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ELECLAW Indicators

Measuring Voting and Candidacy Rights of Resident Citizens, Non-Resident Citizens and Non-Citizen Residents

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1. Why a new set of indicators to compare the franchise is useful

Electoral laws determine membership in the *demos*, that is, in the set of people who can participate in elections and referenda via voting and candidacy rights. As such, they are of crucial importance for democratic inclusion and electoral democracy. However, the comparative measurement of the franchise lags behind its theoretical and empirical significance. Seen from a comprehensive perspective existing indicators have several shortcomings, among them conflation of several categories of potential voters (e.g. Merkel and Bochsler et al. 2014: 43-4), focus on criteria dominant in non-democracies (e.g. Coppedge et al. 2014: 46; Wig et al. 2015), conflation of legal and demographic aspects (e.g. Paxton et al. 2003), rough scaling (e.g. MIPEX Political Participation / Electoral Rights indicators; Huddleston and Niessen 2011), reducing rights to basic eligibility without considering access conditions (e.g. Earnest 2006, 2015 in relation to non-citizen residents), and most generally, a sole focus on legislative elections, thus ignoring other types of elections and often also not taking into account different levels of government (e.g. Collyer and Vathi 2007; IDEA 2007, in relation to non-resident citizens). Of course, some these shortcomings are due to the specific focus of the studies or projects that use these indicators. However, given the theoretical and empirical significance of the issues involved, we are convinced that a more general, fine-grained, differentiated, and comprehensive set of comparative indicators on electoral laws is useful to further advance research on questions about the boundaries of the *demos* in contemporary democracies.

2. Constructing the ELECLAW indicators

Based on information in the qualitative [database on electoral rights](#), the [ELECLAW indicators](#) measure the degree of inclusion of voting rights (VOTLAW) and candidacy rights (CANLAW) for three different categories of potential voters: resident citizens (RC), non-resident citizens (NR), and non-citizen residents (NC). We keep the databases for voting and candidacy rights separate, because we think that an aggregate index combining both is implausible, as it is not clear how much the inclusiveness of candidacy rights contributes to the overall inclusiveness of electoral rights. Furthermore, we do not aggregate across the three categories of voters to arrive at a single indicator for electoral inclusiveness. The reason is that there is no generally accepted normative standard for comparing inclusiveness towards resident citizens, non-resident citizens and non-citizen residents. We also do not aggregate across levels of elections, mainly since some electoral rights for European Parliament (EP)¹ elections and local elections are determined by EU law and cannot be attributed to national electoral regimes. In addition, especially when it comes to the inclusion of non-resident citizens and non-citizen residents, some normative arguments about inclusion differentiate between levels of election (e.g. Bauböck 2015) – and keeping them separate streamlines empirical analyses that are differentiated accordingly. For each level, however, we do combine data for distinct types

1 Although most of the coding schemes do not differ compared to other levels of election, we treat EP elections separately and briefly explain how they deviate from the other coding schemes in each section.

of elections (presidential/mayoral, legislative, referenda/plebiscites) through a simple arithmetic mean. Therefore, our highest level of aggregation is [category of voters] * [level of election].

For reasons of simplicity, clarity, and consistency, our coding covers only *direct elections*, therefore excluding indirect elections in which a candidate is elected by an assembly that has itself emerged from direct elections. The main reason is that we focus on electoral rights as an aspect of citizenship rather than as a procedure for selecting office holders. Presidential and mayoral elections can be either direct or indirect. If ordinary citizens do not enjoy active voting rights in such elections, they are coded as inexistent for the purposes of ELECLAW.² And in parliamentary systems, in which the executive leader is not directly elected, but her or his election hinges upon the legislative elections, executive elections are also coded as inexistent. We acknowledge that there exist interesting and meaningful variations in indirect elections, particularly with respect to age restrictions for candidacy rights. But as long as these rights are restricted to a selected few from the outset, and as long as there are no corresponding popular voting rights, it seems reasonable not to include them in a set of indicators that aims to capture electoral inclusiveness for ordinary voters.

Our considerations and coding decisions notwithstanding, we encourage users to select, combine, and further aggregate different indicators according to their specific purposes – but also “at their own risk”. Similar to the [CITLAW indicators](#), users can select the degree of aggregation for maps and charts through sub-menus online. Hence, for each type of rights, category of voter and level of election, users will be able to further refine the search by selecting (1) a specific type of election (e.g. local legislative) and (2) a specific dimension (e.g. exclusion of resident citizens from voting only on grounds of criminal offence). Also, we make available all disaggregated data in the [downloadable dataset](#). [ELECLAW indicators](#) can be used for a wide variety of descriptive, explanatory as well as normative analyses of the franchise for different categories of voters.

2.1 Concept, orientation and logics of the ELECLAW scales

The concept behind ELECLAW is that of electoral inclusiveness. The underlying nature of this concept can be considered as continuous (laws can be more or less inclusive without any natural thresholds between degrees of inclusiveness). While its empirical manifestations in legal provisions are categorical, they can be easily ordered according to levels of inclusiveness. Accordingly, the measurement level of all our scales and aggregated indicators is *ordinal*, even though our usage of arithmetic means and multiplicative weights may suggest otherwise. As long as this level of scaling is adequately treated in subsequent analyses, we think this way of combining categorical indicators is intuitive, pragmatic and useful, even though it may not conform to standard textbook methods.

2 The election of the federal president in Germany would be an example for such an indirect election. By contrast, the presidential elections in the US would not be considered as indirect, because the outcome directly depends on a popular vote, even though it is formally mediated by the Electoral College.

The basic concept of electoral inclusiveness has two main dimensions. First, *eligibility restrictions* determine who has the right to vote or stand as candidate in principle. Second, *access restrictions* determine how those eligible can exercise their right to vote by means of voter registration and voting methods. We do not consider access restrictions for candidacy rights, since they vary much more widely, are harder to compare and because – compared to access to voting rights – access to candidacy is to a much larger extent determined by economic and social resources regardless of any legal restrictions. Eligibility is much more important for the overall inclusiveness of electoral rights. If eligibility is restrictive, then inclusive access conditions for few categories of eligible voters should not be able to raise the overall score too significantly. This is why we combine eligibility and access indicators for voting rights through a general weighted average, using an aggregation formula of $0.75 * [\text{eligibility score}] + 0.25 * [\text{access score}]$.

The orientation of the scales ranges from a minimum of 0 (minimum inclusiveness / maximum restrictions) to a maximum of 1 (maximum inclusiveness / minimum restrictions). In case of general eligibility restrictions, this usually translates into theoretical minima and maxima of 1 standing for “generally enfranchised” and 0 for “generally disenfranchised”. For all other indicators, such as age- or residence-based eligibility restrictions or voting methods, the determination of the minima and maxima is empirically determined. This means that we apply different scales for similar criteria if they vary empirically for different types of electoral rights. For instance, since age thresholds for voting and candidacy rights are often higher for candidacy rights, we cannot apply the same scale as for voting rights. This does not imply a normative judgment whether the age threshold should be the same for voting and candidacy rights, but serves the purpose of capturing the relevant empirical variation.

Since our current cross-section includes only EU member states in the year 2013, this inductive aspect might pose some problems when increasing the geographical and temporal scope. However, since we can observe a wide variety of electoral laws in the EU, we think that the assumption that most endpoints of our scales reasonably reflect and capture the potential range of variety overall is warranted. In addition, we have already calibrated some of our scales to incorporate variations that we anticipate encountering only beyond Europe (indicated in the coding schemes below). Finally, our coding for non-citizen residents distinguishes between non-national EU citizens and Third Country Nationals (TCNs). When comparing EU states to non-EU states, users can choose to either use only the TCN indicators, which do not take into account the EU citizenship-based local franchise, or the aggregated indicators that take into account that all EU states must enfranchise EU citizens in local elections.

We apply *variably grained scales*. The number of points on the basic 0 to 1 scale varies depending on qualitative distinctions that we find relevant or are able to draw based on our data. Scales may have two, three, four or five points, and their distances are expressed as equal divisions. Therefore, distances between points on different scales may vary and are not strictly comparable. However, this still allows for both aggregation and plausible comparison (between scores of countries or levels within countries on the very same indicators) as long as the underlying ordinal measurement level is adequately taken into account (the absolute values and their distances are not meaningful on their own but only in relative terms).

Finally, while trying to capture a maximum of meaningful variation, we also try to keep our coding rules as simple and as transparent as possible (and as far as the complexities of the task at hand allow us to do so). Since we try to craft and explain the schemes in a rather straightforward way, we hope they are intelligible for any competent reader. Sometimes, taking into account additional and more nuanced electoral rights regulations would be desirable but we lack the necessary data for the whole set of countries.

