

# Codebook bundeslaendeR

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## Introduction

Most election results data are provided by the Bundeswahlleiter. A machine-readable version of the Bundeswahlleiter's compiled data contained in the -periodically published- pdf available here (<https://www.bundeswahlleiter.de/service/landtagswahlen.html>) was kindly provided to me. Election data outside the timeframe covered by Bundeswahlleiter's data provided to me was collected from the states' local election authorities' (Landeswahlleiter) websites. More information on parties and the continuity of parties under different labels was collected by me.

The Bundeswahlleiter's election data in many cases contains differing names for the same party. Both between states (eg. "Christlich Demokratische Union Deutschlands" vs. "Christlich Demokratische Union Deutschlands in Niedersachsen") as well as within states between elections

**Table 1:** State-level Variables

| state | nuts1 | state_name_de                            | state_name_en                         |
|-------|-------|--|---------------------------------------|
| BB    | DE4   | Brandenburg                              | Brandenburg                           |
| BE    | DE3   | Berlin                                   | Berlin                                |
| BW    | DE1   | Baden-Württemberg                        | Baden-Württemberg                     |
| BY    | DE2   | Bayern                                   | Bavaria                               |
| HB    | DE5   | Bremen                                   | Bremen                                |
| HE    | DE7   | Hessen                                   | Hesse                                 |
| HH    | DE6   | Hamburg                                  | Hamburg                               |
| MV    | DE8   | Mecklenburg-Vorpommern                   | Mecklenburg-Vorpommern                |
| NI    | DE9   | Niedersachsen                            | Lower-Saxony                          |
| NW    | DEA   | Nordrhein-Westfalen                      | North Rhine-Westphalia                |
| RP    | DEB   | Rheinland-Pfalz                          | Rhineland-Palatine                    |
| SH    | DEF   | Schleswig-Holstein                       | Schleswig-Holstein                    |
| SL    | DEC   | Saarland                                 | Saarland                              |
| SN    | DED   | Sachsen                                  | Saxony                                |
| ST    | DEE   | Sachsen-Anhalt                           | Saxony-Anhalt                         |
| TH    | DEG   | Thüringen                                | Thuringia                             |
| BA    |       | ehemaliges Land Baden                    | former state Baden                    |
| WB    |       | ehemaliges Land Württemberg-Baden        | former state Württemberg-Baden        |
| WH    |       | ehemaliges Land Württemberg-Hohenzollern | former state Württemberg-Hohenzollern |

-in many cases due to parties being renamed- (“BÜNDNIS 90/DIE GRÜNEN, Landesverband Hamburg, Grün-Alternative Liste” vs. “BÜNDNIS 90/DIE GRÜNEN, Landesverband Hamburg”). Efforts were made to reconcile both of these inconsistencies by adding two new, harmonized variables identifying parties (`partynome_short` and `partynome`). This harmonized party identifier also covers merging of parties. The `partynome` given to the resulting party (eg. “Linke”, “Grüne”) is given to the largest of the preceding parties contesting an election unless a smaller party joined a government following the election. The original names provided by the Bundeswahlleiter (and Landeswahlleiters in elections after June 2021) are still available (`partynome_short_bundeswahlleiter` and `partynome_bundeswahlleiter`).

Information on Governments is mainly taken from replication data from Linhart, Pappi, and Schmitt (2008) which can be found online here: <https://www.tu-chemnitz.de/phil/politik/pspi/forschung/daten.php>. Information outside the timeframe of Linhart et al. as well as information on the names and party affiliations of the Ministerpräsidenten was collected by me, mainly from German Wikipedia.

Table 2: Structure of ltw\_elections

| State Variables<br>Name, Abbreviation, NUTS1 Code |       |     | Election Variables<br>Election date, Size Electorate, Turnout, ... |         |     | Party Variables<br>Names, Abbreviations, several IDs |         |     | Party-Election Variables<br>Vote Count, -Share, Seat Count, -Share, ... |                  |     |
|---|-------|-----|--|---------|-----|--|---------|-----|---|------------------|-----|
| state   | nuts1 | ... | election_date  | turnout | ... | partyname_short                                      | ches_id | ... | party_vshare  | party_seat_count | ... |
| BE  | DE3   | ... | 2015-09-18   | 0.765   | ... | Party A  | 001     | ... | 0.45  | 46               | ... |
| BE  | DE3   | ... | 2015-09-18   | 0.765   | ... | Party B  | 002     | ... | 0.30  | 12               | ... |
| BE  | DE3   | ... | 2015-09-18   | 0.765   | ... | Party C  | 003     | ... | 0.25  | 18               | ... |
| NI  | DE9   | ... | 2012-12-16   | 0.560   | ... | Party A  | 001     | ... | 0.17  | 12               | ... |
| NI  | DE9   | ... | 2012-12-16   | 0.560   | ... | Party B  | 002     | ... | 0.33  | 27               | ... |
| NI  | DE9   | ... | 2012-12-16   | 0.560   | ... | Party D  | 004     | ... | 0.50  | 46               | ... |

## ltw\_elections

bundeslaendeR::ltw\_elections returns data frame (tibble if the tibble package is loaded) containing one row per contesting party per election. For a schematic version of bundeslaendeR::ltw\_elections's structure see table 2.

