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ELECLAW INDICATORS: MEASURING VOTING AND CANDIDACY RIGHTS OF RESIDENT CITIZENS, NON-RESIDENT CITIZENS AND NON-CITIZEN RESIDENTS

Version 5.1

AUTHORED BY

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Global Citizenship Observatory (GLOBALCIT)
Robert Schuman Centre for Advanced Studies
in collaboration with
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ELECLAW Indicators: Measuring Voting and Candidacy Rights of Resident Citizens, Non-Resident Citizens and Non-Citizen Residents

Version 5.1

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

Version 5.1[1]

Years and countries covered:
2013 (EU28) and 2015 (EU28, Switzerland, the Americas, and Oceania)

Samuel D. Schmid, Jean-Thomas Arrighi, and Rainer Bauböck[2]

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; Helbling et al. 2016), 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 of 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.

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[1] Research assistance: Lorenzo Piccoli and Dejan Stjepanović. A shorter introductory article (Schmid, Piccoli, and Arrighi 2019) is freely available here.

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2. Constructing the ELECLAW indicators

Based on information in our online databases, 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)[3] 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 of elections (executive, legislature, referendum) through a simple arithmetic mean. Therefore, our highest level of aggregation is [category of voters] * [level of election].

We cover not only local, regional, and national elections, but also supranational ones. The supranational level includes elections to the European Parliament (28 Member States), the Andean Parliament (Bolivia, Colombia, Ecuador, and Peru), the Central American Parliament (El Salvador, Guatemala, Honduras, Nicaragua, and Panama), and the Mercosur Parliament (Argentina, Brazil, Paraguay, Uruguay, and Venezuela). Some countries in our sample are not part of a supranational union endowed with a democratically-elected parliament, such as the US, Mexico, Canada, Australia or New Zealand. Therefore, they were excluded from this particular 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 (which we abbreviate as executive 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.[4] Note that this restriction to direct elections does, however, cover presidential elections in countries where presidents do not exercise executive roles. Our term executive does needs to be understood with this qualification in mind. Furthermore, we use legislative as a term that applies to direct

[3] Although most of the coding schemes do not differ compared to other levels of election, we treat EP elections as well as the various supranational elections in Latin America (for the Andean Parliament, the Central-American Parliament, and the Mercosur Parliament) separately and briefly explain how they deviate from the other coding schemes in each section.

[4] 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.

elections of decision-making assemblies, including those at local level that are often regarded as exercising administrative rather than legislative powers.

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.

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. While the basic score on eligibility (such as nationality-based requirements for non-citizen residents) sets the maximum level of inclusiveness possible for the relevant composite indicator, further eligibility and access restrictions (such as residence-based or registration requirements for non-citizen residents) put additional constrains to this basic inclusiveness. This is due to the fact that these further restrictions are applied only to those who are enfranchised as reflected by the basic eligibility score. For example, if the basic score on eligibility is medium (e.g. 0.5), further eligibility and access restrictions can never increase this initial level of inclusiveness, but only reduce it (if there are further restrictions), or leave it unchanged (if there are no further restrictions). However, these restrictions should not be allowed to reduce

the score to a level that lies below the next less inclusive category on basic eligibility. This is why, for the purposes of aggregation, we define a second set of values for the further eligibility and access restrictions that, when subtracted, modify the basic eligibility score in an adequate way.

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 sample includes EU member states in the year 2013 and EU member states, Switzerland, the Americas, and Oceania in 2015, this inductive aspect might pose some problems when widening the geographical and temporal scope. However, since we can observe a broad variety of electoral laws across these cases, 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, 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 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 our online databases. 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 elections and referenda.

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.[5] 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 ≥ 50%	0.67
percentage of relevant sub-units where rules apply < 50%	0.33

Thus, if different provisions are applied in different sub-units, we aggregate them as follows: 0.33*[code for rule A in less than half of sub-units] + 0.67*[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

[5] 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.

adequacy for comparative cross-national research 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). Especially in the Americas, we sometimes encounter extensive self-determination and thus, variation in electoral laws for sub-national units, also for national elections (e.g. in the 50 states of the US). Sometimes this is also limited to certain aspects of electoral laws, making the combined electoral law a function of both national and sub-national legislation. These aspects can also vary across categories of voters, making this kind of complex variation even more intricate than what we describe above.

