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Democracy, State Capacity and Civil Wars: A New Perspective

DOI 10.1515/peps-2016-0029

Previously published online October 20, 2016

Abstract: This paper explores the intertwined relationship between democracy and state capacity, i.e. the effectiveness of state sovereignty over its territory and population, in affecting the probability of civil wars' onset. This work aims at providing a fresh new look on this relationship by exploiting the recent release of a new dataset of institutional indicators (provided within the V-Dem project), that allows to analyse the effect of democracy and state capacity on conflicts' onset. The analysis is performed through a logit model, investigating 142 countries over the period 1950–2014. The paper shows that once state capacity is fully taken into account, the inverted-U shaped relationship between democracy and civil wars is no longer robust to alternative measures of democracy, and that state capacity is the crucial factor in providing a decrease in the probability of the onset of a civil conflict. Furthermore, by implementing an interactive model, the paper shows that state capacity counterbalances the effect of democracy when incompatibility is over government, by generating an overall decreasing effect on the probability of civil war.

Keywords: democracy, civil war, state capacity, quantitative analysis

1 Introduction

This paper investigates whether democracy is related to the onset of intra-state conflicts, by adopting a new perspective, which focuses on the role of state capacity, defined as the institutional capacity of the government “to enforce its sovereignty across all its land” (Gibler and Miller 2014, 2). Therefore, the paper aims at testing whether the effect of democracy on civil wars depends on the institutional capabilities of the country. The main contribution of the paper is empirical, based on the analysis of brand-new data for measuring both democracy and

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state capacity.¹ The analysis of the intertwined relationship between democracy, state capacity and conflict onset is complex and multi-faceted, therefore the analysis provided in this paper is nor exhaustive nor comprehensive, rather it provides some preliminary results, as an attempt to shed a new light on the subject, exploiting the features of a new set of high quality indicators.

The analysis is conducted through a logit model, entailing 142 countries observed from 1950 to 2014. The remaining part of this section briefly introduces the topic; Section 2 describes data; Section 3 illustrates the methodology; Section 4 presents and discuss the results.

The effect of democracy on civil conflicts' onset is theoretically ambivalent. On the one hand, democratisation induces a "technical regression in repression" (Collier and Rohner 2008) which may in turn arise the chances of political discontent to turn into political violence; on the other hand, the risk of civil war is a function of both *Motivation* and *Opportunity*, where the former is negatively and the latter is positively affected by democracy (Gleditsch, Hegre, and Strand 2009).

To the best of my knowledge, the most important empirical finding on this topic is the inverted-U shaped relationship linking democracy and the probability of conflict onset (e.g. Hegre et al. 2001; Knutsen and Nygård 2015; Vreeland 2008), a feature that mostly support the aforementioned ambivalence. However, the main proxy for democracy adopted so far (the Polity IV index) has been subject to a number of critiques, concerning in particular the sub-components *parreg* and *parcomp* (Vreeland 2008). This widely acknowledged empirical drawback opens the floor both for the adoption of new indicators of democracy and for a different perspective in analysing the potential causes of the functional shape of the relationship (see for instance Knutsen and Nygård 2015).

Following the rationale of the theoretical frameworks proposed by Gleditsch, Hegre, and Strand (2009) and Gleditsch and Ruggeri (2010), the risk of civil war strictly depends on the political opportunity structure of the country (Opportunity) and on the extent of "grievances" and "greed" spread over the population (Motivation). State-capacity is the key factor in affecting both Opportunity and Motivation: the former through the political-military control by the government of the country; the latter by increasing the administrative structure (bureaucracy, tax collection, etc.). Civil wars can arise for a variety of reasons, but the main incompatibilities leading competing groups to clash within a country are either

¹ Both measures are retrieved from the V-Dem Insitute website. The V-Dem Institute is an independent research centre jointly hosted by the University of Gothenburg (Sweden) and the Kellogg Institute at the University of Notre Dame (USA). The V-Dem Project provides a dataset that includes hundreds of indicators for more than 160 countries over the period 1900–2014. The dataset has been publicly released on January, 2016. For more details please see <https://v-dem.net/>.