## ltw\_elections Variable Information

state

### State Abbreviation

ISO 3166-2:DE-code of the state; including BA for the former state of Baden, WH for the former state of Württemberg-Hohenzollern and WB for the former state of Württemberg-Baden.

nuts1

### NUTS1 Code of State

NUTS1 code of state. NA for former states Baden, Württemberg-Baden, Württemberg-Hohenzollern.

state\_name\_de

### German Name of State

German name of the state.

state\_name\_en

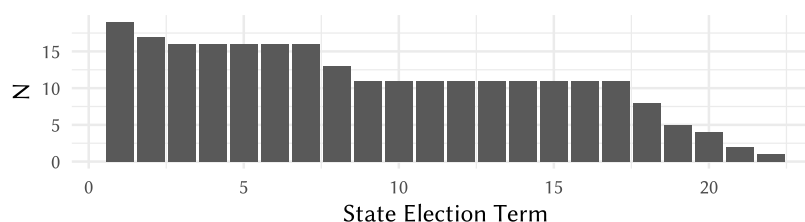
### English Name of State.

English name of the state.

state\_election\_  
term

### Election Term of State

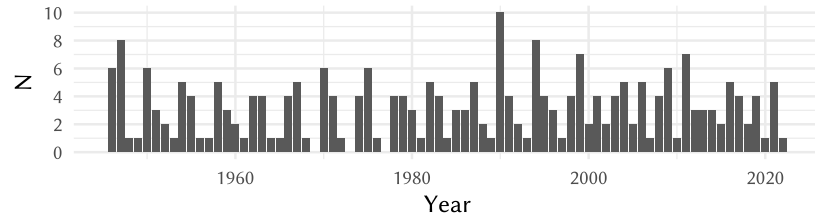
Election term in the state. Counts up from 1.



election\_date

**Election Date**

Date of the election. ISO 8601 or R-Date format.

election\_id\_  
bundeswahlleiter**Election ID Bundeswahlleiter**

Specific election\_id as denoted by the Bundeswahlleiter. Note that BA, WH and WH are named as BW and the number counts down. NA for cases taken from Landeswahlleiters (i.e. elections after ST 2021).

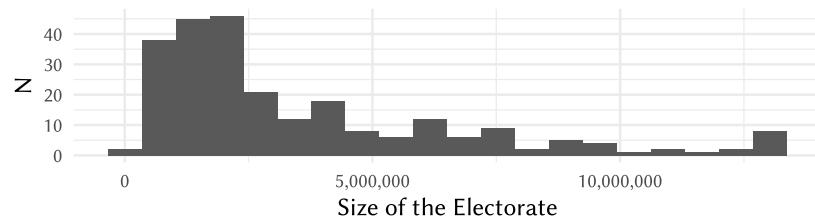
election\_remarks\_  
bundeswahlleiter**Election Remarks Bundeswahlleiter**

Remarks on the election as given by the Bundeswahlleiter.

electorate

**Size of the Electorate**

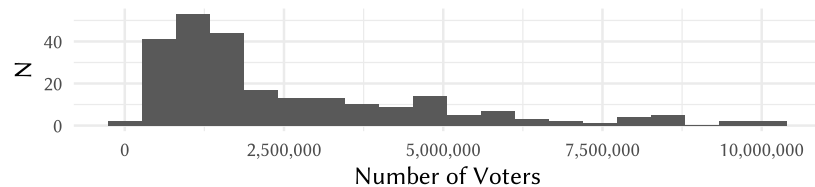
Number of eligible voters. For more totals also see the last three columns.



number\_of\_voters

**Number of Voters**

Number of voters turning out. For more totals also see the last three columns.

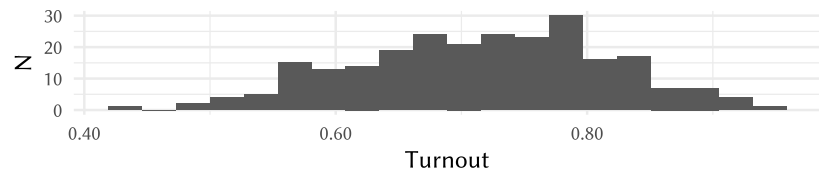


One missing observation: 1946 HB election.

turnout

**Turnout**

Turnout. Share of eligible voters turning out.

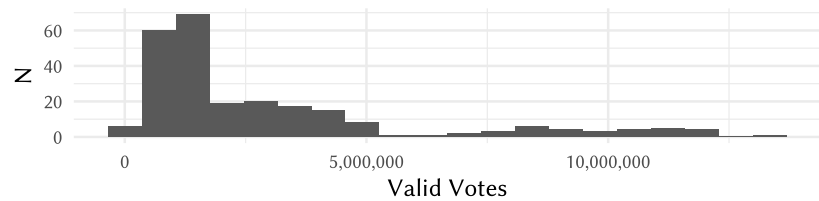


One missing observation: 1946 HB election.

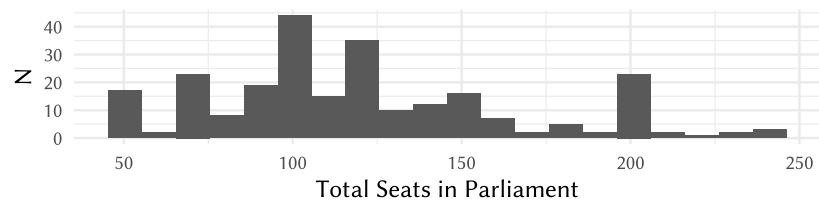
valid\_votes

**Valid Votes**

Number of valid votes. Does not have to be equal to the number of ballots cast, as sometimes a ballot contains multiple votes! For more totals also see the last three columns.

total\_seats\_  
parliament**Total Seats in Parliament**

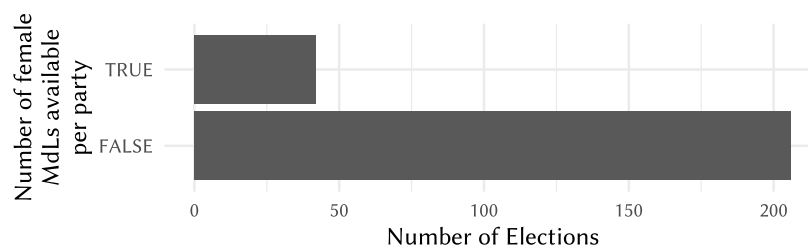
Total number of members of the newly elected Landtag.