2.2 Further general coding principles and some technical issues

The concept of electoral inclusiveness clearly has a normative connotation. This is why for the purposes of ELECLAW we stick to a coding of provisions that can be easily located on our underlying scale, while leaving aside electoral regulations whose inclusiveness is normatively controversial or that do not necessarily indicate the inclusiveness of electoral rights. These are (1) mandatory voting and (2) modes of representation for non-resident voters (reserved seats for special categories of voters or ‘assimilated representation’ that merges their votes with those of the general electorate). This information can easily be retrieved from the comparative [database on electoral rights](#). More generally, we focus only on the individual right to vote or to stand for election and therefore do not include procedures that translate individual votes into parliamentary seats or outcomes of presidential and plebiscitary elections.

We concentrate on *de iure regulations* as specified in electoral laws; implementation and further *de facto* rules that only operate in practice are not considered. Similarly, we measure principles without considering their quantitative salience and context. In this sense, we do not weight specific provisions by the relative significance of the type of election, the relative power of different legislative chambers, the number of affected voters, or by the exact number of territorial entities within a state applying the provision. Instead we code the absence or presence of principles and their mix, usually applying the simple arithmetic mean whenever we encounter significant contextual variations.³ Yet, we multiply scores of provisions that apply to less or more than half of all relevant territorial entities with the following coefficients for territorial coverage:

Territorial coverage coefficients	
rules apply to all relevant sub-units	1
percentage of relevant sub-units where rules apply $\geq 50\%$	0.67
percentage of relevant sub-units where rules apply $< 50\%$	0.33

³ One may argue that not taking into account variation in the significance of elections or chambers across various types of democracies undermines cross-national equivalence. However, apart from our more principled reasons, we believe that this would not be feasible, as the variation is far too complex to be captured in a systematic way.

Thus, if different provisions are applied in different sub-units, we aggregate them as follows: $0.33 * [\text{code for rule A in less than half of sub-units}] + 0.67 * [\text{code for rule B in half or more than half of sub-units}]$. In most cases, the rule that applies in one set of sub-units will receive a code 0 (since only the other sub-units make special exceptions) and thus the value of its term will be 0. However, this general rule of aggregation allows for different codes above 0 in different sub-units as well. If the subunits are split exactly in half, the more inclusive provision receives the higher coefficient of 0.67.

This approach necessitates some additional coding criteria. First, we code a country if most of the sub-national indicators concern the franchise as regulated by national legislation. This is because, in principle, our codes measure the inclusiveness of the (sub-national) franchise for independent states – and for adequate comparisons across this fixed unit of analysis they should not capture sub-national legislation. Nevertheless, for pragmatic reasons, countries in which the sub-national franchise is primarily regulated by the respective sub-national level can still get a score – if we have sufficient information about the sub-national levels and their variation is not too intricate to apply the territorial coverage coefficient as outlined above (e.g. in Germany). In case of complex variation in states granting their sub-units extensive rights of self-determination in electoral law, we leave out the respective level of sub-national elections and code these elections as inexistent for purposes of clarity and adequacy for comparative cross-national research (no cases in our current sample, but Switzerland would be an example). In such cases capturing the variety of local and regional rules across a large set of sub-state jurisdictions would require an intra-national comparative study of the same or even greater magnitude as our international comparison (see e.g. Hooghe et al. 2010).

Second, if the sub-national franchise is generally regulated by national legislation but special autonomy regions have self-determination over their franchise, then we code only the legislation in the general regions so as not to let the result be distorted by exceptional sub-units (e.g. in Denmark, where we only code the mainland regions, but not Greenland and the Faroe Islands). Third, if only special autonomy regions hold elections and have self-determination with regard to the franchise, whereas there are no elections in regions in the rest of the country, we do not code the relevant sub-national levels for this country so as not to obtain a score that is based solely on exceptional sub-units (e.g. Portugal, where only the special autonomy regions of the Azores and Madeira hold elections). Finally, if there is a partial inexistence of elections in some sub-units (and none of these sub-units are special autonomy regions), we do not apply a territorial coverage coefficient. When this occurs, we instead simply code the rules of the sub-units that do hold elections – unless there are variations in these very sub-units that can indeed be captured by the coefficient (e.g. in Germany for the local level franchise of non-citizen residents, where there are both municipalities that do not hold elections and a small number of municipalities that apply different rules than all other municipalities).

All these criteria lead to several categories of countries for the coding of sub-national units. Beyond the default of existent elections that have been fully coded, there are three categories (2 to 4 in the following list) that are not coded due to the following reasons:

- Category 1 Default: Direct elections exist at this level and have been fully coded (this may include countries where elections are not held in some sub-national entities and/or where there is some sub-national variation in existing elections).
- Category 2 No elections: Direct elections do not exist at this level.
- Category 3 Complex variation: Elections exist but have not been coded because of too much variation across units due to self-determination and/or because of lack of data on the intricacies of the franchise at this level.
- Category 4 Special autonomy regions only: Elections exist but have not been coded because they only take place in special autonomy regions.

Last but not least, the complexity of the regional level necessitates one more fundamental clarification: the definition of the regional unit as such. Regions can be understood as “a coherent territorial entity situated between the local and national levels with a capacity for authoritative decision making” (Hooghe et al. 2010: 4). For ELECLAW, we focus on direct elections in the regional unit with the greatest political authority (according to Hooghe et al. 2010), if there is one or more regional units with significant political (and not mere administrative) relevance at all.

The following table lists the name of the regional units we cover, as well as the category they fall into in terms of coding and missing values in our current sample. As of now, our coding scheme can deal with the complexities of the regional level quite well, since only the case of Portugal is categorized as a special case of non-coding. However, we think our general principles may be valuable when expanding the spatial and temporal scope of the database (e.g. when applying them to federal states outside the EU, such as Switzerland and the USA).

Regions and coding categories in EU member states covered by ELECLAW

<i>Country</i>	<i>Name and number of regions (bold = coded)</i>	<i>Coding category</i>
Austria	Bundesländer (9)	1
Belgium	Région (1), Région-Capitale (1), Vlaamse Gewest (1)	1
Bulgaria	Oblasti (28)	2
Croatia	Županije (21)	1
Cyprus	-	2
Czech Republic	Kraje (14)	1
Denmark	Regioner (5), Special County (2)	1
Estonia	-	2
Finland	Maakuntien (18), Autonom gebied binnen (1)	2
France	Région (18)	1
Germany	Länder (16)	1
Greece	Peripheries (13), Autonomous region (1)	1
Hungary	Mađarske regije (7)	1
Ireland	Regional assemblies (3)	2
Italy	Regioni ordinarie (15), Regioni autonome (3), Province autonome (2)	1
Latvia	-	2
Lithuania	-	2
Luxembourg	-	2
Malta	-	2
Netherlands	Landsdelen (4)	1
Poland	Vojewodztwa (16)	2
Portugal	Áreas Metropolitanas (2), Comunidades intermunicipais (21), Regiões Autónomas (2)	4
Romania	Regiuni de dezvoltare (8)	2
Slovak Republic	Zoskupenia krajov (4)	1
Slovenia	-	2
Spain	Comunidad autónoma (17), Ciudad autónoma (2)	1
Sweden	Riksomraden (8)	1
United Kingdom	Regions (3), Countries (3)	1

A further issue concerns cases in which there are multiple provisions applying to the same level and type of election for the same category of potential voters in the same country. To deal with such cases, we apply the following three principles (indicated when applicable in the coding schemes below):

- Principle 1 Average score if different rules apply to different (sub-)categories of voters without implying cumulative inclusion or exclusion: If a country treats sub-categories of voters differently and this does not amount to a cumulative inclusion or exclusion, we assign a score for each sub-category and then take the average. For example, in Nordic countries Nordic non-EU citizens have a lower residence requirement for voting rights than other Third Country Nationals (TCNs). In this case, the score for residence-based eligibility restrictions for TCNs is the average of the score for Nordic TCNs and all other TCNs.

- Principle 2 Higher out of several scores if several options are available to the same (sub-)category of voters: If more than one option is available for a specific (sub-)category of voters, then the most inclusive option fully substitutes for all other options. For example, if non-resident citizens can choose to cast their vote through postal ballot or at an embassy, the score corresponds to the postal ballot option.
- Principle 3: Lower out of several scores if restrictions apply cumulatively to the same (sub-)category of voters: If more than one restriction applies to the same specific (sub-)category of voters, then only the most exclusive provision is coded. For example, criminal offenders may be excluded both on grounds of length of sentence and type of crime; or the candidacy rights of non-resident citizens can both be limited to mono-nationals and to citizens with past residence within a specific period. In such cases we code only the more restrictive of the two provisions. In order to keep the coding simple, we have decided not to use alternative methods for cumulative restrictions as is done for [CITLAW indicators](#), such as deductions from an initial score⁴ or multiplication of scores to capture interaction effects.

