Updated data on institutions and elections 1960–2012: presenting the IAEP dataset version 2.0

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Abstract

This article presents an updated version of the Institutions and Elections Project (IAEP) dataset. The dataset comprises information on 107 de jure institutional provisions, and 16 variables related to electoral procedures and electoral events, for 170 countries in the period 1960–2012. The dataset is one of the most encompassing datasets on global institutional variation that explicitly codes de jure formal institutions. This article presents the dataset and compares it with existing datasets on political institutions, highlighting how the IAEP's focus on disaggregated de jure institutions complements existing datasets that combine de facto and de jure elements. We illustrate the potential uses of the data by constructing indices that capture institutional dimensions beyond the standard democracy–autocracy dimension, and that represent different ways of using the data for index construction. Finally, we illustrate potential applications by conducting a short replication and expansion of a recent study of democracy and civil war onset.

Introduction

Political outcomes depend on the institutions that regulate who gets to become political leaders and within which they make decisions. Scholarship suggests that economic growth is enhanced by 'good' institutions (Acemoglu et al., 2001; Knutsen, 2011), interstate peace better preserved when political leaders are 'constrained' in their foreign policy (Choi, 2010), and armed conflict is more likely to erupt when institutions are 'inconsistently democratic' (Hegre et al., 2001). All of these concepts, however, are hard to define: what they mean is often contested, they are multidimensional, it is unclear what their necessary conditions are, and it is not obvious how to capture them empirically from written sources. For example, to some democracy is a function of representation and power sharing (e.g. Lijphart, 1999), to others it is about institutions that facilitate competition (Schumpeter, 1950; Przeworski et al., 2000). In many cases, assessing whether the institutions in a particular country at a given time are 'democratic' or if they embody Lijphartian 'power sharing' involves a considerable amount of judgment. In this judgment, it is often impossible to distinguish between the institutions that regulate behaviour and the behaviour itself. An example is the most widely

used indicator of democracy, from the Polity dataset (Jaggers and Gurr, 1995; Marshall et al., 2013). The coding of the degree of institutional constraints on the executive in Polity, for instance, is largely a subjective assessment without reference to specific provisions in a country's constitution or other laws.

This article presents an update and expansion of the IAEP dataset (the Institutions and Elections Project, by Regan et al., 2009), which seeks to address these definitional and measurement issues by coding an extensive set of de jure institutional provisions in countries' constitutions that together form a picture of the formal setup of a country's institutions. De jure aspects of institutions have the distinct advantage that they can be coded quite unambiguously from written sources. One may debate whether the executive of

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Russia is less 'constrained' than that of Ukraine (Polity codes them as 4 and 5, respectively), but not to the same extent whether the constitution confers the constitutional court authority to rule on executive action. This allows for more fine-grained analyses of how and when formal rules affect institutional *behaviour* and, in turn, outcomes such as conflict or economic development. Disadvantages with relying on de jure institutions, obviously, is that they may be systematically disregarded in practice, and that they reflect little more than individual aspects of a bundle of institutions that must be considered together. Still, they are an important complement to most datasets on institutions, which rely heavily on subjectively coded indices of de facto aspects. Focusing on de jure institutions allows us to answer crucial questions about when formal institutions constrain behaviour. The IAEP is currently one of the most comprehensive datasets on political institutions and elections in existence, and it should provide scholars with the opportunity to develop more refined testable implications about how political institutions affect outcomes.

In the next section of the article we present an overview of the dataset, accompanied by a discussion of how the IAEP compares to existing datasets on political institutions. This is followed by some illustrations of how the data can be used. First, we present trends in a selected number of institutional indicators over time. Second, we present two aggregate indices that we create out of the individual indicators, each constructed using a distinct approach to index construction. This is done to illustrate how the data can be used to create indices in several ways. Finally, we illustrate another potential use of the dataset by replicating and expanding on a study on democracy and civil war by Cederman et al. (2010).

The dataset

Overview

The updated IAEP dataset describes the relationships between the ruled and their rulers across 170 countries coded annually for the years 1960–2012.[1]

There are two groups of IAEP indicators. The first group contains 107 variables that record information about the de jure institutional arrangements of a country. The codebook (available as an online appendix) groups the indicators into aspects of a country's constitution, its legislature, executive–legislature relationship, the judiciary, government centralization, the central bank, elections and electoral outcomes, and rules governing elections.

In addition to this, there are 16 variables that record information about the practice of elections, if any, in a country. The 'election in practice' component to these data are recorded as events and characterize elections if they are held, in democracies, partial democracies, or non-democracies.

The information in the dataset is gathered from a number of publicly available sources and legal texts that are described in the appendix. To assess the reliability of codings, we have conducted inter-coder reliability tests, all suggesting that the reliability of the codings is high (see the appendix).