female\_party\_  
seats\_available

### Number of female MdLs available per party

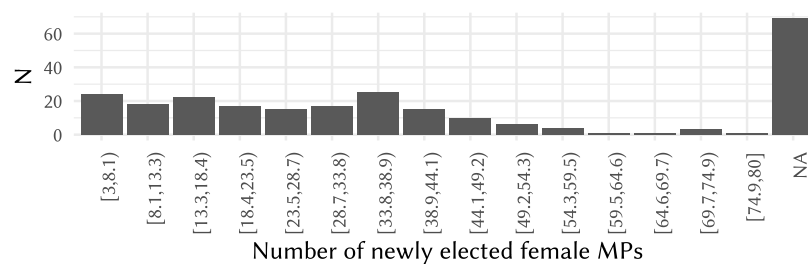
Denotes whether information on the no. of female members of the Landtag per party is available for this election. Note that for parties not elected to the new Landtag party\_female\_mps always is.na() == TRUE.



total\_female\_  
mps\_parliament

### Number of Female MPs in Parliament

Number of newly elected female MPs.



partyname\_short

### Abbreviated Party Name

Harmonized abbreviation of the party's name. 374 unique parties.

partyname

### Party Name

Harmonized name of the party. 374 unique parties.

partyname\_short\_  
bundeswahlleiter

### Party Name Abbreviation from Bundeswahlleiter

Partyname abbreviation as documented by the Bundeswahlleiter. 461 different abbreviations.

partyname\_  
bundeswahlleiter

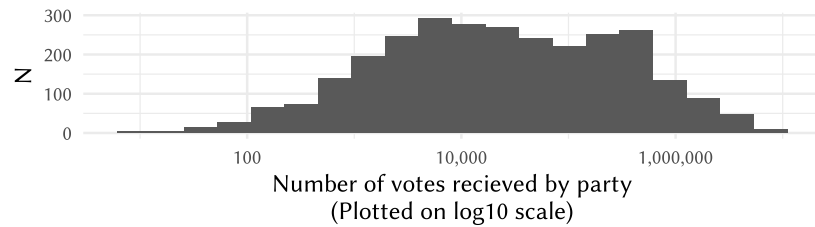
### Party Name from Bundeswahlleiter

Partyname as documented by the Bundeswahlleiter. 499 different names.

party\_vote\_count

**Party Vote Count**

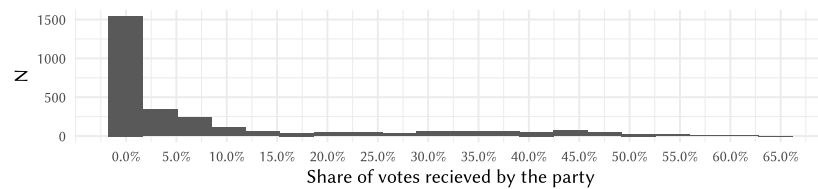
Number of votes recieved by the party.



party\_vshare

**Party Vote Share**

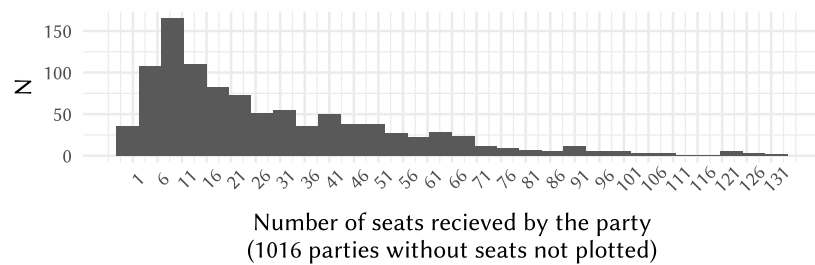
Share of votes recieved by the party.



party\_seat\_count

**Party Seat Count**

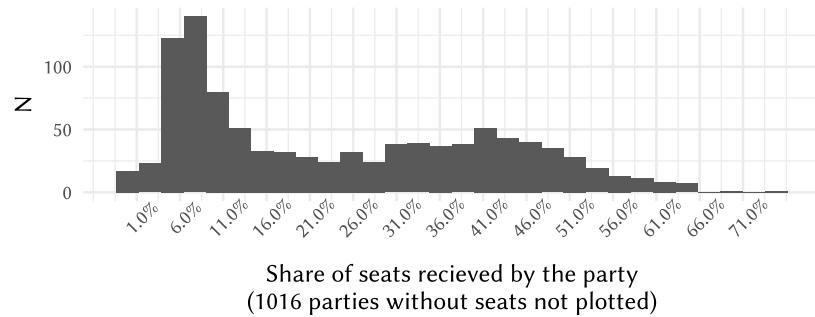
Number of seats recieved by the party.



party\_sshare

**Party Seat Share**

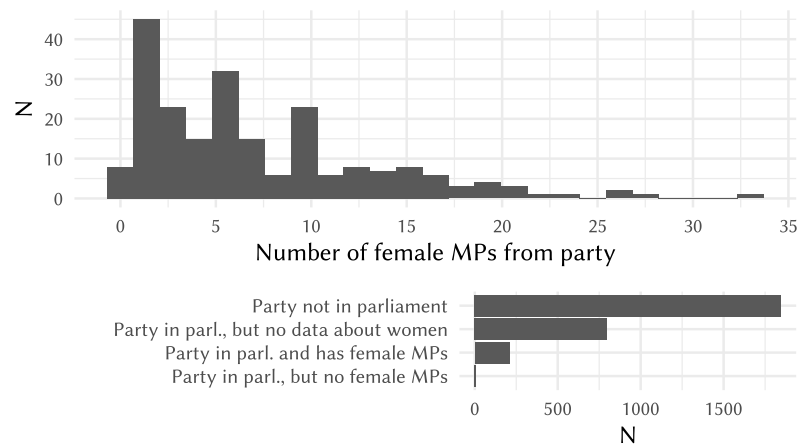
Share of seats recieved by the party.



party\_female\_mps

**Number of female MPs from party**

Number of female MPs elected for the party. Note that for parties not elected to the new Landtag party\_female\_mps always is.na() == TRUE.