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 certain sub-national elections are held only in a limited number of sub-units (and none of these sub-units are special autonomy regions), we do not apply a territorial coverage coefficient. In the qualitative database it is often specified that the rules apply only to elections where they are held – the existence of the election as such differs across sub-units. When this occurs, we simply code instead the rules of the sub-units that do hold elections. The use of the territorial coverage coefficient is to capture complexity of sub-national variation of existing elections. It has nothing to do with inexistent elections. Therefore, if there is sub-national variation in certain units while other units do not hold elections at all, we only code the existent elections and capture their variation across the units that hold elections, provided the variation is not too complex to be captured by our coding of the coefficient. For instance, the local level franchise of non-citizen residents in Germany is complicated by the fact that some municipalities do not hold elections and the rules for those who do hold elections differ across municipalities. Municipalities in the city-states of Hamburg, Berlin and Bremen do not enfranchise any non-citizen resident, not even non-national EU citizens, whereas all other municipalities enfranchise all non-national EU citizens. Hence the code for such a case consists of two separate codes for the special municipalities and the rest, that are then aggregated using the territorial coverage coefficient. The inexistent elections in certain municipalities, by contrast, are simply ignored.

All these criteria lead to several categories of countries for coding. Beyond the default of existent elections that have been fully coded, there are four categories (2 to 4 in the following list) that are not or only partially 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 or only partially been coded because of too much variation across sub-national units due to their 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). If there are several levels of regional units with direct elections between the local and national levels, we focus on direct elections at that regional level where units enjoy the greatest political authority (according to Hooghe et al. 2010). For instance, in France we code "Régions", not "Départements."

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. For countries with special autonomous territories we also indicate the names of the special regions. This list does not cover national and local elections, where the listed categories can also apply.

Regions and coding categories used by ELECLAW

Country	*Name and number of regions* (**bold** = coded)	*Coding category*
Austria	**Bundesländer (9)**	1
Belgium	**Régions/gewest (3)**	1
Bulgaria	Oblasti (28)	2
Croatia	**Zupanije (21)**	1
Cyprus	-	2
Czech Republic	**Kraje (14)**	1
Denmark	**Regioner (5)**; Special County (2)	1
Estonia	-	2
Finland	Maakuntien (18); Autonoom gebiet binnen (1) – Åland Islands	4
France	**Régions (18)**	1
Germany	**Länder (16)**	1
Greece	**Peripheries (13);** Autonomous region (1)	1
Hungary	**Madarske regije (7)**	1
Ireland	Regional assemblies (3)	2
Italy	**Regioni ordinarie (15); Regioni autonome (3) – Sicilia, Sardegna, Friuli-Venezia; Province autonome (2) – Trentino, Bolzano**	1
Latvia	-	2
Lithuania	-	2

Luxembourg	-	2
Malta	-	2
Netherlands	**Provinciale staten (12)**	1
Poland	Vojewodztwa (16)	2
Portugal	Áreas Metropolitanas (2); Comunidades intermunicipais (21); Regiões Autónomas (2) – Azores, Madeira	4
Romania	Regiuni de dezvoltare (8)	2
Slovak Republic	**Zoskupenia krajov (4)**	1
Slovenia	-	2
Spain	**Comunidades autónomas (17)**; Ciudades autónomas (2)	1
Sweden	**Riksomraden (8)**	1
Switzerland	**Kantone (26)**	1 / 3 for NC
United Kingdom	**Devolved assemblies (3) – Northern Ireland, Scotland, Wales; Other regions (1) – Greater London Authority**	1
Argentina	Provincias (23)	3
Bolivia	**Departamentos (9)**	1
Brazil	**Unidades federativas (27)**	1
Canada	**Provinces (10); Territories (3)**	3
Chile	**Regiones (15)**	1
Colombia	**Departamentos (32)**	1
Costa Rica	-	2
Ecuador	**Regiones autónomas (7); Distritos metropolitanos (2), Región de régimen especial (1)**	1
El Salvador	Departamentos (14)	2
Guatemala	Regiones (8)	2
Honduras	-	2
Mexico	**Estados (31); Ciudad del Mexico (1)**	1
Nicaragua	-	2
Paraguay	**Departamentos (17)**	1
Peru	**Departamentos (24); Provincia Constitucional del Callao (1)**	1
Suriname	**Distritos (10)**	1
United States	**States (50), District of Washington D.C. (1)**; Territories (5)	3
Uruguay	-	2
Venezuela	**Estados (23) and Districto Capital (1)**	1
Australia	**States (6) ; Australian Capital Territory (1); Northern Territory (1)**	1
New Zealand	**Regions (16)**	1

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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 score[6] or multiplication of scores to capture interaction effects.