Finally, a remaining technical issue concerns our treatment of missing values. We call values “missing” for three reasons: (1) when the score is *not applicable* (code: N/A) – this always applies to subsequent (mostly access) scores when there is no eligibility; (2) when a certain *election is not held or is indirect* in a country as outlined above (code: X; category 2 for non-coding); and (3) when sub-national elections are *not coded* due to one of the two additional reasons outlined above (code: XX; categories 3 and 4 for non-coding). For the purposes of aggregation, we substitute all of these missing values in such a way that the overall values are not distorted, at least as long as not a whole level of election (e.g. regional elections) is missing. This means that all N/A values are substituted by a 0, and all X or XX values are substituted by the simple arithmetic mean of the “neighbouring scores”. If a whole level of election is missing, however, these missing levels are also coded X or XX in the dataset, and they are left grey in the online database. If the rule of inclusion has to be determined *ad hoc* (e.g. referendums in NL and UK at some levels), we simply assume that the legislation would include the same voters as the legislative elections at the respective level, and thus for aggregation we attribute the same scores as for legislative elections instead of treating them as missing values.⁵

In the [downloadable dataset](#) we combine the disaggregated indicators, which include all codes for missing values, with the aggregated indicators, which by means of the above technique for substitution are available even when there are missing values in the disaggregated data.

4 However, we do use a deduction method on one occasion to capture residence status requirements that are added to basic residence duration requirements for non-citizen residents.

5 This assumption is corroborated by the recent draft legislation for the EU referendum in the UK, which applies exactly the same criteria for the distribution of voting rights as in national legislative elections.

3. ELECLAW indicator overviews

In the following tables the hierarchies and names as well as the descriptions for the basic and the combined indicators in the online database are defined separately for each category of voters. The tables contain only the labels and descriptions of the indicators independently of level and type of election (which is why these further specifications are separated by a hyphen; see below). However, it must be kept in mind that for the category of non-resident citizens at the EU level the indicators are sometimes different and that for referenda logically there are no candidacy rights.

Rules for short labels of indicators:

<i>First letter</i>	V or C: voting rights or candidacy rights.
<i>Letters 2 and 3</i>	RC, NR, NC identify the main category of voters: resident citizens, non-resident citizens, non-citizen residents.
<i>Letters 4, 5 and 6</i>	indicate the grounds of restrictions: e.g. AGE (age), CRI (criminal offence), MEN (mentally disabled), ABS (temporary absence); or the aggregate indicators for eligibility and access: ELI, ACC.
<i>Letters after a hyphen</i>	indicate the level of election: -EU, -NA, -RE, -LO (European, national, regional, local).
<i>At the end</i>	type of election: LE, PR, RE (legislative, presidential, referendum).

For *aggregated indicators*, the letters of lower level indicators are dropped.

Examples:

VRCAGE-NALE	voting rights: age-based restrictions for resident citizens in national legislative elections
VNCELI-RERE	voting rights: eligibility restrictions for non-citizen residents in regional referenda
CNR-LO	candidacy rights: overall inclusiveness for non-resident citizens in local elections

3.1 VOTLAW indicator overviews

3.1.1 Resident citizens voting rights indicator overview

General component	Intermediate component	Basic component	Indicator name	Description
VRC			combined eligibility and access restrictions	VRC measures the overall inclusiveness of voting rights of resident citizens. It combines restrictions based on age, criminal offence, mental disabilities, temporary absence, occupation, and citizenship (eligibility) with restrictions based on registration procedures and voting methods (access). It is calculated as follows: $VRC = .75*(.167*VRCAGE + .167*VRCCRI + .167*VRCMEN + .167*VRCABS + .167*VRCOCC + .167*VRCCIT) + .25*(.5*VRCREG + .5*VRCMET)$
	VRCELI		combined eligibility restrictions	VRCELI measures the degree of eligibility restrictions for voting rights of resident citizens based on age, criminal offence, mental disabilities, and temporary absence. It is calculated as follows: $VRCELI = .167*VRCAGE + .167*VRCCRI + .167*VRCMEN + .167*VRCABS + .167*VRCOCC + .167*VRCCIT$
		VRCAGE	age	VRCAGE measures the degree of eligibility restrictions for voting rights of resident citizens based on age on a 3-point scale between 1 '<18' and 0 '>18', treating 18 as the middle category.
		VRCCRI	criminal offence	VRCCRI measures the degree of eligibility restrictions for voting rights of resident citizens based on criminal offence on a 5-point scale between 1 'generally enfranchised' and 0 'generally disenfranchised'.
		VRCMEN	mental disability	VRCMEN measures the degree of eligibility restrictions for voting rights of resident citizens based on mental disabilities on a 4-point scale between 1 'generally enfranchised' and 0 'generally disenfranchised'.
		VRCABS	temporary absence	VRCABS measures the degree of eligibility restrictions for voting rights of resident citizens based on temporary absence on a 5-point scale. The more cumbersome it is for persons to vote while temporarily abroad, the lower the score.

		VRCOCC	occupation	VRCOCC measures the degree of eligibility restrictions for voting rights of military personnel or other occupational categories based on dichotomous scale between 1 'no disenfranchisement' and 0 'any disenfranchisement of specific occupations'.
		VRCCIT	citizenship	VRCCIT measures the degree of eligibility restrictions for voting rights of naturalised and dual citizens on a 5-point scale between 1 'no disenfranchisement of naturalised and dual citizens' and 0 'disenfranchisement of both categories'.
	VRCACC		combined access restrictions	VRCACC measures the degree of access restrictions for voting rights of resident citizens based on registration procedures and voting methods. It is calculated as follows: $VRCACC = .5*VRCREG + .5*VRCMET$
		VRCREG	Registration procedures	VRCREG measures the degree of access restrictions for voting rights of resident citizens based on registration procedures on a 3-point scale. The more cumbersome the registration procedure, the lower the score.
		VRCMET	Voting methods	VRCMET measures the degree of access restrictions for voting rights of resident citizens based on voting methods on a 4-point scale. The more cumbersome the voting method, the lower the score.

3.1.2 Non-resident citizens voting rights indicator overview

General component	Intermediate component	Basic component	Indicator name	Description
VNR			combined eligibility and access restrictions	VNR measures the overall inclusiveness of voting rights of non-resident citizens. It combines eligibility and access restrictions and is calculated as follows: $VNR = .75*VNRELI + .25*(.5*VNRREG + .5*VNRMET)$
	VNRELI		eligibility restrictions	VNRELI measures the degree of eligibility restrictions for voting rights of non-resident citizens on a 5-point scale between 1 'generally enfranchised' and 0 'generally disenfranchised'.
	VNRACC		combined access restrictions	VNRACC measures the degree of access restrictions for voting rights of non-resident citizens based on registration procedures and voting methods. It is calculated as follows: $VNRACC = .5*VNRREG + .5*VNRMET$

		VNRREG	registration procedures	VNRREG measures the degree of access restrictions for voting rights of non-resident citizens based on registration procedures on a 4-point scale. The more cumbersome the registration procedure, the lower the score.
		VNRMET	voting methods	VNRMET measures the degree of access restrictions for voting rights of non-resident citizens based on voting methods on a 5-point scale. The more cumbersome the voting method, the lower the score.

3.1.3 Non-citizen residents voting rights indicator overview

General component	Intermediate component	Basic component	Indicator name	Description
<i>National and sub-national levels (EU citizens and TCNs covered)</i>				
VNC			combined restrictions for all non-citizen residents	VNC measures the overall inclusiveness of voting rights of all non-citizen residents. It combines the composite indicators for EU citizens and TCNs and is calculated as follows: $VNC = .33*(.75*(.5*VNCEUNAT + .5*VNCEURES) + .25*VNCEUACC) + .67*(.75*(.67*VNCTCINNAT + .33*VNCTCNRES) + .25*VNCTCNACC)$
	VNCEU		restrictions for EU citizens	VNCEU measures the overall inclusiveness of voting rights of non-national EU citizens. It combines basic eligibility and residence-based restrictions with access restrictions and is calculated as follows: $VNCEU = .75*(.5*VNCEUNAT + .5*VNCEURES) + .25*VNCEUACC$
	VNCEUELI		eligibility for EU citizens	VNCEUELI measures the degree of eligibility restrictions of voting rights of non-national EU citizens. It combines basic eligibility and residence-based restrictions and is calculated as follows: $VNCEUELI = .5*VNCEUNAT + .5*VNCEURES$
		VNCEUNAT	basic eligibility for EU citizens	VNCEUNAT measures whether non-national EU citizens are eligible or not on a dichotomous scale between 1 'generally enfranchised' and 0 'generally disenfranchised'.