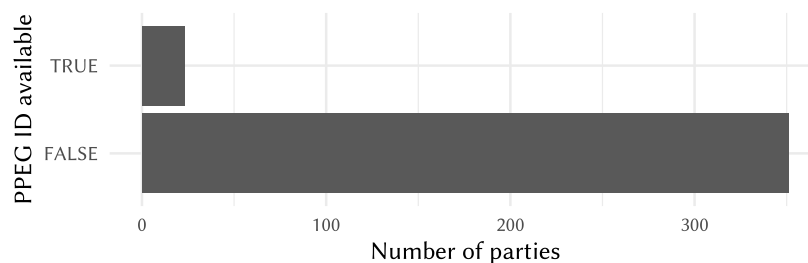




ppeg\_id

**PPEG ID**

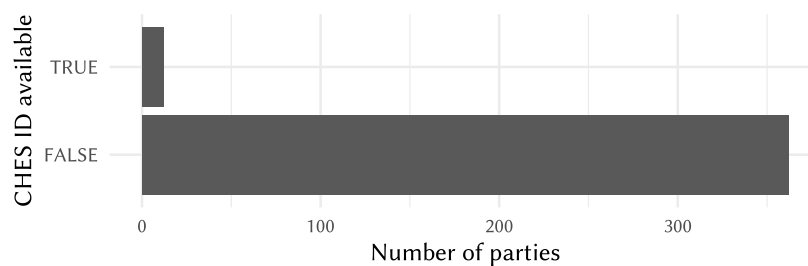
If available, party id of the party in the PPEG database (PPEG 2022). These party IDs are chiefly based on party IDs from Mackie and Rose (1991).



ches\_id

**CHES ID**

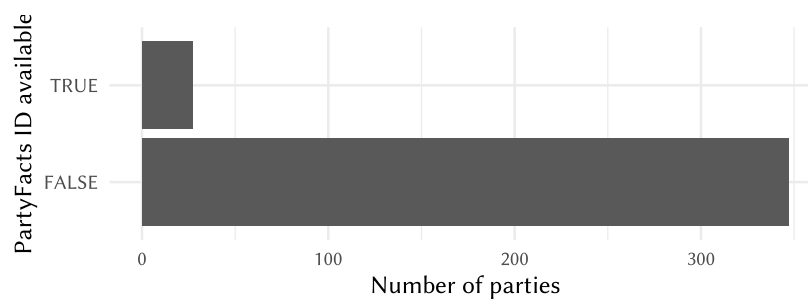
If available, ID of the party in the Chapel-Hill Expert Survey (Jolly et al. 2022).



partyfacts\_id

**PartyFacts ID**

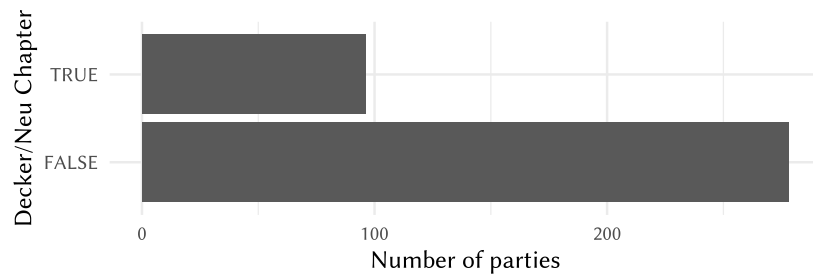
If available, ID of the party in the partyfacts database (Döring and Regel 2019).



decker\_neu

**Chapter Parteienhandbuch**

Denotes, whether the Handbuch der deutschen Parteien (3. ed.) by Decker and Neu (Decker and Neu 2018) has a chapter on the party.



url\_info

**URL with additional info on the party**

URL to information on the party on the web. Can contain multiple URLs!

party\_remarks\_  
stelzle**Party remarks Stelzle**

Remarks on the party by me.

party\_remarks\_  
bundeswahlleiter**Party remarks Bundeswahlleiter**

Remarks on the party as listed by the Bundeswahlleiter.

gueltige\_stimm  
-zettel\_hh\_hb**Gültige Stimmzettel HH and HB**

Messy totals.

gesamtstimmen\_by

**Gesamtstimmen BY**

Messy totals.

ausgefallene\_  
stimmen\_be**Ausgefallene Stimmen BE**

Messy totals.

abgegebene\_  
stimmen\_hh**Abgegebene Stimmen HH**

Messy totals.

ungueltige\_  
stimmen\_except\_  
hh\_hb**Ungültige Stimmen except in HH and HB**

Messy totals.

ungueltige\_  
stimmzettel\_hh\_hb

**Ungültige Stimmzettel in HH and HB**  
Messy totals.

## ltw\_governments

This section of the codebook only concerns variables specific to the ltw\_governments dataset. For further variables please refer to the ltw\_elections section.

