Democracy Matrix

Codebook

Version 1.1

Contents

Overview: Democracy Matrix

The codebook is a **technical presentation** of every step to calculate the values for the various components, subcomponents, matrix field and indices of the Democracy Matrix. Consider the concept trees and aggregation rules for a theoretical and conceptual explanation of these steps.

The description of the V-Dem-Indicators is taken from the V-Dem-Codebook:

Coppedge, Michael, John Gerring, Carl Henrik Knutsen, Staffan I. Lindberg, Svend-Erik Skaaning, Jan Teorell, David Altman, Michael Bernhard, Agnes Cornell, M. Steven Fish, Haakon Gjerløw, Adam Glynn, Allen Hicken, Joshua Krusell, Anna Lührmann, Kyle L. Marquardt, Kelly McMann, Valeriya Mechkova, Moa Olin, Pamela Paxton, Daniel Pemstein, Brigitte Seim, Rachel Sigman, Jeffrey Staton, Aksel Sundtröm, Eitan Tzelgov, Luca Uberti, Yi-ting Wang,Tore Wig, and Daniel Ziblatt. 2018. *V-Dem Codebook v8*. Varieties of Democracy (V-Dem) Project. URL: www.v-dem.net.

Table 1: The Democracy Matrix

	Freedom	Equality	Control
Procedures of Decision	Free Elections	Equal Opportunity to Participate, Equal Vote	Oversight by Electoral Commission
Regulation of the Intermediate Sphere	Freedom to Organise	Equal Rights to Organise and to Act	Oversight via Associations, Political Parties and Civil Society
Public Communication	Communicative Freedoms	Equal Opportunity to Participate	Oversight by Media
Guarantee of Rights	Independence of the Judiciary, Legal Security	Equal Rights and Equal Treatment by the Judiciary	Effective Jurisprudence
Rules Settlement and Implementation	Independence of the Government, Effective Government	Equal Treatment by Parliament and Public Administration	Oversight by Parliament and Public Administration

source: own presentation

Changelog Version 1.1:

1. Fixed a problem with the variable v2elmulpar_ord which caused fluctuations in the time series for some countries.
2. Fixed a problem when using Excel to open the datasets.

General

I. country

The name of the country.

Afghanistan	Chad	Ghana	Lebanon	Oman	South Africa	Uruguay
Albania	Chile	Greece	Lesotho	Pakistan	South Korea	Uzbekistan
Algeria	China	Guatemala	Liberia	Palestine/British Mandate	South Sudan	Vanuatu
Angola	Colombia	Guinea	Libya	Palestine/Gaza	South Yemen	Venezuela
Argentina	Comoros	Guinea-Bissau	Lithuania	Palestine/West Bank	Spain	Yemen
Armenia	Costa Rica	Guyana	Luxembourg	Panama	Sri Lanka	Zambia
Australia	Croatia	Haiti	Macedonia	Papua New Guinea	Sudan	Zanzibar
Austria	Cuba	Honduras	Madagascar	Paraguay	Suriname	Zimbabwe
Azerbaijan	Cyprus	Hong Kong	Malawi	Peru	Swaziland	
Bahrain	Czech Republic	Hungary	Malaysia	Philippines	Sweden	
Bangladesh	Democratic Republic of Congo	Iceland	Maldives	Poland	Switzerland	
Barbados	Democratic Republic of Vietnam	India	Mali	Portugal	Syria	
Belarus	Denmark	Indonesia	Mauritania	Qatar	São Tomé and Príncipe	
Belgium	Djibouti	Iran	Mauritius	Republic of Vietnam	Taiwan	
Benin	Dominican Republic	Iraq	Mexico	Republic of the Congo	Tajikistan	
Bhutan	Ecuador	Ireland	Moldova	Romania	Tanzania	
Bolivia	Egypt	Israel	Mongolia	Russia	Thailand	
Bosnia and Herzegovina	El Salvador	Italy	Montenegro	Rwanda	The Gambia	
Botswana	Equatorial Guinea	Ivory Coast	Morocco	Saudi Arabia	Timor-Leste	
Brazil	Eritrea	Jamaica	Mozambique	Senegal	Togo	
Bulgaria	Estonia	Japan	Namibia	Serbia	Trinidad and Tobago	
Burkina Faso	Ethiopia	Jordan	Nepal	Seychelles	Tunisia	
Burma/Myanmar	Fiji	Kazakhstan	Netherlands	Sierra Leone	Turkey	
Burundi	Finland	Kenya	New Zealand	Singapore	Turkmenistan	
Cambodia	France	Kosovo	Nicaragua	Slovakia	Uganda	
Cameroon	Gabon	Kuwait	Niger	Slovenia	Ukraine	
Canada	Georgia	Kyrgyzstan	Nigeria	Solomon Islands	United Arab Emirates	
Cape Verde	German Democratic Republic	Laos	North Korea	Somalia	United Kingdom	
Central African Republic	Germany	Latvia	Norway	Somaliland	United States of America	

II. year

The coded year. The year ranges from 1900 to 2017 (V-Dem V8).

III. regions

The region the country belongs to.

Responses:
1: Europe
2: North America incl. AUS+NZ
3: Latin America
4: Post-Soviet States (without EU-members)
5: Middle East and North Africa
6: Sub-Saharan Africa
7: South Asia
8: South-East Asia

9: East Asia
10: Small island states
Scale: Nominal.

Core Measurement

1 Procedures of Decision

1.1 Freedom of Procedures of Decision

Effective Freedom of Procedures of Decision - Core Measurement (decision_freedom_core)

Question: Are political offices filled by free and competitive elections?

This index is the result of the multiplication of **decision_allocation_facto** with **decision_procedure_facto** and **decision_choice_facto**. **decision_allocation_facto** and **decision_choice_facto** are scaled between 0.5 and 1 can reduce the overall value only by 50%.

decision_freedom_core = decision_procedure_facto*decision_allocation_facto*decision_choice_facto

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I. **Effective Assignment of Political Offices by Way of Elections (decision_allocation_facto)**

We use the ordinal version of **v2elasmoff** scaled from 0.5 to 1. In addition, we code 0, if v2x_elecreg is 0 (meaning there are no elections).

decision_allocation_facto = if_else(v2x_elecreg==0, 0, v2elasmoff_ord)

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(1) **Election assume office (v2elasmoff_ord)**

Question: Following this national election, did winners assume office according to prescribed constitutional rules and norms?

Responses:
0: No. The official winner of the election was prevented from assuming office by unconstitutional means.
1: Partially. The official winner/winning party or largest vote-getter was forced at least in part by unconstitutional means to share power, or delay assuming power for more than 6 months.
2: Yes. Constitutional rules and norms were followed and the official winner/winning party or largest vote-getter assumed office accordingly (or continued in office).

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

II. **Effective Freedom of the Electoral Process (decision_procedure_facto)**

This variable is the weighted average of the z-scores of **v2elirreg** (25%), **v2elintim** (25%) and **v2elfrfair** (50%). In a next step, we convert them to a

scale from 0 to 1 through a cumulative distribution function. In addition, we code 0, if v2x_elecreg is 0 (meaning there are no elections).

decision_procedure_facto = if_else(v2x_elecreg==0, 0, cdf(zscore(v2elirreg)*.25 + zscore(v2elintim)*.25 + zscore(v2elfrfair)*.5))

(1) Election other voting irregularities (v2elirreg)

Question: In this national election, was there evidence of other intentional irregularities by incumbent and/or opposition parties, and/or vote fraud?

Clarification: Examples include use of double IDs, intentional lack of voting materials, ballot-stuffing, misreporting of votes, and false collation of votes.

This question does not refer to lack of access to registration, harassment of opposition parties, manipulations of the voter registry or vote-buying (dealt with in previous questions).

Responses:

0: Yes. There were systematic and almost nationwide other irregularities.

1: Yes, some. There were non-systematic, but rather common other irregularities, even if only in some parts of the country.

2: Sporadic. There were a limited number of sporadic other irregularities, and it is not clear whether they were intentional or disfavored particular groups.

3: Almost none. There were only a limited number of irregularities, and many were probably unintentional or did not disfavor particular groups' access to participation.

4: None. There was no evidence of intentional other irregularities. Unintentional irregularities resulting from human error and/or natural conditions may still have occurred.

Scale: Ordinal, converted to interval by the measurement model.

From: V-Dem-Codebook (Coppedge et al. 2018)

(2) Election government intimidation (v2elintim)

Question: In this national election, were opposition candidates/parties/campaign workers subjected to repression, intimidation, violence, or harassment by the government, the ruling party, or their agents?

Clarification: Other types of clearly distinguishable civil violence, even if politically motivated, during the election period should not be factored in when scoring this indicator (it is dealt with separately).

Responses:

0: Yes. The repression and intimidation by the government or its agents was so strong that the entire period was quiet.

1: Yes, frequent: There was systematic, frequent and violent harassment and intimidation of the opposition by the government or its agents during the election period.

2: Yes, some. There was periodic, not systematic, but possibly centrally coordinated – harassment and intimidation of the opposition by the government or its agents.

3: Restrained. There were sporadic instances of violent harassment and intimidation by the government or its agents, in at least one part of the country, and directed at only one or two local branches of opposition groups.

4: None. There was no harassment or intimidation of opposition by the government or its agents, during the election campaign period and polling day.

Scale: Ordinal, converted to interval by the measurement model.

From: V-Dem-Codebook (Coppedge et al. 2018)

(3) Election free and fair (v2elfrfair)

Question: Taking all aspects of the pre-election period, election day, and the post-election process into account, would you consider this national election to be free and fair?

Clarification: The only thing that should not be considered in coding this is the extent of suffrage (by law). Thus, a free and fair election may occur even if the law excludes significant groups (an issue measured separately).

Responses:

0: No, not at all. The elections were fundamentally flawed and the official results had little if anything to do with the 'will of the people' (i.e., who became president; or who won the legislative majority).

1: Not really. While the elections allowed for some competition, the irregularities in the end affected the outcome of the election (i.e., who became president; or who won the legislative majority).

2: Ambiguous. There was substantial competition and freedom of participation but there were also significant irregularities. It is hard to determine whether the irregularities affected the outcome or not (as defined above).

3: Yes, somewhat. There were deficiencies and some degree of fraud and irregularities but these did not in the end affect the outcome (as defined above).

4: Yes. There was some amount of human error and logistical restrictions but these were largely unintentional and without significant consequences.

Scale: Ordinal, converted to interval by the measurement model.

From: V-Dem-Codebook (Coppedge et al. 2018)

III. Effective Freedom of Choice (decision_choice_facto)

We use the ordinal version of **v2elmulpar** scaled to 0.5 to 1. In addition, we code 0, if v2x_elecreg is 0 (meaning there are no elections).

ElectedExecutive =
ifelse(NoHOG == 1 & (HOS_appointment == 7 | (HOS_appointment_legislature == 1 & parl_elected == 1)), 1,
ifelse(HOS_power<2 & (HOS_appointment == 7 | (HOS_appointment_legislature == 1 & parl_elected == 1)), 1,
ifelse(HOS_power==2 & (HOG_appointment == 8 | (HOG_appointment_legislature == 1 & parl_elected == 1) | (HOG_appointment == 6 & parl_elected == 1)),1,0.5)))
decision_choice_facto = min_fun(c(if_else(v2x_elecreg==0,0,v2elmulpar_ord_tran), ElectedExecutive))

(1) Elections multiparty (v2elmulpar_ord)

Question: Was this national election multiparty?

Responses:
0: No. No-party or single-party and there is no meaningful competition (includes situations where a few parties are legal but they are all de facto controlled by the dominant party).

1: Not really. No-party or single-party (defined as above) but multiple candidates from the same party and/or independents contest legislative seats or the presidency.
2: Constrained. At least one real opposition party is allowed to contest but competition is highly constrained – legally or informally.
3: Almost. Elections are multiparty in principle but either one main opposition party is prevented (de jure or de facto) from contesting, or conditions such as civil unrest (excluding natural disasters) prevent competition in a portion of the territory.
4: Yes. Elections are multiparty, even though a few marginal parties may not be permitted to contest (e.g. far-right/left extremist parties, anti-democratic religious or ethnic parties).

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(2)	**HOG appointed by legislature (v2ex_legconhog)**

Question: Is the head of government HOG appointed by the legislature, or is the approval of the legislature necessary for the appointment of the head of state?

Responses:
0: No.
1: Yes.

Scale: Dichotomous.
From: V-Dem-Codebook (Coppedge et al. 2018)

(3)	**HOS appointed by legislature (v2ex_legconhos)**

Question: Is the head of state HOS appointed by the legislature, or is the approval of the legislature necessary for the appointment of the head of state?

Responses:
0: No.
1: Yes.

Scale: Dichotomous.
From: V-Dem-Codebook (Coppedge et al. 2018)

(4)	**HOG appointment in practice (v2expathhg)**

Question: How did the head of government gain access to office?

Responses:
0: Through the threat of or application of force, such as a coup or rebellion.
1: Appointed by a foreign power.
2: Appointed by the ruling party (in a one-party system).
3: Appointed by a royal council.
4: Through hereditary succession.
5: Appointed by the military.
6: Appointed by the head of state.
7: Appointed by the legislature.
8: Directly through a popular election (regardless of the extension of the suffrage).
9: Other.

Scale: Series of dichotomous scales.
From: V-Dem-Codebook (Coppedge et al. 2018)

(5)	**HOS appointment in practice (v2expathhs)**

Question: How did the head of state reach office?

Responses:
0: Through the threat of or application of force, such as a coup or rebellion.
1: Appointed by a foreign power.
2: Appointed by the ruling party (in a one-party system).
3: Appointed by a royal council.
4: Through hereditary succession.
5: Appointed by the military.
6: Appointed by the legislature.
7: Directly through a popular election (regardless of the extension of the suffrage).
8: Other.

Scale: Series of dichotomous scales.
From: V-Dem-Codebook (Coppedge et al. 2018)

(6) Legislative electoral regime index (v2xlg_elecreg)

Question: At this time, are regularly scheduled national elections on the legislature on course, as stipulated by election law or well-established precedent?

Responses:
0: No.
1: Yes.

Scale: Dichotomous.
From: V-Dem-Codebook (Coppedge et al. 2018)

(7) HOS proposes legislation in practice (v2exdfpphs)

Question: Does the head of state have the capacity, in practice, to propose legislation?

Responses:
0: Yes, in all policy areas, including some exclusive domains (where neither the legislature nor other bodies may initiate bills).
1: Yes, in all policy areas, but this power is shared with the legislature and perhaps with other bodies.
2: No. The head of state cannot propose legislation.

Scale: Ordinal, converted to interval by the measurement.
From: V-Dem-Codebook (Coppedge et al. 2018)

(8) HOS = HOG (v2exhoshog)

Question: Is the head of state (HOS) also head of government (HOG)?

Responses:
0: No.
1: Yes.

Scale: Dichotomous.
From: V-Dem-Codebook (Coppedge et al. 2018)

1.2 Equality of Procedures of Decision

Effective Equality of Procedures of Decision - Core Measurement (decision_equality_core)

Question: Do all citizens have equal voting rights?

Note: This index is simply the values **of decision_activesuffrage_facto multiplied with decision_choice_facto**, because we are currently not able to measure decision_passivesuffrage_facto. **decision_choice_facto** is scaled between 0.5 and 1 can reduce the overall value only by 50%.

*decision_equality_core = decision_activesuffrage_facto * decision_choice_facto*

I. Effectively Equal Right to Vote (decision_activesuffrage_facto)

This index is a multiplication of **decision_registration_facto** and **decision_activeextension_facto**. decision_registration_facto which is scaled between 0.5 and 1 can reduce the value of decision_activeextension_facto only by 50%.

*decision_activesuffrage_facto = decision_activeextension_facto * decision_registration_facto*

i. Effectively Fair Voter Registration (decision_registration_facto)

First, we use a cumulative distribution function to scale the z-scores of **v2elrgstry** from 0 to 1. Then, we compress these values to a scale from 0.5 and 1 meaning that a failing voter registration can reduce the values only by 50%. We code country-years 0.5 as well, if v2x_elecreg is 0 (meaning there are no elections).

decision_registration_facto = if_else(v2x_elecreg==0, 0.5, (minmax(cdf(scale(v2elrgstry)), 0.5) + 0.5))

(1) Election voter registry (v2elrgstry)

Question: In this national election, was there a reasonably accurate voter registry in place and was it used?

Responses:
0: No. There was no registry, or the registry was not used.
1: No. There was a registry but it was fundamentally flawed (meaning 20% or more of eligible voters could have been disenfranchised or the outcome could have been affected significantly by double-voting and impersonation).
2: Uncertain. There was a registry but it is unclear whether potential flaws in the registry had much impact on electoral outcomes.
3: Yes, somewhat. The registry was imperfect but less than 10% of eligible voters may have been disenfranchised, and double-voting and impersonation could not have affected the results significantly.
4: Yes. The voter registry was reasonably accurate (less than 1% of voters were affected by any flaws) and it was applied in a reasonable fashion.

Scale: Ordinal, converted to interval by the measurement model.

From: V-Dem-Codebook (Coppedge et al. 2018)

ii.	**Effective Scope of Right to Vote (decision_activeextension_facto)**

So far, we can use only v2elsuffrage to calculate the index, because **v2elprasuf** is lacking in the current V-Dem-Dataset. We code here 0 as well, if v2x_elecreg is 0 (meaning there are no elections). v2elsuffrage was scaled between 0 and 1.

decision_activeextension_facto = if_else(v2x_elecreg==0, 0, v2elsuffrage)

(1) Election suffrage in practice (v2elprasuf)

Question: In this national election, what percentage (%) of citizens (male and female) who were legally entitled to vote was prevented from doing so?

Clarification: Legal voting rights can be compromised by a number of issues (for example intimidation, insecurity, prohibitive laws or practices, impersonation, or by social/religious norms and practices). Do not consider registration practices that place the burden on the voter to take action to register ahead of the election.