		VNCEURES	residence for EU citizens	VNCEURES measures the degree of eligibility restrictions for voting rights of non-national EU citizens based on the required length of residence on a 5-point scale between 1 ‘<= 3 months’ and 0 ‘> 3 years’.
	VNCEUACC		access for EU citizens	VNCEUACC measures the degree of access restrictions for voting rights of non-national EU citizens based on registration procedures on a 3-point scale. The more cumbersome the registration procedure, the lower the score; if additional requirements such as an oath apply, the score is 0.
	VNCTCN		restrictions for TCNs	VNCTCN measures the overall inclusiveness of voting rights of TCNs. It combines nationality-based and residence-based eligibility restrictions with access restrictions and is calculated as follows: $VNCTCN = .75*(.67*VNCTCINNAT + .33*VNCTCNRES) + .25*VNCTCNACC$
	VNCTCNELI		eligibility for TCNs	VNCTCNELI measures the degree of eligibility restrictions for voting rights of TCNs based on nationality and residence. It is calculated as follows: $VNCTCNELI = .67*VNCTCINNAT + .33*VNCTCNRES$
		VNCTCINNAT	nationality for TCNs	VNCTCINNAT measures the degree of eligibility restrictions for voting rights of TCNs based on nationality on a 3-point scale between 1 ‘generally enfranchised’ and 0 ‘generally disenfranchised’.
		VNCTCNRES	residence for TCNs	VNCTCNRES measures the degree of eligibility restrictions for voting rights of TCNs based on the required length of residence on a 5-point scale between 1 ‘<= 1 year’ and 0 ‘> 8 years’.
	VNCTCNACC		access for TCNs	VNCTCNACC measures the degree of access restrictions for voting rights of TCNs based on registration procedures on a 3-point scale. The more cumbersome the registration procedure, the lower the score; if additional requirements such as an oath apply, the score is 0.

<i>EU level (only EU citizens covered)</i>				
VNCEU			restrictions for EU citizens	VNCEU is a composite indicator for the overall inclusiveness of voting rights of non-national EU citizens. It combines basic eligibility and residence-based restrictions with access restrictions and is calculated as follows: $VNCEU = .75*(.5*VNCEUNAT + .5*VNCEURES) + .25*VNCEUACC$
	VNCEUELI		eligibility restrictions for EU citizens	VNCEUELI is a composite indicator for the degree of eligibility restrictions of voting rights of non-national EU citizens. It combines basic eligibility and residence-based restrictions and is calculated as follows: $VNCEUELI = .5*VNCEUNAT + .5*VNCEURES$
		VNCEUNAT	basic eligibility for EU citizens	VNCEUNAT measures whether non-national EU citizens are eligible or not on a dichotomous scale between 1 'generally enfranchised' and 0 'generally disenfranchised'.
		VNCEURES	residence for EU citizens	VNCEURES measures the degree of eligibility restrictions for voting rights of non-national EU citizens based on the required length of residence on a 5-point scale between 1 '<= 3 months' and 0 '> 3 years'.
	VNCEUACC		access restrictions for EU citizens	VNCEUACC measures the degree of access restrictions for voting rights of non-national EU citizens based on registration procedures on a 3-point scale. The more cumbersome the registration procedure, the lower the score; if additional requirements such as an oath apply, the score is 0.

3.2 CANLAW indicator overviews

3.2.1 Resident citizens candidacy rights indicator overview

General component	Basic component	Indicator name	Description
CRC		eligibility restrictions	CRC measures the overall inclusiveness of candidacy rights of resident citizens based on age, criminal offence, mental disabilities, occupation, and citizenship. It is calculated as follows: $CRC = .2 * CRCAGE + .2 * CRCCRI + .2 * CRCMEN + .2 * CRCOCC + .2 * CRCCIT$
	CRCAGE	age	CRCAGE measures the degree of eligibility restrictions for candidacy rights of resident citizens based on age on a 5-point scale between 1 '<18' and 0 '>30'.
	CRCCRI	criminal offence	CRCCRI measures the degree of eligibility restrictions for candidacy rights of resident citizens based on criminal offence on a 5-point scale between 1 'generally enfranchised' and 0 'generally disenfranchised'.
	CRCMEN	mental disability	CRCMEN measures the degree of eligibility restrictions for candidacy rights of resident citizens based on mental disabilities on a 4-point scale between 1 'generally enfranchised' and 0 'generally disenfranchised'.
	CRCOCC	occupation	CRCOCC measures the degree of eligibility restrictions for voting rights of military personnel or other occupational categories based on a 3-point scale between 1 'no disenfranchisement' and 0 'complete disenfranchisement of specific occupations'.
	CRCCIT	citizenship	CRCCIT measures the degree of eligibility restrictions for voting rights of naturalised and dual citizens on a 5-point scale between 1 'no disenfranchisement of naturalised and dual citizens' and 0 'disenfranchisement of both categories'.

3.2.2 Non-resident citizens candidacy rights indicator overview

General component	Basic component	Indicator name	Description
CNR		combined eligibility restrictions	CNR measures the overall inclusiveness of candidacy rights of non-resident citizens based on residence and dual citizenship. It is calculated as follows: $CNR = .5 * CNRCRES + .5 * CNRDUA$
	CNRCRES	residence	CNRCRES measures the degree of eligibility restrictions for candidacy rights of non-resident citizens based on residence on a 5-point scale between 1 'no disenfranchisement on ground of residence' and 0 'present residence required'.
	CNRDUA	dual citizenship	CNRDUA measures the degree of eligibility restrictions for candidacy rights of non-resident citizens based on dual citizenship on a 3-point scale between 1 'dual citizens generally enfranchised' and 0 'dual citizens generally disenfranchised or required to renounce citizenship prior to candidate registration'.

3.2.3 Non-citizen residents candidacy rights indicator overview

General component	Intermediate component	Basic component	Indicator name	Description
<i>National and sub-national levels (EU citizens and TNCs covered)</i>				
CNC			combined restrictions for all non-citizen residents	CNC measures the overall inclusiveness of candidacy rights of all non-citizen residents. It combines the composite indicators for EU citizens and TNCs and is calculated as follows: $CNC = .33*(.5*CNCEUNAT + .3*CNCEURES + .2*CNCEUPAR) + .67*(.5*CNCTCINNAT + .3*CNCTCNRES + .2*CNCTCNPAR)$
	CNCEU		eligibility for EU citizens	CNCEU measures the overall inclusiveness of candidacy rights of non-national EU citizens. It is calculated as follows: $CNCEU = .5*CNCEUNAT + .3*CNCEURES + .2*CNCEUPAR$
		CNCEUNAT	basic eligibility of EU citizens	CNCEUNAT measures whether non-national EU citizens are eligible or not on a dichotomous scale between 1 'generally enfranchised' and 0 'generally disenfranchised'.
		CNCEURES	residence for EU citizens	CNCEURES measures the degree of eligibility restrictions for candidacy rights of non-national EU citizens based on the required length of residence on a 5-point scale between 1 '<= 3 months' and 0 '> 3 years'.
		CNCEUPAR	party membership for EU citizens	CNCEUPAR measures the degree of eligibility restrictions for candidacy rights of non-national EU citizens based on restrictions of party membership. If party membership is reserved to nationals the score is 0, if not it is 1.
	CNCTCN		eligibility for TCNs	CNCTCN measures the overall inclusiveness of candidacy rights of TNCs. It is calculated as follows: $CNCTCN = .5*CNCTCINNAT + .3*CNCTCNRES + .2*CNCTCNPAR$
		CNCTCINNAT	nationality for TCNs	CNCTCINNAT measures the degree of eligibility restrictions for candidacy rights of TCNs based on nationality on a 3-point scale between 1 'generally enfranchised' and 0 'generally disenfranchised'.

		CNCTCNRES	residence for TCNs	CNCTCNRES measures the degree of eligibility restrictions for candidacy rights of TCNs based on the required length of residence on a 5-point scale between 1 ‘<= 1 year’ and 0 ‘> 8 years’.
		CNCTCNPAR	party membership for TCNs	CNCTCNPAR measures the degree of eligibility restrictions for candidacy rights of TCNs based on restrictions of party membership. If party membership is reserved to nationals the score is 0, if not it is 1.
<i>EU level (only EU citizens covered)</i>				
CNCEU			eligibility for EU citizens	CNCEU is a composite indicator for the overall inclusiveness of candidacy rights of non-national EU citizens. It is calculated as follows: $CNCEU = .5 * CNCEUNAT + .3 * CNCEURES + .2 * CNCEUPAR$
		CNCEUNAT	basic eligibility of EU citizens	CNCEUNAT measures whether non-national EU citizens are eligible or not on a dichotomous scale between 1 ‘generally enfranchised’ and 0 ‘generally disenfranchised’.
		CNCEURES	residence for EU citizens	CNCEURES measures the degree of eligibility restrictions for candidacy rights of non-national EU citizens based on the required length of residence on a 5-point scale between 1 ‘<= 3 months’ and 0 ‘> 3 years’.
		CNCEUPAR	party membership for EU citizens	CNCEUPAR measures the degree of eligibility restrictions for candidacy rights of non-national EU citizens based on restrictions of party membership. If party membership is reserved to nationals the score is 0, if not it is 1.