Contrasts with other datasets

The IAEP compares favourably with several other datasets on political institutions, and serves as an important complement to many of them. Most existing datasets mix de jure and de facto elements together, and are highly aggregated, in stark contrast to IAEP which is disaggregated and mostly de jure. The largest category of institutional datasets is concerned with measuring democracy. The perhaps most popular dataset is Polity (Marshall, 2010), which sets out to measure aspects of democracy based on Dahl's (1971) conceptualization. Although Polity has a number of attractive features (it disaggregates into sub-components, and has a long time series), it has some important flaws. Most notably, many of the sub-dimensions in Polity measure *outcomes* rather than institutions, such as the participation component which includes internal political violence as part of its coding (Vreeland, 2008). A similar critique of coding bias has often been levelled at the Freedom House dataset, which bases most of its codings on subjective assessments of political outcomes that are entangled with many potential dependent variables (Cheibub et al., 2010). Another dataset that is affected by this criticism is the Vanhanen dataset (Vanhanen, 2000), which measures contestation and participation based on electoral outcomes. A dataset that is considered to be more reliable and less sensitive to endogeneity biases is the ACLP/DD dataset (Przeworski et al., 2000; Cheibub et al., 2010). Although it mostly relies on objective coding criteria, e.g. the presence of elections with more than one party, it also captures political contestation in the form of actual government turnover, which is partly also an institutional outcome, and thus subject to similar criticisms (see e.g. Knutsen and Wig, 2015). The most ambitious democracy dataset to date is the V-Dem (Coppedge et al., 2011) project, which is currently developing a large collection of disaggregated democracy indicators. It fundamentally differs from IAEP since V-dem's focus is mostly on subjectively coded de facto and not de jure institutional characteristics, making it an important complement to IAEP when it becomes available. In short, IAEP is distinguished from existing democracy datasets in their focus on disaggregated de-jure institutions.

A handful of other datasets have some points of similarity with IAEP but lack its main focus on formal rules. For example, the POLCON database (Henisz, 2002), and the Database of Political Institutions (Beck et al., 2001). The only existing dataset that shares both IAEP's scope and focus on de jure institutions, is the Comparative Constitutions

Project (CCP) (Elkins et al., 2010), which codes a wide range of constitutional provisions for all countries in the world going back to 1789. Given the similar focus on de jure institutions, there is some overlap between the variables contained in the CCP and IAEP. This can obviously be a benefit, since a greater variety of sources for the same data is an undisputable good when investigating the robustness of empirical results to different sources. Furthermore, a number of institutional domains are covered in the IAEP that are not covered in the CCP, and vice versa. For example, many of the formal rules that are not constitutional, but still de jure, like many provisions concerning the central bank, rules governing party participation in elections, candidate nomination and participation, and variables relating to the outcomes and holding of elections themselves (which are not de jure).

Focusing on formal institutions allows researchers to separate the formal rules that may or may not constrain behaviour from the behavioural outcomes that are produced by institutions, which most current datasets mix together. This enables 'unbundling' of institutions into formal and non-formal components in a much more refined way than previous attempts to disaggregate institutions (e.g. Acemoglu and Johnson, 2005). As many have pointed out (e.g. Voigt, 2013), lumping the behavioural and formal elements of institutions together in one measure is questionable. Conceptually, because there is a clear distinction between the normative content of a rule and its de facto implementation. Empirically, because there are often clear discrepancies between de jure and de facto rules, as for example Hayo and Voigt has shown in the case of judicial independence (Hayo and Voigt, 2007).

Another clear strength of focusing on formal rules is that they are easier to code reliably. As mentioned, many of the most common institutional indices are subjectively coded and very often endogenous to outcomes of interest, such as economic growth (Glaeser et al., 2004) or internal armed conflict (Vreeland, 2008). Coding de jure institutions avoids this problem, and allows researchers to study the links between formal rules, institutional outcomes (i.e. institutional behaviour), and variables of interest.

To summarize, the IAEP is one of the few publicly available dataset that describes the nuts and bolts of countries' de jure political institutions globally. It allows researchers to investigate how de jure political institutions constrain and shape behaviour and political outcomes. In the following, we illustrate some of its potential uses.

Trends in individual institutional indicators

The primary source from which most of the information in our dataset is derived is the constitution of a country or other legal documents. IAEP comprises information on a range of individual constitutional provisions that are essen-tial in classifying regimes along dimensions such as democracy–autocracy, degree of constitutionalism or power sharing. Figure 1 shows trends in the global proportion of countries that possess institutional provisions typical of democracies; formal operational constitutions,[2] a supreme court,[3] judicial review,[4] elections to the executive and legislature,[5] and a national legislature.[6]

The left box shows global trends in the presence of a supreme court, a constitution, and judicial review; all elements of constitutional rule. The figure shows an increase in the presence of courts and judicial review, while most countries have had operational formal constitutions throughout the period. The right box in Figure 1 shows that the number of countries holding elections has increased steadily over time, reaching a peak in the mid-2000s. The same goes for the proportion of countries with a supreme court. These developments align with the increase in the number of democracies in the 'third wave of democracy' that followed the end of the cold war (Huntington, 1991). The figure also shows that the number of countries with legislatures, and formal and operational constitutions has remained relatively stable throughout the period.