over the control of a territory or over the control of the government (Gleditsch et al. 2002; Pettersson and Wallensteen 2015). On the one hand, when a territory is locally dominated by a minority group which is highly motivated to achieve self-regulation (for instance, ethnic minorities, usually clustered in specific regions of a country), state capacity operates in preventing conflict (and eventually a potential break-up of the country) mainly through its military, repressive dimension. On the other hand, when incompatibility arises over government, state capacity operates through all its dimensions, in affecting the political structure of the country. In this case, a stronger (i.e. more capable) state is expected to lower the probability of civil war onset. In fact, an organized capillary administration implies a control over the territory and can exert as well an inclusive role on civil society, indirectly lowering the risk of civil war onset (Sobek 2010). Moreover, when states are able to effectively provide public goods, grievances are reduced as well as, consequently, both opportunity and motivation for armed conflict due to incompatibilities over government (Thyne 2006). In sum, as summarized by Gibler and Miller (2014), “weak” states (i.e. less “capable”) are expected both to favour rebellions and to be unable to set them off: thus, conversely, state capacity is expected to lower the probability of civil war onset, *ceteris paribus*. Based upon these premises, the paper explores the intertwined relationship between democracy and state capacity in affecting the probability of civil war onset, especially focusing on conflicts whose incompatibility is over government.

2 Data description

The main variable for democracy is retrieved from the newly released V-Dem dataset (Coppedge et al. 2016). The selected index of democracy (Electoral Democracy Index, *v2x_polyarchy*) ranges from 0 to 1. The threshold for the minimum requirements of electoral democracy is 0.5. As a robustness check, the commonly adopted index Polity IV is also used.

The proxy for state capacity is “Sovereignty over population” (*v2svstpop*) taken from the V-Dem dataset. This variable aims “to judge the extent of recognition of the preeminent authority of the state over the population.” (Coppedge et al. 2016). This is a proxy for “state reach” on population on a yearly basis and captures state capacity overall, jointly considering all its different dimensions. As an example, USA and the Netherlands in 2014 report 100, indicating that the state is fully “capable” throughout the country. Conversely, as a further example, the Dominican Republic civil war, that took place in 1965 was anticipated by a drop in state capacity, evidenced by a sharp decrease in *v2svstpop*: in fact, from 1939 to 1960, this index records a stable 96; in 1961, *v2svstpop* slightly decreases to

94, then quickly dropping to 79.2 in 1964, before the outbreak of the conflict. The conflict year clearly records the lowest value (36), due to the detrimental effects of the war, but `v2svstpop` starts to sharply increase again in 1966 (73.6), reaching a stable 99.6 from 1967 to 2013, when the index reaches the maximum value (100). In general `v2svstpop` presents within-country variation over time and is therefore suitable for a panel analysis.

The dependent variable is the onset of civil war. Data are retrieved from the monadic version of the UCDP dataset (Gleditsch et al. 2002; Pettersson and Wallensteen 2015), which includes observations from 1946 to 2014² for episodes of intra-state and internationalized intra-state armed conflicts causing at least 25 casualties. This dataset provides data on conflicts for different types of incompatibility. The analysis will focus on the main onset variable (`acdonset`), as a baseline test, and on conflicts whose incompatibility is over government (`govonset`), which are the main focus of this work.

Following the relevant empirical literature, a set of control variables is also included:

1. the level of development, proxied by the log of Real GDP per capita (Feenstra, Inklaar, and Timmer 2015);
2. the log of the size of Population (retrived from World Bank Indicators and Penn World Data);
3. a dummy variable for newly formed states (New States);
4. a dummy variable for Non-Contiguous States (see p. 81, footnote 20, Fearon and Laitin 2003);
5. the extent of Ethnolinguistic Fractionalization (Fearon and Laitin 2003);
6. a dummy variable for oil exporting countries (Oil Exporter, Fearon and Laitin 2003)
7. the log of Mountainous Terrain as defined by Gibler and Miller (2014).

In addition, the analysis directly controls for temporal dependency in the dependent variable, by including cubic spline functions as suggested by Beck, Katz, and Tucker (1998). Table 1 presents summary statistics of the selected variables.

3 Methodology

Data on conflicts are in binary form (`onset` = 1), therefore the analysis is performed through a logit model. In order to account for the multilevel nature of the data (i.e.

² Due to data availability of the other covariates, the analysis is constrained to the 1950–2014 period.

Table 1: Summary statistics.