Responses: Percent

Scale: Interval
From: V-Dem-Codebook (Coppedge et al. 2018)

Note: This variable is currently not available (V-Dem Version 8)

(2) Percentage of population with suffrage (v2elsuffrage)

Question: What percentage (%) of adult citizens (as defined by statute) has the legal right to vote in national elections?

Clarification: This question does not take into consideration restrictions based on age, residence, having been convicted for crime, or being legally incompetent. It covers legal (de jure) restrictions, not restrictions that may be operative in practice (de facto). The adult population (as defined by statute) is defined by citizens in the case of independent countries or the people living in the territorial entity in the case of colonies.
Universal suffrage is coded as 100%. Universal male suffrage only is coded as 50%. Years before electoral provisions are introduced are scored 0%. The scores do not reflect whether an electoral regime was interrupted or not. Only if new constitutions, electoral laws, or the like explicitly introduce new regulations of suffrage, the scores were adjusted accordingly if the changes suggested doing so. If qualifying criteria other than gender apply (such as property, tax payments, income, literacy, region, race, ethnicity, religion, and/or 'economic independence'), estimates have been calculated by combining information on the restrictions with different kinds of statistical information (on population size, age distribution, wealth distribution, literacy rates, size of ethnic groups, etc.), secondary country-specific sources, and – in the case of very poor information – the conditions in similar countries or colonies.
The scores reflect de jure provisions of suffrage extension in percentage of the adult population. If the suffrage law is revised in a way that affects the

extension, the scores reflect this change as of the calendar year the law was enacted.

Responses: Percent

Scale: Interval
From: V-Dem-Codebook (Coppedge et al. 2018)

II.	**Effectively Equal Right to Be a Candidate (decision_passivesuffrage_facto)**

Note: We cannot measure this part of the concept due to the lack of appropriate indicators.

III.	**Effective Freedom of Choice (decision_choice_facto)**

We use the ordinal version of **v2elmulpar** scaled to 0.5 to 1. In addition, we code 0, if v2x_elecreg is 0 (meaning there are no elections).

ElectedExecutive =
ifelse(NoHOG == 1 & (HOS_appointment == 7 | (HOS_appointment_legis-lature == 1 & parl_elected == 1)), 1,
ifelse(HOS_power<2 & (HOS_appointment == 7 | (HOS_appointment_leg-islature == 1 & parl_elected == 1)), 1,
ifelse(HOS_power==2 & (HOG_appointment == 8 | (HOG_appoint-ment_legislature == 1 & parl_elected == 1) | (HOG_appointment == 6 & parl_elected == 1)),1,0.5)))
decision_choice_facto = min_fun(c(if_else(v2x_elecreg==0,0,v2elmul-par_ord_tran), ElectedExecutive))

(1) Elections multiparty (v2elmulpar_ord)

Question: Was this national election multiparty?

Responses:
0: No. No-party or single-party and there is no meaningful competition (includes situations where a few parties are legal but they are all de facto controlled by the dominant party).
1: Not really. No-party or single-party (defined as above) but multiple candidates from the same party and/or independents contest legislative seats or the presidency.
2: Constrained. At least one real opposition party is allowed to contest but competition is highly constrained – legally or informally.
3: Almost. Elections are multiparty in principle but either one main opposition party is prevented (de jure or de facto) from contesting, or conditions such as civil unrest (excluding natural disasters) prevent competition in a portion of the territory.
4: Yes. Elections are multiparty, even though a few marginal parties may not be permitted to contest (e.g. far-right/left extremist parties, anti-democratic religious or ethnic parties).

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(2) HOG appointed by legislature (v2ex_legconhog)

Question: Is the head of government HOG appointed by the legislature, or is the approval of the legislature necessary for the appointment of the head of state?
Responses:

0: No.
1: Yes.

Scale: Dichotomous.
From: V-Dem-Codebook (Coppedge et al. 2018)

(3) HOS appointed by legislature (v2ex_legconhos)

Question: Is the head of state HOS appointed by the legislature, or is the approval of the legislature necessary for the appointment of the head of state?

Responses:
0: No.
1: Yes.

Scale: Dichotomous.
From: V-Dem-Codebook (Coppedge et al. 2018)

(4) HOG appointment in practice (v2expathhg)

Question: How did the head of government gain access to office?

Responses:
0: Through the threat of or application of force, such as a coup or rebellion.
1: Appointed by a foreign power.
2: Appointed by the ruling party (in a one-party system).
3: Appointed by a royal council.
4: Through hereditary succession.
5: Appointed by the military.
6: Appointed by the head of state.
7: Appointed by the legislature.
8: Directly through a popular election (regardless of the extension of the suffrage).
9: Other.

Scale: Series of dichotomous scales.
From: V-Dem-Codebook (Coppedge et al. 2018)

(5) HOS appointment in practice (v2expathhs)

Question: How did the head of state reach office?

Responses:
0: Through the threat of or application of force, such as a coup or rebellion.
1: Appointed by a foreign power.
2: Appointed by the ruling party (in a one-party system).
3: Appointed by a royal council.
4: Through hereditary succession.
5: Appointed by the military.
6: Appointed by the legislature.
7: Directly through a popular election (regardless of the extension of the suffrage).
8: Other.

Scale:Series of dichotomous scales.
From: V-Dem-Codebook (Coppedge et al. 2018)

(6) Legislative electoral regime index (v2xlg_elecreg)

Question: At this time, are regularly scheduled national elections on the legislature on course, as stipulated by election law or well-established precedent?

Responses:

0: No.
1: Yes.

Scale: Dichotomous.
From: V-Dem-Codebook (Coppedge et al. 2018)

(7) HOS proposes legislation in practice (v2exdfpphs)

Question: Does the head of state have the capacity, in practice, to propose legislation?

Responses:
0: Yes, in all policy areas, including some exclusive domains (where neither the legislature nor other bodies may initiate bills).
1: Yes, in all policy areas, but this power is shared with the legislature and perhaps with other bodies.
2: No. The head of state cannot propose legislation.

Scale: Ordinal, converted to interval by the measurement.
From: V-Dem-Codebook (Coppedge et al. 2018)

(8) HOS = HOG (v2exhoshog**)**

Question: Is the head of state (HOS) also head of government (HOG)?

Responses:
0: No.
1: Yes.

Scale: Dichotomous.
From: V-Dem-Codebook (Coppedge et al. 2018)

1.3 Control of Procedures of Decision

Effective Control of Procedures of Decision - Core Measurement **(decision_control_core)**

Question: Are elections supervised by an autonomous election management body and/or civic election observer?

This index is a multiplication of **decision_emb_facto** and **decision_civilmonitors_facto**. **decision_civilmonitors_facto** and **decision_choice_facto**. **decision_civilmonitors_facto** and **decision_choice_facto** are scaled between 0.5 and 1 can reduce the value of **decision_emb_facto** only by 50%.

*decision_control_core = decision_emb_facto * decision_civilmonitors_facto * decision_choice_facto*

I. Effective Electoral Supervisory Authority (decision_emb_facto)

First, we multiply **decision_autonomyemb_facto** with **decision_ capacityemb_facto**. Then, we calculate the square root to fall back to the original scale between 0 and 1.

*decision_emb_facto = (decision_autonomyemb_facto * decision_capacityemb_facto)^(1/2)*

i. Effective Autonomy of Electoral Supervisory Authority (decision_autonomyemb_facto)

First, we use a cumulative distribution function to scale the z-scores of **v2elembaut** from 0 to 1. We then code country-years 0 as well, if v2x_elecreg is 0 (meaning there are no elections).

decision_autonomyemb_facto = if_else(v2x_elecreg==0,0, cdf(scale_fun(v2elembaut)))

(1) EMB autonomy (v2elembaut)

Question: Does the Election Management Body (EMB) have autonomy from government to apply election laws and administrative rules impartially in national elections?

Clarification: The EMB refers to whatever body (or bodies) is charged with administering national elections.

Responses:
0: No. The EMB is controlled by the incumbent government, the military, or other de facto ruling body.
1: Somewhat. The EMB has some autonomy on some issues but on critical issues that influence the outcome of elections, the EMB is partial to the de facto ruling body.
2: Ambiguous. The EMB has some autonomy but is also partial, and it is unclear to what extent this influences the outcome of the election.
3: Almost. The EMB has autonomy and acts impartially almost all the time. It may be influenced by the de facto ruling body in some minor ways that do not influence the outcome of elections.
4: Yes. The EMB is autonomous and impartially applies elections laws and administrative rules.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

ii. Effective Capacities of Electoral Supervisory Authority (decision_ capacityemb_facto)

First, we use a cumulative distribution function to scale the z-scores of **v2elembcap** between 0 and 1. We then code country-years 0 as well, if v2x_elecreg is 0 (meaning there are no elections).

decision_ capacityemb_facto = if_else(v2x_elecreg==0,0, cdf(scale_fun(v2elembcap)))

(1) EMB capacity (v2elembcap)

Question: Does the Election Management Body (EMB) have sufficient staff and resources to administer a well-run national election?

Clarification: The EMB refers to whatever body (or bodies) is charged with administering national elections.

Responses:
0: No. There are glaring deficits in staff, financial, or other resources affecting the organization across the territory.

1: Not really. Deficits are not glaring but they nonetheless seriously compromised the organization of administratively well-run elections in many parts of the country.
2: Ambiguous. There might be serious deficiencies compromising the organization of the election but it could also be a product of human errors and coincidence or other factors outside the control of the EMB.
3: Mostly. There are partial deficits in resources but these are neither serious nor widespread.
4: Yes. The EMB has adequate staff and other resources to administer a well-run election.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

II. Effective Civil Election Monitors (decision_civilmonitors_facto)

This index has the value 0.5 if **v2eldommon** == 0 and **v2elintmon** == 0. If one or both of these two variables have the value 1, then decision_civilmonitors_facto also gets the value 1. We code here 0.5 as well, if v2x_elecreg is 0 (meaning there are no elections). Thus, this index can reduce the values only by 50%.

decision_civilmonitors_facto[v2x_elecreg==0] = 0.5
decision_civilmonitors_facto[v2eldommon==0 & v2elintmon==0] = 0.5
decision_civilmonitors_facto[v2eldommon==1 & v2elintmon==1] = 1
decision_civilmonitors_facto[v2eldommon==1 & v2elintmon==0] = 1
decision_civilmonitors_facto[v2eldommon==0 & v2elintmon==1] = 1

(1) Election domestic election monitors (v2eldommon)

Question: In this national election, were election monitors from all parties and independent domestic election monitors allowed to monitor the vote at polling stations across the country?

Responses:
0: No
1: Yes

Scale: Dichotomous.
From: V-Dem-Codebook (Coppedge et al. 2018)

(2) Election international monitors (v2elintmon)

Question: In this national election, were international election monitors present?

Responses:
0: No
1: Yes

Scale: Dichotomous.
From: V-Dem-Codebook (Coppedge et al. 2018)

III. Effective Freedom of Choice (decision_choice_facto)

We use the ordinal version of **v2elmulpar** scaled to 0.5 to 1. In addition, we code 0, if v2x_elecreg is 0 (meaning there are no elections).

ElectedExecutive =

ifelse(NoHOG == 1 & (HOS_appointment == 7 | (HOS_appointment_legis-
lature == 1 & parl_elected == 1)), 1,
ifelse(HOS_power<2 & (HOS_appointment == 7 | (HOS_appointment_leg-
islature == 1 & parl_elected == 1)), 1,
ifelse(HOS_power==2 & (HOG_appointment == 8 | (HOG_appoint-
ment_legislature == 1 & parl_elected == 1) | (HOG_appointment == 6 &
parl_elected == 1)),1,0.5)))
decision_choice_facto = min_fun(c(if_else(v2x_elecreg==0,0,v2elmul-
par_ord_tran), ElectedExecutive))

(1) Elections multiparty (v2elmulpar_ord)

Question: Was this national election multiparty?

Responses:
0: No. No-party or single-party and there is no meaningful competition (in-cludes situations where a few parties are legal but they are all de facto con-trolled by the dominant party).
1: Not really. No-party or single-party (defined as above) but multiple candi-dates from the same party and/or independents contest legislative seats or the presidency.
2: Constrained. At least one real opposition party is allowed to contest but competition is highly constrained – legally or informally.
3: Almost. Elections are multiparty in principle but either one main opposi-tion party is prevented (de jure or de facto) from contesting, or conditions such as civil unrest (excluding natural disasters) prevent competition in a portion of the territory.
4: Yes. Elections are multiparty, even though a few marginal parties may not be permitted to contest (e.g. far-right/left extremist parties, anti-demo-cratic religious or ethnic parties).

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(2) HOG appointed by legislature (v2ex_legconhog)

Question: Is the head of government HOG appointed by the legislature, or is the approval of the legislature necessary for the appointment of the head of state?

Responses:
0: No.
1: Yes.

Scale: Dichotomous.
From: V-Dem-Codebook (Coppedge et al. 2018)

(3) HOS appointed by legislature (v2ex_legconhos)

Question: Is the head of state HOS appointed by the legislature, or is the approval of the legislature necessary for the appointment of the head of state?

Responses:
0: No.
1: Yes.

Scale: Dichotomous.
From: V-Dem-Codebook (Coppedge et al. 2018)

(4) HOG appointment in practice (v2expathhg)

Question: How did the head of government gain access to office?

Responses:
0: Through the threat of or application of force, such as a coup or rebellion.
1: Appointed by a foreign power.
2: Appointed by the ruling party (in a one-party system).
3: Appointed by a royal council.
4: Through hereditary succession.
5: Appointed by the military.
6: Appointed by the head of state.
7: Appointed by the legislature.
8: Directly through a popular election (regardless of the extension of the suffrage).
9: Other.

Scale: Series of dichotomous scales.
From: V-Dem-Codebook (Coppedge et al. 2018)

(5) HOS appointment in practice (v2expathhs)

Question: How did the head of state reach office?

Responses:
0: Through the threat of or application of force, such as a coup or rebellion.
1: Appointed by a foreign power.
2: Appointed by the ruling party (in a one-party system).
3: Appointed by a royal council.
4: Through hereditary succession.
5: Appointed by the military.
6: Appointed by the legislature.
7: Directly through a popular election (regardless of the extension of the suffrage).
8: Other.

Scale:Series of dichotomous scales.
From: V-Dem-Codebook (Coppedge et al. 2018)

(6) Legislative electoral regime index (v2xlg_elecreg)

Question: At this time, are regularly scheduled national elections on the legislature on course, as stipulated by election law or well-established precedent?

Responses:
0: No.
1: Yes.

Scale: Dichotomous.
From: V-Dem-Codebook (Coppedge et al. 2018)

(7) HOS proposes legislation in practice (v2exdfpphs)

Question: Does the head of state have the capacity, in practice, to propose legislation?

Responses:
0: Yes, in all policy areas, including some exclusive domains (where neither the legislature nor other bodies may initiate bills).
1: Yes, in all policy areas, but this power is shared with the legislature and perhaps with other bodies.
2: No. The head of state cannot propose legislation.

Scale: Ordinal, converted to interval by the measurement.
From: V-Dem-Codebook (Coppedge et al. 2018)

(8) HOS = HOG (v2exhoshog**)**

Question: Is the head of state (HOS) also head of government (HOG)?

Responses:
0: No.
1: Yes.

Scale: Dichotomous.
From: V-Dem-Codebook (Coppedge et al. 2018)

2 Regulation of the Intermediate Sphere

2.1 Freedom of Regulation of the Intermediate Sphere

Effective Freedom of the Intermediate Sphere - Core Measurement (intermediate_freedom_core)

Question: Can parties and civil society organizations form and act freely?

The main index is a weighted average of **intermediate_partyorganization_facto** (75%) and **intermediate_csoorganization_facto** (25%).

intermediate_freedom_core = intermediate_partyorganization_facto*(3/4) + intermediate_csoorganization_facto*(1/4)

I. Effective Freedom of Organisation for Political Parties (intermediate_partyorganization_facto)

This index is the multiplication of **intermediate_partyfounding_facto** with **intermediate_partyact_facto**. We calculate the square root to fall back to the original scale (0-1).

intermediate_partyorganization_facto = (intermediate_partyfounding_facto * intermediate_partyact_facto)^(1/2)

i. Effective Freedom to Found Political Parties (intermediate_partyfounding_facto)

This index is the average of the z-scores of **v2psbars** and **v2psparban.** We use a cumulative distribution function to scale the index between 0 and 1.

intermediate_partyfounding_facto = cdf(scale(v2psbars) * 0.5 + scale(v2psparban) * 0.5)

(1) Barriers to parties (v2psbars)

Question: How restrictive are the barriers to forming a party?

Clarification: Barriers include legal requirements such as requirements for membership or financial deposits, as well as harassment.

Responses:
0: Parties are not allowed.
1: It is impossible, or virtually impossible, for parties not affiliated with the government to form (legally).
2: There are significant obstacles (e.g. party leaders face high levels of regular political harassment by authorities).
3: There are modest barriers (e.g. party leaders face occasional political harassment by authorities).
4: There are no substantial barriers.

Scale: Ordinal, converted to interval by the measurement model.

From: V-Dem-Codebook (Coppedge et al. 2018)

(2) Party ban (v2psparban)

Question: Are any parties banned?

Clarification: This does not apply to parties that are barred from competing for failing to meet registration requirements or support thresholds.

Responses:
0: Yes. All parties except the state-sponsored party (and closely allied parties) are banned.
1: Yes. Elections are non-partisan or there are no officially recognized parties.
2: Yes. Many parties are banned.
3: Yes. But only a few parties are banned.
4: No. No parties are officially banned.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

ii. Effective Freedom of Action for Political Parties (intermediate_partyact_facto)

This variable resembles the z-scores of **v2psoppaut**. It is scaled from 0 to 1 via the cumulative distribution function. We then code country-years 0 as well, if t*he ordinal version of* **v2psbars** is 0 (meaning no parties are allowed).

i*ntermediate_partyact_facto = if_else(v2psbars_ord==0 & is.na(v2psoppaut) == T, 0, cdf(scale(v2psoppaut)))*

(1) Opposition parties autonomy (v2psoppaut)

Question: Are opposition parties independent and autonomous of the ruling regime?