Figure 2 shows global trends in the proportion of countries having two constitutional provisions typical of autocracies: bans on specific parties and the presence of an official state party. This figure shows that these two autocratic institutions have, logically enough, declined with the spread of elections and judiciaries. After a spike in the early 1970s, and a hiatus until the late 1980s, there is a strong downward trend after the end of the Cold War, coinciding with the third wave of democracy. These two figures show how the third wave of democratization can be tracked by looking at individual de jure institutions.

Constructing institutional dimensions

Individual indicators might often not yield significant information about a political system when considered in isolation, but may do so only when they are considered as part of an institutional *dimension*. In the following, we will illustrate some potential uses of the dataset by constructing two different indices. In doing so, we will both illustrate what *kind* of substantive indices are possible to construct with the data, but also two different methodological approaches to index construction that are often found in the literature: factor analysis and construction using the logic of necessary and sufficient conditions. This exercise is intended to illustrate two plausible indices and encourage users of the dataset to develop their own.

Executive constraints

The first index we construct is intended to capture *executive constraints* and will utilize a factor-analytic approach
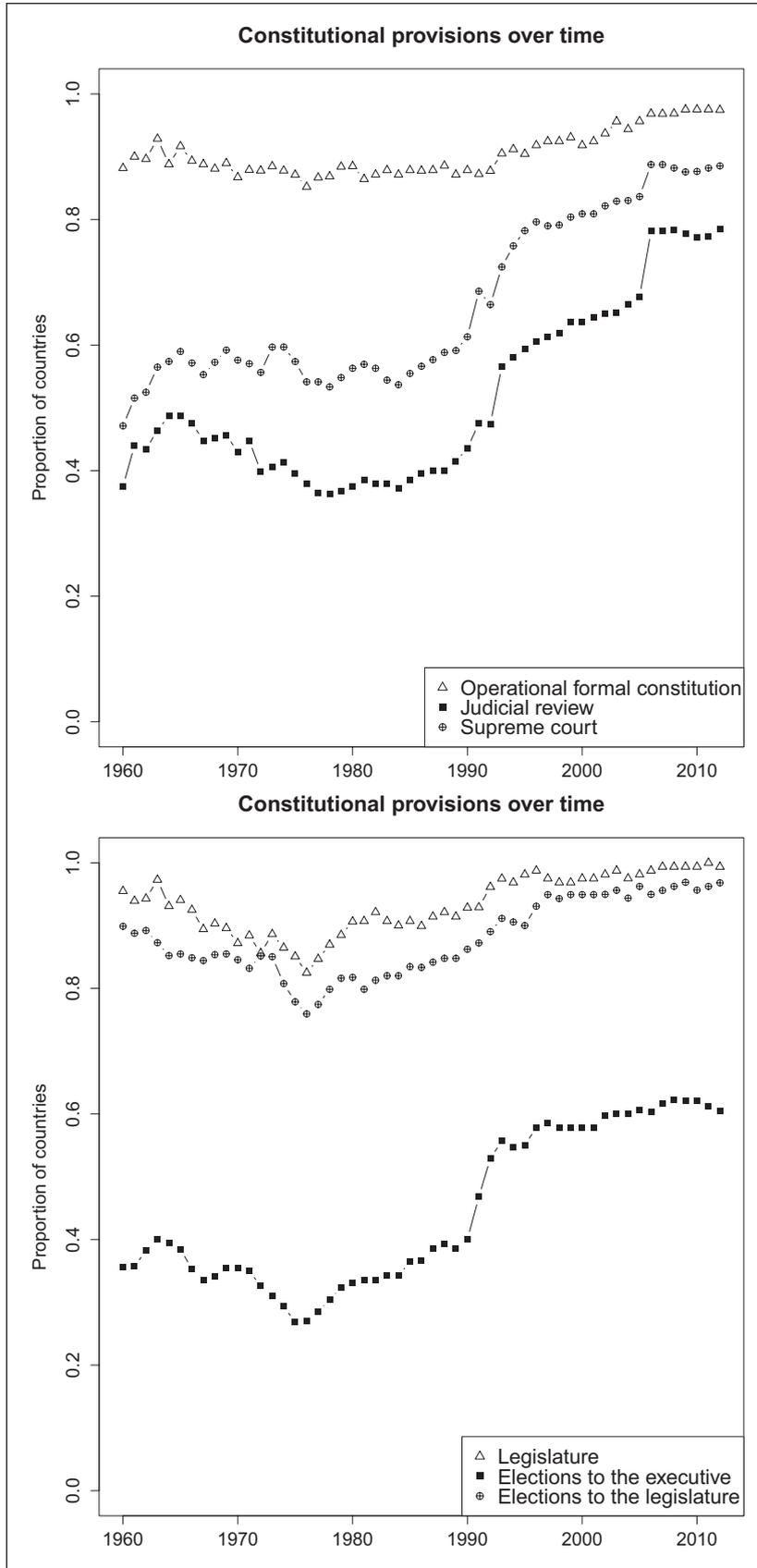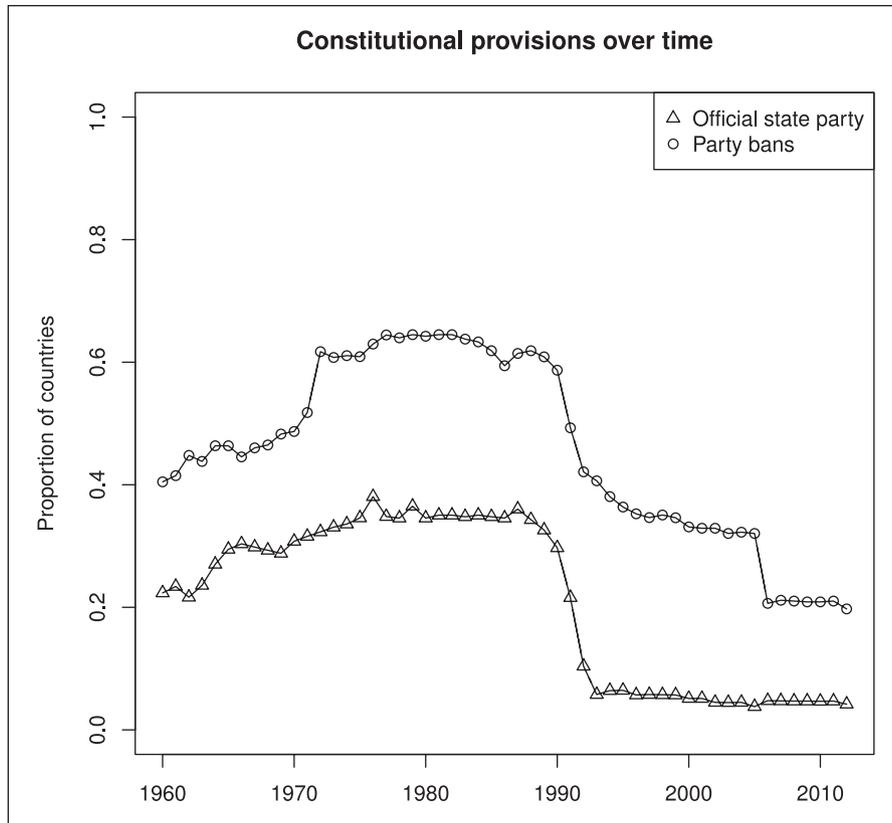
Figure 1. Trends in individual constitutional provisions typical of democracies.