4. Coding rules for VOTLAW indicators

4.1 Voting rights for resident citizens (VRC)

The voting rights indicators for resident citizens cover eight grounds of exclusion: eligibility restrictions based on age, criminal offence, mental disability, temporary absence from the territory, citizenship (for naturalised citizens, dual citizens, and citizens born abroad), occupation (mainly for military personnel), and access restrictions for the general population of enfranchised voters based on registration procedures and voting methods.

4.1.1 VRCELI: Eligibility restrictions

VRCAGE: Age-based restrictions

For age-based restrictions, we take the most common age threshold of 18 as the middle category to capture deviations from this nearly global standard. Note that the scale differs for candidacy rights, since for them age thresholds are often higher.

Treatment of multiple codes: principle 1 applies (average of more than one); e.g. when the voting age for two legislative chambers differs.

VRCAGE	
<18	1
18	0.5
>18	0

Examples for applying a territorial coverage coefficient:

VRCAGE-RELE in Germany: 18 is the norm, but in two Länder (Brandenburg and Bremen), it is 16. Hence, the score is calculated as 0.67 [coverage coefficient for more than half of sub-units] * 0.5 [code for voting age 18] + 0.33 [coverage coefficient for less than half of sub-units] * 1 [code for voting age 16] = 0.67

VRCAGE-LOLE in Germany: For half of all Länder it is 18, for the other half it is 16. Hence, the score is calculated as 0.67 [coverage coefficient for half of sub-units with the more inclusive provision] * 1 [code for voting age 16] + 0.33 [coverage coefficient for half of sub-units with the less inclusive provision] * 0.5 [code for voting age 18] = 0.84

VRCCRI: Restrictions based on criminal offence

For restrictions based on criminal offence, we construct an empirically informed 5-point scale with ideal-typical endpoints. We assign a relatively high score to disenfranchisements for specific crimes, since these usually include only very serious crimes (often crimes against the state) and therefore can be considered less exclusive than disenfranchisements based on the length of prison sentences. “All persons currently

“serving a sentence” encompasses all persons who are currently serving a penal sentence, which includes prisoners, but also prisoners on remand, persons on probation, serving a suspended sentence, etc.

Treatment of multiple codes: principle 3 applies (only the most exclusive provision is coded); e.g. when there is a disenfranchisement for specific crimes but also for specific lengths of prison sentences, only the latter is coded.

VRCCRI	
no disenfranchisement	1
separate judicial decision on disenfranchisement OR disenfranchisement only for specific crimes	0.75
automatic disenfranchisement for prison sentence of 3 years or more	0.5
automatic disenfranchisement for prison sentence of less than 3 years OR any disenfranchisement for a specific time after serving a prison sentence	0.25
automatic disenfranchisement of all prisoners OR all persons currently serving a sentence OR all persons with a criminal record	0

VRCMEN: Restrictions based on mental disability

For restrictions based on mental disability, we construct an empirically informed 4-point scale with ideal-typical endpoints. We treat the two potential target groups of hospitalised and legally incapacitated persons as substitutes.

Treatment of multiple codes: principle 3 applies (only the most exclusive provision is coded); e.g. when there is a separate judicial decision for hospitalised persons, but all legally incapacitated persons are disenfranchised, the score is 0.

VRCMEN	
no disenfranchisement	1
separate judicial decision on disenfranchisement of hospitalised persons OR legally incapacitated persons	0.67
automatic disenfranchisement for specific categories of hospitalised persons OR fully legally incapacitated persons	0.33
automatic disenfranchisement of all hospitalised persons OR all legally incapacitated persons	0

VRCABS: Restrictions based on temporary absence

For restrictions based on temporary absence from the territory on election day, we construct an empirically informed scale with electronic voting as the most inclusive provision, since it is more inclusive than postal voting for people temporarily abroad who might be travelling. Note that we treat this indicator as an eligibility provision, even though it contains voting methods, because very exclusive provisions can imply a disenfranchisement of this category of potential voters.

Treatment of multiple codes: principle 2 applies (only the most inclusive provision is coded); e.g. when postal voting is available to all, and electronic voting only for special categories, the score is 0.75.

VRCABS	
electronic voting	1
proxy voting OR postal voting OR any form of early voting	0.75
voting at embassy or consulate OR other polling station abroad	0.5
in country voting, travel subsidised OR any method available only for special categories	0.25
no method available / disenfranchised	0

VRCOCC: Occupation-based restrictions

For restrictions based on occupations, we construct a simple dichotomous scale that mainly captures the enfranchisement of military personnel. However, we want to keep this indicator open for potential exclusion of other occupational categories (e.g. police or clergy) which have existed in the past and might have persisted in some countries outside the European Union.

Treatment of multiple codes: principle 1 applies (average if more than one); e.g. when the provisions differ for two legislative chambers.

VRCOCC	
no disenfranchisement of military personnel OR other occupational categories	1
automatic disenfranchisement of military personnel OR other occupational categories	0

VRCCIT: Citizenship-based restrictions

For restrictions based on citizenship, we construct a 4-point scale. It covers direct disenfranchisements of dual citizens, naturalised citizens, and citizens born abroad, but also includes a possible indirect disenfranchisement due to restrictions on dual citizenship in case of naturalisation. For the latter, we use the CITLAW indicator ANAT06b (renunciation requirement of foreign citizenship): If it is below 1, then the score is 0.67, provided there is no more exclusive provision. Restrictions applying to naturalised citizens and citizens born abroad are more severe and therefore receive even lower scores.

Treatment of multiple codes: principle 3 applies (only the most exclusive provision is coded).

VRCCIT	
no disenfranchisement of dual citizens and naturalised citizens / no birthright citizenship required	1
no voting rights for dual citizens OR restrictions on dual citizenship in naturalisation	0.67
restrictions for naturalised citizens or citizens born abroad	0.33
restrictions for naturalised citizens or citizens born abroad AND no voting rights for dual citizens	0

4.1.2 VRCACC: Access restrictions**VRCREG: Registration procedure**

For restrictions based on registration procedures, we construct a 3-point scale capturing how cumbersome and frequent the registration procedure is for the generally enfranchised voters.

Treatment of multiple codes: N/A (no empirical case)

VRCREG	
automatic registration	1
active registration, once-off	0.5
active registration, periodic renewal	0

VRCMET: Voting methods

For restrictions based on voting methods, we construct a 4-point scale capturing how cumbersome the voting method is for the generally enfranchised voters present in the territory on election day. Instead of applying the average of several codes in case of multiple codes for specific sub-groups, here we give a more inclusive code if a special method is available for special categories, since that usually implies facilitated access to voting rights for the disabled or elderly, who would otherwise be discriminated if not all voters are included via postal, internet or proxy or early voting. Note that for the other categories of voters, a different scale applies.

Treatment of multiple codes: N/A (no empirical case); special categories receive a separate code.

VRCMET	
electronic OR postal OR proxy OR any form of early voting for all voters	1
any of the above but only for special categories of voters	0.67
polling station anywhere in the respective territorial entity (may be upon request only)	0.33
polling station in the district where the person is registered only	0

4.1.3 Aggregation rules

Eligibility restrictions:

$$\text{VRCELI} = .167 \cdot \text{VRCAGE} + .167 \cdot \text{VRCCRI} + .167 \cdot \text{VRCMEN} + .167 \cdot \text{VRCABS} + .167 \cdot \text{VRCOCC} + .167 \cdot \text{VRCCIT}$$

Access restrictions: $\text{VRCACC} = .5 \cdot \text{VRCREG} + .5 \cdot \text{VRCMET}$

Combined indicator: $\text{VRC} = .75 \cdot \text{VRCELI} + .25 \cdot \text{VRCACC}$

4.1.4 Treatment of European Parliament (EP) elections

The coding schemes for voting rights of resident citizens in EP elections do not deviate from the ones applied to all other levels of elections.

4.2 Voting rights for non-resident citizens (VNR)

The voting rights indicators for non-resident citizens cover three grounds of exclusion: general eligibility restrictions based on past residence, access restrictions based on specific registration procedures and voting methods.

4.2.1 VNRELI: Eligibility restrictions

VNRELI: General eligibility restrictions

For general eligibility restrictions, we construct an empirically informed 5-point scale with ideal-typical endpoints. It mostly captures provisions based on past residence but adds a more exclusive code for provisions that only enfranchise limited categories. Whereas we otherwise focus on *de iure* regulations, for eligibility of non-resident citizens we also consider implementation, since a lack of implementing legislation (as is for example currently the case in Greece) effectively disenfranchises the whole category of non-resident citizen voters.

Treatment of multiple codes: principle 2 (only most inclusive provision is coded); e.g. when limited categories are enfranchised additionally to a more general enfranchisement, the score is not averaged.