Finally, a remaining technical issue concerns our treatment of missing values. We call values "missing" for four reasons: (1) when a certain *election is not held or is indirect* in a country as outlined above (code: X and grey in the visualisation and 66 in the dataset; category 2 for non-coding); (2) when sub-national elections are *not coded* due to one of the two additional reasons outlined above (code: XX and grey in the visualization and 77 in the dataset; categories 3 and 4 for non-coding); (3) when the score is *not applicable* because of scores on related indicators (code: N/A and grey in the visualisation and 88 in the dataset) – this always applies to subsequent (mostly access) scores when there is no eligibility; and (4) when the score is not applicable because the indicator only exists on a certain continent (code: no case in the visualisation; 99 in the dataset) – this applies to indicators that are only relevant for EU member states such as voting rights for Third and Second Country Nationals.

[6] 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.

For the purposes of aggregation, we only use information on existing elections. This means that aggregate indicators are available also if one of the lower-level indicators is missing. If a whole level of election is missing, however, these missing levels are also coded 66 or 77 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.[7]

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.

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:

First letter	V or C: voting rights or candidacy rights.
Letters 2 and 3	RC, NR, NC identify the main category of voters: resident citizens, non-resident citizens, non-citizen residents.
Letters 4, 5 and 6	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.
Indicators for aggregation	if the indicator is a transformation of another indicator for the purposes of aggregation, we add the three small letters "agg".
Letters after a hyphen	indicate the level of election: -SN, -NA, -RE, -LO (supranational, national, regional, local).
At the end	type of election: LE, EX, RE (legislative, executive, referendum).

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

[7] This assumption is corroborated by the legislation for the EU referendum in the UK, which applied exactly the same criteria for the distribution of voting rights as in national legislative elections.

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
CNCRESagg-LOEX	indicator transformation of CNCRES-LOEX (candidacy rights: residence requirement for non-citizens residents in local executive (Mayoral) elections) for the purposes of aggregation

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 = .167*VRCAGE + .167*VRCCRI + .167*VRCMEN + .167*VRCABS + .167*VRCOCC + .167*VRCCIT - VRCREGagg - VRCMETagg
	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: VRC = VNRELI - VNRREGagg - VNRMETagg
	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**
National and sub-national levels (EU citizens and TNCs covered)				
VNC			combined restrictions for all non-citizen residents	VNC measures the overall inclusiveness of voting rights of all non-citizen residents. For Switzerland, the Americas, and Oceania it combines basic eligibility, residence-based restrictions and access restrictions and is calculated as follows: VNC = VNCNAT - VNCRESagg - VNCACCagg For the EU-28 it combines the composite indicators for EU citizens and TCNs and is calculated as follows: VNC = .33*(VNCEUNAT - VNCEURESagg - VNCEUACCagg) + .67*(VNCTCNNAT - VNCTCNRESagg - VNCTCNACCagg)
	VNCELI		eligibility for non-citizen residents	VNCELI measures the degree of eligibility restrictions of voting rights of all non-citizen residents. For Switzerland, the Americas, and Oceania it combines basic eligibility and residence-based restrictions and is calculated as follows: VNCELI = VNCNAT - VNCRESagg For the EU-28 it combines basic eligibility and residence-based restrictions of both non-national EU citizens and TCNs and is calculated as follows: VNCELI = .33*(VNCEUNAT - VNCEURESagg) +.67*(VNCTCNNAT - VNCTCNRESagg)
		VNCNAT	basic eligibility for non-citizen residents	For Switzerland, the Americas, and Oceania VNCNAT measures whether non-citizen residents are eligible or not on a dichotomous scale between 1 ‘generally enfranchised’ and 0 ‘generally disenfranchised’. For the EU-28, this indicator is calculated as follows: VNCNAT = .33*VNCEUNAT + .67* VNCTCNNAT