Variable	Mean	Std. Dev.	Min	Max	N
acdonset	0.046	0.21	0	1	6194
govonset	0.022	0.147	0	1	6194
State capacity	91.721	9.145	36	100	6147
Democracy (V-Dem)	0.479	0.293	0.015	0.958	6138
Democracy (Polity IV)	1.807	7.51	-10	10	5963
Real GDP per capita (log)	8.669	1.146	5.085	11.456	6194
Population (log)	16.024	1.437	12.534	21.038	6194
New State	0.012	0.108	0	1	6194
Non-Contiguous State	0.167	0.373	0	1	6194
Ethnolinguistic Frac.	0.454	0.267	0.004	0.953	6194
Oil exporter	0.110	0.313	0	1	6194
Mountainous Terrain (log)	2.102	1.453	0	4.557	6194

cross-sectional time-series), all model specifications include cubic spline functions to model time dependence, as suggested by Beck, Katz, and Tucker (1998), and cluster standard errors at the unit of analysis (countries). Potential reverse causality between state capacity and civil war, a major potential concern in this work, is addressed in two ways. Firstly, all independent variables are lagged, to ensure the correct consequential dynamics.³ Secondly, the dependent variable is adjusted by dropping ongoing conflicts, following the standard procedure in the literature (Cederman, Hug, and Krebs 2010, 384): therefore, state capacity cannot be affected by these observations simply due to case-deletion during the estimation process.

Given these premises, this work tests two sets of hypotheses. The first set assesses the robustness of the model and aims at testing whether the non-linear (inverted-U shaped) relationship between democracy and civil wars is robust to the adoption of the new V-Dem indicator, or it was driven by the Polity score. In addition, the first model tests whether state capacity on average decreases the probability of civil war onset (either for all types of incompatibility or, more specifically, when incompatibility is over government). These hypotheses are tested through the following logit model:

$$Y_{i,t} = \begin{cases} 1 & \text{if conflict onset occurs in country } i, \text{ time } t \\ 0 & \text{if conflict onset does not occur} \end{cases}$$

³ A large number of Granger causality tests performed prior to the analysis presented in this paper confirm that the direction of Granger-causality is always as expected, i.e. from state-capacity to conflict, and not *viceversa*. The results of these tests are not shown for reason of space, but are available upon request.

$$\log\left(\frac{\pi_{i,t}}{1-\pi_{i,t}}\right) = \beta_0 + \beta_1 SC_{i,t-1} + \beta_2 DEM_{i,t-1} + \beta_3 DEM_{i,t-1}^2 + \beta_j X_{j,i,t-1} \cdots + \beta_k X_{k,i,t-1} \quad (1)$$

where $\pi_{i,t}$ is the probability that $Y_{i,t}$ equals 1; Y is the dependent variable; $\beta_0, \beta_1, \beta_2, \beta_3, \dots, \beta_k$ are the parameters to be estimated; SC is the proxy for state capacity; DEM is the index of democracy and $X_j \dots X_k$ are a set of control variables defined in Section 2. The inclusion of the squared term for democracy is justified by the widely supported by previous empirical evidence.

The second set of hypotheses directly targets the interrelationship between democracy and state capacity through the inclusion of an interaction term between democracy and state capacity. In particular, since state capacity is supposed to reduce the probability of conflict onset (by affecting the political opportunity structure of the country) and the effect of democracy is at least ambivalent, it should be true that any potential detrimental effect of democracy on the onset of civil war should be “smoothed” by state capacity. In this framework, the squared term of democracy is dropped: in fact the potential non linearity is now explicitly attributed to the interaction with state capacity. Therefore, the following model is implemented:

$$\log\left(\frac{\pi_{i,t}}{1-\pi_{i,t}}\right) = \beta_0 + \beta_1 SC_{i,t-1} + \beta_2 DEM_{i,t-1} + \beta_3 SC_{i,t-1} * DEM_{i,t-1} + \beta_j X_{j,i,t-1} \cdots + \beta_k X_{k,i,t-1} \quad (2)$$

All variables and parameters are defined as in (1), with the only difference being the presence of an interaction between state capacity and democracy.

4 Results

The estimations’ results for model (1) are presented in Table 2. Columns 1–2 refer to all types of conflicts (*acdonset*), while 3–4 refer to government type only (*govonset*). Columns 1 and 3 include the V-Dem Electoral Democracy indicator, while 2 and 4 include Polity IV, as a robustness check.

As the table shows, the effect of state capacity on conflict onset is always significant and negative, implying that the probability of conflict decreases at the increase of state capacity. The effect is larger for *govonset* than *acdonset*. As an example, taking all other independent variables at their sample mean, according to the estimates shown in column 1 the probability of *acdonset* is

Table 2: Democracy and civil wars: controlling for state capacity.