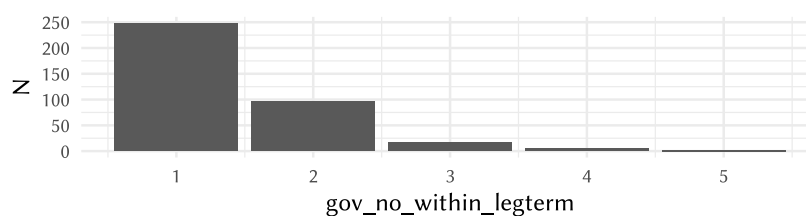
ltw\_governments returns a data frame (tibble if the tibble package is loaded) containing information on governments in the German states. Each row contains information on one state government.

### ltw\_elections Variable Information

gov\_no\_within\_  
legterm

#### Number of cabinet within legislative term

Number of cabinet within legislative term (i.e. First cabinet in the 1990-1994 legislative term of state X).



gov\_id

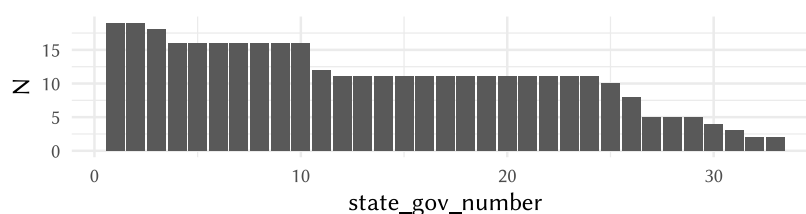
#### Government ID

Unique ID of government. Taken from Linhart et al. However, this ID is not counting up within state by time. In cases where Governments were missing from Linhart et al. before the timeframe covered by Linhart et al. (eg. in Berlin) these earlier governments have a higher ID than later cabinets contained in Linhart et al. data.

state\_gov\_number

#### Number of government in state.

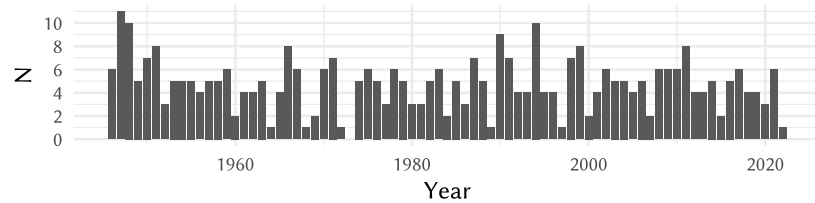
Number of government in state.



gov\_start\_date

**Government Starting Date**

Starting date of the government. ISO 8601 or R-Date format.



gov\_source

**Government Source**

Source of the information on the government. Either Linhart et al. or the URL of the German Wikipedia Page containing information on the cabinet.

gov\_remarks\_  
stelzle**Governments remarks Stelzle**

My remarks on governments.

minister\_president

**Name of minister president**

Name of minister president.

mp\_party

**Minister President's Party**

Party of the minister president. partyname\_short format used. Note: There is a single cabinet with an independent minister president: Heinrich Welsch's caretaker government in the Saarland (at the time not yet a member of the FRG) in 1955.

gov\_parties

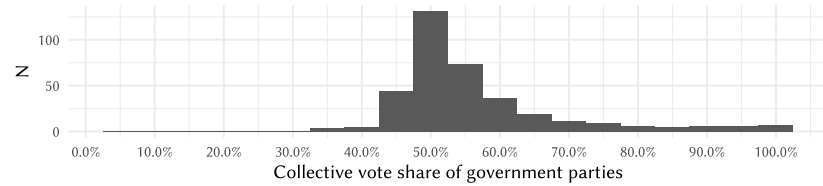
**Names of Government Parties**

String containing the names (partyname\_short format) of all government parties separated by ' test '. The MP's party first, followed by other government parties in the order of their seatshare.

gov\_vshare

**Government Vote Share**

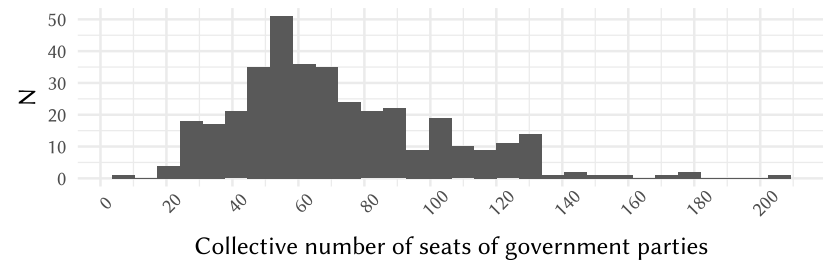
Collective vote share of government parties.



gov\_seat\_count

**Government Seat Count**

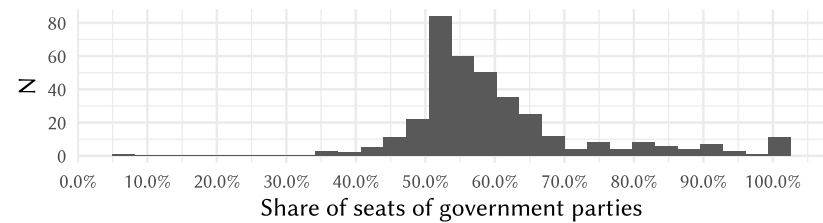
Collective number of seats of government parties.



gov\_sshare

**Government Seat Share**

Share of seats of government parties.



gov\_tog

**Type of Government**

Type of Government:

- Single Party Majority
- Oversized Coalition
- Minimal Winning Coalition
- Single Party Minority
- Multi Party Majority
- Caretaker.