Clarification: An opposition party is any party that is not part of the government, i.e., that has no control over the executive.

Responses:
0: Opposition parties are not allowed.
1: There are no autonomous, independent opposition parties. Opposition parties are either selected or co-opted by the ruling regime.
2: At least some opposition parties are autonomous and independent of the ruling regime.
3: Most significant opposition parties are autonomous and independent of the ruling regime.
4: All opposition parties are autonomous and independent of the ruling regime.

Ordering: Answer only if previous question (v2psbars) is coded 1-4.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

II.   Effective Freedom of Organisation for Civil Society Organisations (intermediate_csoorganization_facto)

This index is the multiplication of **intermediate_csofounding_facto** with **intermediate_csoact_facto**. We calculate the square root to fall back to the original scale (0-1).

*intermediate_csoorganization_facto = (intermediate_csofounding_facto * intermediate_csoact_facto)^(1/2)*

i.   Effective Freedom to Found Civil Society Organisations (intermediate_csofounding_facto)

This variable resembles the z-scores of **v2csreprss**. It is scaled from 0 to 1 via the cumulative distribution function.

intermediate_csofounding_facto = cdf(scale(v2csreprss))

(1) CSO repression (v2csreprss)

Question: Does the government attempt to repress civil society organizations (CSOs)?

Responses:
0: Severely. The government violently and actively pursues all real and even some imagined members of CSOs. They seek not only to deter the activity of such groups but to effectively liquidate them. Examples include Stalinist Russia, Nazi Germany, and Maoist China.
1: Substantially. In addition to the kinds of harassment outlined in responses 2 and 3 below, the government also arrests, tries, and imprisons leaders of and participants in oppositional CSOs who have acted lawfully. Other sanctions include disruption of public gatherings and violent sanctions of activists (beatings, threats to families, destruction of valuable property). Examples include Mugabe's Zimbabwe, Poland under Martial Law, Serbia under Milosevic.
2: Moderately. In addition to material sanctions outlined in response 3 below, the government also engages in minor legal harassment (detentions, short-term incarceration) to dissuade CSOs from acting or expressing themselves. The government may also restrict the scope of their actions through measures that restrict association of civil society organizations with each other or political parties, bar civil society organizations from taking certain actions, or block international contacts. Examples include post-Martial Law Poland, Brazil in the early 1980s, the late Franco period in Spain.
3: Weakly. The government uses material sanctions (fines, firings, denial of social services) to deter oppositional CSOs from acting or expressing themselves. They may also use burdensome registration or incorporation procedures to slow the formation of new civil society organizations and sidetrack them from engagement. The government may also organize Government Organized Movements or NGOs (GONGOs) to crowd out independent organizations. One example would be Singapore in the post-Yew phase or Putin's Russia.
4: No. Civil society organizations are free to organize, associate, strike, express themselves, and to criticize the government without fear of government sanctions or harassment.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

ii.	**Effective Freedom of Action for Civil Society Organisations (intermediate_csoact_facto)**

This variable resembles the z-scores of **v2cscnsult**. It is scaled from 0 to 1 via the cumulative distribution function.

intermediate_csoact_facto = cdf(scale(v2cscnsult))

(1) CSO consultation (v2cscnsult)

Question: Are major civil society organizations (CSOs) routinely consulted by policymakers on policies relevant to their members?

Responses:
0: No. There is a high degree of insulation of the government from CSO input. The government may sometimes enlist or mobilize CSOs after policies are adopted to sell them to the public at large. But it does not often consult with them in formulating policies.
1: To some degree. CSOs are but one set of voices that policymakers sometimes take into account.
2: Yes. Important CSOs are recognized as stakeholders in important policy areas and given voice on such issues. This can be accomplished through formal corporatist arrangements or through less formal arrangements.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

2.2 Equality of Regulation of the Intermediate Sphere

Effective Equality of the Intermediate Sphere - Core Measurement (intermediate_equality_core)

Question: Do all relevant interests of the society have the same opportunities to organize and influence political decisions?

This index is the average of the z-scores of **v2pepwrses**, **v2pepwrsoc** and **v2pepwrgen**. We use a cumulative distribution function to scale the variable from 0 to 1. Please note that we can only assess this matrix field indirectly due to the lack of relevant indicators for core parts of our concept (Effective equal opportunities for parties, Effective equal opportunities for civil society organizations)

intermediate_equality_core = cdf(scale(v2pepwrses)*(1/3) + scale(v2pepwrsoc)*(1/3) + scale(v2pepwrgen)*(1/3))

I.	**Effective Equal Opportunities for Political Parties**
i.	**Effective Equality to Found Political Parties**

Note: We can only measure this part of the concept indirectly due to the lack of appropriate indicators.

	ii.	**Effective Equality to Action for Political Parties**
		Note: We can only measure this part of the concept indirectly due to the lack of appropriate indicators.
II.		**Effective Equal Opportunities for Civil Society Organisations**
	i.	**Effective Equality to Found Civil Society Organisations**
		Note: We can only measure this part of the concept indirectly due to the lack of appropriate indicators.
	ii.	**Effective Equality to Action for Civil Society Organisations**
		Note: We can only measure this part of the concept indirectly due to the lack of appropriate indicators.

(1) Power distributed by socioeconomic position (v2pepwrses)

Question: Is political power distributed according to socioeconomic position?

Clarification: All societies are characterized by some degree of economic (wealth and income) inequality. In some societies, income and wealth are distributed in a grossly unequal fashion. In others, the difference between rich and poor is not so great. Here, we are concerned not with the degree of social inequality but rather with the political effects of this inequality. Specifically, we are concerned with the extent to which wealth and income translates into political power.

Responses:
0: Wealthy people enjoy a virtual monopoly on political power. Average and poorer people have almost no influence.
1: Wealthy people enjoy a dominant hold on political power. People of average income have little say. Poorer people have essentially no influence.
2: Wealthy people have a very strong hold on political power. People of average or poorer income have some degree of influence but only on issues that matter less for wealthy people.
3: Wealthy people have more political power than others. But people of average income have almost as much influence and poor people also have a significant degree of political power.
4: Wealthy people have no more political power than those whose economic status is average or poor. Political power is more or less equally distributed across economic groups.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(2) Power distributed by social group (v2pepwrsoc)

Question: Is political power distributed according to social groups?

Clarification: A social group is differentiated within a country by caste, ethnicity, language, race, region, religion, or some combination thereof. (It does not include identities grounded in sexual orientation or socioeconomic status.) Social group identity is contextually defined and is likely to vary across countries and through time. Social group identities are also likely to cross-cut, so that a given person could be defined in multiple ways, i.e., as part of multiple groups. Nonetheless, at any given point in time there are social groups within

a society that are understood - by those residing within that society – to be different, in ways that may be politically relevant.

Responses:
0: Political power is monopolized by one social group comprising a minority of the population. This monopoly is institutionalized, i.e., not subject to frequent change.
1: Political power is monopolized by several social groups comprising a minority of the population. This monopoly is institutionalized, i.e., not subject to frequent change.
2: Political power is monopolized by several social groups comprising a majority of the population. This monopoly is institutionalized, i.e., not subject to frequent change.
3: Either all social groups possess some political power, with some groups having more power than others; or different social groups alternate in power, with one group controlling much of the political power for a period of time, followed by another – but all significant groups have a turn at the seat of power.
4: All social groups have roughly equal political power or there are no strong ethnic, caste, linguistic, racial, religious, or regional differences to speak of. Social group characteristics are not relevant to politics.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(3) Power distributed by gender (v2pepwrgen)

Question: Is political power distributed according to gender?

Responses:
0: Men have a near-monopoly on political power.
1: Men have a dominant hold on political power. Women have only marginal influence.
2: Men have much more political power but women have some areas of influence.
3: Men have somewhat more political power than women.
4: Men and women have roughly equal political power.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

2.3 Control of Regulation of the Intermediate Sphere

Effective Control of the Intermediate Sphere - Core Measurement (intermediate_control_core)

Question: Do political parties and civic organizations oversight the government and political representatives?

The main index is the weighted average of **intermediate_partycontrol_facto** (75%) and **intermediate_csocontrol_facto** (25%).

*intermediate_control_core = intermediate_partycontrol_facto * (3/4) + intermediate_cso-control_facto * (1/4)*

I. Effective Oversight by Opposition Parties (intermediate_partycontrol_facto)

This variable resembles the z-scores of **v2lgoppart**. It is scaled from 0 to 1 via the cumulative distribution function. We code here 0 as well, if *v2lgbicam* is 0 (meaning the legislature has 0 chambers).

intermediate_partycontrol_facto = if_else(v2lgbicam==0, 0, cdf(scale(v2lgoppart)))

(1) Legislature opposition parties (v2lgoppart)

Question: Are opposition parties (those not in the ruling party or coalition) able to exercise oversight and investigatory functions against the wishes of the governing party or coalition?

Responses:
0: No, not at all.
1: Occasionally.
2: Yes, for the most part.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

II. Effective Oversight by Civil Society (intermediate_csocontrol_facto)

This variable resembles the z-scores of **v2dlengage**. It is scaled from 0 to 1 via the cumulative distribution function.

intermediate_csocontrol_facto = cdf(scale_fun(v2dlengage))

(1) Engaged society (v2dlengage)

Question: When important policy changes are being considered, how wide and how independent are public deliberations?

Clarification: This question refers to deliberation as manifested in discussion, debate, and other public forums such as popular media.

Responses:
0: Public deliberation is never, or almost never allowed.
1: Some limited public deliberations are allowed but the public below the elite levels is almost always either unaware of major policy debates or unable to take part in them.
2: Public deliberation is not repressed but nevertheless infrequent and non-elite actors are typically controlled and/or constrained by the elites.
3: Public deliberation is actively encouraged and some autonomous non-elite groups participate, but it is confined to a small slice of specialized groups that tends to be the same across issue-areas.
4: Public deliberation is actively encouraged and a relatively broad segment of nonelite groups often participate and vary with different issue-areas.
5: Large numbers of non-elite groups as well as ordinary people tend to discuss major policies among themselves, in the media, in associations or neighborhoods, or in the streets. Grass-roots deliberation is common and unconstrained.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

3 Public Communication

3.1 Freedom of Public Communication

Effective Freedom of Public Communication - Core Measurement (communication_freedom_core)

Question: Are the freedom of expression and press freedom in place?

Note: Due to the lack of indicators for the concept "Effective Freedom of Information", this index resembles only the values of **communication_expression_facto**.

communication_freedom_core = communication_expression_facto

I. **Effective Freedom of Expression (communication_expression_facto)**

This index is the result of the multiplication of **communication_press_facto** and **communication_opinion_facto**. We take the square root to fall back to the original scale (0-1).

*communication_expression_facto = (communication_press_facto * communication_opinion_facto)^(1/2)*

i. **Effective Freedom of the Press (communication_press_facto)**

Average of the z-scores of **v2mecenefm, v2meslfcen, v2mecenefi** and **v2meharjrn**. If internet censorship (**v2mecenefi**) is missing, then the index is created by the average of the z-scores of **v2meslfcen, v2mecenefi** and **v2meharjrn**. A cumulative distribution function is used to scale this variable between 0 and 1.

*communication_press_facto = cdf(if_else(is.na(v2mecenefi)==T, scale(v2mecenefm)*0.5 + scale(v2meharjrn)*0.5, scale(v2mecenefm)*(1/3) + scale(v2meharjrn)*(1/3) + scale(v2mecenefi)*(1/3)))*

(1) Government censorship effort - Media (v2mecenefm)

Question: Does the government directly or indirectly attempt to censor the print or broadcast media?

Clarification: Indirect forms of censorship might include politically motivated awarding of broadcast frequencies, withdrawal of financial support, influence over printing facilities and distribution networks, selected distribution of advertising, onerous registration requirements, prohibitive tariffs, and bribery. We are not concerned with censorship of non-political topics such as child pornography, statements offensive to a particular religion, or defamatory speech unless this sort of censorship is used as a pretext for censoring political speech.

Responses:
0: Attempts to censor are direct and routine.
1: Attempts to censor are indirect but nevertheless routine.
2: Attempts to censor are direct but limited to especially sensitive issues.

3: Attempts to censor are indirect and limited to especially sensitive issues.
4: The government rarely attempts to censor major media in any way, and when such exceptional attempts are discovered, the responsible officials are usually punished.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(2) Internet censorship effort (v2mecenefi)

Question: Does the government attempt to censor information (text, audio, or visuals) on the Internet?

Clarification: Censorship attempts include Internet filtering (blocking access to certain websites or browsers), denial-of-service attacks, and partial or total Internet shutdowns.
We are not concerned with censorship of topics such as child pornography, highly classified information such as military or intelligence secrets, statements offensive to a particular religion, or defamatory speech unless this sort of censorship is used as a pretext for censoring political information or opinions. We are also not concerned with the extent of internet access, unless there is absolutely no access at all (in which case the coding should be 0).

Responses:
0: This country has no Internet access at all. [This value is excluded from datasets. Values of 0 are set to missing before this variable is estimated by the measurement model so that the remaining 1-4 values form an ordinal scale.]
1: The government successfully blocks Internet access except to sites that are progovernment or devoid of political content.
2: The government attempts to block Internet access except to sites that are progovernment or devoid of political content, but many users are able to circumvent such controls.
3: The government allows Internet access, including to some sites that are critical of the government, but blocks selected sites that deal with especially politically sensitive issues.
4: The government allows Internet access that is unrestricted, with the exceptions mentioned above.

Scale: Ordinal, converted to interval by the measurement model.

From: V-Dem-Codebook (Coppedge et al. 2018)

(3) Harassment of journalists (v2meharjrn)

Question: Are individual journalists harassed - i.e., threatened with libel, arrested, imprisoned, beaten, or killed -- by governmental or powerful nongovernmental actors while engaged in legitimate journalistic activities?

Responses:
0: No journalists dare to engage in journalistic activities that would offend powerful actors because harassment or worse would be certain to occur.
1: Some journalists occasionally offend powerful actors but they are almost always harassed or worse and eventually are forced to stop.
2: Some journalists who offend powerful actors are forced to stop but others manage to continue practicing journalism freely for long periods of time.

3: It is rare for any journalist to be harassed for offending powerful actors, and if this were to happen, those responsible for the harassment would be identified and punished.
4: Journalists are never harassed by governmental or powerful nongovernmental actors while engaged in legitimate journalistic activities.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

ii.	**Effective Freedom of Opinion (communication_opinion_facto)** This index is the average of **v2cldiscm**, **v2cldiscw**, **v2clacfree** and **v2clrelig**. We first calculate the mean of z-scores of **v2cldiscm** and **v2cldiscw** to form a **freedom of discussion index**. Then, we include the z-scores of **v2clacfree** and **v2clrelig**. A cumulative distribution function is used to scale this variable between 0 and 1. *communication_opinion_facto = cdf(scale(Freedom_Discussion)*(1/3) + scale (v2clacfree) * (1/3) + scale(v2clrelig)* (1/3))*

(1) Freedom of discussion for men (v2cldiscm)

Question: Are men able to openly discuss political issues in private homes and in public spaces?

Clarification: This indicator specifies the extent to which men are able to engage in private discussions, particularly on political issues, in private homes and public spaces (restaurants, public transportation, sports events, work etc.) without fear of harassment by other members of the polity or the public authorities. We are interested in restrictions by the government and its agents but also cultural restrictions or customary laws that are enforced by other members of the polity, sometimes in informal ways. This question does not ask you to assess the relative freedom of men and women. Thus, it is possible to assign the lowest possible score to a country even if men and women enjoy equal — and extremely low — rights to freedom of discussion.

Responses:
0: Not respected. Hardly any freedom of expression exists for men. Men are subject to immediate and harsh intervention and harassment for expression of political opinion.
1: Weakly respected. Expressions of political opinions by men are frequently exposed to intervention and harassment.
2: Somewhat respected. Expressions of political opinions by men are occasionally exposed to intervention and harassment.
3: Mostly respected. There are minor restraints on the freedom of expression in the private sphere, predominantly limited to a few isolated cases or only linked to soft sanctions. But as a rule there is no intervention or harassment if men make political statements.
4: Fully respected. Freedom of speech for men in their homes and in public spaces is not restricted.

Scale: Ordinal, converted to interval by the measurement model
From: V-Dem-Codebook (Coppedge et al. 2018)

(2) Freedom of discussion for women (v2cldiscw)

Question: Are women able to openly discuss political issues in private homes and in public spaces?

Clarification: This indicator specifies the extent to which women are able to engage in private discussions, particularly on political issues, in private homes and public spaces (restaurants, public transportation, sports events, work etc.) without fear of harassment by other members of the polity or the public authorities. We are interested in restrictions by the government and its agents but also cultural restrictions or customary laws that are enforced by other members of the polity, sometimes in informal ways. This question does not ask you to assess the relative freedom of men and women. Thus, it is possible to assign the lowest possible score to a country even if men and women enjoy equal — and extremely low — rights to freedom of discussion.

Responses:
0: Not respected. Hardly any freedom of expression exists for women. Women are subject to immediate and harsh intervention and harassment for expression of political opinion.
1: Weakly respected. Expressions of political opinions by women are frequently exposed to intervention and harassment.
2: Somewhat respected. Expressions of political opinions by women are occasionally exposed to intervention and harassment.
3: Mostly respected. There are minor restraints on the freedom of expression in the private sphere, predominantly limited to a few isolated cases or only linked to soft sanctions. But as a rule there is no intervention or harassment if women make political statements.
4: Fully respected. Freedom of speech by women in their homes and in public spaces is not restricted.

Scale: Ordinal, converted to interval by the measurement model
From: V-Dem-Codebook (Coppedge et al. 2018)

(3) Freedom of academic and cultural expression (v2clacfree)

Question: Is there academic freedom and freedom of cultural expression related to political issues?