Figure 2. Trends in individual constitutional provisions typical of autocracies.

to index construction. This index builds on the IAEP-based executive constraints index presented in Regan et al. (2009). It includes items that either constitute an executive power – like an executive power to dissolve parliament –, or some sort of check on the executive – like a legislative veto. The following items are included as executive powers: The power to remove the legislature, propose legislation, remove judges, amend constitution, ratify constitution, use force abroad without legislative approval, change taxes without legislative approval, and whether the executive is chosen independently of legislature. The following are included as executive liabilities or checks: The existence of a legislature, a legislative veto, legislature can remove the executive, legislature can propose legislation, legislature can amend constitution, legislature can ratify amendments, there are elections for the executive, legislative approval for the budget is required, the court can rule on executive action, executive is a member of the legislature. The first set of items are conceived as powers given to the executive, while the last set of items includes constraints on the executive. We proceed to fit a unidimensional Item Response Model using Markov Chain Monte Carlo methods, a factor-analytic approach that has become standard in the development of latent institutional indices (see e.g. Rosenthal and Voeten, 2007; Ríos-Figueroa and Staton, 2014). Essentially, this model estimates the ideal points (factor scores) for

each country-year on the dimension that best describes the patterns of the individual institutional provisions mentioned above.[7]

Figure 3 shows the estimated ideal points for our executive constraints index for a random sample of 60 countries in 2010. The latent index seems to do an acceptable job of separating the cases with a very high score from the cases in the bottom of the ranking. However, because of the large confidence intervals, there is a fair amount of uncertainty in the cases in the middle of the scale.