## ltw\_combined

This section of the codebook only concerns variables specific to the ltw\_combined dataset. For further variables please refer to the sections on ltw\_elections and ltw\_governments.

ltw\_combined returns a returns data frame (tibble if the tibble package is loaded) containing both election results as well as linked information on governments in the German states. Each row contains information on one party during the time in office of one cabinet. For a schematic version of bundeslaendeR::ltw\_combined's structure see table 3.

### ltw\_combined Variable Information

gov\_party

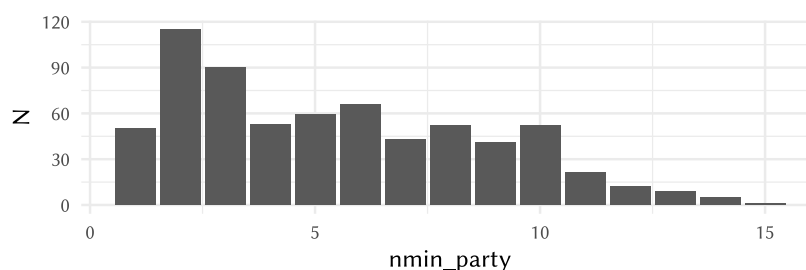
#### Government Party

Boolean whether the party was a cabinet party. Note: There is a single cabinet where no party is marked as part of the cabinet: Heinrich Welsch's caretaker government in the Saarland (at the time not yet a member of the FRG) in 1955.

nmin\_party

#### Number of Ministers of Party

Number of ministers of party. Note that the number of party-independent ministers is not collected. Thus, the sum of the number of ministers of all government parties can not reliably be understood as the size of the cabinet.



is\_mp\_party

#### Is MP Party?

the governments minister president from this party? Note: There is a single cabinet where the minister president is not part of any party: Heinrich Welsch's caretaker government in the Saarland (at the time not yet a member of the FRG) in 1955.

Table 3: Structure of ltw\_combined

| State Variables<br>Name, Abbreviation,<br>NUTS1 Code |       |     | Election Variables<br>Election date, Size<br>Electorate, Turnout, ... |         |     | Party Variables<br>Names, Abbreviations, several IDs<br>several IDs |         |     | Party-Election Variables<br>Vote Count, -Share, Seat<br>Count, -Share, ... |                  |     | Government Variables<br>Inauguration date, PM Name, gov.<br>numbering, gov_id, ... |                    |     | Government-Party Variables<br>Status in government, number of<br>party ministers, ... |            |     |
|--|-------|-----|---|---------|-----|---|---------|-----|--|------------------|-----|--|--------------------|-----|---|------------|-----|
| state  | nuts1 | ... | election_date   | turnout | ... | partyname_short   | ches_id | ... | party_vshare   | party_seat_count | ... | gov_start_date   | minister_president | ... | gov_party   | nmin_party | ... |
| BE   | DE3   | ... | 2015-09-18  | 0.765   | ... | Party A   | 001     | ... | 0.45   | 46               | ... | 2015-10-07   | Mustermann, Max    | ... | TRUE  | 7          | ... |
| BE   | DE3   | ... | 2015-09-18  | 0.765   | ... | Party B   | 002     | ... | 0.30   | 12               | ... | 2015-10-07   | Mustermann, Max    | ... | TRUE  | 4          | ... |
| BE   | DE3   | ... | 2015-09-18  | 0.765   | ... | Party C   | 003     | ... | 0.25   | 18               | ... | 2015-10-07   | Mustermann, Max    | ... | FALSE   | NA         | ... |
| BE   | DE3   | ... | 2015-09-18  | 0.765   | ... | Party A   | 001     | ... | 0.45   | 46               | ... | 2017-02-28   | Mustermann, Max    | ... | TRUE  | 11         | ... |
| BE   | DE3   | ... | 2015-09-18  | 0.765   | ... | Party B   | 002     | ... | 0.30   | 12               | ... | 2017-02-28   | Mustermann, Max    | ... | FALSE   | NA         | ... |
| BE   | DE3   | ... | 2015-09-18  | 0.765   | ... | Party C   | 003     | ... | 0.25   | 18               | ... | 2017-02-28   | Mustermann, Max    | ... | FALSE   | NA         | ... |
| NI   | DE9   | ... | 2012-12-16  | 0.560   | ... | Party A   | 001     | ... | 0.17   | 12               | ... | 2013-01-07   | Musterfrau, Erika  | ... | FALSE   | NA         | ... |
| NI   | DE9   | ... | 2012-12-16  | 0.560   | ... | Party B   | 002     | ... | 0.33   | 27               | ... | 2013-01-07   | Musterfrau, Erika  | ... | FALSE   | NA         | ... |
| NI   | DE9   | ... | 2012-12-16  | 0.560   | ... | Party D   | 004     | ... | 0.50   | 46               | ... | 2013-01-07   | Musterfrau, Erika  | ... | TRUE  | 13         | ... |



## link\_manifestos and link\_coalitionagreements

link\_manifestos and link\_coalitionagreements provide easy links of bundeslaendeR data with party manifestos and coalition agreements made available from polidoc.net - The Political Documents Archive (Benoit, Bräuninger, and Debus 2009; Gross and Debus 2018; Pappi and Seher 2014, 2009; for the codebook see Bräuninger et al. 2018). While file names from polidoc.net follow a naming pattern (partyID.stateID.year.1.number of party manifesto for election), the provided links make joining the data easier.

Note that polidoc.net provides a manifesto for the Neue Liberale in the HB 2015 election (41441.005.2015.1.1). Since the party withdrew it's candidacy before the election and is thus not included in the election results in ltw\_elections, the manifesto id is not included in link\_manifestos.