	Depvar: acdonset		Depvar: govonset	
	V-Dem (ED) (1)	Polity IV (2)	V-Dem (ED) (3)	Polity IV (4)
State capacity	-0.024*** (0.006)	-0.021*** (0.008)	-0.031*** (0.009)	-0.023** (0.009)
Democracy	2.637 (1.805)	-0.002 (0.014)	5.770*** (2.052)	-0.012 (0.019)
Democracy sq.	-3.054 (1.928)	-0.008*** (0.003)	-7.608*** (2.512)	-0.015*** (0.004)
Real GDP pc (log)	-0.272*** (0.089)	-0.253*** (0.084)	-0.254** (0.109)	-0.218* (0.114)
Population (log)	0.342*** (0.059)	0.334*** (0.066)	0.111* (0.059)	0.075 (0.064)
New State	-0.438 (0.507)	-1.046 (0.663)	-1.759* (1.065)	0.000 (.)
Non-Contiguous State	0.457* (0.237)	0.488** (0.243)	-0.516 (0.354)	-0.601 (0.398)
Ethnolinguistic Frac.	0.871*** (0.323)	0.886** (0.384)	0.488 (0.400)	0.498 (0.483)
Oil exporter	0.602** (0.237)	0.566** (0.252)	0.569** (0.272)	0.577** (0.288)
Mountainous Terrain (log)	0.126** (0.063)	0.126* (0.065)	0.136** (0.063)	0.145** (0.061)
Peace years	-0.459 (0.304)	-0.423 (0.319)	1.601*** (0.275)	1.659*** (0.293)
Obs.	6069	5844	6069	5779
Countries	142	137	142	137
Chi-Sq.	414.21	320.39	140.67	128.87
Pseudo R-sq.	0.222	0.227	0.107	0.104
LL	-877.84	-828.72	-574.54	-536.69

Clustered standard errors in parentheses. All independent variables are lagged one period.

A constant term and cubic spline coefficients, not reported, are always included. The analysis refers to the period 1950–2014.

Levels of significance: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

0.056 when state capacity is at 60, well below the sample average, decreases at 0.027 when state capacity is at its sample mean and further decreases at 0.023 when state capacity reaches its highest value (100). This effect is also stronger inspecting *govonset*: in fact, according to the model shown in column 3, taking the same levels of state capacity, the probability of conflict onset decreases from 0.054, to 0.021, to 0.009. Conversely, democracy is statistically significant, and showing the expected inverted-U shaped relationship, only for conflicts related

to *govonset* and only when the V-Dem index of democracy is included. These results are robust to several model specifications not presented here for reason of space.⁴ As expected, the estimates of the other covariates' coefficients reflect the different nature of *acdonset* and *govonset*, providing a robustness check for the model specification: Ethnolinguistic Frac. and Non-Contiguity only matters for *acdonset*, while Real GDP pc and Population both report the expected signs in all four specifications. These first results support the hypothesis that state capacity is a crucial factor in lowering the probability of conflict onset, and show that the effect is a larger when incompatibility is over government. Furthermore, they suggest that the inverted-U shaped relationship between democracy and conflict onset is not very robust to alternative indicators of democracy, since it only weakly emerges when the Polity indicator is used.

The second set of hypotheses are tested by model (2), whose results are shown in Table 3.

First of all, the interaction between democracy and state capacity is significant in column 7, which presents the main model specification presented in this brief paper (and only weakly in column 8): here the dependent variable entails conflicts over government, and democracy is measured by the V-Dem indicator. This result is robust to alternative model specifications⁵ and suggests that state capacity and democracy exert a counterbalancing effect on conflict onset: while an increase in democracy can produce the aforementioned “technical regression of repression,” the tightening of the reach over the population, implied by the increase in state capacity “soothes” this effect, completely overturning it when state capacity is sufficiently high. In fact, the overall effect of democracy on civil war, now directly depends on the level of state capacity. According to the estimates in column (7), when state capacity is taken at its mean level, the probability of conflict onset is 0.019 in a full autocracy, 0.014 at the mean level of democracy and 0.010 in a full-fledged democratic country. Now, this result can be compared with a different level of state capacity, for instance its maximum level. In this case, the potential positive effect of democracy on conflict is even more mitigated by state capacity: the probability of a civil conflict over government drops to 0.0186 in full autocracy, to 0.009 in mid-range “anocracies” and finally to 0.004 in full-fledged democracies. This effect disappears for lower levels of state capacity. For instance, when state capacity is about 10 percent lower than the mean

⁴ In particular, controlling for neighbouring ongoing conflicts; spatial dependence of state capacity and democracy; the inclusion of the average value of state capacity over the previous 5 years, rather than the lagged value. In all cases, the coefficient of state capacity is significant, negative and of similar magnitude.