Responses:
0: Not respected by public authorities. Censorship and intimidation are frequent. Academic activities and cultural expressions are severely restricted or controlled by the government.
1: Weakly respected by public authorities. Academic freedom and freedom of cultural expression are practiced occasionally, but direct criticism of the government is mostly met with repression.
2: Somewhat respected by public authorities. Academic freedom and freedom of cultural expression are practiced routinely, but strong criticism of the government is sometimes met with repression.
3: Mostly respected by public authorities. There are few limitations on academic freedom and freedom of cultural expression, and resulting sanctions tend to be infrequent and soft.
4: Fully respected by public authorities. There are no restrictions on academic freedom or cultural expression.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(4) Freedom of religion (v2clrelig)

Question: Is there freedom of religion?

Clarification: This indicator specifies the extent to which individuals and groups have the right to choose a religion, change their religion, and practice that religion in private or in public as well as to proselytize peacefully without being subject to restrictions by public authorities.

Responses:
0: Not respected by public authorities. Hardly any freedom of religion exists. Any kind of religious practice is outlawed or at least controlled by the government to the extent that religious leaders are appointed by and subjected to public authorities, who control the activities of religious communities in some detail.
1: Weakly respected by public authorities. Some elements of autonomous organized religious practices exist and are officially recognized. But significant religious communities are repressed, prohibited, or systematically disabled, voluntary conversions are restricted, and instances of discrimination or intimidation of individuals or groups due to their religion are common.
2: Somewhat respected by public authorities. Autonomous organized religious practices exist and are officially recognized. Yet, minor religious communities are repressed, prohibited, or systematically disabled, and/or instances of discrimination or intimidation of individuals or groups due to their religion occur occasionally.
3: Mostly respected by public authorities. There are minor restrictions on the freedom of religion, predominantly limited to a few isolated cases. Minority religions face denial of registration, hindrance of foreign missionaries from entering the country, restrictions against proselytizing, or hindrance to access to or construction of places of worship.
4: Fully respected by public authorities. The population enjoys the right to practice any religious belief they choose. Religious groups may organize, select, and train personnel; solicit and receive contributions; publish; and engage in consultations without undue interference. If religious communities have to register, public authorities do not abuse the process to discriminate against a religion and do not constrain the right to worship before registration.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

II.	**Effective Freedom of Information (communication_information_facto)**

Note: We cannot measure this part of the concept due to the lack of indicators.

3.2 Equality of Public Communication

Effective Equality of Public Communication - Core Measurement (communication_equality_core)

Question: Do have all relevant interests and citizens have the same opportunity to access media and information?

Note: The index communication_equality_core resembles only the values of **communication_representation_facto**, because the indicator **v2meaccess** for the concept "Effective Equal Media Supply" is missing since V-Dem V7.

communication_equality_core = communication_representation_facto

I.	**Effective Provision of Media (communication_supply_facto)**

(1) Media access (v2meaccess)

Question: Approximately what percentage (%) of the population has access to any print or broadcast media that are sometimes critical of the national government?

Responses: Percent´.
Scale: Interval.
From: V-Dem-Codebook (Coppedge et al. 2018)

Note: This indicator is missing since V-Dem V7.

II.	**Media Access (communication_representation_facto)**

This index is the average of the z-scores of **v2mebias** and **v2merange**. A cumulative distribution function is used to scale this variable between 0 and 1.

*communication_representation_facto = cdf(scale(v2mebias)*0.5 + scale(v2merange)*0.5)*

(1) Media bias (v2mebias)

Question: Is there media bias against opposition parties or candidates?

Clarification: We ask you to take particular care in rating the year-to-year variation on this question if media bias tends to increase or decrease in election years. Coverage can be considered "more or less impartial" when the media as a whole present a mix of positive and negative coverage of each party or candidate.

Responses:
0: The print and broadcast media cover only the official party or candidates, or have no political coverage, or there are no opposition parties or candidates to cover.
1: The print and broadcast media cover more than just the official party or candidates but all the opposition parties or candidates receive only negative coverage.

2: The print and broadcast media cover some opposition parties or candidates more or less impartially, but they give only negative or no coverage to at least one newsworthy party or candidate.
3: The print and broadcast media cover opposition parties or candidates more or less impartially, but they give an exaggerated amount of coverage to the governing party or candidates.
4: The print and broadcast media cover all newsworthy parties and candidates more or less impartially and in proportion to their newsworthiness.

Scale: Ordinal, converted to interval by the measurement model.

(2) Print/broadcast media perspectives (v2merange)

Question: Do the major print and broadcast media represent a wide range of political perspectives?

Responses:
0: The major media represent only the government's perspective.
1: The major media represent only the perspectives of the government and a government-approved, semi-official opposition party.
2: The major media represent a variety of political perspectives but they systematically ignore at least one political perspective that is important in this society.
3: All perspectives that are important in this society are represented in at least one of the major media.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

3.3 Control of Public Communication

Effective Control of Public Communication - Core Measurement (communication_control_core)

Question: Does the media criticize the political representatives and government activity?

This index is the weighted average of the z-scores **v2mecrit** (60%) and **v2meslfcen** (40%). A cumulative distribution function is used to scale this variable between 0 and 1.

communication_control_core = cdf(scale(v2mecrit)*0.6 + scale(v2meslfcen)*0.4)

(1) Print/broadcast media critical (v2mecrit)

Question: Of the major print and broadcast outlets, how many routinely criticize the government?

Responses:
0: None.
1: Only a few marginal outlets.
2: Some important outlets routinely criticize the government but there are other important outlets that never do.
3: All major media outlets criticize the government at least occasionally.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(2) Media self-censorship (v2meslfcen)

Question: Is there self-censorship among journalists when reporting on is-sues that the government considers politically sensitive?

Responses:
0: Self-censorship is complete and thorough.
1: Self-censorship is common but incomplete.
2: There is self-censorship on a few highly sensitive political issues but not on moderately sensitive issues.
3: There is little or no self-censorship among journalists.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

4 Guarantee of Rights

4.1 Freedom of Guarantee of Rights

Effective Freedom of Rights - Core Measurement (rights_freedom_core)

Question: Is there an independent judiciary and the rule of law?

First, we multiply **rights_independence_facto** with **rights_certainty_facto**. Then, we calculate the square root to fall back to the original scale between 0 and 1.

*rights_freedom_core = (rights_independence_facto * rights_certainty_facto)^(1/2)*

I.   Effective Independence of the Judiciary (rights_independence_facto)

This index is a weighted average of the zscores of **v2juhcind** (66%) and **v2juncind** (33%). A cumulative distribution function is used to scale this variable between 0 and 1.

rights_independence_facto = cdf(scale(v2juhcind)*(2/3) + scale(v2juncind) *(1/3))

(1) High court independence (v2juhcind)

Question: When the high court in the judicial system is ruling in cases that are salient to the government, how often would you say that it makes deci-sions that merely reflect government wishes regardless of its sincere view of the legal record?

Clarification: We are seeking to identify autonomous judicial decision-making and its absence. Decisions certainly can reflect government wishes without "merely reflecting" those wishes, i.e. a court can be autonomous when its decisions support the government's position. This is because a court can be fairly persuaded that the government's position is meritorious. By "merely re-flect the wishes of the government" we mean that the court's own view of the record, its sincere evaluation of the record, is irrelevant to the outcome. The

court simply adopts the government's position regardless of its sincere view of the record.

Responses:
0: Always.
1: Usually.
2: About half of the time.
3: Seldom.
4: Never.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(2) Lower court independence (v2juncind)

Question: When judges not on the high court are ruling in cases that are salient to the government, how often would you say that their decisions merely reflect government wishes regardless of their sincere view of the legal record?

Responses:
0: Always.
1: Usually.
2: About half of the time.
3: Seldom.
4: Never.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

II. Effective Legal Security (rights_certainty_facto)

This index is the weighted average of the zscores of **v2juaccnt** (30%) and **v2cltrnslw** (70%). A cumulative distribution function is used to scale this variable between 0 and 1.

*rights_certainty_facto = cdf(scale(v2juaccnt) * 0.3 + scale(v2cltrnslw) * 0.7)*

(1) Transparent laws with predictable enforcement (v2cltrnslw)

Question: Are the laws of the land clear, well-publicized, coherent (consistent with each other), relatively stable from year to year, and enforced in a predictable manner?

Clarification: This question focuses on the transparency and predictability of the laws of the land.

Responses:
0: Transparency and predictability are almost non-existent. The laws of the land are created and/or enforced in completely arbitrary fashion.
1: Transparency and predictability are severely limited. The laws of the land are more often than not created and/or enforced in arbitrary fashion.
2: Transparency and predictability are somewhat limited. The laws of the land are mostly created in a non-arbitrary fashion but enforcement is rather arbitrary in some parts of the country.
3: Transparency and predictability are fairly strong. The laws of the land are usually created and enforced in a non-arbitrary fashion.

4: Transparency and predictability are very strong. The laws of the land are created and enforced in a non-arbitrary fashion.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(2) Judicial accountability (v2juaccnt)

Question: When judges are found responsible for serious misconduct, how often are they removed from their posts or otherwise disciplined?

Responses:
0: Never.
1: Seldom.
2: About half of the time.
3: Usually.
4: Always.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

4.2 Equality of Guarantee of Rights

Effective Equality of Rights - Core Measurement (rights_equality_core)

Question: Do all citizens have the same access to justice and enjoy equality before the law?

First, we multiply **rights_access_facto** with **rights_equalitylaw_facto**. Then, we calculate the *square* root to fall back to the original scale between 0 and 1.

rights_equality_core = (rights_access_facto * rights_equalitylaw_facto)^(1/2)

I. Effective Equality Before the Law (rights_equalitylaw_facto)

This index is the average of **v2clacjust** and **v2clsocgrp**. A cumulative distribution function is used to scale this variable between 0 and 1.

rights_equalitylaw_facto = cdf(scale(v2clacjust) * 0.5 + scale(v2clsocgrp) * 0.5)

(1) Social class equality in respect for civil liberty (v2clacjust)

Question: Do poor people enjoy the same level of civil liberties as rich people do?

Clarification: This question specifies the extent to which the level of civil liberties is generally the same across socioeconomic groups so that people with a low social status are not treated worse than people with high social status. Here, civil liberties are understood to include access to justice, private property rights, freedom of movement, and freedom from forced labor.

Responses:
0: Poor people enjoy much fewer civil liberties than rich people.
1: Poor people enjoy substantially fewer civil liberties than rich people.

2: Poor people enjoy moderately fewer civil liberties than rich people.
3: Poor people enjoy slightly fewer civil liberties than rich people.
4: Poor people enjoy the same level of civil liberties as rich people.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(2) Social group equality in respect for civil liberties (v2clsocgrp)

Question: Do all social groups, as distinguished by language, ethnicity, religion, race, region, or caste, enjoy the same level of civil liberties, or are some groups generally in a more favorable position?

Clarification: Here, civil liberties are understood to include access to justice, private property rights, freedom of movement, and freedom from forced labor.

Responses:
0: Members of some social groups enjoy much fewer civil liberties than the general population.
1: Members of some social groups enjoy substantially fewer civil liberties than the general population.
2: Members of some social groups enjoy moderately fewer civil liberties than the general population.
3: Members of some social groups enjoy slightly fewer civil liberties than the general population.
4: Members of all salient social groups enjoy the same level of civil liberties.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

II. Effective Equal Access to the Court (rights_access_facto)

Average of the z-scores of **v2clacjstm** and **v2clacjstw**. A cumulative distribution function is used to scale this variable between 0 and 1.

*rights_access_facto = cdf(scale(v2clacjstw) * 0.5 + scale(v2clacjstm) * 0.5)*

(1) Access to justice for men (v2clacjstm)

Question: Do men enjoy secure and effective access to justice?

Clarification: This question specifies the extent to which men can bring cases before the courts without risk to their personal safety, trials are fair, and men have effective ability to seek redress if public authorities violate their rights, including the rights to counsel, defense, and appeal. This question does not ask you to assess the relative access to justice men and women. Thus, it is possible to assign the lowest possible score to a country even if men and women enjoy equal — and extremely limited — access to justice.

Responses:
0: Secure and effective access to justice for men is non-existent.
1: Secure and effective access to justice for men is usually not established or widely respected.
2: Secure and effective access to justice for men is inconsistently observed. Minor problems
characterize most cases or occur rather unevenly across different parts of the country.
3: Secure and effective access to justice for men is usually observed.

4: Secure and effective access to justice for men is almost always observed.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(2) Access to justice for women (v2clacjstw)

Question: Do women enjoy equal, secure, and effective access to justice?

Clarification: This question specifies the extent to which women can bring cases before the courts without risk to their personal safety, trials are fair, and women have effective ability to seek redress if public authorities violate their rights, including the rights to counsel, defense, and appeal.This question does not ask you to assess the relative access to justice men and women. Thus, it is possible to assign the lowest possible score to a country even if men and women enjoy equal — and extremely limited — access to justice.

Responses:
0: Secure and effective access to justice for women is non-existent.
1: Secure and effective access to justice for women is usually not established or widely respected.
2: Secure and effective access to justice for women is inconsistently observed. Minor problems
characterize most cases or occur rather unevenly across different parts of the country.
3: Secure and effective access to justice for women is usually observed.
4: Secure and effective access to justice for women is almost always observed.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

4.3 Control of Guarantee of Rights

Effective Control of Rights - Core Measurement (rights_control_core)

Question: Do governmental organizations respect legal norms and comply with judicial decisions?

This index is the weighted average of the zscores of **v2exrescon** (25%), **v2juhccomp** (50%) and **v2jucomp** (25%). A cumulative distribution function is used to scale this variable between 0 and 1.

*rights_control_core = cdf(scale(v2exrescon) * 0.25 + scale(v2juhccomp) * 0.5 + scale(v2jucomp) * 0.25)*

(1) Executive respects constitution (v2exrescon)

Question: Do members of the executive (the head of state, the head of government, and cabinet ministers) respect the constitution?
Responses:
0: Members of the executive violate the constitution whenever they want to, without legal consequences.

1: Members of the executive violate most provisions of the constitution with-out legal consequences, but still must respect certain provisions.
2: Somewhere in between (1) and (3). Members of the executive would face legal consequences for violating most provisions of the constitution, but can disregard some provisions without any legal consequences.
3: Members of the executive rarely violate the constitution, and when it happens they face legal charges.
4: Members of the executive never violate the constitution.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(2)	**Compliance with high court (v2juhccomp)**

Question: How often would you say the government complies with important decisions of the high court with which it disagrees?

Responses:
0: Never.
1: Seldom.
2: About half of the time.
3: Usually.
4: Always.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(3)	**Compliance with judiciary (v2jucomp)**

Question: How often would you say the government complies with important decisions by other courts with which it disagrees?

Clarification: We are looking for a summary judgment for the entire judiciary, excluding the high court. You should consider judges on both ordinary courts and specialized courts.

Responses:
0: Never.
1: Seldom.
2: About half of the time.
3: Usually.
4: Always.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

5 Rules Settlement and Implementation

5.1 Freedom of Rules Settlement and Implementation

Effective Freedom of Rule Settlement and Implementation - Core Measurement (rules_settlement_freedom_core)

Question: Is the rule settlement and implementation realized by an effective and independent government?

We use the lowest value (minimum) among the two indicators **rules_settlement_government_facto** and **rules_settlement_personal_facto**.

rule_settlement_freedom_core = min(rules_settlement_government_facto, rules_settlement_personal_facto)

I. **Effective Free Government (rules_settlement_government_facto)**

This index is the result of the multiplication of **rules_settlement_noveto_facto** with **rules_settlement_independence_facto**.

*rules_settlement_government_facto = rules_settlement_noveto_facto * rules_settlement_independence_facto*

i. **Effective Governing Power (rules_settlement_noveto_facto)**

In the first step, we determine if the HOS and/or HOG are elected. We focus on the one which has the most political power. If there is no elected HOG or HOS, rules_settlement_noveto_facto becomes 0.5. If there is an elected HOG or HOS, we assess the strength of the following vetoplayers: military, religious body, royal council and ethnic tribe. A strong veto player is coded as 0.5, a partial veto player as 0.75 and no veto player 1. Thus, rules_settlement_noveto_facto can take three values: 0.5, 0.75, 1.

HOS_elected = ifelse(NoHOG == 1 & (HOS_appointment == 7 | (HOS_appointment_legislature == 1 & parl_elected == 1)), 1,
  ifelse(HOS_power<2 & (HOS_appointment == 7 | (HOS_appointment_legislature == 1 & parl_elected == 1)), 1, 0.5)),

HOG_elected = ifelse(NoHOG == 0 & HOS_power==2 & (HOG_appointment == 8 | (HOG_appointment_legislature == 1 & parl_elected == 1) | (HOG_appointment == 6 & parl_elected == 1)),1,0.5)

HOS_veto = if_else(HOS_elected == 0.5 & HOG_elected == 0.5, 0.5,
  if_else(HOS_elected == 1 & (hs_royal_remove >= 0.4 | hs_military_remove >= 0.4 | hs_religious_remove >= 0.4 | hs_tribe_remove >= 0.4), 0.5,
  if_else(HOS_elected == 1 & (hs_royal_remove >= 0.25 | hs_military_remove >= 0.25 | hs_religious_remove >= 0.25 | hs_tribe_remove >= 0.25), 0.75, 1)))

HOG_veto = if_else(HOS_elected == 0.5 & HOG_elected == 0.5, 0.5,

if_else(HOG_elected == 1 & (hg_royal_remove >= 0.4 | hg_military_remove >= 0.4 | hg_religious_remove >= 0.4 | hg_tribe_remove >= 0.4), 0.5
if_else(HOG_elected == 1 & (hg_royal_remove >= 0.25 | hg_military_remove >= 0.25 | hg_religious_remove >= 0.25 | hg_tribe_remove >= 0.25), 0.75, 1)))

rules_settlement_noveto_facto = min_fun(c(HOG_veto, HOS_veto))

(1) HOS removal by other in practice (v2exrmhsol)

Question: Which of the following bodies would be likely to succeed in removing the head of state if it took actions (short of military force) to do so?