Note that polidoc.net provides a coalition agreement between the SPD and the Greens following the 2008 HE election (41001.006.2008.1.1). Since this potential coalition under leadership of SPD politician Andrea Ypsilanti never came to be due to several SPD MPs opposing the red-green minority cabinet being externally supported by Die Linke the coalition agreement can't be matched with a government in ltw\_combined and is thus not included.

## Linking-Variables Information

The variables state, election\_date, and partyname\_short can be used in order to link manifestos to the bundeslaendeR data.

|                 |   |
|-----------------|---|
| state           | <b>State Abbreviation</b><br>ISO 3166-2:DE-code of the state.                                     |
| election_date   | <b>Election Date</b><br>Date of the election. ISO 8601 or R-Date format.                          |
| partyname_short | <b>Abbreviated Party Name</b><br>Harmonized abbreviation of the party's name. 374 unique parties. |

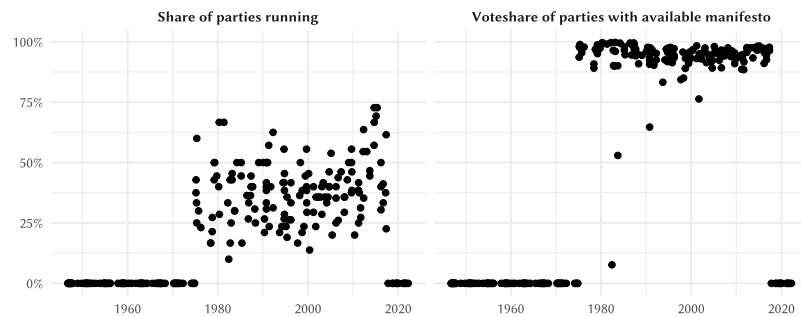
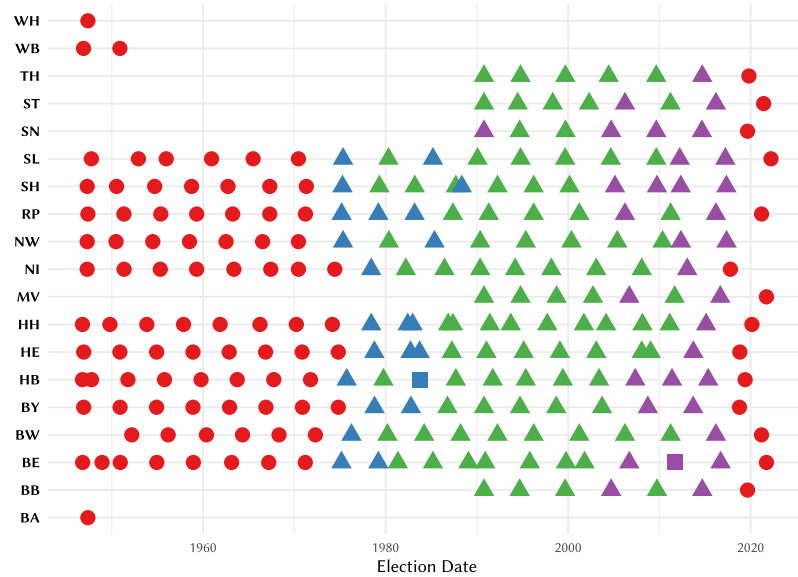
The variable gov\_id can be used in order to link manifestos to the bundeslaendeR data.

|        |  |
|--------|--|
| gov_id | <b>Government ID</b><br>Unique ID of government. Taken from Linhart et al. However, this ID is not counting up within state by time. In cases where Governments were missing from Linhart et al. before the timeframe covered by Linhart et al. (eg. in Berlin) these earlier governments have a higher ID than later cabinets contained in Linhart et al. data. |
|--------|--|

polidoc\_filename  
and  
polidoc\_filename\_2  
in link\_manifestos

### Polidoc File Name of Party Manifesto

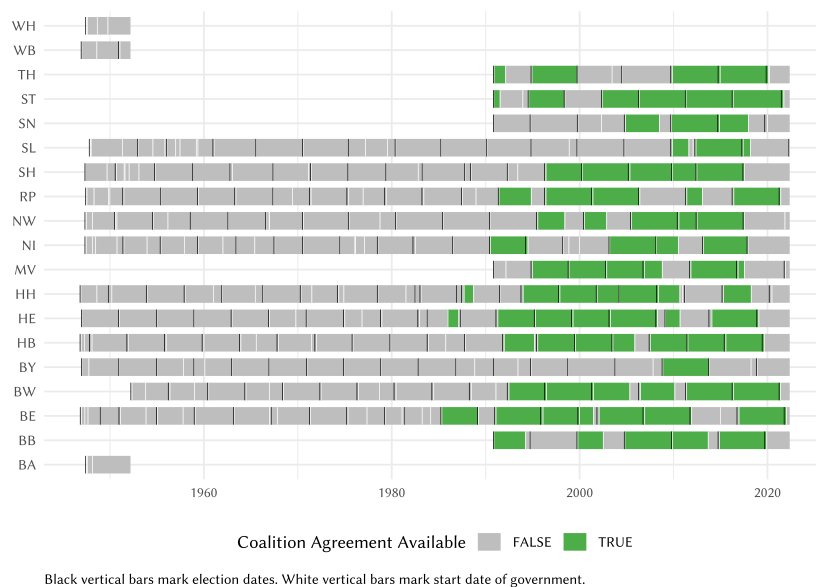
File name of state party manifesto (or 2nd manifesto if available) available in The Political Documents Archive (polidoc.net).



polidoc\_filename  
in link\_  
coalitionagreements

### Polidoc File Name of Coalition Agreement

File name of coalition agreement available in The Political Documents Archive (polidoc.net).