⁵ Please refer to fn 4.

Table 3: Civil wars, democracy and the interaction with state capacity.

	Depvar: acdonset		Depvar: govonset	
	V-Dem (ED) (5)	Polity IV (6)	V-Dem (ED) (7)	Polity IV (8)
State capacity	-0.012 (0.016)	-0.025*** (0.008)	-0.005 (0.019)	-0.031*** (0.010)
Democracy	3.682 (3.576)	0.115 (0.146)	7.558** (3.598)	0.246* (0.146)
Democracy X state capacity	-0.041 (0.039)	-0.001 (0.002)	-0.090** (0.041)	-0.003* (0.002)
Real GDP pc (log)	-0.298*** (0.080)	-0.292*** (0.083)	-0.306*** (0.097)	-0.295*** (0.106)
Population (log)	0.332*** (0.065)	0.315*** (0.066)	0.112* (0.067)	0.086 (0.066)
New State	-0.377 (0.513)	-1.040 (0.682)	-1.622 (1.056)	0.000 (.)
Non-Contiguous State	0.445* (0.244)	0.470* (0.252)	-0.554 (0.388)	-0.603 (0.417)
Ethnolinguistic Frac.	0.954*** (0.347)	0.963** (0.384)	0.624 (0.415)	0.686 (0.471)
Oil exporter	0.643** (0.235)	0.596** (0.245)	0.649** (0.261)	0.603** (0.278)
Mountainous Terrain (log)	0.133** (0.062)	0.134** (0.066)	0.137** (0.062)	0.153** (0.062)
Peace years	-0.463 (0.312)	-0.421 (0.327)	1.570*** (0.278)	1.583*** (0.293)
Obs.	6069	5844	6069	5779
Countries	142	137	142	137
Chi-Sq.	351.664	295.801	156.406	103.986
Pseudo R-sq.	0.221	0.224	0.101	0.092
LL	-879.339	-832.366	-578.754	-544.084

Clustered standard errors in parentheses. All independent variables are lagged one period.

A constant term and cubic spline coefficients, not reported, are always included. The analysis refers to the period 1950–2014.

Levels of significance: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

(80), the probability of civil war increase from 0.021 in full autocracies to 0.029 in full-fledged democracies. This pattern is illustrated at a glance in Figure 1.

When the marginal effects are calculated upon the estimations in column (8), the results are strikingly similar: as an example, in a full autocracy according to the Polity index, when state capacity is taken at the mean level, the probability of civil war is 0.015, and it decreases at 0.0144 in mid-range “anocracies,” up to 0.0143 in full-fledged democracies. These robustness check further support the

Figure 1: Predicted probabilities of govonset conditional on democracy, at alternative levels of state capacity.

finding that state capacity is a pivotal element to understand the overall effect of democracy on the onset of civil wars. Overall, these results suggest that the inverted-U shaped relationship between democracy and conflict could be actually driven by the counterbalancing effects of democracy and state capacity: this finding calls for further explorations.

In sum, the paper sheds a new light on the relationship between democracy and civil conflict, highlighting the pivotal role of state capacity in preventing the outburst of a conflict, counterbalancing the opposite effect of democracy. Moreover, the direct inverted-U shaped effect of democracy substantially disappears when state capacity is also controlled for. It is worthwhile stressing that these findings only applies to conflicts emerging out of incompatibility over government: this feature therefore excludes ethnic and merely territorial conflicts. Overall, these preliminary findings help re-formulating the relatively old question about democracy and civil war through a different perspective. To this end, more research is still ongoing to investigate the dynamics of the interrelationship between democracy and state capacity, focusing on regime change rather than on level of democracy and further exploring alternative definitions of democracy.

Acknowledgments: I am grateful to Carl H. Knutsen, Andrea Ruggeri, Mario A. Maggioni, Raul Caruso and an anonymous referee for useful comments and suggestions. Of course usual caveats apply.

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