Responses:
0: None. (0=No, 1=Yes) [v2exrmhsol_0]
1: A foreign power. (0=No, 1=Yes) [v2exrmhsol_1]
2: The ruling party or party leadership body (in a one-party system). (0=No, 1=Yes) [v2exrmhsol_2]
3: A royal council. (0=No, 1=Yes) [v2exrmhsol_3]
4: The military. (0=No, 1=Yes) [v2exrmhsol_4]
5: A religious body. (0=No, 1=Yes) [v2exrmhsol_5]
6: A tribal or ethnic council. (0=No, 1=Yes) [v2exrmhsol_6]
7: Other. (0=No, 1=Yes) [v2exrmhsol_7]

Scale: Series of dichotomous scales.
From: V-Dem-Codebook (Coppedge et al. 2018)

(2) HOG removal by other in practice (v2exrmhgnp)

Question: Which of the following bodies would be likely to succeed in removing the head of government if it took actions (short of military force) to do so?

Responses:
0: None. (0=No, 1=Yes) [v2exrmhgnp_0]
1: A foreign power. (0=No, 1=Yes) [v2exrmhgnp_1]
2: The ruling party or party leadership body (in a one-party system). (0=No, 1=Yes) [v2exrmhgnp_2]
3: A royal council. (0=No, 1=Yes) [v2exrmhgnp_3]
4: The military. (0=No, 1=Yes) [v2exrmhgnp_4]
5: The head of state. (0=No, 1=Yes) [v2exrmhgnp_5]
6: A religious body. (0=No, 1=Yes) [v2exrmhgnp_6]
7: A tribal or ethnic council. (0=No, 1=Yes) [v2exrmhgnp_7]
8: Other. (0=No, 1=Yes) [v2exrmhgnp_8]

Scale: Series of dichotomous scales.
From: V-Dem-Codebook (Coppedge et al. 2018)

(3) HOG appointed by legislature (v2ex_legconhog)

Question: Is the head of government HOG appointed by the legislature, or is the approval of the legislature necessary for the appointment of the head of state?

Responses:
0: No.
1: Yes.

Scale: Dichotomous.
From: V-Dem-Codebook (Coppedge et al. 2018)

(4) HOS appointed by legislature (v2ex_legconhos)

Question: Is the head of state HOS appointed by the legislature, or is the approval of the legislature necessary for the appointment of the head of state?

Responses:
0: No.
1: Yes.

Scale: Dichotomous.
From: V-Dem-Codebook (Coppedge et al. 2018)

(5) HOG appointment in practice (v2expathhg)

Question: How did the head of government gain access to office?

Responses:
0: Through the threat of or application of force, such as a coup or rebellion.
1: Appointed by a foreign power.
2: Appointed by the ruling party (in a one-party system).
3: Appointed by a royal council.
4: Through hereditary succession.
5: Appointed by the military.
6: Appointed by the head of state.
7: Appointed by the legislature.
8: Directly through a popular election (regardless of the extension of the suffrage).
9: Other.

Scale: Series of dichotomous scales.
From: V-Dem-Codebook (Coppedge et al. 2018)

(6) HOS appointment in practice (v2expathhs)

Question: How did the head of state reach office?

Responses:
0: Through the threat of or application of force, such as a coup or rebellion.
1: Appointed by a foreign power.
2: Appointed by the ruling party (in a one-party system).
3: Appointed by a royal council.
4: Through hereditary succession.
5: Appointed by the military.
6: Appointed by the legislature.
7: Directly through a popular election (regardless of the extension of the suffrage).
8: Other.

Scale:Series of dichotomous scales.
From: V-Dem-Codebook (Coppedge et al. 2018)

(7) Legislative electoral regime index (v2xlg_elecreg)

Question: At this time, are regularly scheduled national elections on the legislature on course, as stipulated by election law or well-established precedent?

Responses:
0: No.
1: Yes.

Scale: Dichotomous.
From: V-Dem-Codebook (Coppedge et al. 2018)

(8) HOS proposes legislation in practice (v2exdfpphs)

Question: Does the head of state have the capacity, in practice, to propose legislation?

Responses:
0: Yes, in all policy areas, including some exclusive domains (where neither the legislature nor other bodies may initiate bills).
1: Yes, in all policy areas, but this power is shared with the legislature and perhaps with other bodies.
2: No. The head of state cannot propose legislation.

Scale: Ordinal, converted to interval by the measurement.
From: V-Dem-Codebook (Coppedge et al. 2018)

(9) HOS = HOG (v2exhoshog**)**

Question: Is the head of state (HOS) also head of government (HOG)?

Responses:
0: No.
1: Yes.

Scale: Dichotomous.
From: V-Dem-Codebook (Coppedge et al. 2018)

ii. **Effective Independence of the Government (rules_settlement_independence_facto)**

Average of the z-scores of **v2svdomaut** and **v2svinlaut**. A cumulative distribution function is used to scale this variable between 0 and 1.

rules_settlement_independence_facto = cdf(scale(v2svdomaut) * 0.5 + scale(v2svinlaut) * 0.5)

(1) Domestic autonomy (v2svdomaut)

Question: Is the state autonomous from the control of other states with respect to the conduct of domestic policy?

Clarification: The question of domestic autonomy does not include restrictions emanating from treaties (e.g., NATO), international organizations (e.g., the WTO), or confederations (e.g., the European Union) if these agreements are freely negotiated by the state and if the state is free to exit from that treaty, organization, or confederation. Nor does it include restrictions on policymaking emanating from international market forces and trans-national corporations.

Responses:
0: Non-autonomous. National level authority is exercised by an external power, either by law or in practice. The most common examples of this are direct colonial rule and military occupation (e.g. quadripartite occupation of Germany in 1945). It also includes situations in which domestic actors provide de jure cover for de facto control by a foreign power (e.g. Vichy France). However, control of some part of the territory of a state by an enemy during war is not considered control by external actors if the sovereign government remains on scene and continues to wage conventional war (e.g., the USSR during WW II).
1: Semi-autonomous. An external political actor directly constrains the ability of domestic actors to rule, decides who can or cannot rule through formal rules or informal understandings, or precludes certain policies through explicit

treaty provisions or well-understood rules of the game from which the subject state cannot withdraw. Examples include Soviet "satellite" states in Eastern Europe, and situations where colonial powers grant limited powers of national self-government to their possessions (e.g., protectorates and limited home government).
2: Autonomous. Domestic political actors exercise political authority free of the direct control of external political actors.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(2) International autonomy (v2svinlaut)

Question: Is the state autonomous from the control of other states with respect to the conduct of its foreign policy?

Responses:
0: Non-autonomous. Foreign policy is controlled by an external power, either de facto or de jure. The most common examples of this are colonial rule and military occupation (e.g. quadripartite occupation of Germany in 1945). Situations in which domestic actors provide de jure cover for de facto control by a foreign power should not be construed as semi-autonomy (e.g. Vichy France). Governments in exile that control underground forces waging unconventional warfare are not considered as mitigating an occupation regime (e.g. countries under German occupation during WWII).
1: Semi-autonomous. An external political actor directly constrains the ability of domestic actors to pursue an independent foreign policy course in some important areas. This may be the product of explicit treaty provisions or well understood rules of the game from which the subject state cannot withdraw. Examples would include Soviet strictures over rule in so-called "satellite" states in Eastern Europe, and explicitly negotiated postwar settlements (e.g. Austria following WWII).
2: Autonomous. Domestic political actors exercise foreign policy free of the direct control of external political actors. Direct control is meant to exclude the exercise of constraint or the impact of interdependence in the international system. Treaties in which states concede some part of that control to a supra- or international organization voluntarily, and from which there is a possibility of exit should not be interpreted as a violation of autonomy.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

II. Effective Personality Rights (rules_settlement_personal_facto)

Average of the z-scores of **v2cltort** and **v2clkill**. A cumulative distribution function is used to scale this variable between 0 and 1.

Eff_SecurePers = cdf(scale_fun(v2cltort) * 0.5 + scale_fun(v2clkill) * 0.5)

(1) Freedom from torture (v2cltort)

Question: Is there freedom from torture?

Clarification: Torture refers to the purposeful inflicting of extreme pain, whether mental or physical, with an aim to extract information or intimidate

victims, who are in a state of incarceration. Here, we are concerned with torture practiced by state officials or other agents of the state (e.g., police, security forces, prison guards, and paramilitary groups).

Responses:
0: Not respected by public authorities. Torture is practiced systematically and is incited and approved by the leaders of government.
1: Weakly respected by public authorities. Torture is practiced frequently but is often not incited or approved by top leaders of government. At the same time, leaders of government are not actively working to prevent it.
2: Somewhat. Torture is practiced occasionally but is typically not approved by top leaders of government.
3: Mostly respected by public authorities. Torture is practiced in a few isolated cases but is not incited or approved by top government leaders.
4: Fully respected by public authorities. Torture is non-existent.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(2) Freedom from political killings (v2clkill)

Question: Is there freedom from political killings?

Clarification: Political killings are killings by the state or its agents without due process of law for the purpose of eliminating political opponents. These killings are the result of deliberate use of lethal force by the police, security forces, prison officials, or other agents of the state (including paramilitary groups).

Responses:
0: Not respected by public authorities. Political killings are practiced systematically and they are typically incited and approved by top leaders of government.
1: Weakly respected by public authorities. Political killings are practiced frequently and top leaders of government are not actively working to prevent them.
2: Somewhat respected by public authorities. Political killings are practiced occasionally but they are typically not incited and approved by top leaders of government.
3: Mostly respected by public authorities. Political killings are practiced in a few isolated cases but they are not incited or approved by top leaders of government.
4: Fully respected by public authorities. Political killings are non-existent.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

5.2 Equality of Rules Settlement and Implementation

Effective Equality of Rules Settlement and Implementation - Core Measurement (rules_settlement_equality_core)

Question: Do legislature, executive as well as the administration treat all citizens equally?

First, we multiply **rules_settlement_parltreatment_facto** with **rules_settlement_exe-treatment_facto**. Then, we calculate the square root to fall back to the original scale between 0 and 1.

rule_settlement_equality_core = (rules_settlement_parltreatment_facto * rules_settlement_exetreatment_facto)^(1/2)

I. **Effective Equal Treatment by Parliament (rules_settlement_parltreatment_facto)**

This variable resembles the z-scores of **v2dlconslt**. It is scaled from 0 to 1 via the cumulative distribution function.

rules_settlement_parltreatment_facto = cdf(scale(v2dlconslt))

(1) Range of consultation (v2dlconslt)

Question: When important policy changes are being considered, how wide is the range of consultation at elite levels?

Clarification: Because practices vary greatly from policy to policy, base your answer on the style that is most typical of policymaking.

Responses:
0: No consultation. The leader or a very small group (e.g. military council) makes authoritative decisions on their own.
1: Very little and narrow. Consultation with only a narrow circle of loyal party/ruling elites.
2: Consultation includes the former plus a larger group that is loyal to the government, such as the ruling party's or parties' local executives and/or women, youth and other branches.
3: Consultation includes the former plus leaders of other parties.
4: Consultation includes the former plus a select range of society/labor/business representatives.
5: Consultation engages elites from essentially all parts of the political spectrum and all politically relevant sectors of society and business.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

II. **Effective Equal Treatment by the Executive and Public Administration (rules_settlement_exetreatment_facto)**

This variable resembles the z-scores of **v2dlconslt**. It is scaled from 0 to 1 via the cumulative distribution function.

rules_settlement_exetreatment_facto = cdf(scale(v2clrspct))

(1) Rigorous and impartial public administration (v2clrspct)

Question: Are public officials rigorous and impartial in the performance of their duties?

Clarification: This question focuses on the extent to which public officials generally abide by the law and treat like cases alike, or conversely, the extent to

which public administration is characterized by arbitrariness and biases (i.e., nepotism, cronyism, or discrimination).
The question covers the public officials that handle the cases of ordinary people. If no functioning public administration exists, the lowest score (0) applies.

Responses:
0: The law is not respected by public officials. Arbitrary or biased administration of the law is rampant.
1: The law is weakly respected by public officials. Arbitrary or biased administration of the law is widespread.
2: The law is modestly respected by public officials. Arbitrary or biased administration of the law is moderate.
3: The law is mostly respected by public officials. Arbitrary or biased administration of the law is limited.
4: The law is generally fully respected by the public officials. Arbitrary or biased administration of the law is very limited.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

5.3 Control of Rules Settlement and Implementation

Effective Control of Rules Settlement and Implementation - Core Measurement (rules_settlement_control_core)

Question: Is government controlled by the legislature (or opposition) and administration?

The main index is the weighted average of **rules_settlement_admcontrol_facto** (33%) and **rules_settlement_parlcontrol_facto** (66%).

*rule_settlement_control_core = rules_settlement_admcontrol_facto * (1/3) + rules_settlement_parlcontrol_facto * (2/3)*

I.   **Effective Oversight by the Legislature (rules_settlement_parlcontrol_facto)**

This variable is the weighted average of the z-scores of **v2lgqstexp** (40%), **v2lginvstp** (40%), and **v2lgfunds** (20%)**.** It is scaled from 0 to 1 via the cumulative distribution function. We code here 0 as well, if *v2lgbicam* is 0 (meaning the legislature has 0 chambers).

*Control_Leg = if_else(v2lgbicam=="0 Chambers", 0, cdf(scale(v2lgfunds) * (0.2) + scale(v2lginvstp) * (0.4) + scale(v2lgqstexp) * (0.4)))*

(1) **Legislature questions officials in practice (v2lgqstexp)**

Question: In practice, does the legislature routinely question executive branch officials?

Clarification: By "question" we mean, for example, the power of summons through which the head of state or head of government could be forced to explain its policies or testify.

Responses:
0: No - never or very rarely.
1: Yes - routinely.

Scale: Dichotomous, converted to interval by the measurement model.

(2) Legislature investigates in practice (v2lginvstp)

Question: If the executive were engaged in unconstitutional, illegal, or unethical activity, how likely is it that a legislative body (perhaps a whole chamber, perhaps a committee, whether aligned with government or opposition) would conduct an investigation that would result in a decision or report that is unfavorable to the executive?

Responses:
0: Extremely unlikely.
1: Unlikely.
2: As likely as not.
3: Likely.
4: Certain or nearly certain.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(3) Legislature controls resources (v2lgfunds)

Question: In practice, does the legislature control the resources that finance its own internal operations and the perquisites of its members?

Responses:
0: No. The benefits legislators receive or the finances needed for the legislature's operation depend on remaining in good standing with an outside authority, such as the executive.
1: Yes.

Scale: Dichotomous, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

II. Effective Oversight by the Public Administration (rules_settlement_admcontrol_facto)

This variable resembles the z-scores of **v2lgotovst**. It is scaled from 0 to 1 via the cumulative distribution function. We code here 0 as well, if *v2lgbicam* is 0 (meaning the legislature has 0 chambers).

rules_settlment_parlcontrol_facto = if_else(v2lgbicam=="0 Chambers", 0, cdf(scale(v2lgotovst)))

(1) Executive oversight (v2lgotovst)

Question: If executive branch officials were engaged in unconstitutional, illegal, or unethical activity, how likely is it that a body other than the legislature, such as a comptroller general, general prosecutor, or ombudsman, would question or investigate them and issue an unfavorable decision or report?

Responses:
0: Extremely unlikely.
1: Unlikely.
2: Very uncertain.
3: Likely.
4: Certain or nearly certain.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

6 Aggregated Indices (Core Measurement)

6.1 Dimensional Indices and Total Value Index

I. **Freedom Dimension - Core Measurement (freedom_dim_index_core)**

Question: The dimension of freedom is rooted in the citizens' free self-determination in a political community. This self-determination includes the transfer of individual preferences through the election of political representatives in free and fair elections, and, additionally, the opportunity of continuing political participation, which is embedded in a public structure of competitive organizations. The citizens' political participation is guaranteed by the existence of civil and political rights. Furthermore, sovereignty of the people implies that the elected representatives own the political power and use it, but respect individual rights at the same time (effective power to govern). To participate freely means that all rights have to be codified, that the factual possibility to exercise the rights exists (which demands a certain degree of institutional and administrative capacity) and that the use of the rights is not thwarted by formal or informal acts.

This index is the multiplication of **decision_freedom_core, intermediate_ freedom _core, communication_ freedom _core, rights_ freedom _core** and **rule_settlement_ freedom _core**. Then, we calculate the root to fall back to the original scale between 0 and 1.

freedom_dim_index_core = (decision_freedom_core * intermediate_freedom_core * communication_freedom_core * rights_freedom_core * rule_settlement_freedom_core)^(1/5)

Scale: 0-1.

II. **Equality Dimension - Core Measurement (equality_dim_index_core)**

Question: The dimension of equality expresses political equality, which includes, on the one hand, formal, fair treatment of all citizens by the state (legal equality). On the other hand, it enables all citizens to participate in a fair and effective way in all formal institutions needed for the democratic process (input-egalitarianism). While the dimension of liberty includes the possibility of free participation in the democratic process in an active sense, the dimension of equality underscores the importance of having an equal chance to access these rights. Do all citizens have the same opportunity to use their rights? Thus, the perspective changes from the active side to a more passive side (of treatment and enabling structures). This concept of political equality does not strive for the same results of political participation – not even for the equal chance of competence beyond effective legal equality. Fairness means the equal and effective use of the civil and political rights regardless social status, gender, or ethnicity.

This index is the multiplication of **decision_equality_core, intermediate_equality_core, communication_equality_core, rights_equality_core** and **rule_settlement_equality_core**. Then, we calculate the root to fall back to the original scale between 0 and 1.

equality_dim_index_core = (decision_equality_core * intermediate_equality_core * communication_equality_core * rights_equality_core * rule_settlement_equality_core) ^(1/5)

Scale: 0-1.