Does this index track the executive constraints concept? The country given the highest score on the latent dimension, i.e. the most constrained, is Nicaragua in 1995, which has a total of 9 of 10 of the executive liabilities mentioned above, and 4 out of 9 of the executive powers listed above. Crucially, it has a number of important executive liabilities such as a legislative veto and the right of the legislature to remove the executive. The lowest-scoring country, Cambodia in 1994, has 5 out of 10 liabilities, and 5 out of 9 powers. Crucially, it has a number of important executive powers; the executive can disband parliament and appoint judges. These cases indicate that the dimension is representing the degree of executive constraints. Figure 4 shows the discrimination parameters of each institutional provision, and the number of such provisions that the item response model correctly predicts. Executive liabilities are
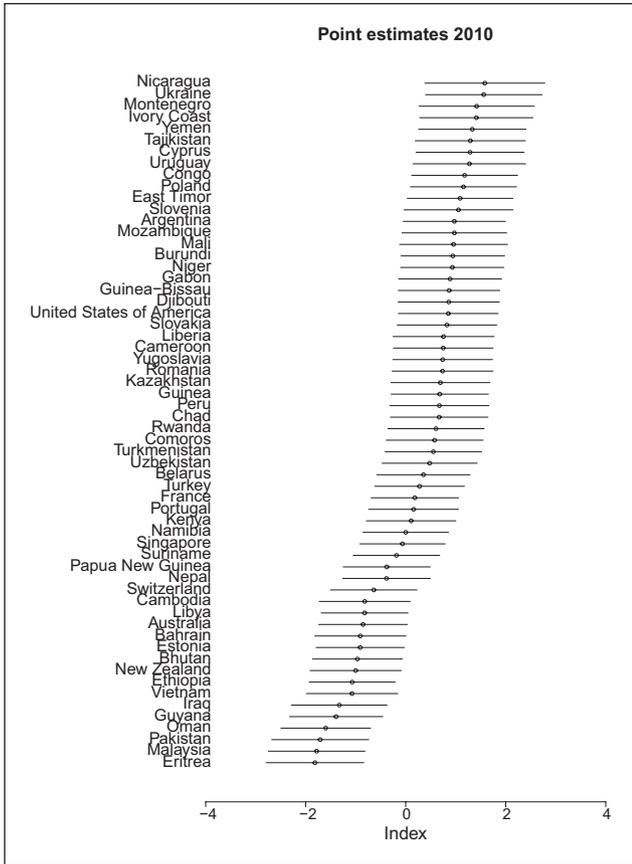
Figure 3. Estimated ideal points on executive constraints dimension in 2010: The figures show a sample of 60 countries chosen at random in 2010. Estimates are shown with 90% confidence intervals based on the estimated standard deviation of the ideal point estimates.

highlighted as triangles and powers are highlighted as crosses. If the index is adequately separating constraints from executive powers it should group the powers and liabilities in opposite ends of the spectrum. The figure shows that the latent dimension estimated by the Iterm Response Theory (IRT) model is not perfect at grouping liabilities and powers in two different clusters, although most liabilities have positive discrimination parameters and most powers have negative coefficients. What this exercise shows is that our de jure institutional indicators can be used to construct latent variable indices. The figures presented above show that the executive constraints index constructed here does an imperfect, although not hopeless, job of separating countries on the theoretically relevant dimension. Combining de jure measures with information about de facto institutions would be one way to construct a more accurate dimension.

Institutionalized participation

Second, we will construct an index of institutionalized participation (IP) that illustrates how we can use theoretical prior information about the logical structure of the concept to calculate an index that more closely aligns with the theoretical concept than simple aggregation or inductive factor analysis. (For more on conceptual logic, see e.g. Goertz, 2006.) We build this index with the intentions to measure the degree to which electoral participation is institutionally protected. A necessary condition for electoral participation is the *presence* of elections, therefore we start with a logical condition stating that the measure should be scored as zero when there is no election to either the executive or the legislature. If and only if there are elections to at least the executive or the legislature, we consider whether there are restrictions on (a) suffrage, and (b) political parties. If there is universal suffrage and no party restrictions, we want this measure to get a top score, while we want it to get the lowest score if it has fully restricted elections where many groups are excluded and parties banned. Such a measure would capture the fact that elections are necessary but not sufficient conditions for institutionalizing electoral participation; Only elections with universal suffrage and free party competition are sufficient for saying that participation is fully institutionalized. Therefore, we construct *IP* as follows:

$$IP_i = E_i \cdot (2 - (PB_i + SR_i)) \qquad (1)$$

where E represents elections, PB is the number of party bans, normalized by dividing on the maximum value, SR is the similarly normalized number of suffrage restrictions, and i signifies the given country. For simplicity, we scale *IP* to range between zero and one, where one signifies universal suffrage and no party restrictions, while a score of zero means that you either have no elections, or elections with the full amount of party and suffrage restrictions. Intermediate scores such as 0.45 mean elections with some restrictions; this is, for example, the case for Cuba in the 1980s which had elections with universal suffrage, but a ban on all parties. This measure reflects the logical relations between the items that make up the index; elections are necessary conditions for participation, but party bans and suffrage restrictions are alternative and substitutable ways to block participation.