VNRELI	
generally enfranchised	1
past residence in lifetime or birth in the territory	0.75
past residence within specific period	0.5
limited categories only (such as military personnel, embassy staff, employees of public companies) OR eligible but no implementing legislation	0.25
generally disenfranchised	0

4.2.2 VNRACC: Access restrictions

VNRREG: Registration procedures

For restrictions based on registration procedures, we construct a 4-point scale capturing how cumbersome and frequent the registration procedure is. Based on our data, we are able to make an additional distinction concerning the frequency of renewal for recurring active registration (whereas for citizen residents, we construct a 3-point scale).

Treatment of multiple codes: N/A (no empirical case)

VNRREG	
automatic registration for citizens living abroad	1
active registration, once-off	0.67
active registration, long-term periodic renewal (for two or more election periods)	0.33
active registration, frequent renewal (for every election)	0

VNRMET: Voting methods

For restrictions based on voting methods, we construct a 4-point scale capturing how cumbersome the voting method is. As for resident citizens who are temporarily abroad, we treat the electronic method as the most inclusive.

Treatment of multiple codes: N/A (no empirical case)

VNRMET	
electronic voting	1
proxy OR postal voting	0.75
voting at embassy or consulate OR other polling station abroad	0.5
in country voting, travel subsidised	0.25
in-country voting only, non-subsidised	0

4.2.3 Aggregation rules

Access restrictions: $VNRACC = .5 * VNRREG + .5 * VNRMET$

Combined indicator: $VNR = .75*VNRELI + .25*VNRACC$

4.2.4 Treatment of European Parliament (EP) elections

The coding schemes for voting rights of non-resident citizens in EP elections deviate from the ones applied to all other levels of elections with respect to the general eligibility indicator. The access indicators and the aggregation rules are analogous to all other levels and therefore not listed separately.

VNRELI-EU: General eligibility restrictions for EP elections

For general eligibility restrictions in EP, we construct an empirically informed 5-point scale with ideal-typical endpoints. It mostly captures provisions based on past residence with a special mention of EU member states, but adds a more exclusive code for provisions that only enfranchise limited categories. Also, here we again exceptionally consider also legislative implementation since it potentially determines access for the whole category.

Treatment of multiple codes: principle 2 applies (only the most inclusive provision is coded); e.g. when limited categories are enfranchised additionally to a more general enfranchisement, the score is not averaged.

VNRELI	
generally enfranchised	1
past residence more than 10 years ago OR birth in the territory	0.75
past residence less than 10 years ago OR citizens residing in another EU Member State only (citizens residing in Third Countries are excluded)	0.5
limited categories only (such as military personnel, embassy staff, employees of public companies) OR eligible but no implementing legislation	0.25
generally disenfranchised	0

4.3 Voting rights for non-citizen residents (VNC)

The voting rights indicators for non-citizen residents cover three grounds of exclusion: eligibility restrictions based on nationality or based on residence and access restrictions based on registration procedures.

Since we cover EU member states, we distinguish between two empirically relevant sub-categories: non-national EU citizens (Second Country Nationals: SCNs) and Third Country Nationals (TCNs). We thus develop separate indicators, which we subsequently combine. Arrangements for special nationalities are only included in the TCN indicator score; SCNs can always be expected to be treated equally. This way we avoid averaging between overlapping categories of all TCNs and special nationality TCNs.

Though for national elections this distinction is not currently relevant in any EU member state, we also construct separate basic indicators on this level. This facilitates cross-level direct comparisons of scores within and across countries, which would otherwise not be possible due to the different indicator constructions.

When comparing EU states to non-EU states with expanded versions of ELECLAW, users can choose to either use only the TCN indicators, which do not take into account EU citizens, or the aggregated indicator that takes into account that all EU states must grant voting rights to EU citizens in local legislative elections (voting rights for local mayoral elections and local referenda are not formally required by EU law). Note, however, that we find variation in residence requirements (and, in Germany, territorial coverage) for the voting rights of EU citizens in local legislative elections – a measure not foreseen by EU law as long as not more than 20% of the eligible voting population are non-nationals (a derogation that applies to Luxembourg only).

At the level of EU elections, however, we only cover EU citizens, because participation in EP elections can be considered a specific aspect of EU citizenship, and because only some exceptional countries such as Portugal and the UK enfranchise very particular TCNs. Note that the enfranchisement of EU citizens in EP elections is required by EU law (and measures are taken to avoid double voting in both country of origin and residence for free movers). Countries only vary with respect to residence requirements. These are – again – only compatible with EU law if not more than 20% of the eligible voting population are non-nationals (as in Luxembourg).

4.3.1 VNCEUELI: Eligibility restrictions for EU citizens

VNCEUNAT: Nationality-based restrictions / general eligibility

For general eligibility restrictions, we construct a simple dichotomous scale, since no EU country enfranchises only selected nationalities of SNCs.

Treatment of multiple codes: N/A (no empirical case)

VNCEUNAT	
SCNs are generally enfranchised	1
SCNs are generally disenfranchised	0

VNCEURES: Residence duration-based restrictions

For restrictions based on residence duration, we construct an empirically informed 5-point scale.

Treatment of multiple codes: N/A (no empirical case)

VNCEURES	
≤ 3 months	1
≤ 6 months	0.75
≤ 1 year	0.5
≤ 3 years	0.25
> 3 years	0

4.3.2 VNCTCNELI: Eligibility restrictions for TCNs

VNCTCNNAT: Nationality-based restrictions / general eligibility

For general eligibility restrictions, we construct a 4-point scale that also captures the enfranchisement of one or more selected categories.

Treatment of multiple codes: N/A (no empirical case)

VNCTCNNAT	
TCNs generally enfranchised	1
TCNs of more than one nationality enfranchised	0.67
TCNs of only one nationality enfranchised	0.33
generally disenfranchised	0

VNCTCNRES: Residence duration-based restrictions

For restrictions based on residence duration, we construct an empirically informed 5-point scale. If a specific residence status rather than mere residence duration is required, and if this status cannot be acquired automatically and without additional conditions (e.g. language tests), we deduct 0.25 from the score on the duration scale, which reflects the years it takes to acquire the status. For example, in the UK voting rights are granted to all non-national Commonwealth citizens who hold an Indefinite Leave to Remain (ILR), which requires 5 years of lawful residence plus an active application. Thus, the UK is coded as 0.25 (0.5 for the length of residence minus 0.25 for non-automaticity).

Treatment of multiple codes: principle 1 applies (average of more than one); e.g. when the residence requirements for different groups of TCNs differ (as is the case in Nordic countries for non-EU Nordic citizens, for example).

VNCTCNRES	
≤ 1 year	1
2-3 years	0.75
4-5 years	0.5
6-8 years	0.25
≥9 years	0

4.3.3 VNCEUACC and VNCTCNACC: Access restrictions

The coding of the access restrictions is identical for both SCNs and TCNs, which is why we only list it once.

VNCEUACC and VNCTCNACC: Registration procedures

For restrictions based on registration procedures, we construct a 3-point scale capturing how cumbersome and frequent the registration procedure is. In addition, we assign the code 0 if there are additional requirements compared to citizen residents, such as oaths or language tests specifically for the purposes of registration.

Treatment of multiple codes: N/A (no empirical case)

VNCEUACC / VNCTCNACC	
Automatic	1
Active, once-off / long-term renewal	0.5
Active, frequent renewal (every elections) OR additional requirements compared to citizen residents (e.g. oaths or language tests)	0

4.3.4 Aggregation rules

Eligibility indicator SCNs: $VNCEUELI = .5 * VNCEUNAT + .5 * VNCEURES$

Eligibility indicator TCNs: $VNCTCNELI = .67 * VNCTCINNAT + .33 * VNCTCNRES$

We give more weight for residence-based restrictions for SCNs compared to those for TCNs, because the former enjoy free movement rights and residence-based restrictions are thus more significant for this category. Also note that, as pointed out above, technically duration-of-residence-based restrictions for SCNs are not allowed under EU law, which makes them even more relevant.

Combined indicator SCNs: $VNCEU = .75 * VNCEUELI + .25 * VNCEUACC$

Combined indicator TCNs: $VNCTCN = .75*VNCTCNELI + .25*VNCTCNACC$

Overall combined indicator: $VNC = .33*VNCEU + .67*VNCTCN$

We give more weight to TCNs, because EU citizens are mainly enfranchised due to EU law (at least at the local level) and therefore this variation is less affected by the national regime.

4.3.5 Treatment of European Parliament (EP) elections

The coding schemes for voting rights of non-citizen residents in EP elections deviate from the ones applied to all other levels of elections, as our measurements only cover the sub-category of SCNs. The aggregation schemes are analogous, but of course the last step of aggregation (which is to combine SCNs and TCNs) is left out.