III.	**Control Dimension - Core Measurement (control_dim_index_core)**

Question: The main idea consists of the control of political power (government and parliament) through means of political and judicial control. The dimension of control integrates both vertical and horizontal accountability. Besides the peculiarities of political control in the political process (through civil society), the main actors of control are the formal organizations of the state. Democratic control is necessarily based on the opportunity of citizens, civil society, and parliament to participate in controlling procedures to ensure their capacity to defend their rights and to support the (sometimes limited) initiative rights of the justice system. The only standard of the judicial control is established by the constitutional behavior of the respective office holders. The transparency of the political process is an important condition for both kinds of control that are exercised permanently. Control is only effective if it aims at forcing the office holders to take responsibility for their actions in order to create the possibility of punishment. This requires the functioning of an independent justice system, which is in turn supported by other authorities and by initiatives of civil society.

This index is the multiplication of **decision_control_core, intermediate_control_core, communication_control_core, rights_control_core** and **rule_settlement_control_core**. Then, we calculate the root to fall back to the original scale between 0 and 1.

control_dim_index_core = (decision_control_core * intermediate_control_core * communication_control_core * rights_control_core * rule_settlement_control_core))^(1/5)

Scale: 0-1.

IV.	**Total Value Index - Core Measurement (total_index_core)**

Question: Are freedom, equality, and control for all institutions realized?

This index is the multiplication of **freedom_dim_index_core, equality_dim_index_core** and **control_dim_index_core**. Then, we calculate the root to fall back to the original scale between 0 and 1.

total_index_core = (freedom_dim_index_core * equality_dim_index_core * control_dim_index_core)^(1/3)

Scale: 0-1.

6.2 Institutional Indices

I.	**Procedures of Decision - Core Measurement (decision_inst_index_core)**

Question: Are political offices filled by free and fair elections? Do independent election observers oversight the elections?

This index is the multiplication of **decision_freedom_core, decision_equality_core and decision_control_core.** Then, we calculate the root to fall back to the original scale between 0 and 1.

*decision_inst_index_core = (decision_freedom_core * decision_equality_core * decision_control_core)^(1/3)*

Scale: 0-1.

II.	**Regulation of the intermediate sphere - Core Measurement (intermediate_inst_index_core)**

Question: Are intermediate organizations (political parties, associations, civil society) able to represent freely and fairly all relevant interests in the society, and oversight political officials and governmental action effectively?

This index is the multiplication of **intermediate_freedom_core, intermediate_equality_core and intermediate_control_core.** Then, we calculate the root to fall back to the original scale between 0 and 1.

*intermediate_inst_index_core = (intermediate_freedom_core * intermediate_equality_core * intermediate_control_core)^(1/3)*

Scale: 0-1.

III.	**Public Communication - Core Measurement (communication_inst_index_core)**

Question: Is there a free and fair representation of all interests within the public sphere? Does the media control the government?

This index is the multiplication of **communication_freedom_core, communication_equality_core and communication_control_core.** Then, we calculate the root to fall back to the original scale between 0 and 1.

*communication_inst_index_core = (communication_freedom_core * communication_equality_core * communication_control_core)^(1/3)*

Scale: 0-1.

IV.	**Guarantee of Rights - Core Measurement (rights_inst_index_core)**

Question: Are political rights and civil liberties and equality rights of the citizens for all citizens guaranteed by procedures corresponding to the principles of the rule of law (independent judiciary, equality before the law, effective jurisdiction)?

This index is the multiplication of **rights_freedom_core, rights_equality_core and rights_control_core.** Then, we calculate the root to fall back to the original scale between 0 and 1.

rights_inst_index_core = (rights_freedom_core * rights_equality_core * rights_control_core)^(1/3)

Scale: 0-1.

V.	**Rules Settlement and Implementation - Core Measurement (rules_settlement_inst_index_core)**

Question: Is the government independent from the influence of non-democratic legitimized veto players and is it controlled by the legislature (or opposition) and administration? Do the executive and legislature treat all citizens equally?

This index is the multiplication of **rules_settlement_freedom_core, rules_settlement_equality_core and rules_settlement_control_core.** Then, we calculate the root to fall back to the original scale between 0 and 1.

rules_settlement_inst_index_core = (rules_settlement_freedom_core * rules_settlement_equality_core * rules_settlement_control_core)^(1/3)

Scale: 0-1.

Context Measurement

1 Context Factors

I. Context Factor of Procedures of Decision (decision_context_facto)

This variable resembles the z-scores of **v2elpeace**. It is scaled from 0 to 1 via the cumulative distribution function. Then, these values are compressed to a scale from 0.5 to 1 meaning that *Election other electoral violence* can reduce the values only by 50%. We code country-years 0.5 as well, if v2x_elecreg is 0 (meaning there are no elections).

decision_context_facto = if_else(v2x_elecreg==0,0,cdf(scale(v2elpeace)))

decision_context_facto = minmax(decision_context_facto, 0.5) + 0.5

(1) *Election other electoral violence (v2elpeace)*

Question: In this national election, was the campaign period, election day, and postelection process free from other types (not by the government, the ruling party, or their agents) of violence related to the conduct of the election and the campaigns (but not conducted by the government and its agents)?

Responses:
0: No. There was widespread violence between civilians occurring throughout the election period, or in an intense period of more than a week and in large swaths of the country. It resulted in a large number of deaths or displaced refugees.
1: Not really. There were significant levels of violence but not throughout the election period or beyond limited parts of the country. A few people may have died as a result, and some people may have been forced to move temporarily.
2: Somewhat. There were some outbursts of limited violence for a day or two, and only in a small part of the country. The number of injured and otherwise affected was relatively small.
3: Almost. There were only a few instances of isolated violent acts, involving only a few people; no one died and very few were injured.
4: Peaceful. No election-related violence between civilians occurred.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

II. Context Factor of Regulation of the Intermediate Sphere (intermediate_context_facto)

This variable resembles the z-scores of **v2psprlnks**. It is scaled from 0 to 1 via the cumulative distribution function. Then, these values are compressed to a scale from 0.5 to 1 meaning that *Party linkages* can reduce the values only by 50%.

intermediate_context_facto = cdf(scale(v2psprlnks))

intermediate_context_facto = minmax(intermediate_context_facto, 0.5) + 0.5

(1) Party linkages (v2psprlnks)

Question Among the major parties, what is the main or most common form of linkage to their constituents?

Clarification: A party-constituent linkage refers to the sort of "good" that the party offers in exchange for political support and participation in party activities.

Responses:
0: Clientelistic. Constituents are rewarded with goods, cash, and/or jobs.
1: Mixed clientelistic and local collective.
2: Local collective. Constituents are rewarded with local collective goods, e.g., wells, toilets,
markets, roads, bridges, and local development.
3: Mixed local collective and policy/programmatic.
4: Policy/programmatic. Constituents respond to a party's positions on national policies,
general party programs, and visions for society.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

III. Context Factor of Public Communication (communication_context_facto)

This variable resembles the z-scores of **v2mecorrpt**. It is scaled from 0 to 1 via the cumulative distribution function. Then, these values are compressed to a scale from 0.5 to 1 meaning that *Party linkages* can reduce the values only by 50%.

communication_context_facto = cdf(scale_fun(v2mecorrpt))

communication_context_facto = minmax(communication_context_facto, 0.5) + 0.5

(1) Media corrupt (v2mecorrpt)

Question: Do journalists, publishers, or broadcasters accept payments in exchange for altering news coverage?

Responses:
0: The media are so closely directed by the government that any such payments would be either unnecessary to ensure pro-government coverage or ineffective in producing anti-government coverage.
1: Journalists, publishers, and broadcasters routinely alter news coverage in exchange for payments.
2: It is common, but not routine, for journalists, publishers, and broadcasters to alter news coverage in exchange for payments.
3: It is not normal for journalists, publishers, and broadcasters to alter news coverage in exchange for payments, but it happens occasionally, without anyone being punished.
4: Journalists, publishers, and broadcasters rarely alter news coverage in exchange for payments, and if it becomes known, someone is punished for it.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

IV. Context Factor of Guarantee of Rights (rights_context_facto)

This variable resembles the z-scores of **v2jucorrdc**. It is scaled from 0 to 1 via the cumulative distribution function. Then, these values are compressed to a scale from 0.5 to 1 meaning that *Party linkages* can reduce the values only by 50%.

rights_context_facto = cdf(scale(v2jucorrdc))

rights_context_facto = minmax(rights_context_facto, 0.5) + 0.5

(1) Judicial corruption decision (v2jucorrdc)

Question: How often do individuals or businesses make undocumented extra payments or bribes in order to speed up or delay the process or to obtain a favorable judicial decision?

Responses:
0: Always.
1: Usually.
2: About half of the time.
3: Not usually.
4: Never.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

V. Context Factor of Rules Settlement and Implementation (rules_settlement_context_facto)

This variable is the **average of rules_settlement_parlnocorr_facto** and **rules_settlement_exenocorr_facto**. Then, these values are compressed to a scale from 0.5 to 1 meaning that *Party linkages* can reduce the values only by 50%.

*rules_settlement_context_facto = rules_settlement_parlnocorr_facto * 0.5 + rules_settlement_exenocorr_facto * 0.5*

rules_settlement_context_facto = minmax(rules_settlement_context_facto, 0.5) + 0.5

i. No corruption within the Parliament (rules_settlement_parlnocorr_facto)

This variable resembles the z-scores of **v2lgcrrpt**. It is scaled from 0 to 1 via the cumulative distribution function. We code country-years 0 as well, if v2lgbicam is 0 (meaning there is no legislature).

rules_settlement_parlnocorr_facto = if_else(v2lgbicam== "0 Chambers", 0, cdf(scale(v2lgcrrpt)))

(1) Legislature corrupt activities (v2lgcrrpt)

Question: Do members of the legislature abuse their position for financial gain?

Clarification: This includes any of the following: (a) accepting bribes, (b) helping to obtain government contracts for firms that the legislator (or his/her family/friends/political supporters) own, (c) doing favors for firms in exchange for

the opportunity of employment after leaving the legislature, (d) stealing money from the state or from campaign donations for personal use.
Please make your best estimate, based upon what is known or suspected to be true.

Responses:
0: Commonly. Most legislators probably engage in these activities.
1: Often. Many legislators probably engage in these activities.
2: Sometimes. Some legislators probably engage in these activities.
3: Very occasionally. There may be a few legislators who engage in these activities but the vast majority do not.
4: Never, or hardly ever.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

ii. No corruption within the Executive (rules_settlement_exenocorr_facto)

This variable is the average of the z-scores of **v2exbribe, v2exembez, v2excrptps** and **v2exthftps**. It is scaled from 0 to 1 via the cumulative distribution function.

*rules_settlement_exenocorr_facto = cdf(scale(v2exbribe) * 0.25 + scale(v2exembez) * 0.25 + scale(v2excrptps) * 0.25 + scale(v2exthftps) * 0.25)*

(1) Executive bribery and corrupt exchanges (v2exbribe)

Question: How routinely do members of the executive (the head of state, the head of government, and cabinet ministers), or their agents, grant favors in exchange for bribes, kickbacks, or other material inducements?

Responses:
0: It is routine and expected.
1: It happens more often than not in dealings with the executive.
2: It happens but is unpredictable: those dealing with the executive find it hard to predict when an inducement will be necessary.
3: It happens occasionally but is not expected.
4: It never, or hardly ever, happens.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(2) Executive embezzlement and theft (v2exembez)

Question: How often do members of the executive (the head of state, the head of government, and cabinet ministers), or their agents, steal, embezzle, or misappropriate public funds or other state resources for personal or family use?

Responses:
0: Constantly. Members of the executive act as though all public resources were their personal or family property.
1: Often. Members of the executive are responsible stewards of selected public resources but treat the rest like personal property.
2: About half the time. Members of the executive are about as likely to be responsible stewards of selected public resources as they are to treat them like personal property.

3: Occasionally. Members of the executive are responsible stewards of most public resources but treat selected others like personal property.
4: Never, or hardly ever. Members of the executive are almost always responsible stewards of public resources and keep them separate from personal or family property.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(3) Public sector corrupt exchanges (v2excrptps)

Question: How routinely do public sector employees grant favors in exchange for bribes, kickbacks, or other material inducements?

Clarification: When responding to this question, we would like to you think about a typical person employed by the public sector, excluding the military. If you think there are large discrepancies between branches of the public sector, between the national/federal and subnational/state level, or between the core bureaucracy and employees working with public service delivery, please try to average them out before stating your response.

Responses:
0: Extremely common. Most public sector employees are systematically involved in petty but corrupt exchanges almost all the time.
1: Common. Such petty but corrupt exchanges occur regularly involving a majority of public employees.
2: Sometimes. About half or less than half of public sector employees engage in such exchanges for petty gains at times.
3: Scattered. A small minority of public sector employees engage in petty corruption from time to time.
4: No. Never, or hardly ever.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(4) Public sector theft (C) (v2exthftps)

Question: How often do public sector employees steal, embezzle, or misappropriate public funds or other state resources for personal or family use?

Clarification: When responding to this question, we would like to you think about a typical person employed by the public sector, excluding the military. If you think there are large discrepancies between branches of the public sector, between the national/federal and subnational/state level, or between the core bureaucracy and employees working with public service delivery, please try to average them out before stating your response.

Responses:
0: Constantly. Public sector employees act as though all public resources were their personal or family property.
1: Often. Public sector employees are responsible stewards of selected public resources but treat the rest like personal property.
2: About half the time. Public sector employees are about as likely to be responsible stewards of selected public resources as they are to treat them like personal property.
3: Occasionally. Public sector employees are responsible stewards of most public resources but treat selected others like personal property.

4: Never, or hardly ever. Public sector employees are almost always responsible stewards of public resources and keep them separate from personal or family property.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

VI. Context Factor of Equality Dimension (equality_context_facto)

This variable resembles the z-scores of **v2peedueq**. It is scaled from 0 to 1 via the cumulative distribution function. Then, these values are compressed to a scale from 0.5 to 1 meaning that *Party linkages* can reduce the values only by 50%.

equality_context_facto = cdf(scale(v2peedueq))

equality_context_facto = minmax(equality_context_facto, 0.5) + 0.5

(1) Educational equality (v2peedueq)

Question: To what extent is high quality basic education guaranteed to all, sufficient to enable them to exercise their basic rights as adult citizens?

Responses:
0: Extreme. Provision of high quality basic education is extremely unequal and at least 75 percent (%) of children receive such low-quality education that undermines their ability to exercise their basic rights as adult citizens.
1: Unequal. Provision of high quality basic education is extremely unequal and at least 25 percent (%) of children receive such low-quality education that undermines their ability to exercise their basic rights as adult citizens.
2: Somewhat equal. Basic education is relatively equal in quality but ten to 25 percent (%) of children receive such low-quality education that undermines their ability to exercise their basic rights as adult citizens.
3: Relatively equal. Basic education is overall equal in quality but five to ten percent (%) of children receive such low-quality education that probably undermines their ability to exercise their basic rights as adult citizens.
4: Equal. Basic education is equal in quality and less than five percent (%) of children receive such low-quality education that probably undermines their ability to exercise their basic rights as adult citizens.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

2 Combination of Core Measurement with Context Measurement

I.	**Effective Freedom of Procedures of Decision - Context Measurement (decision_freedom_context)** Question: Are political offices filled by free and competitive elections? Is the democratic quality of elections reduced by electoral violence? This variable is the multiplication of **decision_freedom_core** with **decision_context_facto**. *decision_freedom_context = decision_freedom_core * decision_context_facto* Scale: 0-1.
II.	**Effective Equality of Procedures of Decision - Context Measurement (decision_equality_context)** Question: Do all citizens have equal voting rights? Is the democratic quality of elections disturbed reduced by electoral violence? Is equal participation negatively affected by educational inequalities? This variable is the multiplication of **decision_equality_core** with **decision_context_facto** in combination with **equality_context_facto**. $decision\_equality\_context = decision\_equality\_core * ((decision\_context\_facto * equality\_context\_facto)^{(1/2)})$ Scale: 0-1.
III.	**Effective Control of Procedures of Decision - Context Measurement (decision_control_context)** Question: Are elections supervised by an autonomous election management body and/or civic election observer? Is the democratic quality of elections disturbed reduced by electoral violence? This variable is the multiplication of **decision_control_core** with **decision_context_facto**. *decision_control_context = decision_control_core * decision_context_facto* Scale: 0-1.
IV.	**Effective Freedom of Regulation of the Intermediate Sphere - Context Measurement (intermediate_freedom_context)**

Question: Can parties and civil society organizations form and act freely? Is the democratic quality of the intermediate sphere interfered reduced clientelism?

This variable is the multiplication of **intermediate_freedom_core** with **intermediate_context_facto**.

*intermediate_freedom_context = intermediate_freedom_core * intermediate_context_facto*

Scale: 0-1.

V.	Effective Equality of Regulation of the Intermediate Sphere Context (intermediate_equality_context)

Question: Do all relevant interests of the society have the same opportunities to organize and influence political decisions? Is the democratic quality of the intermediate sphere reduced by clientelism? Is the equality of the intermediate sphere negatively affected by educational inequalities?

This variable is the multiplication of **intermediate_equality_core** with **intermediate_context_facto** in combination with **equality_context_facto**.

*intermediate_equality_context = intermediate_equality_core * ((intermediate_context_facto * equality_context_facto)^(1/2))*

Scale: 0-1.

VI.	Effective Control of Regulation of the Intermediate Sphere - Context Measurement (intermediate_control_context)

Question: Do political parties and civic organizations oversight the government and political representatives? Is the democratic quality of the intermediate sphere interfered by clientelism?

This variable is the multiplication of **intermediate_control_core** with **intermediate_context_facto**.

*intermediate_freedom_context = intermediate_freedom_core * intermediate_context_facto*

Scale: 0-1.

VII.	Effective Freedom of Public Communication - Context Measurement (communication_freedom_context)

Question: Are the freedom of expression and press freedom in place? Is the democratic quality of public communication undermined by corrupt media?

This variable is the multiplication of **communication_freedom_core** with **communication_context_facto**.

*communication_freedom_context = communication_freedom_core * commu-nication_context_facto*

Scale: 0-1.

VIII.	**Effective Equality of Public Communication - Context Measurement (communication_equality_context)**

Question: Do have all relevant interests and citizens have the same oppor-tunity to access media and information? Is the democratic quality of public communication undermined by corrupt media? Is the equality of public com-munication negatively affected by educational inequalities?