Application

To further illustrate how the IAEP data may be used, we present a brief replication and extension of a recent study investigating the links between democracy and internal armed conflict where we use the *institutionalized participation* index created above. Cederman et al. (2010) show that democratization leads to internal armed conflict. As one of several supporting arguments, they draw on the argument of Huntington (1968) that democratization can lead to conflict because it entails sudden mass mobilization in institutional contexts that have not accommodated such pressures
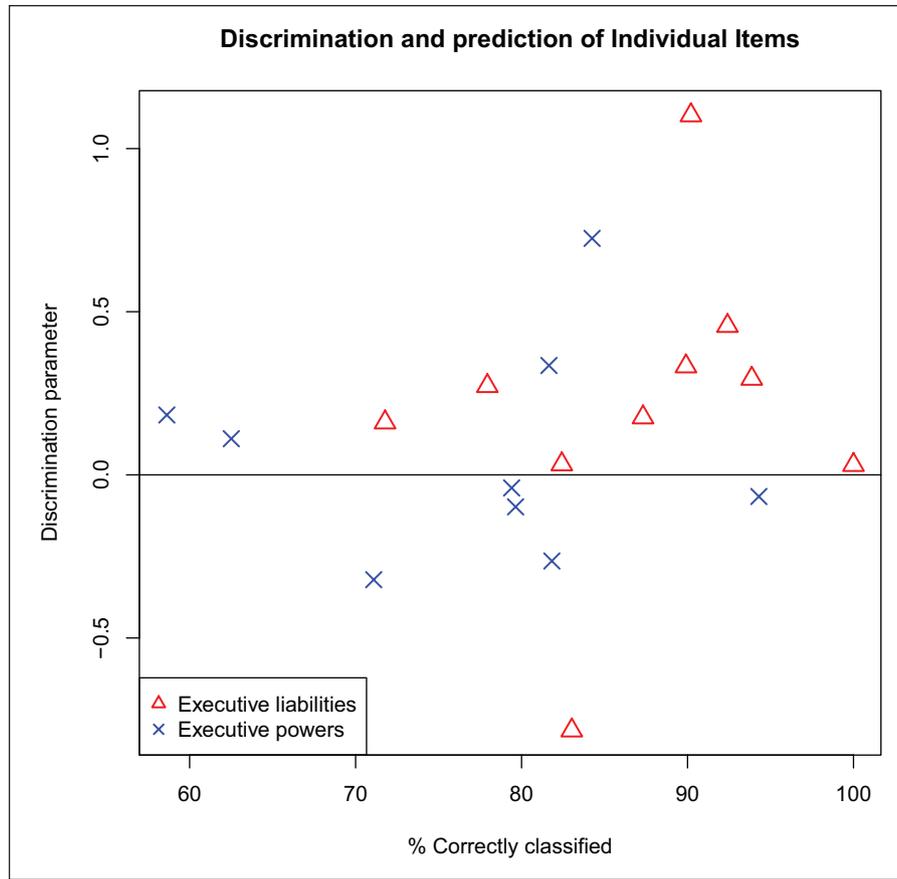
Figure 4. Estimated item discrimination parameters and percentage correctly classified item scores

before. In short, democratization is destabilizing when it leads to a sudden increase in political participation. One implication of this argument is that we should observe less conflict in democratization processes where mass participation is already institutionalized. Where the institutions already have accommodated mass participation, and the democratization process concerns some other institutional feature such as an increase in constraints on the executive or an expansion of non-electoral political liberties, the risk of conflict should be lower. This can be formulated in the following hypothesis.

Hypothesis 1. Institutional changes toward democracy increases the risk of conflict where pre-existing levels of IP is low, but less so where participation is well established

This hypothesis is not tested in Cederman et al. (2010), but is a logical implication of the mobilization argument. We investigate H1 by interacting Cederman et al.'s democratization variable with the lagged level of *IP* as we have coded it. We also interact democratization with lagged levels of the more subjective POLCOMP variable from Polity which captures the 'democraticness' of participation and

competition (Marshall et al., 2013, 25–29, 67). Since the IAEP institutions are measured on the 1 January, while the Polity dataset used by Cederman et al. is coded on the 31 December (Marshall et al., 2013, 12), our participation variable should be considered as lagged by 1 year. POLCOMP is lagged by 1 year. Cederman et al. code democratization by using the POLITY index as a basis; they code a movement in Polity as a democratization if it constitutes a move larger than two points on the POLITY index, and if it is followed by a period of stability where the new level of POLITY on average is more than two points higher than in the previous stable period (see Cederman et al., 2010, 370–382).