		VNCRES	residence for non-citizen residents	For Switzerland, the Americas, and Oceania VNCRES measures the degree of eligibility restrictions for voting rights of non-citizen residents based on the required length of residence on a 5-point scale between 1 '<= 3 months' and 0 '> 3 years'. For the EU-28 this indicator is calculated as follows: VNCRES = .33*VNCEURES + .67* VNCTCNRES
	VNCACC		access for non-citizen residents	For Switzerland, the Americas, and Oceania VNCACC measures the degree of access restrictions for voting rights of non-citizen residents 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. For the EU-28 this indicator is calculated as follows: VNCACC = .33*VNCACC + .67* 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 = VNCEUNAT - VNCEURESagg - VNCEUACCagg
	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 = VNCEUNAT - VNCEURESagg
		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 = VNCTCNNAT - VNCTCNRESagg - VNCTCNACCagg

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	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 = VNCTCNNAT - VNCTCNRESagg
		VNCTCNNAT	nationality for TCNs	VNCTCNNAT 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	VNCTNCACC 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.
EU level (only EU citizens covered)				
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 = VNCEUNAT - VNCEURESagg - VNCEUACCagg
	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 = VNCEUNAT - VNCEURESagg
		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: CRC = .5*CRCRES + .5*CRCDUA
	CNRRES	residence	CNRRES 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'.

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3.2.3 Non-citizen residents candidacy rights indicator overview

General component	Intermediate component	Basic component	Indicator name	Description
National and sub-national levels (EU citizens and TNCs covered)				
CNC			combined restrictions for all non-citizen residents	CNC measures the overall inclusiveness of candidacy rights of all non-citizen residents. For Switzerland, the Americas, and Oceania it combines basic eligibility, residence-based restrictions and restrictions on party membership, and it is calculated as follows: CNC = CNCNAT - CNCEURESagg - CNCEUPARagg For the EU-28 it combines the composite indicators for EU citizens and TCNs and is calculated as follows: CNC = .33*(CNCEUNAT - CNCEURESagg - CNCEUPARagg) + .67*(CNCTCNNAT - CNCTCNRESagg - CNCTCNPARagg)
		CNCNAT	basic eligibility of non-citizen residents	CNCNAT measures whether non-citizen residents are eligible or not on a dichotomous scale between 1 ‘generally enfranchised’ and 0 ‘generally disenfranchised’.
		CNCRES	residence for non-citizen residents	CNCRES measures the degree of eligibility restrictions for candidacy rights of non-citizen residents based on the required length of residence on a 5-point scale between 1 ‘<= 3 months’ and 0 ‘> 3 years’.
		CNCPAR	party membership for non-citizen residents	CNCPAR measures the degree of eligibility restrictions for candidacy rights of non-citizen residents based on restrictions of party membership. If party membership is reserved to nationals the score is 0, if not it is 1.
	CNCEU		eligibility for EU citizens	CNCEU measures the overall inclusiveness of candidacy rights of non-national EU citizens. It is calculated as follows: CNCEU = CNCEUNAT - CNCEURESagg - CNCEUPARagg
		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	CNCEUPAR measures the degree of eligibility restrictions for candidacy rights of non-national EU citizens based on restrictions

			citizens	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 = CNCTCNNAT - CNCTCNRESagg - CNCTCNPARagg
		CNCTCNNAT	nationality for TCNs	CNCTCNNAT 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.
EU level (only EU citizens covered)				
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 = CNCEUNAT - CNCEURESagg - CNCEUPARagg
		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.

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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 disenfranchisements of dual citizens, naturalised citizens, and citizens born abroad. Restrictions applying to naturalised citizens and citizens born abroad are more severe and

therefore receive a lower score than the disenfranchisement of dual citizens alone. If both restrictions apply, the most restrictive category is reached.

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	**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

We measure registration procedures and voting methods and use a distinct scale for each. For the purpose of aggregating eligibility and access scores, we use a second set of values that are deducted from the basic eligibility score (indicated in the column "agg.").

