (696) are cases where CGV code a country as democratic and RIW as autocratic. These disagreements are due to that CGV has a lower threshold for democracy than RIW. For instance, for the most recent years CGV classify Bhutan (2007-08); Kyrgyzstan (2005-2008); and Armenia (1995-2008) as democracies whereas the V-Dem expert-based de-facto measures indicate severe shortcomings even in terms of the most basic requirements

<sup>18</sup>CGV cover 973 observations that are not in the RIW measure. These are mainly micro states not included in the V-Dem Data Set: Luxemburg; Andorra; Antigua & Barbuda; Bahamas; Bahrain; Belize; Brunei; Grenada; Kiribati; Lichtenstein; Malta; Marshall Island; Micronesia; Nauru; Palau; Samoa; San Marino; St. Kitts & Nevis; St Lucia; St. Vincent & the Grenadines; Tonga; Tuvalu; United Arab Emirates. Additionally, CGW covers Oman 1970-1999; Cameroon 1961-1963; and Mozambique 1975-1977, which are not included in V-Dem.

Figure 6: Comparing Regimes 1946-2008 - RIW and WTH



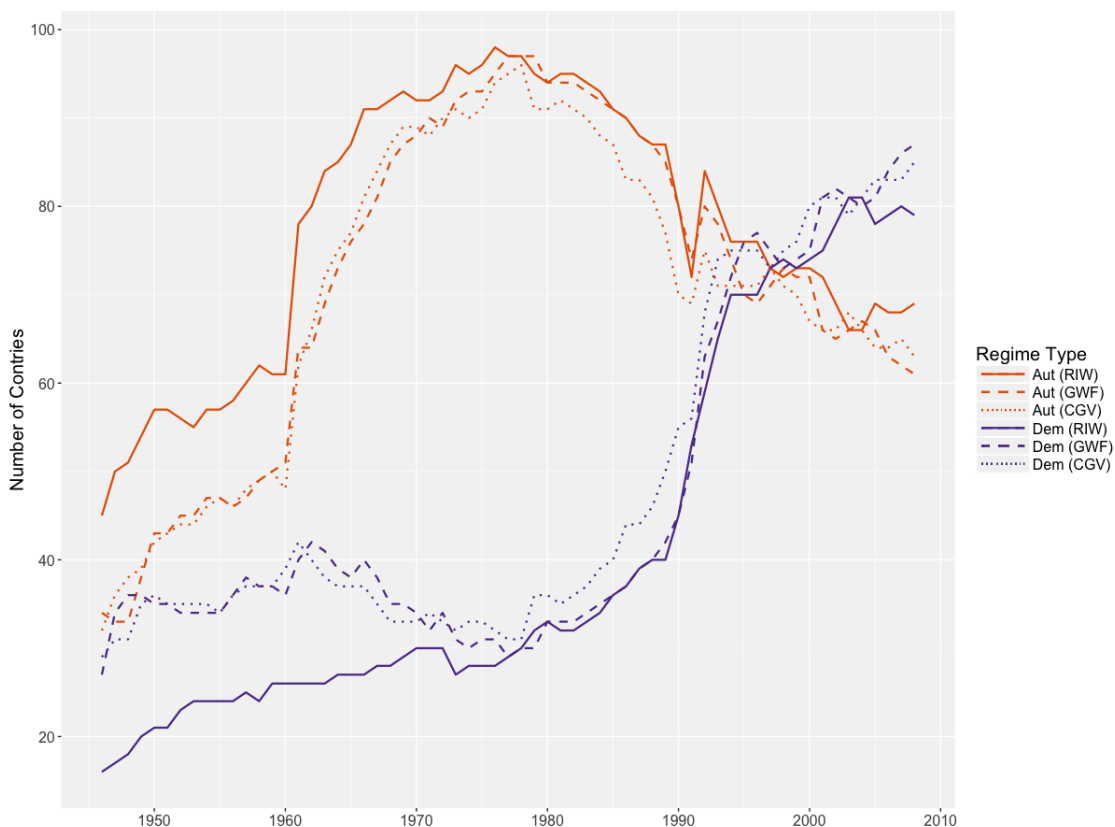
*Note: The figure only compares observations that are covered in both data sets hence is limited to 1970-2010.*

of democracy. There are also some cases where RIW classifies countries as democracies that CGV code as autocratic. This is due to their application of the controversial alternation rule as a criterion for democracy. For example, Botswana, South Africa, and Namibia where the ruling parties won several subsequent elections after the introduction of multiparty elections are autocracies according to CGV. While these countries have yet to experience an alternation of power and incumbent advantage is strong, according to V-Dem’s indicators of de-facto respect for the institutional requirements of democracy, there are for example no major restrictions on opposition parties and elections are reasonably free and fair. Botswana rates between 0.70 and 0.73 on the EDI during 2000 to 2010 while the corresponding figures are 0.75 to 0.81 for South Africa and 0.63 to 0.67 for Namibia. We think these examples show that the RIW has greater face validity than the CGV.



