Package ‘polimetrics’

October 14, 2022

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License GPL-3

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Calculating Geographical Diffusion

Usage

geog.diffuse(df, id, neighbors, time, status, end = FALSE, keep = FALSE)

Arguments

df  
 data frame to read in. Data frame should include a variable that is a character list of each observation’s neighbors.

id  
 the grouping variable, usually states or counties

neighbors  
 a variable that is a character list of each observation’s neighbors. The elements of the character list of neighbors should be separated by commas.

time  
 the time variable, at which observations are measured.

status  
 binary, user-defined measure of the status of policy or event in a state in a given year. 0 equates to policy has not yet occurred in the year, for the state, 1 equates to policy event has already been adopted in the year, for the state – a value of 1 should exist for a state in the year it was adopted and every year thereafter). The example below relies on ERA ratification data from Soule and King (2006) <doi:10.1086/499908>, merged with ideology data from Berry et al. (1998) <doi:10.2307/2991759>, but the user should include the measure of adoption of their choice.

end  
 logical (default set to F). When set to end = T, will calculate the percent of neighbors that had adopted policy by year-end. Otherwise, will calculate based on number of neighbors that had adopted the policy at year-start.

keep  
 logical (default set to F). When set to keep = T, will include additional variables (number of neighbors and number of neighbors that had adopted the policy) in the updated data frame.

Value

This function updates the data frame with a new variable capturing the geographical diffusion score.

References


This function calculates the percent (or proportion) of geographically contiguous neighbors that have engaged in some event (e.g. policy adoption) in a given year. This function can be applied to any unit of analysis and time level for any type of event.

Examples

```r
data <- Ideology_ERA
geog.diffuse(data, state, neighbors, year, era_status)
```

**ideo.dist**

*Calculating Ideological Distance*

**Description**

Calculating Ideological Distance

**Usage**

```r
ideo.dist(df, id, ideology, time, adoption)
```

**Arguments**

- **df**
  - data frame to read in. This should be an adapted version of the Ideology data set provided in the package. The adapted version should include an outcome variable measuring the policy adoption of choice.

- **id**
  - the grouping variable, usually states

- **ideology**
  - the state’s ideology score variable (either state or citizen ideology) in a given year. These data come from Richard C. Fording (https://rcfording.com/state-ideology-data/) as used in Berry et al. (1998), and are measured, for each state, from 1960 to 2018.

- **time**
  - the time variable, at which the ideology score is measured. These data come from Richard C. Fording (https://rcfording.com/state-ideology-data/) as used in Berry et al. (1998), and are measured, for each state, from 1960 to 2018.

- **adoption**
  - binary, user-defined measure of policy adoption in a state in a given year. 0 equates to policy not adopted in the year, for the state, 1 equates to policy is adopted in the year, for the state – a value of 1 should only exist for a state in the year it was adopted (e.g. not every year thereafter). The example below relies on ERA ratification data from Soule and King (2006), but the user should include the measure of adoption of their choice.

**Value**

This function updates the data frame with a new variable capturing the ideological distance score.
This function calculates ideological distance scores based on the calculation created by Grossback et al. (2004) and clarified by Cruz-Aceves and Mallinson (2019). This calculation is based on state ideology data (by year) provided by Richard C. Fording (https://rcfording.com/state-ideology-data/) and used in Berry et al. (1998). This function can be applied to any unit of analysis and time level for any type of policy adoption.

Examples

data <- Ideology_ERA
ideo.dist(data, state, s_ideo, year, era_ratified)

---

### Ideology

#### Fording’s State Ideology Data

This data set comes from Richard C. Fording (https://rcfording.com/state-ideology-data/) and used in Berry et al. (1998). The data set includes state ideology data (measured at the state/legislature and citizen levels), for each year between 1960 and 2018. These data will be updated as Fording updates the data.

#### Usage

Ideology

#### Format

A data frame with 3050 observations and 4 variables.

<table>
<thead>
<tr>
<th>state</th>
<th>state name</th>
</tr>
</thead>
<tbody>
<tr>
<td>year</td>
<td>year measured</td>
</tr>
<tr>
<td>c_ideo</td>
<td>citizen ideology score</td>
</tr>
<tr>
<td>s_ideo</td>
<td>state level ideology score</td>
</tr>
</tbody>
</table>
State_Neighbors

---

**Ideology_ERA**

*Fording’s State Ideology Data (adapted, with E.R.A. status)*

**Description**

This data set comes from Richard C. Fording ([https://rcfording.com/state-ideology-data/](https://rcfording.com/state-ideology-data/)) and used in Berry et al. (1998). The data set includes state ideology data (measured at the state/legislature and citizen levels), for each year between 1960 and 2018. These data will be updated as Fording updates the data. This data set enables inclusion of a variable measuring state-level policy adoption by year. As an example, the data set also include a variable measuring the ratification of the Equal Rights Amendment as depicted in Soule and King (2006).

**Usage**

Ideology_ERA

**Format**

A data frame with 300 observations and 5 variables.

| state | state name |
| year | year measured |
| c_ideo | citizen ideology score |
| s_ideo | state level ideology score |
| era_status | measures the event: adoption/ratification of the Equal Rights Amendment for a state in a given year. 0 equates states that have not ratified, 1 equates states that have ratified |
| neighbors | list of neighboring states for each observation. Elements (states) comma-delimited |

---

**State_Neighbors**

*US State Neighbor List*

**Description**

This data set provides a list (as a character string) of neighboring states for each U.S. state.

**Usage**

State_Neighbors

**Format**

A data frame with 50 observations and 2 variables.
US_Counties

**US Counties Information for Merging**

**Description**

This data set provides common names and abbreviations for U.S. counties to enable merging with various data sets.

**Usage**

US_Counties

**Format**

A data frame with 3104 observations and 8 variables.

- countystate: proper county name and state name
- state_name: proper state name
- county_name: proper county name
- county_fips: county FIPS
- state_abbv: abbreviated state name
- state_name_cap: capitalized state name
- state_name_cap_nominate: capitalized state name, shortened (as in DW-NOMINATE data)
- state_fips: state FIPS

---

US_States

**US States Information for Merging**

**Description**

This data set provides common names and abbreviations for U.S. states to enable merging with various data sets.

**Usage**

US_States
**US_States**

**Format**

A data frame with 50 observations and 5 variables.
<table>
<thead>
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<th>Description</th>
</tr>
</thead>
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<tr>
<td>state_name</td>
<td>proper state name</td>
</tr>
<tr>
<td>state_abbrev</td>
<td>abbreviated state name</td>
</tr>
<tr>
<td>state_name_cap</td>
<td>capitalized state name</td>
</tr>
<tr>
<td>state_name_cap_nominate</td>
<td>capitalized state name, shortened (as in DW-NOMINATE data)</td>
</tr>
<tr>
<td>state_fips</td>
<td>state FIPS</td>
</tr>
</tbody>
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