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		**agg.**
automatic registration	**1**	**0**
active registration, once-off	**0.5**	**0.025**
active registration, periodic renewal	**0**	**0.05**

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		**agg.**
electronic OR postal OR proxy OR any form of early voting for all voters	**1**	**0**
any of the above but only for special categories of voters	**0.67**	**0.025**
polling station anywhere in the respective territorial entity (may be upon request only)	**0.33**	**0.05**
polling station in the district where the person is registered only	**0**	**0.075**

4.1.3 Aggregation rules

Eligibility restrictions:

VRCELI = .167*VRCAGE + .167*VRCCRI + .167*VRCMEN + .167*VRCABS + .167*VRCOCC + .167*VRCCIT

Access restrictions: VRCACC = .5*VRCREG + .5*VRCMET

Combined indicator: VRC = VRCELI - VRCREGagg - VRCMETagg

Rationale for the combined indicator: A maximum access deduction would be 0.125. If eligibility is 1 (perfect score on all eligibility indicators), then the composite score is 0.875, which seems an adequate cutback and does not lead to a categorical shift downwards (the next lower category is 0.75).

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

We measure registration procedures and voting methods and use a distinct scale for each. For the purpose of aggregating eligibility and access scores, we use a second set of values that are deducted from the basic eligibility score (indicated in the column "agg.").

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: principle 1 applies (average if more than one); e.g. when there are different rules for various sub-groups of voters.

VNRREG		**agg.**
automatic registration for citizens living abroad	**1**	**0**
active registration, once-off	**0.67**	**0.025**
active registration, long-term periodic renewal (for two or more election periods)	**0.33**	**0.05**
active registration, frequent renewal (for every election)	**0**	**0.075**

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: principle 2 applies (only the most inclusive provision is coded, as long as it is available to all enfranchised; if there are sub-groups principle 1 applies).

VNRMET		**agg.**
electronic voting	**1**	**0**
proxy OR postal voting	**0.75**	**0.025**
voting at embassy or consulate OR other polling station abroad	**0.5**	**0.05**
in country voting, travel subsidised	**0.25**	**0.075**
in-country voting only, non-subsidised	**0**	**0.1**

4.2.3 Aggregation rules

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

Combined indicator: VNR = VNRELI - VNRREGagg - VNRMETagg

Rationale for the combined indicator: A maximum access deduction would be 0.175. If eligibility is 1, then the composite score is 0.825, which seems an adequate cutback, leading to a score above the next lower category of general eligibility of 0.75. Access for non-resident citizens is very important. However, this scheme ensures that there are no categorical shifts on the basic scale, which we deem still more important than access. Also, if we deduct a maximum of 0.175 from a 0.25 score, we would get 0.075, which is above the 0 score on the basic eligibility scale, which also seems adequate.

4.2.4 Treatment of European Parliament (EP) and other supranational 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. For the supranational elections in Latin America we do not employ a different coding scheme as there is no supranational citizenship. Therefore, these indicators are not fully comparable across continents.

VNRELI-SN in the EU: General eligibility restrictions for EP elections

For general eligibility restrictions regarding non-resident citizens in EP elections, 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-SN in the EU	
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.

For **EU member states**, we distinguish between two empirically relevant sub-categories: non-national EU citizens (Second Country Nationals: SCNs) and Third Country Nationals (TCNs). For these countries 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.

For the **Americas**, even though there are several supranational and intergovernmental unions (e.g. Mercosur, the Andean Community, the Central American Integration System (Sica), the Union of South American Nations (Unasur) or the Community of Latin American and Caribbean States), there is no such distinction in any national electoral law. We therefore use the same coding rules as for TCNs in the EU, which is constructed in a way that can be universally applied. However, in the name of the indicator we drop the TCN. This indicator is thus not identical with the aggregated indicators for EU member states, which have the same names, but combine regulations for both TCNs and EU citizens. Hence, with this indicator the level of inclusiveness for all non-citizen residents can be compared. This latter aspect also applies to **Switzerland** and **Oceania**.