This variable is the multiplication of **communication_equality_core** with **communication_context_facto** in combination with **equality_con-text_facto**.

*communication_equality_context = communication_equality_core * ((com-munication_context_facto * equality_context_facto)^(1/2))*

Scale: 0-1.

IX.	**Effective Control of Public Communication - Context Measurement (communication_control_context)**

Question: Does the media criticize the political representatives and govern-ment activity? Is the democratic quality of public communication undermined by corrupt media?

This variable is the multiplication of **communication_control_core** with **communication_context_facto**.

*communication_control_context = communication_control_core * communi-cation_context_facto*

Scale: 0-1.

X.	**Effective Freedom of Guarantee of Rights - Context Measurement (rights_freedom_context)**

Question: Is there an independent judiciary and the rule of law? Is the guar-antee of rights undermined by a corrupt judicial system?

This variable is the multiplication of **rights_freedom_core** with **rights_con-text_fact**.

*rights_freedom_context = rights_freedom_core * rights_context_facto*

Scale: 0-1.

XI.	**Effective Equality of Guarantee of Rights - Context Measurement (rights_equality_context)**

Question: Do all citizens have the same access to justice and enjoy equality before the law? Is the guarantee of rights undermined by a corrupt judicial system? Is the equality of the guarantee of rights negatively affected by educational inequalities?

This variable is the multiplication of **rights_equality_core** with **rights_context_facto** in combination with **equality_context_facto**.

$rights\_equality\_context = rights\_equality\_core * ((rights\_context\_facto * equality\_context\_facto)^{\wedge}(1/2))$

Scale: 0-1.

XII.	**Effective Control of Guarantee of Rights - Context Measurement (rights_control_context)**

Question: Do governmental organizations respect legal norms and comply with judicial decisions? Is the guarantee of rights undermined by a corrupt judicial system?

This variable is the multiplication of **rights_control_core** with **rights_context_facto**.

$rights\_control\_context = rights\_control\_core * rights\_context\_facto$

Scale: 0-1.

XIII.	**Effective Freedom of Rules Settlement and Implementation - Context Measurement (rules_settlement_freedom_context)**

Question: Is the rule settlement and implementation realized by an effective and independent government? Is the democratic quality of the rule settlement and implementation reduced by corruption in the executive and legislative?

This variable is the multiplication of **rules_settlement_freedom_core** with **rules_settlement_context_facto**.

$rules\_settlement\_freedom\_context = rules\_settlement\_freedom\_core * \_context\_facto$

Scale: 0-1.

XIV.	**Effective Equality of Rules Settlement and Implementation - Context Measurement (rules_settlement_equality_context)**

Question: Do legislature, executive as well as the administration treat all citizens equally? Is the democratic quality of the rule settlement and implementation reduced by corruption in the executive and legislative? Is the equality of rules settlement and implementation negatively affected by educational inequalities?

	This variable is the multiplication of **rules_settlement_equality_core** with **rules_settlement_context_facto** in combination with **equality_context_facto**. $$rules\_settlement\_equality\_context = rules\_settlement\_equality\_core * ((rules\_settlement\_context\_facto * equality\_context\_facto)^{(1/2)})$$ Scale: 0-1.
XV.	**Effective Control of Rules Settlement and Implementation - Context Measurement (rules_settlement_control_context)** Question: Is government controlled by the legislature (or opposition) and administration? Is the democratic quality of the rule settlement and implementation reduced by corruption in the executive and legislative? This variable is the multiplication of **rules_settlement_control_core** with **rules_settlement_context_facto**. $$rules\_settlement\_control\_context = rules\_settlement\_control\_core * rules\_settlement\_context\_facto$$ Scale: 0-1.

3 Aggregated Indices (Context Measurement)

3.1 Dimensional Indices and Total Value Index

I.	**Freedom Dimension - Context Measurement (freedom_dim_index_context)** Question: Is the principle of the citizens' self-determination rooted in the political community and pervades all institutions of the political system? Is the anchoring of the citizens' self-determination restricted by electoral violence, clientelistic structures, and corruption? This index is the multiplication of **decision_freedom_context, intermediate_ freedom _context, communication_ freedom _context, rights_ freedom _context** and **rule_settlement_ freedom _context**. Then, we calculate the root to fall back to the original scale between 0 and 1. $$freedom\_dim\_index\_context = (decision\_freedom\_context * intermediate\_freedom\_context * communication\_freedom\_context * rights\_freedom\_context * rule\_settlement\_freedom\_context)^{(1/5)}$$ Scale: 0-1.
II.	**Equality Dimension - Context Measurement (equality_dim_index_context)**

Question: Do citizens have equal and fair chances to participate in relevant democratic procedures, and are citizens treated equally by governmental institutions? Are equal treatment and opportunities of participation of citizens impaired by electoral violence, clientelistic structures, corruption, and in particular educational inequalities?

This index is the multiplication of **decision_equality_context, intermediate_equality_context, communication_equality_context, rights_equality_context** and **rule_settlement_equality_context**. Then, we calculate the root to fall back to the original scale between 0 and 1.

equality_dim_index_context = (decision_equality_context * intermediate_equality_context * communication_equality_context * rights_equality_context * rule_settlement_equality_context)^(1/5)

Scale: 0-1.

III.	**Control Dimension - Context Measurement (control_dim_index_context)**

Question: Are political officials and governmental action effectively controlled by vertical and horizontal accountability? Are political and legal control reduced by electoral violence, clientelistic structures, and corruption?

This index is the multiplication of **decision_control_context, intermediate_control_context, communication_control_context, rights_control_context** and **rule_settlement_control_context**. Then, we calculate the root to fall back to the original scale between 0 and 1.

*control_dim_index_context = (decision_control_context * intermediate_control_context * communication_control_context * rights_control_context * rule_settlement_control_context)^(1/5)*

Scale: 0-1.

IV.	**Total Value Index - Context Measurement (total_index_context)**

Question: Are freedom, equality, and control for all institutions realized? To what extent affect violence → procedures of decision, clientelistic structures → intermediate sphere, corruption → media, guarantee of rights as well as rule settlement and implementation, and educational disadvantage inequalities → equality dimension?

This index is the multiplication of **freedom_dim_index_context, equality_dim_index_context** and **control_dim_index_context.** Then, we calculate the root to fall back to the original scale between 0 and 1.

*total_index_context = (freedom_dim_index_context * equality_dim_index_context * control_dim_index_context)^(1/3)*

Scale: 0-1.

3.2 Institutional Indices

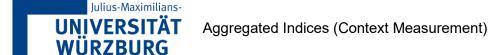|	
I.	**Procedures of Decision - Context Measurement (decision_inst_index_context)**
	Question: Are political offices filled by free and fair elections? Do independent election observers oversight the elections? Is the democratic quality of elections disturbed reduced by electoral violence?
	This index is the multiplication of **decision_freedom_context, decision_equality_context and decision_control_context.** Then, we calculate the root to fall back to the original scale between 0 and 1.
	*decision_inst_index_context = (decision_freedom_context * decision_equality_context * decision_control_context)^(1/3)*
	Scale: 0-1.
II.	**Regulation of the intermediate sphere - Context Measurement (intermediate_inst_index_context)**
	Question: Are intermediate organizations (political parties, associations, civil society) able to represent freely and fairly all relevant interests in the society, and oversight political officials and governmental action effectively? Is the democratic quality of the intermediate sphere reduced by clientelism?
	This index is the multiplication of **intermediate_freedom_context, intermediate_equality_context and intermediate_control_context.** Then, we calculate the root to fall back to the original scale between 0 and 1.
	*intermediate_inst_index_context = (intermediate_freedom_context * intermediate_equality_context * intermediate_control_context)^(1/3)*
	Scale: 0-1.
III.	**Public Communication - Context Measurement (communication_inst_index_context)**
	Question: Is there a free and fair representation of all interests within the public sphere? Does the media control the government? Is the democratic quality of public communication undermined by corrupt media?
	This index is the multiplication of **communication_freedom_context, communication_equality_context and communication_control_context.** Then, we calculate the root to fall back to the original scale between 0 and 1.
	*communication_inst_index_context = (communication_freedom_context * communication_equality_context * communication_control_context)^(1/3)*
	Scale: 0-1.
IV.	**Guarantee of Rights - Context Measurement (rights_inst_index_context)**

Question: Are political rights and civil liberties and equality rights of the citizens for all citizens guaranteed by procedures corresponding to the principles of the rule of law (independent judiciary, equality before the law, effective jurisdiction)? Is the guarantee of rights undermined by a corrupt judicial system?

This index is the multiplication of **rights_freedom_context, rights_equality_context and rights_** multiplication **control_context.** Then, we calculate the root to fall back to the original scale between 0 and 1.

*rights_inst_index_context = (rights_freedom_context * rights_equality_context * rights_control_context)^(1/3)*

Scale: 0-1.

V. Rules Settlement and Implementation - Context Measurement (rules_settlement_inst_index_context)

Question: Is the government independent from the influence of non-democratic legitimized veto players and is it controlled by the legislature (or opposition) and administration? Do the executive and legislature treat all citizens equally? Is the democratic quality of the rule settlement and implementation reduced by corruption in the executive and legislative?

This index is the multiplication of **rules_settlement_freedom_context, rules_settlement_equality_context and rules_settlement_control_context.** Then, we calculate the root to fall back to the original scale between 0 and 1.

*rules_settlement_inst_index_context = (rules_settlement_freedom_context * rules_settlement_equality_context * rules_settlement_control_context)^(1/3)*
Scale: 0-1.

Trade-off Measurement

1 Trade-offs within Procedures of Decision (Freedom vs. Equality)

Trade-offs between Freedom and Equality within Procedures of Decision (decision_freedom_trade_off_facto, decision_equality_trade_off_facto)

The variable **decision_gallagher_trade_off_facto** is the baseline of this index. We only include **decision_genderquota_trade_off_facto** and/or **decision_compulsory_trade_off_facto** in the calculation if the value of these variables is 1.

decision_equality_trade_off_facto =
  *if_else(decision_genderquota_trade_off_facto==1 & decision_compulsory_trade_off_facto == 1, decision_gallagher_trade_off_facto*0.75 + decision_genderquota_trade_off_facto*0.2 + decision_compulsory_trade_off_facto*0.2,*
  *if_else(decision_genderquota_trade_off_facto==1 | decision_compulsory_trade_off_facto == 1, decision_gallagher_trade_off_facto*0.8 + 1*0.2, decision_gallagher_trade_off_facto))*
decision_freedom_trade_off_facto = 1 - decision_equality_trade_off_facto + 0.75

I. Gallagher Index (decision_gallagher_trade_off_facto)

We calculate the Gallagher Index based on the two largest parties (**v2ellovtlg**, **v2ellovtsm**, **v2ellostsl** *and* **v2ellostsm**). Then we calculate the quantiles to gain 4 categories. These categories are then transformed to a scale between 0.75 and 1.

$$\sqrt{\frac{1}{2}[(v2ellovtlg - v2ellostsl)^2 + (v2ellovtsm - v2ellostsm)^2]}$$

*Gallagher = sqrt(0.5 *((elec_vote_1lp - elec_seat_1lp)^2 + (elec_vote_2lp - elec_seat_2lp)^2))*
Gallagher_quantile = cut(Gallagher, quantile(Gallagher, c(0,0.25, 0.5, 0.75,1), na.rm=T)
decision_gallagher_trade_off_facto = minmax(Gallagher_quantile, 0.4) + 0.75

(1) Lower chamber election vote share of largest vote-getter (v2ellovtlg)

Question: In this election to the lower (or unicameral) chamber of the legislature, what percentage (%) of the vote was received by the largest party in the first/only round?

Clarification: Leave this question blank if election was nonpartisan, i.e., no parties (not even pro-government parties) were allowed.

Responses: Percent

Scale: Interval.
From: V-Dem-Codebook (Coppedge et al. 2018)

(2) Lower chamber election vote share of second-largest vote-getter (v2ellovtsm)

Question: In this election to the lower (or unicameral) chamber of the legislature, what percentage (%) of the vote was received by the second largest party in the first/only round?

Clarification: Leave this question blank if election was nonpartisan, i.e., no parties (not even pro-government parties) were allowed.

Responses: Percent

Scale: Interval.
From: V-Dem-Codebook (Coppedge et al. 2018)

(3) Lower chamber election seat share won by largest party (v2ellostsl)

Question: In this election, what percentage (%) of the total seats in the lower (or unicameral) chamber of the legislature was obtained by the largest party?

Clarification: Does not include appointed (nonelected) seats. Leave this question blank if election was nonpartisan, i.e., no parties (not even pro-government parties) were

Responses: Percent

Scale: Interval.
From: V-Dem-Codebook (Coppedge et al. 2018)

(4) Lower chamber election seats won by second largest party (v2ellostsm)

Question: In this election, how many seats in the lower (or unicameral) chamber of the legislature were obtained by the next-largest party?

Clarification: Does not include appointed (nonelected) seats. Leave this question blank if election was nonpartisan, i.e., no parties (not even pro-government parties) were

Responses: Percent

Scale: Interval.
From: V-Dem-Codebook (Coppedge et al. 2018)

II. Gender quota (decision_genderquota_trade_off_facto)

Due to the lack of values > 0, we build a binary variable. The category 0 is 0.75, the categories 1,2,3 and 4 become 1.

decision_genderquota_trade_off_facto = if_else(v2lgqugen >=1, 1, 0.75)

(1) Lower chamber gender quota (A) (v2lgqugen)

Question: Is there a national-level gender quota for the lower (or unicameral) chamber of the
legislature?

Responses:

0: No national level gender quota.
1: Yes, a statutory gender quota for all parties without sanctions for noncompliance.
2: Yes, statutory gender quota for all parties with weak sanctions for noncompliance.
3. Yes, statutory gender quota for all parties with strong sanctions for noncompliance.
4: Yes, there are reserved seats in the legislature for women.
Scale: Ordinal.
From: V-Dem-Codebook (Coppedge et al. 2018)

Trade-offs between Control of Procedures of
Decision and Freedom of Rules Settlement
and Implementation

democracy
matrix

III.   Compulsory Voting (decision_compulsory_trade_off_facto)

Due to the lack of values > 0, we build a binary variable. The category 0 is 0.75, the categories 1,2,3 and 4 become 1.

decision_compulsory_trade_off_facto = if_else(v2elcomvot >=1, 1, 0.75))

(1) Compulsory voting (A) (v2elcomvot)

Question: Is voting compulsory (for those eligible to vote) in national elections?

0: No.
1: Yes. But there are no sanctions or sanctions are not enforced.
2: Yes. Sanctions exist and are enforced, but they impose minimal costs upon the offending voter.
3: Yes. Sanctions

Scale: Ordinal.
From: V-Dem-Codebook (Coppedge et al. 2018)

2   Trade-offs between Control of Procedures of Decision and Freedom of Rules Settlement and Implementation

Trade-offs between Control of Procedures of Decision and Freedom of Rules Settlement and Implementation (decision_rules_settlement_freedom_trade_off_facto, decision_control_trade_off_facto)

This variable is cumulative distribution function of the z-score of **v2elpubfin** converted to a scale between 0.75 and 1.

decision_control_trade_off_facto = minmax(DD_init, 0.4) + 0.75

decision_rules_settlement_freedom_trade_off_facto   =   1   -   decision_control_trade_off_facto + 0.75

(1) Citizen-initiated component of direct popular vote index (D) (v2xdd_cic)

Question: To what extent is the Citizen Initiated Component utilized?

Scale: Interval, from low to high (0-1).
From: V-Dem-Codebook (Coppedge et al. 2018)

3   Trade-offs within the Regulation of the Intermediate Sphere (Freedom vs. Equality)

Trade-offs between Freedom and Equality within Regulation of the Intermediate Sphere (intermediate_freedom_trade_off_facto, intermediate_equality_trade_off_facto)

This variable is cumulative distribution function of the z-score of **v2elpubfin** converted to a scale between 0.75 and 1.

Trade-offs within Public Communication
(Freedom vs. Equality)

democracy
matrix

intermediate_equality_trade_off_facto = minmax(cdf(scale(v2elpubfin_oD)), 0.4) + 0.75

intermediate_freedom_trade_off_facto = 1 - intermediate_equality_trade_off_facto + 0.75

(1) Public campaign finance (v2elpubfin, *_osp, *_ord)

Question: Is significant public financing available for parties' and/or candidates' campaigns for national office?

Responses:
0: No. Public financing is not available.
1: Little. There is public financing but it is so small or so restricted that it plays a minor role in most parties' campaigns.
2: Ambiguous. There is some public financing available but it is unclear whether it plays a significant role for parties.
3: Partly. Public financing plays a significant role in the campaigns of many parties.
4: Yes. Public financing funds a significant share of expenditures by all, or nearly all parties.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

4 Trade-offs within Public Communication (Freedom vs. Equality)

Trade-offs between Freedom and Equality within Public Communication (communication_freedom_trade_off_facto, communication_equality_trade_off_facto)

This variable is a weighted average of the z-scores of **v2elpaidig** (20%)**, v2elpdcamp** (40%) and **v2elfrcamp** (40%)**.** In a next step, we convert them to a scale from 0 to 1 through a cumulative distribution function. Finally, these values are then transformed to a scale between 0.75 and 1.

*communication_equality_trade_off = minmax(cdf(scale(v2elpaidig) * 0.2 + scale(v2elpdcamp) * 0.4 + scale(v2elfrcamp) * 0.4), 0.4) + 0.75*

communication_equality_trade_off = 1- communication_equality_trade_off + 0.75

(1) Election paid interest group media (v2elpaidig, *_osp, *_ord)

Question: In this election, were interest groups and individuals able to run paid campaign ads on national broadcast media?

Responses:
0: Not at all.
1: It is permitted but regulated in ways that, in practice, favor groups allied with the government.
2: It is permitted without limit.
3: It is permitted but regulated in ways that, in practice, foster representation of diverse perspectives.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

Trade-offs between Freedom of Rules
Settlement and Implementation and Control
of Guarantee of Rights

(2) Election paid campaign advertisements (v2elpdcamp, *_osp, *_ord)

Question: In this national election, were parties or candidates able to run paid campaign ads on national broadcast media?