5. Coding rules for CANLAW indicators

5.1 Candidacy rights for resident citizens (CRC)

The candidacy rights indicators for resident citizens cover five grounds of exclusion: eligibility restrictions based on age, criminal offence, mental disability, citizenship (for naturalised citizens, dual citizens, and citizens born abroad), and occupation (mainly for military personnel). Most of them are evaluated along a different scale compared to voting rights in order to capture relevant empirical variations. We do not code access conditions for candidacy rights.

5.1.1 Eligibility restrictions

CRCAGE: Age-based restrictions

For age-based restrictions, we cover multiple age groups beyond the common threshold of 18 to capture relevant variation.

Treatment of multiple codes: principle 1 applies (average of more than one); e.g. when the candidacy age for two legislative chambers differs.

CRCAGE	
<18	1
18	0.75
19-24	0.5
25-30	0.25
<30	0

Example for applying a territorial coverage coefficient:

CRCAGE-RELE in Germany: 18 is the norm, but in one Land (Hessen), it is 21. Hence, the score is calculated as 0.67 [coverage coefficient for more than half of sub-units] * 0.75 [code for candidacy age 18] + 0.33 [coverage coefficient for less than half of sub-units] * 0.5 [code for candidacy age 21] = 0.63

CRCCRI: Restrictions based on criminal offence

For restrictions based on criminal offence, we construct a 5-point scale analogous to the one for voting rights. “All persons currently serving a sentence” encompasses all persons who are currently serving a penal sentence, which includes prisoners, but also prisoners on remand, persons on probation, serving a suspended sentence, etc. Note that in case we have no specific information about candidacy rights based on criminal offence, as a default we assume that, with the exception of the age threshold, all persons who have voting rights also have candidacy rights, and assign a code accordingly.

Treatment of multiple codes: principle 3 applies (only the most exclusive provision is coded); e.g. when there is a disenfranchisement for specific crimes but also for specific lengths of prison sentences, only the latter is coded.

CRCCRI	
no disenfranchisement	1
separate judicial decision on disenfranchisement OR disenfranchisement only for specific crimes	0.75
automatic disenfranchisement for prison sentence of 3 years or more	0.5
automatic disenfranchisement for prison sentence of less than 3 years OR any disenfranchisement for a specific time after serving a prison sentence	0.25
automatic disenfranchisement of all prisoners OR all persons currently serving a sentence OR all persons with a criminal record	0

CRCMEN: Restrictions based on mental disability

For restrictions based on mental disability, we apply the same scale as for voting rights, and again treat the two potential target groups of hospitalised and legally incapacitated persons as substitutes. Note that also here, in case we have no specific information about candidacy rights based on criminal offence, as a default we assume that, with the exception of the age threshold, all persons who have voting rights also have candidacy rights, and assign a code accordingly.

Treatment of multiple codes: principle 3 applies (only the most exclusive provision is coded); e.g. when there is a separate judicial decision for hospitalised persons, but all legally incapacitated persons are disenfranchised, the score is 0.

CRCMEN	
no disenfranchisement	1
separate judicial decision on disenfranchisement of hospitalised persons OR legally incapacitated persons	0.67
automatic disenfranchisement for specific categories of hospitalised persons OR fully legally incapacitated persons	0.33
automatic disenfranchisement of all hospitalised persons OR all legally incapacitated persons	0

CRCOCC: Occupation-based restrictions

For restrictions based on occupations, we construct a 3-point scale that mainly captures the enfranchisement of military personnel and takes into account the possibility of candidacy rights conditional upon resignation or suspension of affiliation with the army. However, we want to keep also this indicator open for potential exclusion of other occupational categories (e.g. police or clergy members) which have existed in the past and might have persisted in some countries (outside the European Union).

Treatment of multiple codes: principle 1 applies (average if more than one); e.g. when the provisions differ for two legislative chambers.

CRCOCC	
no disenfranchisement of military personnel OR other occupational categories	1
military personnel must resign from or suspend their affiliation with the army when taking up office OR incompatibility for other occupational categories	0.5
automatic disenfranchisement of military personnel OR other occupational categories	0

CRCCIT: Citizenship-based restrictions

For restrictions based on citizenship, we construct a 4-point scale analogous to the one for voting rights. It covers direct disenfranchisements of dual citizens, naturalised citizens, and citizens born abroad, but also includes a possible indirect disenfranchisement due to restrictions on dual citizenship in case of naturalisation. For the latter, we use the CITLAW indicator ANAT06b (renunciation requirement of foreign citizenship): If it is below 1, then the score is 0.67, provided there is no more exclusive

provision. Restrictions applying to naturalised citizens or citizens born abroad are more severe and therefore receive even lower scores.

Treatment of multiple codes: principle 3 applies (only the most exclusive provision is coded).

CRCCIT	
no disenfranchisement of dual citizens and naturalised citizens / no birthright citizenship required	1
no candidacy rights for dual citizens OR restrictions on dual citizenship in naturalisation	0.67
restrictions for naturalised citizens or citizens born abroad	0.33
restrictions for naturalised citizens or citizens born abroad AND no candidacy rights for dual citizens	0

5.1.2 Aggregation rules

Combined indicator:

$$CRC = .2 * CRCAGE + .2 * CRCCRI + .2 * CRCMEN + .2 * CRCCOCC + .2 * CRCCIT$$

5.1.3 Treatment of European Parliament (EP) elections

The coding schemes for candidacy rights for resident citizens in EP elections do not deviate from the ones applied to all other levels of elections.

5.2 Candidacy rights for non-resident citizens (CNR)

The candidacy rights indicators for non-resident citizens cover two grounds of exclusion: eligibility restrictions based on residence and dual citizenship. We do not code access conditions for candidacy rights.

5.2.1 Eligibility restrictions

CNRRES: Residence-based restrictions

For residence-based restrictions, we construct an empirically informed 5-point scale with ideal-typical endpoints. It mostly captures provisions based on past residence, but adds a more exclusive code for provisions that only enfranchise limited categories. In this specific context, residence usually refers to residence in the country of citizenship. A residence requirement in the extraterritorial constituency (only possible where there is a

special representation system) is coded as 0.67, since this is not an onerous requirement for this kind of representation.

Treatment of multiple codes: principle 2 applies (only the most inclusive provision is coded); e.g. when limited categories are enfranchised additionally to a more general enfranchisement, the score is not averaged.

CNRRES	
generally enfranchised	1
past residence in lifetime or birth in the territory OR current residence in the extraterritorial constituency	0.75
past residence within specific period	0.5
limited categories only (such as military personnel, embassy staff, employees of public companies)	0.25
generally disenfranchised	0

CNRDUA: Dual citizenship-based restrictions

For restrictions based on dual citizenship, we construct a 3-point scale. It covers direct disenfranchisements of dual citizens, but also includes possible indirect disenfranchisements due to placing limits or not tolerating dual citizenship for non-resident citizens. For the latter, we use the CITLAW indicators LWITL05 (loss due to voluntary acquisition of a foreign citizenship) and LWIT06 (loss due to retention of a foreign citizenship acquired at birth): If LWITL05 is 0 or if it is 0.25 because of non-toleration only for non-resident citizens, CNRDUA is automatically 0; if it is between 0 and 1, CNRDUA can be 0.5; if it is 1, CNRDUA can be 1. If LWIT06 is 0 or is 0.25 because withdrawal applies only to persons residing abroad, then CNRDUA is automatically 0; if it is between 0 and 1, CNRDUA can be 0.5; if it is 1, CNRDUA can be 1. In other words, non-toleration includes cases of automatic loss with voluntary acquisition of a foreign nationality OR of a requirement to renounce at the age of majority a foreign nationality acquired at birth. Limited toleration includes cases where restrictions apply only to one of these cases AND where the loss of a foreign nationality can be prevented without taking up residence in the country. If a country has both types of loss provisions against dual citizenship, then the more restrictive one of the two determines the coding of CNRDUA.

Treatment of multiple codes: principle 3 applies (only the most exclusive provision is coded).

CNRDUA	
no disenfranchisement AND country places no limits on dual citizenship for non-resident citizens	1
toleration of dormant external citizenship OR renunciation requirement upon taking up office OR country places some limits on dual citizenship for non-resident citizens	0.5
automatic disenfranchisement OR renunciation requirement prior to candidate registration OR no toleration of dual citizenship for non-resident citizens	0

5.2.2 Aggregation rules

Combined indicator: $CNR = .5 * CNRRES + .5 * CNRDUA$

5.2.3 Treatment of European Parliament (EP) elections

The coding schemes for candidacy rights of non-resident citizens in EP elections deviate from the ones applied to all other levels of elections with respect to both residence- and dual citizenship-based restrictions. The aggregation rules are analogous to all other levels and therefore not listed separately.

CNRRES-EU: Residence-based restrictions in EP elections

For residence-based restrictions, we construct an empirically informed 5-point scale with ideal-typical endpoints. It mostly captures provisions based on past residence with a special mention of EU member states, but adds a more exclusive code for provisions that only enfranchise limited categories. In this specific context, residence usually refers to residence in the country of citizenship.

