



Contact Information: Max-Weber-Institute for Sociology Heidelberg University Bergheimer Str. 58, 69115 Heidelberg, Germany

Website: www.ziaja.xy Website: www.ziaja.xy Email: ziaja@uni-heidelberg.de

# Political regimes and civil conflict onset

## A reassessment with a new empirical typology

Sebastian Ziaja

Research Center for Distributional Conflict and Globalization Heidelberg University

### Abstract

This project attempts to derive political regime types from a large number of indicators on institutional properties. I describe the rationale of the project, our approach, and preliminary results. The latter provide some evidence that our approach has the potential of competing with established typologies when applied to the study of civil war.

## Political regimes and civil war

There is little doubt about the desirability of democratic forms of governance, for example due to their increased respect for human rights (Davenport 2007). Still, democracy seems to have little impact on preventing intrastate conflict (Hegre 2014).

Scholars have begun to examine individual regime traits such as irregular leader entry to disentangle the relationship between political regimes and civil war (Gleditsch and Ruggeri 2010). But approaches observing individual traits cannot assess the synergies between all relevant institutional provisions that constitute a regime.

An alternative to assessing individual regime traits is taking the disaggregation of regime types further (e.g., “hybrid regimes”; Levitsky and Way 2010). Studies that compare different subtypes have established robust effects on civil war onset (e.g., Fjelde 2010).

## Limitations of existing regime indicators

But none of the existing approaches for classifying political regime types makes use of the whole range of indicators on institutional properties that are provided by the plethora of governance databases that are available. The famous typology of authoritarian regime types by (Geddes et al. 2014), for example, focusses on the group that provides the leader and influences policy. The commonly employed alternative, index-based typologies such as the democracy–anocracy–autocracy trinity derived from *Polity IV* allow compensation between regime traits, which results in very different regimes being lumped together in the middle ranges.

## Main objectives

1. Collect as much existing information as possible on *institutional traits* of regimes from existing databases.
2. Search this data for clusters with similar properties and derive *institutional constellations*, i.e., regime types.
3. Assess the joint effects of these clustered institutional properties on civil war onset.

Table 1: Sources considered for the full analysis

Source	Abbrev.	# of ind.	Reference
Bertelsmann Transformation Index	BTI	11	BTI (2014)
Centripetal Democratic Governance	CDG	2	Gerring et al. (2005)
CIRI Human Rights Data Project	CIRI	6	Cingranelli et al. (1999)
Democracy Crossnational Data	DCD	1	Norris (2009)
Democracy and Dictatorship Revisited	DD	12	Cheibub et al. (2010)
Democratic Electoral Systems	DES	4	Bormann et al. (2013)
Database of Political Institutions	DPI	18	Beck et al. (2001)
The Economic Effects of Constitutions	EEC	3	Persson et al. (2005)
Electoral Systems and the Personal Vote	ESPV	2	Johnson et al. (2006)
Freedom House	FH	9	Freedom House (2014)
Institutions and Elections Project	IAEP	26	Regan et al. (2009)
The Quality of Government	LegOr	1	La Porta et al. (1999)
The Political Constraints Data	PolCon	1	Henisz (2000)
Polity IV	Polity	6	Marshall et al. (2011)
Varieties of Democracy	V-Dem	32	Coppedge et al. (2015)

## A data-driven approach to regime types

Which indicators help distinguish political regimes? We focus on indicators that relate to the *selection* of rulers and the *constraints* they face. Table 1 provides information on the sources consulted. 134 variables were identified so far; Table 2 provides examples.

How can we extract regime types from these data? Most regime traits are measured on ordinal or nominal scales, so latent class analysis (LCA) would be an obvious candidate. However, our dataset violates the core assumption of conditional independence, which results in overestimating the number of clusters, particularly when many variables are employed.

To avoid these issues, Martin Elff (Zeppelin University) is currently programming *finite-mixture factor analysis* (FMFA; see Ziaja and Elff 2015). FMFA will remove redundancies from the dataset by first conducting a factor analysis. The resulting latent traits are then mined for normal mixtures in order to detect institutional constellations. Dynamics will also be added.

To provide some preliminary results, I applied LCA (Linzer 2011) to a set of nine indicators (see Table 2). This model converges without issues. While the BIC decreases monotonically with increasing group size, a visual inspection suggests a scree at seven groups. Figure 1 shows the properties of the seven groups. Interpreting the unique institutional properties of each group, we find

- two types of democracies:
  - 1) *parliamentary* and 2) *presidential democracies*;
- three types of hybrid regimes:
  - 3) *defective presidential democracies*, 4) *transitional regimes*, and 5) *one-party regimes*;
- and two types of autocracies:
  - 6) *hereditary autocracies* and 7) *personalist autocracies*.