In their core model, Cederman et al. include their variable capturing democratization (*dem*), autocratization (*aut*), and controls for population, GDP per capita, and time trends using calendar year, peace years and splines. The first column in Table 1 replicates their model 1.1. The second column runs the same model on the more restricted sample that is covered by the IAEP. The third column tests our proposition, and indeed finds support for it. The main term is significant and positive, and the interaction term significant, negative, and of equal size as the main term. Democratization is particularly conflict-inducing in

Table 1. Replication and expansion of Cederman et al. (2010).

|	Dependent variable			
	Internal armed conflict, > 25 battle deaths			
	(Replicating Cederman et al., model 1.1)	(model 1.1, IAEP sample)	(w/Institutionalized participation (IAEP))	(w/POLCOMP (POLITY))
dem	1.018***	1.092***	2.827***	1.157***
	(0.339)	(0.342)	(0.600)	(0.433)
Institutionalized participation (IAEP)			−0.180	
			(0.260)	
POLCOMP (POLITY)				−0.002
				(0.007)
dem · Institutionalized participation (IAEP)			−2.998***	
			(0.985)	
dem · POLCOMP (POLITY)				0.005
				(0.010)
aut	0.948**	0.957*	0.995**	0.924*
	(0.445)	(0.491)	(0.494)	(0.501)
lpopl	0.213***	0.206***	0.205***	0.208***
	(0.051)	(0.056)	(0.056)	(0.057)
lgdpcapl	−0.364***	−0.357***	−0.348***	−0.355***
	(0.073)	(0.082)	(0.083)	(0.084)
acdpeaceyears	0.024	0.055	0.052	0.029
	(0.101)	(0.112)	(0.112)	(0.113)
acdspline1	0.006*	0.007*	0.007*	0.006
	(0.003)	(0.004)	(0.004)	(0.004)
acdspline2	−0.002**	−0.002**	−0.002**	−0.002**
	(0.001)	(0.001)	(0.001)	(0.001)
acdspline3	0.0005***	0.0005***	0.001***	0.0005***
	(0.0002)	(0.0002)	(0.0002)	(0.0002)
year	0.017***	0.007	0.009	0.007
	(0.005)	(0.007)	(0.007)	(0.007)
Constant	−38.246***	−18.697	−22.450*	−17.591
	(9.494)	(12.954)	(13.288)	(13.100)
Observations	5824	4823	4823	4736
Log-likelihood	−759.403	−648.897	−642.911	−633.865
Akaike information criterion	1538.805	1317.794	1309.823	1291.731

Note: $^*p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$

contexts where the *IP* index is zero, while the effect of democratization on conflict drops with increases in *IP* at $t − 1$.

The upper box in Figure 5 shows the probability of conflict given democratization (*dem* = 1), as *IP* increases, all other variables held at their means. This shows that the association between democratization and conflict weakens with the level of pre-existing *IP*, suggesting that the effects of democratization might arise from sudden increases in political mobilization, as suggested by Huntington (1968) among others. During periods of no democratization, *IP* has no effect on conflict risk, as indicated by the lower box in Figure 5. When we compare this result to the result found when using POLCOMP from Polity (the fourth column), we do not find the same pattern. When the 'democraticness' of participation is measured by POLCOMP, the level of *IP* already in place when the transition happens seems to not

matter at all, contrary to the postulated mobilization mechanism. There are several reasons to have more faith in the IAEP index than in POLCOMP. The latter mixes both de jure and de facto restrictions on participation. The coding of its subcomponents includes behavioural aspects, including categories such as 'transitional' and 'factional' competition, which can be endogenous to political instability (Hegre et al., 2001; Vreeland, 2008). The IAEP *IP* index is more transparent and less tainted by endogeneity: it simply denotes whether there are institutionalized elections and how restricted participation is.