The RIW measure covers all but 168 of GWF's 7,956 observations<sup>19</sup>, and out of the overlapping country years the agreement of the two measures are at 90.2 percent (92.8 percent excluding ambiguous cases). Our measures deviate in particular before 1970s and again in the early 2000s. This divergence is largely driven by that RIW is more conservative with labeling a country as democratic than is GWF (Figure 7). For example, GWF code the following countries as democracies: Sierra Leone (1999- 2002); The Central African Republic (1993-2003); Burundi (2005-2010) and Nepal (1991-2002) where V-Dem coders observe severe violations or complete absence of institutional prerequisites for democracy. In contrast, a number of countries in which V-Dem coders observe relatively strong democratic institutions, both de-jure and de-facto, are coded as autocracies by GWF such as: Botswana (1967-2010); Burkina Faso (1993-2010); Ghana (1996-2000); Namibia (1991-2010); and Senegal (1983-2000).

Figure 7: Comparing Regimes 1946 to 2008 - RIW, CGV and GWF



*Note: The graph only compares observations that are available in all three data sets hence is limited to 1946-2008.*

<sup>19</sup>These are the two small states Luxemburg and UAE, Oman 46-99, Cameroon 61-63, and Mozambique 76-77, which are not included in the V-Dem Data

### 3.1 Taking a Stand: How RIW Differs from Other Measures

Overall our RIW measure tracks extant major binary measures of democracy closely, but there are substantial differences mainly concerning cases where de-facto practices deviate from de-jure standards. Other datasets tend to code such cases more frequently as democracies than we do. For example, all other measures code Kenya as democratic<sup>20</sup> in the years following the crisis that erupted after president Kibaki was accused of stealing the December 2007 election (Rutten and Owuor, 2009), in which politically motivated (Kagwanja and Southall, 2009), and allegedly state sponsored violence (HRW, 2008), left more than 1300 people dead and 600 000 people displaced. The RIW measure picks up this dramatic change and codes Kenya as autocratic up until the more free and fair general elections of 2013. Furthermore, while CGV, GWF and BMR code Sri Lanka as democratic between 2005 and 2009, RWI captures the limitations to democracy that existed before and during the 2008/09 Civil War. Similarly, CGV, GWF, BMR and Polity code Burundi as democratic following the presidential election of 2005, while RIW codes Burundi as autocratic reflecting that there was no de-facto multiparty competition as president Nkurunziza ran unopposed. Again CGV, GWF, BMR and Polity are lenient on the democracy threshold and code Central African Republic as democratic from 1993 to 2002 when minimal institutional requirements for democracy seems to have been far from established as the V-Dem data indicates. RIW categorizes Nigeria prior to 2011 as electoral autocracy reflecting the widespread electoral manipulation that marred all Nigerian elections until 2011 (Lewis, 2011), while CGV and GWF classify Nigeria as a democracy from 2000.

Another set of divergent observations - but much fewer - are classified as democracies in RIW, but most or all other measures code them as autocratic. This applies for example to Namibia (1994-2010) where free and fair multiparty elections in combination with freedom of expression and association qualifies Namibia as a democracy based on the assessment of the V-Dem coders, but the other data sets differ. Similar disagreement can be observed for Zambia (1994-2007), Burkina Faso (1993-2010) and Mexico (1995-99).

## Conclusion

To address many research questions scholars need to sort political regimes into categories. Extant approaches to this task are laudable, but limited in their temporal or geographical coverage and often not transparent in their coding procedure, which might bias results. In

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<sup>20</sup>Except for FH that classify Kenya as “Partly free” since 2002

this paper we propose a new regime typology Regimes in the World (RIW) covering almost all countries from 1900 to 2016. We classify countries only as democratic if minimal institutional requisites are fulfilled in terms of freedom of expression and association, universal suffrage, alternative sources of information and the degree to which power is vested in elected officials. Furthermore, we distinguish between democratic (liberal and electoral democracy) and autocratic subtypes (closed and electoral autocracy).