When comparing EU states to non-EU states, 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 **EP elections**, for reasons of consistency, we also cover TCNs and EU citizens, even though participation in EP elections can be considered a specific aspect of EU citizenship.. The only case that enfranchises particular TCNs is the UK. Users can then again decide whether to take only the Second Country National indicator or the overall indicator when comparing inclusion in supranational elections. Note, however, 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. Long residence conditions are – again – only compatible with EU law if the country has obtained a derogation because 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**

Example for applying a territorial coverage coefficient:

VNCEUNAT-LOLE in Germany: SCNs are generally enfranchised, but with the exception of some Länder and city-states, which make up less than half of all regional units. Hence, the score is calculated as 0.67 [coverage coefficient for more than half of sub-units] * 1 [code for general enfranchisement of SCNs] + 0.33 [coverage coefficient for less than half of sub-units] * 0 [code general disenfranchisement of SCNs] = 0.67

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)

For the purpose of aggregating basic eligibility, further eligibility and access scores, we use a second set of values that are deducted from the basic eligibility score (indicated in the column "agg.").

VNCEURES		**agg.**
≤ 3 months	**1**	**0**
≤ 6 months	**0.75**	**0.05**
≤ 1 year	**0.5**	**0.1**
≤ 3 years	**0.25**	**0.15**
> 3 years	**0**	**0.2**

4.3.2 VNCTCNELI / VNCELI: Eligibility restrictions for TCNs / non-citizens in general

VNCTCNNAT / VNCNAT: 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 / VNCNAT	
TCNs / non-citizen residents generally enfranchised	**1**
TCNs or non-citizen residents of more than one nationality enfranchised	**0.67**
TCNs or non-citizen residents of only one nationality enfranchised	**0.33**
generally disenfranchised	**0**

VNCTCNRES / VNCRES: 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 / VNCRES		**agg.**
≤ 1 year	**1**	**0**
2-3 years	**0.75**	**0.05**
4-5 years	**0.5**	**0.1**
6-8 years	**0.25**	**0.15**
≥ 9 years	**0**	**0.2**

4.3.3 VNCEUACC and VNCTCNACC / VNCACC: Access restrictions

The coding of the access restrictions is identical for both SCNs and TCNs, and non-citizen residents in general, which is why we only list it once. This is also used for non-citizen residents in general for Switzerland, the Americas, and Oceania.

VNCEUACC and VNCTCNACC / VNCACC: 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 / VNCACC		**agg.**
Automatic	**1**	**0**
Active, once-off / long-term renewal	**0.5**	**0.025**
Active, frequent renewal (every elections) OR additional requirements compared to citizen residents (e.g. oaths or language tests)	**0**	**0.05**

4.3.4 Aggregation rules

For EU-28:

Eligibility indicator SCNs: VNCEUELI = VNCEUNAT - VNCEURESagg

Eligibility indicator TCNs: VNCTCNELI = VNCTCNNAT - VNCTCNRESagg

Combined indicator SCNs: VNCEU = VNCEUELI - VNCEUACCagg

Combined indicator TCNs: VNCTCN = VNCTCNELI - VNCTCNACCagg

Rationale for the combined indicators: A maximum residence and access deduction for TCNs would be 0.25. If eligibility is 1, then the composite score is 0.75, adequate cutback, leading to a score above the primary eligibility of 0.67 for TCNs.

Enfranchising all non-citizens after a long time is, so we assume, more inclusive than enfranchising only specific non-citizens after a short time.

Overall combined indicator for the EU-28: 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.

For Switzerland, the Americas, and Oceania:

Eligibility indicator for all non-citizens: VNCELI = VNCNAT - VNCRESagg

Combined indicator for all non-citizens: VNC = VNCELI - VNCACCagg

The rationale is analogous to the coding of TCNs in the EU-28

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 we 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 EU).

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. It covers disenfranchisements of dual citizens, naturalised citizens, and citizens born abroad. Restrictions applying to naturalised citizens and citizens born abroad are more severe and therefore receive a lower score than the disenfranchisement of dual citizens alone. If both restrictions apply, the most restrictive category is reached.

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	**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*CRCOCC + .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: Citizenship-based restrictions

For restrictions based on citizenship, we construct a 3-point scale. It covers the potential disenfranchisement of dual citizens.

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

CNRDUA	
dual citizens are generally enfranchised	**1**
toleration of dormant external citizenship OR renunciation requirement upon taking up office OR restrictions applying to specific categories of citizens based on their residence status abroad	**0.5**
dual citizens are generally disenfranchised	**0**

5.2.2 Aggregation rules

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

5.2.3 Treatment of European Parliament (EP) and other supranational 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. For the supranational elections in Latin America we do not employ a different coding scheme as there is no supranational citizenship. Therefore, these indicators are not fully comparable across continents.