Conclusion

This update of the IAEP dataset makes a number of contributions to the ongoing empirical study of the effects and causes
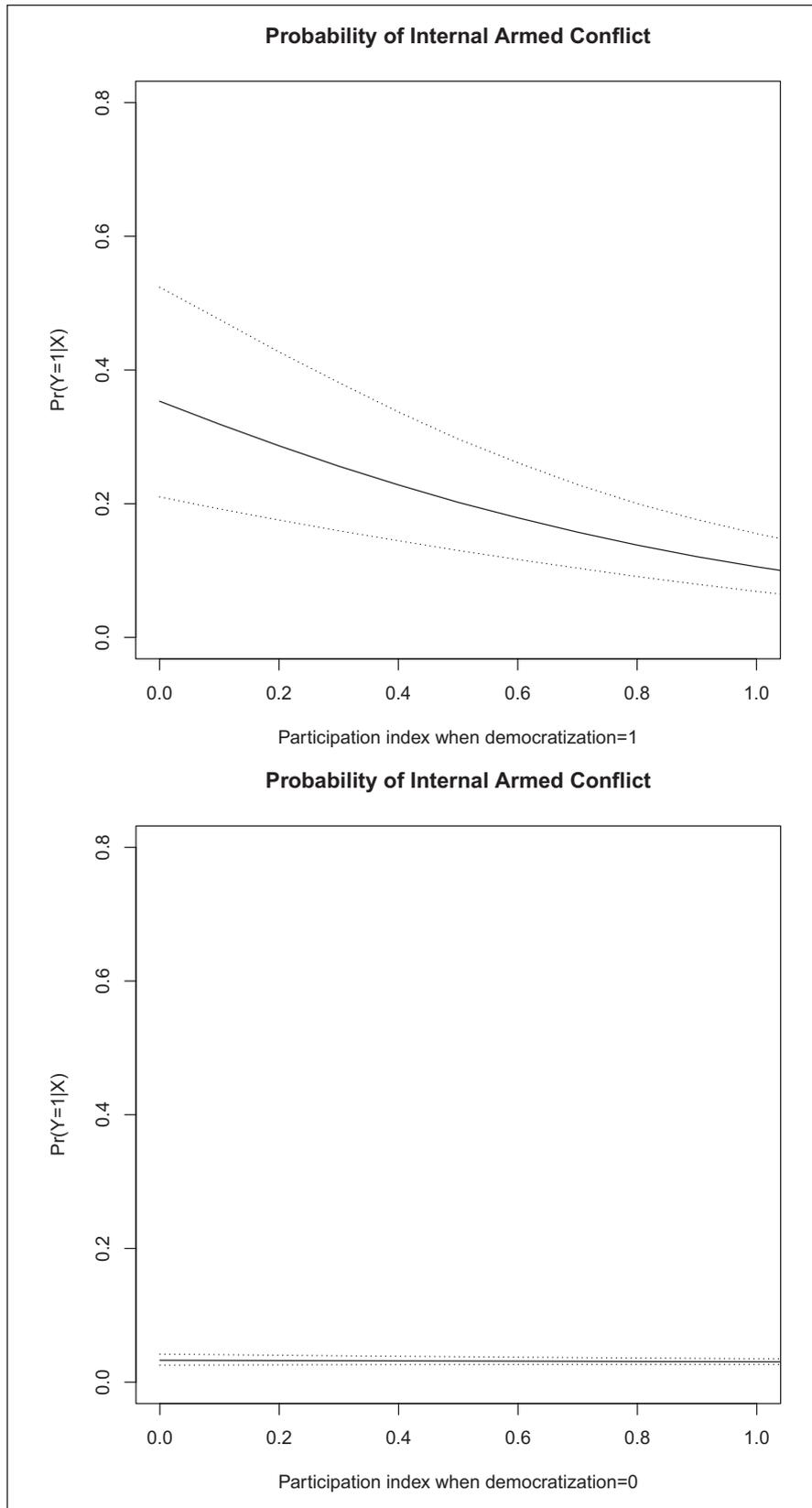
Figure 5. The probability of conflict for different levels of the institutionalized participation index (IAEP) during democratization (top) and no democratization (bottom). Figures show the simulated probability of conflict onset when all other variables are held at mean values, with 90% confidence intervals.

of political institutions. The dataset is one of the few large-scale global time-series datasets to code explicitly de jure institutions. The high resolution of the dataset will enable scholars to study the effects of specific institutional provisions, and to investigate how these interact with other provisions or dimensions. We have illustrated how the dataset allows for disaggregated analyses; for example, the spread of specific autocratic or democratic constitutional provisions over time, and for aggregation; by combining institutions to form specific institutional dimensions that can be compared and contrasted to existing institutional dimensions such as autocracy-democracy. The dataset will serve as a powerful complement to existing datasets on de facto aspects of political institutions, allowing scholars to study the interplay between formal constitutions and institutional behaviour.

Declaration of conflicting interest

The authors have no conflicts of interest to declare.

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Supplementary material

A user's manual, the dataset, replication material, and graphical representation of all the indicators can be found at http://havardhegre.net

Notes

1. The original dataset covered the years 1972–2006.
2. Formal operational constitutions are coded as 1 if: The indicators *writconstit* == 1, *formalconstit* == 1, and *ineffect* == 1, and 0 otherwise.
3. Supreme court: *court* == 1.
4. *courtleg* == 1 or *courtexec* == 1.
5. Elections to the executive: *elecexec* == 1. Elections to the legislature: *elecleg* == 1.
6. National legislature: *leg* == 1.
7. The model estimates a latent dimension that yields the highest likelihood of generating the patterns of ones and zeros in the data. More specifically, we estimate the one-dimensional model using the ideal function in the pcsl (Jackman, 2011). In this model, we drop all countries with more than 10 missing items, use a burn-in setting of 10,000, and a thinning of 100. We do not impute missing data in the model.

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