Our threshold for democracy is more demanding than in most extant data sets, because we base our typology not only the existence and quality of elections, but on Dahl's notion of Polyarchy. Some extant data sets are limited to de-jure rules and other indicators that are directly observable. For instance, the widely used CGV data applies the controversial alternation rule, which qualifies countries as non-democratic simply because they have not experienced a turnover in power. Other data sets only focus on the implementation of elections in a narrow sense, such as their de-jure competitiveness. Assessing the quality of elections has become more and more difficult over time and involves a great deal of judgment on the side of the coders, which increases demand for transparent and replicable coding procedures. RIW is based on V-Dem's high standards in the aggregation of expert-coded data and recruitment of expert coders, which make the data more reliable and allows us to assess the de-facto implementation of institutions and not only their de-jure existence.

Nevertheless, we acknowledge that even based on V-Dem data - classifying political regimes remains a challenging task and that some cases simply do not fit neatly in any one category. This is one reason why we include an estimate of uncertainty reflecting inter-coder disagreement and how close countries are to the thresholds of the regime categories. In future work we plan to operationalize additional non-democratic regime types based on V-Dem data for instance hegemonic electoral autocracies and countries without a stable political regime.

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# A Appendix A

Table 3: Regimes In the World 2016 - Country List

Liberal Democracy	CI	Electoral Democracy	CI	Electoral Autocracy	CI	Closed Autocracy	CI
Albania		Colombia	+	Comoros	+	Kuwait	+
Australia		Ghana	+	Fiji	+	Turkmenistan	+
Austria		Guyana	+	Guinea	+	Vietnam	+
Belgium		Croatia	+	Honduras	+		
Benin		Israel	+	Haiti	+	China	
Bulgaria		Sri Lanka	+	Iraq	+	Cuba	
Barbados		Moldova	+	Madagascar	+	Eritrea	
Canada		Nepal	+	Mozambique	+	Jordan	
Switzerland		Panama	+	Niger	+	Laos	
Chile		Peru	+	Papua New Guinea	+	Libya	
Cape Verde		Poland	+	Somaliland	+	Morocco	
Costa Rica		Senegal	+	Serbia	+	Oman	
Cyprus		Suriname	+			North Korea	
Czech Republic		Seychelles	+	Afghanistan		Palestine/Gaza	
Germany				Angola		Qatar	
Denmark		Burkina Faso		Armenia		Saudi Arabia	
Spain		Bolivia		Azerbaijan		Somalia	
Estonia		Brazil		Burundi		South Sudan	
Finland		Ivory Coast		Bangladesh		Swaziland	
France		Dominican Republic		Bosnia and Herzegovina		Syria	
United Kingdom		Ecuador		Belarus		Thailand	
Greece		Georgia		Cameroon		Yemen	
Ireland		Guatemala		Congo, DRC			
Iceland		Indonesia		Congo, Republic of			
Italy		India		Djibouti			
Japan		Liberia		Algeria			
South Korea		Lesotho		Egypt			
Lithuania		Mexico		Ethiopia			
Latvia		Mali		Gabon			
Netherlands		Mongolia		Gambia			
Norway		Nigeria		Equatorial Guinea			
New Zealand		Philippines		Iran			
Portugal		Paraguay		Kazakhstan			
Slovakia		Solomon Islands		Cambodia			
Slovenia		El Salvador		Maldives			
Sweden		Togo		Burma/Myanmar			
Tunisia		Timor-Leste		Montenegro			
Uruguay				Mauritania			
United States		Central African Republic	-	Malaysia			
		Guinea-Bissau	-	Nicaragua			
Argentina	-	Kenya	-	Pakistan			
Bhutan	-	Kosovo	-	Palestine/West Bank			
Botswana	-	Kyrgyzstan	-	Russia			
Hungary	-	Lebanon	-	Rwanda			
Jamaica	-	Macedonia	-	Sudan			
Mauritius	-	Malawi	-	Singapore			
Namibia	-	Sierra Leone	-	Chad			
Romania	-			Tajikistan			
São Tomé & Príncipe	-			Turkey			
Trinidad & Tobago	-			Tanzania			
Taiwan	-			Uganda			
Vanuatu	-			Ukraine			
South Africa	-			Venezuela			
				Zambia			
				Zimbabwe			
				Zanzibar			
				Uzbekistan	-		

*Note: Regime category by country for 2016 taking into account confidence intervals estimations. A + denotes that the country is in the upper bound of its category while a - indicates that the country is in the lower bound. For more detail please see page 11. Source: V-Dem Data Set (Version 7; Coppedge et al. (2017c), variable e.v2r.regime.ci).*