Responses:
0: Not at all.
1: It is permitted but regulated in ways that, in practice, favor the government and its allies
2: It is permitted without limit.
3: It is permitted but regulated in ways that, in practice, foster fair competition.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

(3) Election free campaign media (v2elfrcamp, *_osp, *_ord)

Question: In this national election, did parties or candidates receive either free or publicly financed access to national broadcast media?

Responses:
0: Either no parties or only the governing party receives free access.
1: Some parties in addition to the governing party receive free access.
2: All parties receive free access.

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

5 Trade-offs between Freedom of Rules Settlement and Implementation and Control of Guarantee of Rights

Trade-offs between Freedom and Control within Guarantee of Rights (rules_settlement_rights_freedom_trade_off_facto, rights_control_trade_off_facto)

This variable is cumulative distribution function of the z-score of **v2jureview** converted to a scale between 0.75 and 1.

rights_control_trade_off = minmax(cdf(scale(v2jureview)), 0.4) + 0.75
rules_settlement_rights_freedom_trade_off = 1- rights_control_trade_off + 0.75

(1) Judicial review (v2jureview, *_osp, *_ord)

Question: Does any court in the judiciary have the legal authority to invalidate governmental policies (e.g. statutes, regulations, decrees, administrative actions) on the grounds that they violate a constitutional provision?

Responses:
0: No.
1: Yes.

Scale: Dichotomous, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

Trade-offs within Rules Settlement and Implementation (Freedom vs. Control)

democracy matrix

6 Trade-offs within Rules Settlement and Implementation (Freedom vs. Control)

Trade-offs between Freedom and Control within Rules Settlement and Implementation (rules_settlement_freedom_trade_off_facto, rules_settlement_control_trade_off_facto)

This variable is a weighted average of the z-scores of **rules_settlement_bicameralism_trade_off_facto** (40%)**, rules_settlement_numberparties_trade_off_facto** (20%) and **rules_settlement_concentration_trade_off_facto** (40%)**.** In a next step, we convert them to a scale from 0 to 1 through a cumulative distribution function. Finally, these values are then transformed to a scale between 0.75 and 1.

We include here also the trade-offs from other institutions (**rules_settlement_rights_freedom_trade_off_facto**, **decision_rules_settlement_freedom_trade_off_facto**) which focus on the freedom dimension.

rules_settlement_control_trade_off_facto = if_else(IsDemocracy==0, NA_real_, rules_settlement_divide_coaltion_trade_off_facto * 0.6 + rules_settlement_bicameralism_trade_off_facto * 0.4)

rules_settlement_freedom_trade_off_facto = (1 - rules_settlement_control_trade_off_facto + 0.75)*0.4 + decision_rules_settlement_freedom_trade_off_facto * 0.2 + rules_settlement_rights_freedom_trade_off_facto * 0.4

> **I. Strength of the Bicameralism (rules_settlement_bicameralism_trade_off_facto)**
>
> This variable is the cumulative distribution function of the z-score of **v2lgdomchm** converted to a scale between 0.75 and 1. We code 0.75 as well, if there is only one chamber (v2lgbicam== "1 Chamber").
>
> *rules_settlement_bicameralism_trade_off_facto = minmax(cdf(scale(v2lgdomchm)), 0.4) + 0.75*
>
> *rules_settlement_bicameralism_trade_off_facto = if_else(v2lgbicam== "1 Chamber", 0.75, rules_settlement_bicameralism_trade_off_facto)*

> > **(1) Legislature dominant chamber (v2lgdomchm, *_osp, *_ord)**
> >
> > Question: If the legislature is bicameral, which chamber is dominant?
> >
> > Responses:
> > 0: The lower chamber is clearly dominant.
> > 1: The lower chamber is somewhat more powerful on most issues.
> > 2: They are roughly co-equal in power.
> > 3: The upper chamber is somewhat more powerful on most issues.
> > 4: The upper chamber is clearly dominant.
> >
> > Scale: Ordinal, converted to interval by the measurement model.
> > *From: V-Dem-Codebook (Coppedge et al. 2018)*

> **II. Number of Coalition Parties/Divided Government (rules_settlement_divide_coaltion_trade_off_facto)**

We set all country-years with 0 cabinet parties to NA. Then the categories of **v2elncbpr** are transformed to a scale between 0.75 and 1.

We use the ordinal version of **v2psnatpar.** We reorder the categories so that Unified Party Control and Divided party control resemble polar categories. After that, we numerical transform the variable on a scale between 0.75 and 1.

We take the weighted average of transformed **v2elncbpr** and **v2psnatpar.**

rules_settlement_numberparties_trade_off_facto = if_else(v2elncbpr==0, NA_real_, v2elncbpr)

rules_settlement_numberparties_trade_off_facto = minmax(rules_settlement_number-parties_trade_off_facto), 0.4) + 0.75

v2psnatpar_ord_trans = fct_relevel(v2psnatpar_ord, "Unified party control", "Unified Co-alition", "Divided party control")

v2psnatpar_ord_trans = minmax(v2psnatpar_ord_trans, 0.4) + 0.75

*rules_settlement_concentration_coaltion_trade_off_facto = rules_settlement_number-parties_trade_off_facto * 0.6 + rules_settlement_concentration_trade_off_facto * 0.4*

(1) Effective number of cabinet parties (v2elncbpr)

Question: In the first cabinet after this national election, how many political parties were represented in the cabinet?

Responses:
0: Parties are not allowed.
1: One party.
2: Two parties.
3: Three parties.
4: Four or more parties.

Scale: Ordinal.
From: V-Dem-Codebook (Coppedge et al. 2018)

(2) National party control (C) (v2psnatpar)

Question: How unified is party control of the national government?

Responses:
0: Unified coalition control. A single multi-party coalition controls the executive and legislative branches of the national government. (This is true almost by definition in a parliamentary system where a single coalition gathers together a majority of seats.).
1: Divided party control. (A) Different parties or individuals (unconnected to parties) control the executive and the legislature or (B) Executive power is divided between a president/monarch and a prime minister, each of which belongs to different parties; or between a non-partisan monarch and a prime minister.
2: Unified party control. A single party controls the executive and legislative branches of the national government. (This is true almost by definition in a parliamentary system where a single party has a majority of seats.).

Scale: Ordinal, converted to interval by the measurement model.
From: V-Dem-Codebook (Coppedge et al. 2018)

7 Combination of Core Measurement with Trade-off Measurement

I.	**Effective Freedom of Procedures of Decision - Trade-off Measurement (decision_freedom_trade_off)**
	Question: Does the election system foster the majority principle?
	This variable is the multiplication of **decision_freedom_core** with **decision_freedom_trade_off_facto**.
	*decision_freedom_trade_off = decision_freedom_core * decision_freedom_trade_off_facto*
	Scale: 0-1.
II.	**Effective Equality of Procedures of Decision - Trade-off Measurement (decision_equality_trade_off)**
	Question: Does the electoral system foster the principle of representation?
	This variable is the multiplication of **decision_equality_core** with **decision_equality_trade_off_facto**.
	*decision_equality_trade_off = decision_equality_core * decision_equality_trade_off_facto*
	Scale: 0-1.
III.	**Effective Control of Procedures of Decision - Trade-off Measurement (decision_control_trade_off)**
	Question: Do direct-democratic procedures (people initiative) allow a permanent control of political officials and governmental action?
	This variable is the multiplication of **decision_control_core** with **decision_control_trade_off_facto**.
	*decision_control_trade_off = decision_control_core * decision_control_trade_off_facto*
	Scale: 0-1.
IV.	**Effective Freedom of Regulation of the Intermediate Sphere - Trade-off Measurement (intermediate_freedom_trade_off)**
	Question: Does a liberal regulation of party funding (party donations are merely subject to slight restrictions) foster the free competition between political parties?

This variable is the multiplication of **intermediate_freedom_c*ore*** with **inter-mediate_freedom_trade_off_facto**.

*intermediate_freedom_trade_off = intermediate_freedom_core * intermediate_freedom_trade_off_facto*

Scale: 0-1.

V.	**Effective Equality of Regulation of the Intermediate Sphere - Trade-off Measurement (intermediate_equality_trade_off)**
	Question: **I**s the principle of equal opportunity between political parties strengthened by public party funding und regulation of private party donations?
	This variable is the multiplication of **intermediate_equality_c*ore*** with **intermediate_equality_trade_off_facto**.
	*intermediate_equality_trade_off = intermediate_equality_core * intermediate_equality_trade_off_facto*
	Scale: 0-1.
VI.	**Effective Control of Regulation of the Intermediate Sphere - Trade-off Measurement (intermediate_control_trade_off)**
	Question: There is no trade-off. This variable resembles the core version.
	intermediate_control_trade_off = if_else(IsDemocracy == 0, NA_real_, intermediate_control_core)
	Scale: 0-1.
VII.	**Effective Freedom of Public Communication - Trade-off Measurement (communication_freedom_trade_off)**
	Question: Is the media access completely subject to the free competition of the media market?
	This variable is the multiplication of **communication_freedom_c*ore*** with **communication_freedom_trade_off_facto**.
	*communication_freedom_trade_off = communication_freedom_core * communication_freedom_trade_off_facto*
	Scale: 0-1.
VIII.	**Effective Equality of Public Communication - Trade-off Measurement (communication_equality_trade_off)**
	Question: Is the media access balanced by the allocation of broadcasting time and the regulation of the media market?

	This variable is the multiplication of **communication_equality_core** with **communication_equality_trade_off_facto**. *communication_equality_trade_off = communication_equality_core * communication_equality_trade_off_facto* Scale: 0-1.
IX.	**Effective Control of Public Communication - Trade-off Measurement (communication_control_trade_off)** Question: There is no trade-off. This variable resembles the core version. *communication_control_trade_off = if_else(IsDemocracy == 0, NA_real_, communication_control_core)* Scale: 0-1.
X.	**Effective Freedom of Guarantee of Rights - Trade-off Measurement (rights_freedom_trade_off)** T Question: here is no trade-off. This variable resembles the core version. *rights_freedom_trade_off = if_else(IsDemocracy == 0, NA_real_, rights_freedom_core)* Scale: 0-1.
XI.	**Effective Equality of Guarantee of Rights - Trade-off Measurement (rights_equality_trade_off)** Question: There is no trade-off. This variable resembles the core version. *rights_freedom_trade_off = if_else(IsDemocracy == 0, NA_real_, rights_equality_core)* Scale: 0-1.
XII.	**Effective Control of Guarantee of Rights - Trade-off Measurement (rights_control_trade_off)** Question: Does a constitutional court as an additional supervisory authority vis-à-vis the legislative and executive exist? This variable is the multiplication of **communication_control_core** with **rights_control_trade_off_facto**. *rights_control_trade_off = rights_control_core * rights_control_trade_off_facto* Scale: 0-1.

XIII.	**Effective Freedom of Rules Settlement and Implementation - Trade-off Measurement (rules_settlement_freedom_trade_off)** Question: Is the government's freedom of decision not limited by people's initiative? Is the government's freedom to act not limited by a constitutional court? Is the government's freedom to act not limited by veto-players (parliament with two chambers as well as coalition partners)? This variable is the multiplication of **rules_settlement_freedom_core** with **rules_settlement_freedom_trade_off_facto**. *rule_settlement_freedom_trade_off = rule_settlement_freedom_core * rules_settlement_freedom_trade_off_facto* Scale: 0-1.
XIV.	**Effective Equality of Rules Settlement and Implementation - Trade-off Measurement (rules_settlement_equality_trade_off)** Question: There is no trade-off. This variable resembles the core version. *rule_settlement_equality_trade_off = if_else(IsDemocracy == 0, NA_real_, rule_settlement_equality_core)* Scale: 0-1.
XV.	**Effective Control of Rules Settlement and Implementation - Trade-off Measurement (rules_settlement_control_trade_off)** Question: Are there additional veto-players (parliament with two chambers and coalition partners) controlling the governmental action? This variable is the multiplication of **rules_settlement_control_core** with **rules_settlement_control_trade_off_facto**. *rule_settlement_control_trade_off = rule_settlement_control_core * rules_settlement_control_trade_off_facto* Scale: 0-1.

8 Aggregated Indices (Trade-off Measurement)

8.1 Dimensional Indices and Total Value Index

I.	**Freedom Dimension - Trade-off Measurement (freedom_dim_index_trade_off)** Question: To what extent do the institutions of the political system emphasize the political freedom in contrast to political equality as well as political and legal control?

This index is the multiplication of **decision_freedom_trade_off, intermediate_ freedom _trade_off, communication_ freedom _trade_off, rights_ freedom _trade_off** and **rule_settlement_ freedom _trade_off**. Then, we calculate the root to fall back to the original scale between 0 and 1.

freedom_dim_index_trade_off = (decision_freedom_trade_off * intermediate_freedom_trade_off * communication_freedom_trade_off * rights_freedom_trade_off * rule_settlement_freedom_trade_off)^(1/5)

Scale: 0-1.

II.	**Equality Dimension - Trade-off Measurement (equality_dim_index_trade_off)**

Question: To what extent do the institutions of the political system emphasize the political equality in contrast to political freedom as well as political and legal control?

This index is the multiplication of **decision_equality_trade_off, intermediate_equality_trade_off, communication_equality_trade_off, rights_equality_trade_off** and **rule_settlement_equality_trade_off**. Then, we calculate the root to fall back to the original scale between 0 and 1.

equality_dim_index_trade_off = (decision_equality_trade_off * intermediate_equality_trade_off * communication_equality_trade_off * rights_equality_trade_off * rule_settlement_equality_trade_off)^(1/5)

Scale: 0-1.

III.	**Control Dimension - Trade-off Measurement (control_dim_index_trade_off)**

Question: To what extent do the institutions of the political system emphasize the political and legal control in contrast to political freedom and political equality?

This index is the multiplication of **decision_control_trade_off, intermediate_control_trade_off, communication_control_trade_off, rights_control_trade_off** and **rule_settlement_control_trade_off**. Then, we calculate the root to fall back to the original scale between 0 and 1.

control_dim_index_trade_off = (decision_control_trade_off * intermediate_control_trade_off * communication_control_trade_off * rights_control_trade_off * rule_settlement_control_trade_off)^(1/5)

Scale: 0-1.

IV.	**Total Value Index - Trade-off Measurement (total_index_trade_off)**

Question: Question: Are freedom, equality, and control for all institutions realized? The Total Value Index does not show trade-offs.

This index is the multiplication of **freedom_dim_index_trade_off, equality_dim_index_trade_off** and **control_dim_index_trade_off**. Then, we calculate the root to fall back to the original scale between 0 and 1.

*total_index_trade_off = (freedom_dim_index_trade_off * equality_dim_index_trade_off * control_dim_index_trade_off)^(1/3)*

Scale: 0-1.

8.2   Institutional Indices

I.   Procedures of Decision - Trade-off Measurement (decision_inst_index_trade_off)

Question: Are political offices filled by free and fair elections? Do independent election observers oversight the elections? Institutional indices do not show trade-offs.

This index is the multiplication of **decision_freedom_trade_off, decision_equality_trade_off and decision_control_trade_off.** Then, we calculate the root to fall back to the original scale between 0 and 1.

*decision_inst_index_trade_off = (decision_freedom_trade_off * decision_equality_trade_off * decision_control_trade_off)^(1/3)*

Scale: 0-1.

II.   Regulation of the intermediate sphere - Trade-off Measurement (intermediate_inst_index_trade_off)

Question: Are intermediate organizations (political parties, associations, civil society) able to represent freely and fairly all relevant interests in the society, and oversight political officials and governmental action effectively? Institutional indices do not show trade-offs.

This index is the multiplication of **intermediate_freedom_trade_off, intermediate_equality_trade_off and intermediate_control_trade_off.** Then, we calculate the root to fall back to the original scale between 0 and 1.

*intermediate_inst_index_trade_off = (intermediate_freedom_trade_off * intermediate_equality_trade_off * intermediate_control_trade_off)^(1/3)*

Scale: 0-1.

III.   Public Communication - Trade-off Measurement (communication_inst_index_trade_off)

Question: Is there a free and fair representation of all interests within the public sphere? Does the media control the government? Institutional indices do not show trade-offs.

This index is the multiplication of **communication_freedom_trade_off, communication_equality_trade_off** and **communication_control_trade_off.** Then, we calculate the root to fall back to the original scale between 0 and 1.

communication_inst_index_trade_off = (communication_freedom_trade_off * communication_equality_trade_off * communication_control_trade_off)^(1/3)

Scale: 0-1.

IV.	**Guarantee of Rights - Trade-off Measurement (rights_inst_index_trade_off)**

Question: Are political rights and civil liberties and equality rights of the citizens for all citizens guaranteed by procedures corresponding to the principles of the rule of law (independent judiciary, equality before the law, effective jurisdiction)? Institutional indices do not show trade-offs.

This index is the multiplication of **rights_freedom_trade_off, rights_equality_trade_off and rights_control_trade_off.** Then, we calculate the root to fall back to the original scale between 0 and 1.

rights_inst_index_trade_off = (rights_freedom_trade_off * rights_equality_trade_off * rights_control_trade_off)^(1/3)

Scale: 0-1.

V.	**Rules Settlement and Implementation - Trade-off Measurement (rules_settlement_inst_index_trade_off)**

Question: Is the government independent from the influence of non-democratic legitimized veto players and is it controlled by the legislature (or opposition) and administration? Do the executive and legislature treat all citizens equally? Institutional indices do not show trade-offs.

This index is the multiplication of **rules_settlement_freedom_trade_off, rules_settlement_equality_trade_off** and **rules_settlement_control_trade_off.** Then, we calculate the root to fall back to the original scale between 0 and 1.

rules_settlement_inst_index_trade_off = (rules_settlement_freedom_trade_off * rules_settlement_equality_trade_off * rules_settlement_control_trade_off)^(1/3)

Scale: 0-1.