## de\_states\_grid\_4x4()

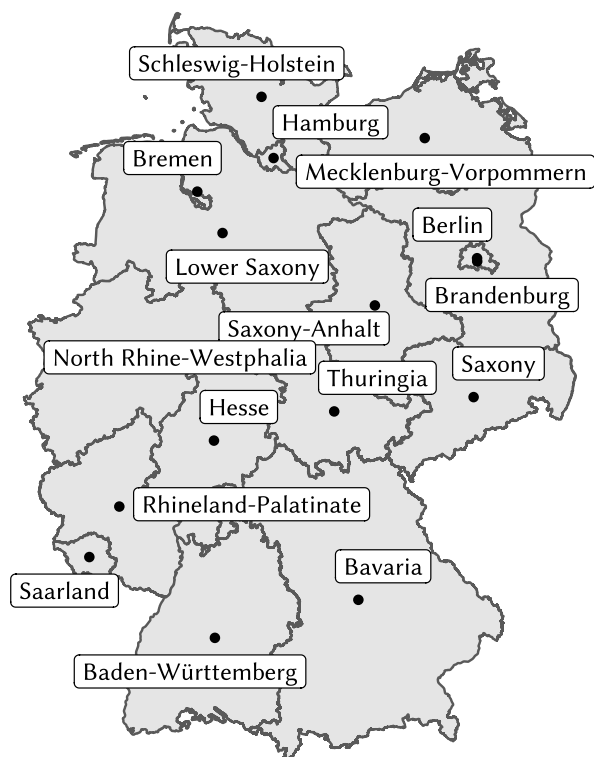
de\_states\_grid\_4x4() exports a data frame containing state IDs, German and English state names and approximate state locations on a 4x4 grid. The exported data frame can be used to approximately plot state-facets in their approximate locations using the ggplot2 extension geofacet (Hafen and Schloerke 2020).

Please find a comparison of state locations and the grid layout as well as some example code below.

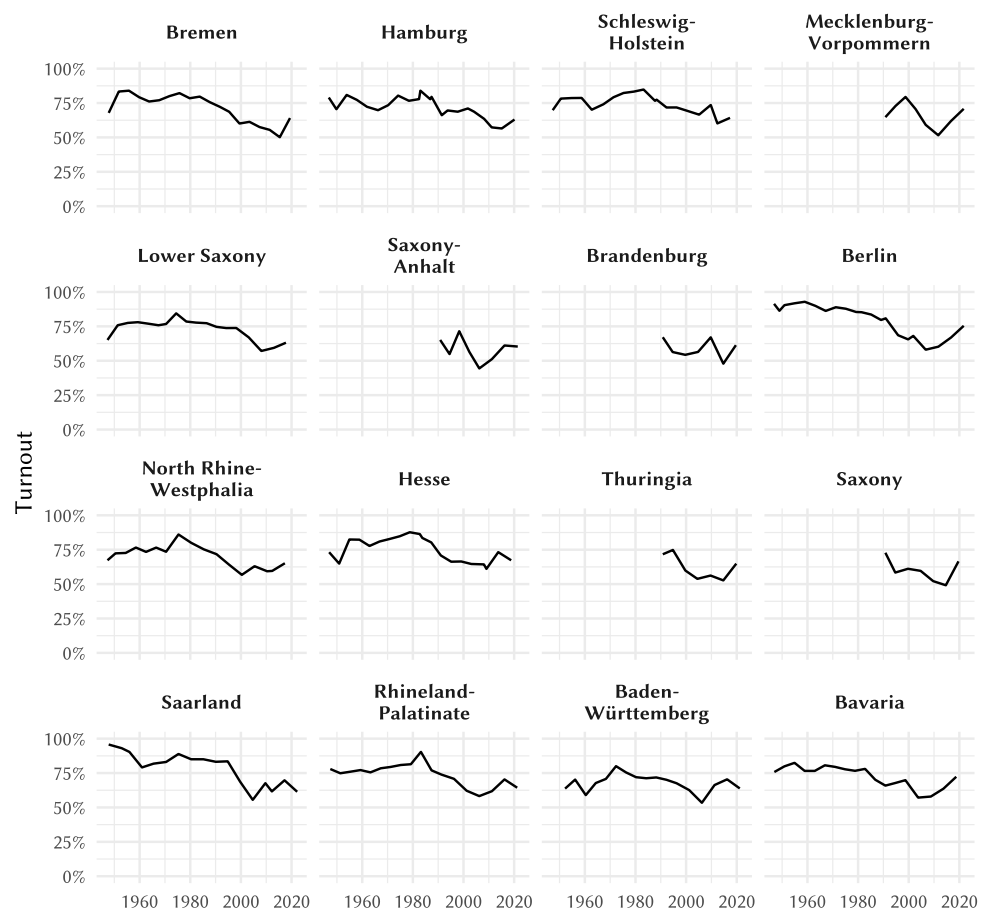
### Example Code:

```
library(bundeslaender)
library(tidyverse)
library(geofacet)

turnout_plot <-
ltw_elections %>%
  select(state, election_date, turnout) %>%
  distinct() %>%
  filter(!(state %in% c("WB", "BA", "WH"))) %>%
  filter(!is.na(turnout)) %>%
  ggplot(aes(x = election_date, y = turnout)) +
    geom_line() +
    facet_geo(grid = de_states_geofacet_grid_4x4(linebreak = T),
              facets = ~state, label = "name") +
    scale_y_continuous(limits = c(0,1),
                       labels = scales::percent) +
    theme(strip.text = element_text(face = "bold")) +
    labs(x = NULL, y = "Turnout")
```



Map data from *geoBoundaries* (Runfola et al. 2020).



**Figure 1:** Comparison of state location and grid layout

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