Treatment of multiple codes: principle 2 applies (only the most inclusive provision is coded); e.g. when limited categories are enfranchised additionally to a more general enfranchisement, the score is not averaged.

CNRRES-EU	
generally enfranchised	1
past or current residence or birth in one of the Member States of the EU	0.75
past residence or birth in the country required	0.5
limited categories only (such as military personnel, embassy staff, employees of public companies)	0.25
generally disenfranchised	0

CNRDUA-EU: Dual citizenship-based restrictions in EP elections

For restrictions based on dual citizenship, we construct a 3-point scale. It covers direct disenfranchisement of dual citizens, but also includes a possible indirect disenfranchisement due to the non-toleration of dual citizenship for non-resident citizens (other limits are not covered). For the latter, we use the CITLAW indicators LWITL05 (acquisition of a foreign citizenship) and LWIT06 (retention of a foreign citizenship acquired at birth): If LWITL05 is 0 or if it is 0.25 because of non-toleration only for non-resident citizens, CNRDUA-EU is automatically 0. If LWIT06 is 0 or is 0.25 because withdrawal applies only to persons residing abroad, then CNRDUA is automatically 0. In other words, non-toleration includes cases of automatic loss with voluntary acquisition of a foreign nationality OR of a requirement to renounce at the age of majority a foreign nationality acquired at birth.

Treatment of multiple codes: principle 3 applies (only the most exclusive provision is coded)

CNRDUA-EU	
no disenfranchisement	1
toleration of dual citizenship of another EU members state AND persons holding the citizenship of a third country are excluded	0.5
automatic disenfranchisement of all dual citizens OR dual citizenship not tolerated for non-resident citizens	0

5.3 Candidacy rights for non-citizen residents (CNC)

The candidacy rights indicators for non-citizen residents cover three grounds of exclusion: eligibility restrictions based on nationality and residence, and additional restrictions based on party membership.

Since we cover EU member states, we distinguish between two empirically relevant sub-categories also for candidacy rights: non-national EU citizens (Second Country Nationals: SCNs) and Third Country Nationals (TCNs). We thus develop separate indicators which we subsequently combine. Arrangements for special nationalities are only included in the score on the TCN indicator; SCNs can always be expected to be treated equally. This way we avoid averaging between overlapping categories of all TCN and special nationality TCNs.

Though for national elections this distinction is not currently relevant in any EU member state, we again construct separate basic indicators also on this level. This facilitates cross-level direct comparisons of scores within and across countries, which would otherwise not be possible due to the different indicator constructions.

When comparing EU states to non-EU states with expanded versions of ELECLAW, users can choose to either use only the TCN indicators, which do not take into account the EU citizens, or the aggregated indicator that takes into account that all EU states

must grant candidacy rights to EU citizens in local legislative elections (voting rights for local mayoral elections and local referenda are not formally required by EU law, though for mayoral elections candidacy rights for EU citizens are the default from which countries may opt out). Also here, however, we uncover variation in residence requirements (and, in Germany, territorial coverage) for the voting rights of EU citizens in local legislative elections – a measure not foreseen by EU law as long as not more than 20% of the eligible voting population are non-nationals (applies to Luxembourg only).

At the level of EU elections, however, we again only cover EU citizens, because participation in EP elections can be considered a specific aspect of EU citizenship and because only some exceptional countries such as Portugal and the UK grant candidacy rights to very particular TCNs. Note that the enfranchisement of EU citizens in EP elections is required by EU law. Countries only vary with respect to residence requirements. These are – again – only compatible with EU law if not more than 20% of the eligible voting population are non-nationals (as in Luxembourg).

5.3.1 CNCEUELI: Eligibility restrictions for EU citizens

CNCEUNAT: Nationality-based restrictions / general eligibility

For general eligibility restrictions, we construct a simple dichotomous scale, since no EU country enfranchises only selected nationalities of SNCs.

Treatment of multiple codes: N/A (no empirical case)

CNCEUNAT	
SCNs are generally enfranchised	1
SCNs are generally disenfranchised	0

CNCEURES: Residence duration-based restrictions

For restrictions based on residence duration, we construct an empirically informed 5-point scale. Note that this residence requirement only applies to the residence duration in the country to be coded itself.⁶

Treatment of multiple codes: N/A (no empirical case)

⁶ There is a special provision in Poland that requires no residence in Poland itself, but 5 years of residence in any EU member state, which we do not consider an onerous requirement for EU citizens and which therefore has no further influence on coding (Poland receives a score of 1).

CNCEURES	
≤ 3 months	1
≤ 6 months	0.75
≤ 1 year	0.5
≤ 3 years	0.25
>3 years	0

5.3.2 CNCTCNELI: Eligibility restrictions for TCNs

CNCTCNNAT: Nationality-based restrictions / general eligibility

For general eligibility restrictions, we construct a 4-point scale that also captures the enfranchisement of one or more selected categories.

Treatment of multiple codes: N/A (no empirical case)

CNCTCNNAT	
generally enfranchised	1
TCNs of more than one nationality enfranchised	0.67
TCNs of only one nationality enfranchised	0.33
generally disenfranchised	0

CNCTCNRES: Residence duration-based restrictions

For restrictions based on residence duration, we construct an empirically informed 5-point scale. If a specific residence status rather than mere residence duration is required, and if this status cannot be acquired automatically and without additional conditions (e.g. language tests), we deduct 0.25 from the score on the duration scale (i.e. how long it takes to acquire the status). For example, in the UK candidacy rights are granted to all non-national Commonwealth citizens who hold an Indefinite Leave to Remain (ILR), which requires 5 years of lawful residence plus an active application. Thus, the UK is coded as 0.25 (0.5 for the length of residence minus 0.25 for non-automaticity).

Treatment of multiple codes: principle 1 applies (average of more than one); e.g. when the residence requirements for different groups of TCNs differ (as is the case in Nordic countries for non-EU Nordic citizens, for example).

CNCTCNRES	
≤ 1 year	1
2-3 years	0.75
4-5 years	0.5
6-8 years	0.25
≥9 years	0

5.3.3 CNCEUPAR and CNCTCNPAR: Restrictions on party membership

ELECLAW indicators focus on access to the franchise and thus do not cover restrictions of political liberties for non-citizens affecting their freedom of speech, assembly and association.⁷ However, restrictions on party membership are directly relevant for our topic, since candidates normally have to be nominated by parties.

The coding of additional restrictions based on party membership is identical for both SCNs and TCNs, which is why we only list it once. We construct a simple dichotomous scale indicating whether membership in a political party is reserved to nationals.

CNCEUPAR / CNCTCNPAR	
no restrictions on party membership based on nationality	1
membership in a political party is reserved to nationals	0

5.3.4 Aggregation rules

Combined indicator SCNs:

$$\text{CNCEU} = .5 * \text{CNCEUNAT} + .3 * \text{CNCEURES} + .2 * \text{CNCEUPAR}$$

Combined indicator TCNs:

$$\text{CNCTCN} = .5 * \text{CNCTCINNAT} + .3 * \text{CNCTCNRES} + .2 * \text{CNCTCNPAR}$$

Here the weighting is analogous for EU citizens and TCNs, since candidacy rights for EU citizens are only mandatory for EU states to implement (without residence restrictions) in local legislative elections.

⁷ Compare the [MIPEx indicators on political liberties for TCNs](#).

Combined indicator:

$$\text{CNC} = .33 * \text{CNCEU} + .67 * \text{CNCTCN}$$

We give more weight to TCNs, because EU citizens tend to be enfranchised due to EU law (at least on the local level – even though this is not mandatory for candidacy rights) and therefore this variation is less affected by the national regime.

5.3.5 Treatment of European Parliament (EP) elections

The coding schemes for candidacy rights of non-citizen residents in EP elections deviate from the ones applied to all other levels of elections, as our measurements only cover the sub-category of SCNs. The aggregation schemes are analogous, but of course the last step of aggregation (which is to combine SCNs and TCNs) is left out.

6. Concluding remarks

The aim of this paper has been to explain and make fully transparent the construction of [ELECLAW indicators](#). It should allow competent readers to assess our validity claim that these indicators actually measure the inclusiveness of electoral rights. We hope that national experts will also help us to improve reliability by checking the scores and weights that we have assigned to the various indicators against our qualitative [database on electoral rights](#) as well as their own knowledge.

Since our current cross-section includes only EU member states in the year 2013, we again want to draw attention to the fact that this inductive aspect might pose some problems when increasing the spatial and temporal scope. However, as we have explained above, we do not anticipate serious problems, and some of our scales and separate treatment of EU citizens for the non-citizen resident category already facilitate the potential comparability of [ELECLAW indicators](#) for future expansions across space and time.

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