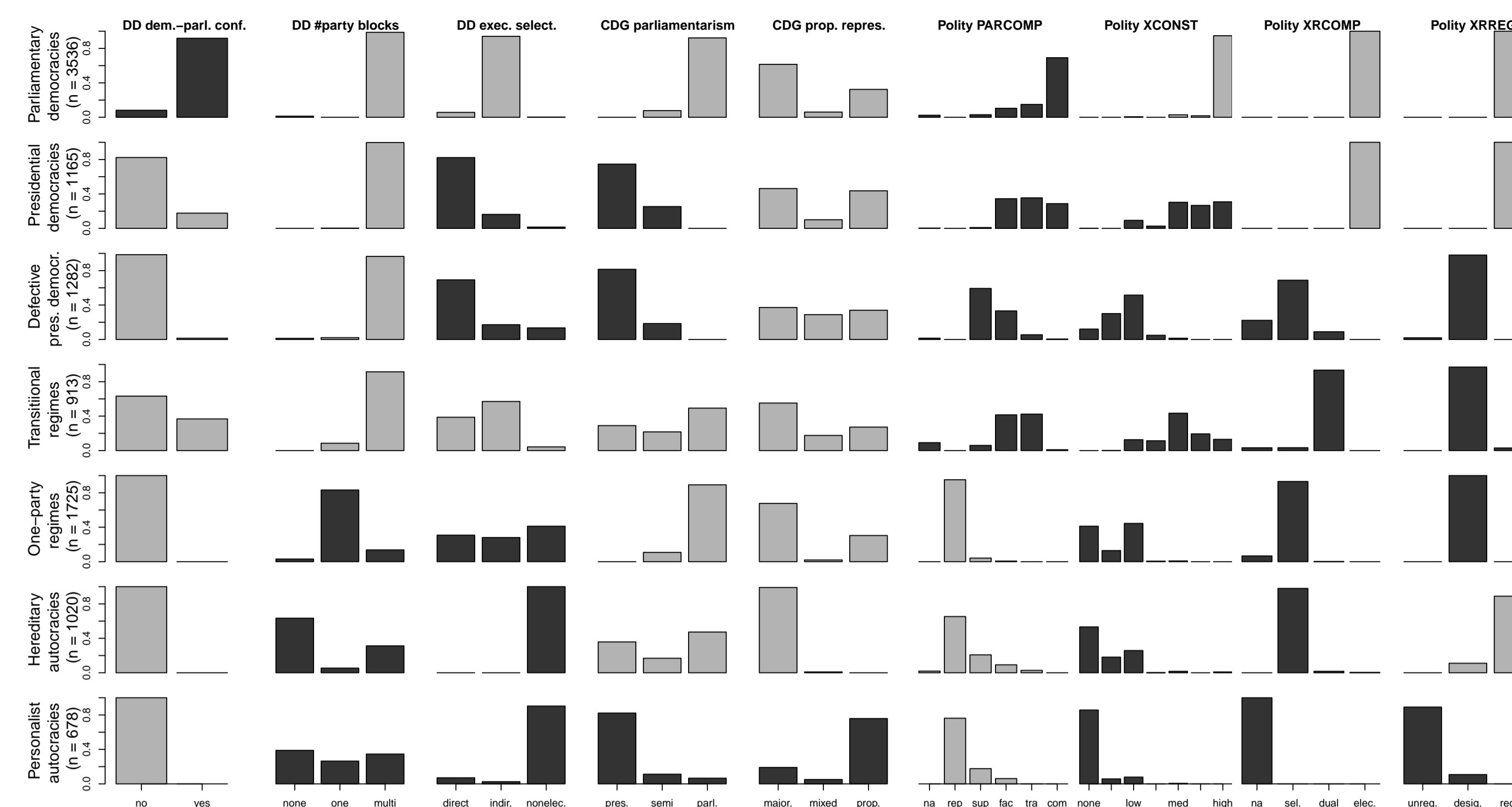


Figure 1: Preliminary LCA results: latent regime types (rows), indicators (columns), and the probabilities (y-axes) of observing indicator levels (x-axes); black indicates deviance from sample mode

Table 2: Indicators used for the preliminary LCA (1946–2012; N=10,319)

Indicator	Levels	Years	Countries	N
CDG: Parliamentarism	3	1960-2001	85	3575
CDG: Proportional Representation	3	1960-2001	85	3576
DD: Parties outside of regime front	3	1946-2008	142	8921
DD: Dem. leader subject to assembly conf.	2	1946-2008	142	8942
DD: Mode of effective exec. selection	2	1946-2008	143	8985
Polity: The compet. of particip. (PARCOMP)	6	1946-2012	126	8444
Polity: Executive constraints (XCONST)	7	1946-2012	126	8444
Polity: Compet. of exec. recr. (XRCOMP)	4	1946-2012	126	8444
Polity: Reg. of chief exec. recr. (XRREG)	3	1946-2012	126	8444