CNRRES-SN in the 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-SN in the 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-SN in the 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-SN in the 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.

For **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 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.

For the **Americas**, even though there are several supranational and intergovernmental unions (e.g. Mercosur, the Andean Community, the Central American Integration System (Sica), the Union of South American Nations (Unasur) or the Community of Latin American and Caribbean States), there is no such distinction in any national electoral law. We therefore use the same coding rules as for TCNs in the EU, which is constructed in a way that can be universally applied. However, in the name of the indicator we drop the TCN. This indicator is thus not identical with the aggregated indicators for EU member states, which have the same names, but combine regulations for both TCNs and EU citizens. Hence, with this indicator the level of inclusiveness for all non-citizen residents can be compared. This latter aspect also applies to **Switzerland** and **Oceania**.

When comparing EU states to non-EU states, 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 **EP elections**, for reasons of consistency, we also cover TCNs and EU citizens, even though participation in EP elections can be considered a specific aspect of EU citizenship. The only case that enfranchises particular TCNs is the UK. Users can then again decide whether to take only the Second Country National indicator or the overall indicator when comparing inclusion in supranational elections. Note, however, 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. Long residence conditions are – again – only compatible with EU law if the country has obtained a derogation because 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.[8]

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

CNCEURES		**agg.**
≤ 3 months	**1**	**0**
≤ 6 months	**0.75**	**0.05**
≤ 1 year	**0.5**	**0.1**
≤ 3 years	**0.25**	**0.15**
> 3 years	**0**	**0.2**

5.3.2 CNCTCNELI / CNCELI: Eligibility restrictions for TCNs / non-citizens in general

CNCTCNNAT / CNCNAT: 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)

[8] 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).

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

In order to aggregate nationality-based, residence-based restrictions and party-membership restrictions we use the same aggregation principle as for combining eligibility and access scores for VOTLAW indicators: Nationality-based restrictions determine the basic score from which residence-based restrictions and party membership restrictions are deducted so that there is no categorical shift downwards towards the next lowest nationality-based score. The values used for this aggregation are indicated in the "agg" columns.

CNCTCNRES / CNCRES: 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 / CNCRES		**agg.**
≤ 1 year	**1**	**0**
2-3 years	**0.75**	**0.05**
4-5 years	**0.5**	**0.1**
6-8 years	**0.25**	**0.15**
≥9 years	**0**	**0.2**

5.3.3 CNCEUPAR / CNCPAR and CNCTCNPAR / CNCPAR: 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.[9] 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. This is also used for Switzerland, the Americas, and Oceania, where we cover non-citizen residents in general. We construct a simple dichotomous scale indicating whether membership in a political party is reserved to nationals.

CNCEUPAR / CNCTCNPAR / CNCPAR		**agg.**
no restrictions on party membership based on nationality	**1**	**0**
membership in a political party is reserved to nationals	**0**	**0.05**

5.3.4 Aggregation rules

For the EU-28:

Combined indicator SCNs:

CNCEU = CNCEUNAT - CNCEURESagg - CNCEUPARagg

Combined indicator TCNs:

CNCTCN = CNCTCNNAT - CNCTCNRESagg - CNCTCNPARagg

Rationale for the combined indicators: A maximum residence and access deduction for TCNs would be 0.25. If eligibility is 1, then the composite score is 0.75, which seems an adequate cutback, leading to a score above the primary eligibility of 0.67 for TCNs. Granting candidacy rights to all non-citizens after a long time is, so we assume, more inclusive than enfranchising only specific non-citizens after a short time.

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.

Overall combined indicator for EU28: CNC = .33*CNCEU + .67*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.

For Switzerland, the Americas, and Oceania:

Combined indicator for all non-citizen residents:

CNC = CNCNAT - CNCRESagg - CNCPARagg

The rationale is analogous to the coding of TCNs in the EU-28.

[9] Compare the MIPEX indicators on political liberties for TCNs.

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 indeed 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 databases on electoral rights as well as their own knowledge.

Since our current cross-section includes only EU member states and the Americas in the years 2013 and 2015, 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 the ELECLAW indicators for future expansions across space and time.

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EXPLANATORY
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