Table 3: Comparison with Geddes et al. types (row percentages)

LCA / Geddes et al. →	Democracy	Occupied	Military	Party	Monarchy	Personal
Parliamentary democr.	0.97	0	0	0.02	0	0.01
Presidential democr.	0.91	0.01	0.04	0	0	0.04
Defective pres. dem.	0.07	0.02	0.08	0.14	0	0.68
Transitional regimes	0.68	0.03	0.06	0.02	0.01	0.15
One-party regimes	0.02	0	0.06	0.42	0.03	0.46
Hereditary autocr.	0.01	0.02	0.04	0.03	0.78	0.06
Personal. autocr.	0.07	0.02	0.25	0.06	0.02	0.57

Table 3 shows how our results compare to the Geddes et al. approach. One example where we disagree is North Korea, which they classify as a one-party regime, whereas we find it to show traits of a hereditary autocracy since 1994. However, the limited number of variables we are currently employing also leads us to classify apartheid South Africa as a parliamentary democracy; suffrage is missing as a corrective.

## Regime types and civil war revisited

Do these regime types help explain the onset of civil war? I ran logistic regressions with varying baseline categories for the regime types. Civil war onset is the dependent, ongoing set to missing. I include population and GDP per capita as control variables, as well as a linear time trend and peace year splines.

Table 4 shows the odds ratios of experiencing a civil war between regime types (bold when significant). personalist autocracies turn out to be more conflict-prone in comparison to any other regime type, except to hereditary autocracies. The latter are 1.6 to 13 times more likely to experience civil war than parliamentary democracies. Transitional regimes prove surprisingly stable.

Table 5 shows how the Geddes typology assesses relative conflict risk between regime types. Here, only military and personal regimes are more likely to experience conflict than both democracies and one-party regimes. Common goodness-of-fit measures indicate that our preliminary typology performs slightly better in predicting civil war onset than the Geddes typology (e.g., an AIC of 309 vs. 321). This is certainly no proof that our preliminary typology is better, but it suggests that our approach has some potential.

Table 4: Odds ratios of civil war onset (95% confidence intervals)

	ref. ↓	0.14-1.16	0.13-1.02	0.89-8.81	0.30-1.97	0.07-0.61	0.02-0.32
Parl. democr.	ref. ↓						
Pres. democr.	0.86-7.13	ref. ↑	0.30-2.79	1.97-24.55	0.66-5.58	0.17-1.65	0.04-0.86
Defect. pres. dem.	0.98-7.64	0.36-3.37	ref. ↑	2.22-26.50	0.76-5.86	0.19-1.76	0.04-0.92
Transit. regimes	0.11-1.12	0.04-0.51	0.04-0.45	ref. ↓	0.09-0.87	0.02-0.28	0.01-0.14
One-party reg.	0.51-3.32	0.18-1.51	0.17-1.31	1.15-11.35	ref. ↓	0.09-0.80	0.02-0.42
Hered. autocr.	1.64-13.37	0.61-5.85	0.57-5.20	3.61-47.29	1.24-10.56	ref. ↑	0.07-1.60
Personal. aut.	3.09-59.53	1.16-25.57	1.08-22.83	7.17-189.31	2.38-46.21	0.63-13.50	ref. ↑

Table 5: Odds ratios for the Geddes data (95% confidence intervals)

	ref. ↓	0.03-1.80	0.01-0.39	0.47-2.06	0.13-1.02	0.16-0.88
Democracy	ref. ↓					
Occupied	0.56-32.43	ref. ↓	0.02-3.94	0.56-31.48	0.18-12.86	0.21-12.41
Military	2.54-86.66	0.25-41.59	ref. ↑	2.51-84.77	0.80-34.66	0.91-33.48
Party	0.49-2.13	0.03-1.79	0.01-0.40	ref. ↓	0.13-1.05	0.16-0.88
Monarchy	0.98-7.68	0.08-5.49	0.03-1.26	0.95-7.62	ref. ↓	0.34-3.08
Personal	1.14-6.30	0.08-4.86	0.03-1.09	1.13-6.13	0.32-2.91	ref. ↑

## Further steps

- Finalize (dynamic) FMFA.
- Decide whether the institutional dimensions shall be generated by a confirmatory or an exploratory factor analysis; determine the *number of latent dimensions*; balance indicators over dimensions.
- Determine *whether latent regime types exist* at all, or whether all traits project onto one dimension; identify the *number of latent classes*; find the most appropriate goodness-of-fit measure.
- If successful, apply the typology to other research questions.

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