Package ‘inters’

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Title Flexible Tools for Estimating Interactions
Imports stats, fixest, glmnet
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Suggests knitr, ggplot2, lmtest, rmarkdown
Description A set of functions to estimate interactions flexibly in the face of possibly many controls. Implements the procedures described in Blackwell and Olson (2022) <doi:10.1017/pan.2021.19>.
License GPL (>= 2)
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BugReports https://github.com/mattblackwell/inters/issues
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**Description**

`post_ds_interaction` applies post-double selection to the estimation of an interaction in a linear model.

**Usage**

```r
post_ds_interaction(
  data,  # data.frame to find the relevant variables.
  treat,  # string with the name of the treatment variable.
  moderator,  # string with the name of the moderating variable.
  outcome,  # string with the name of the outcome variable.
  control_vars,  # vector of strings with the names of the control variables to include.
  panel_vars = NULL,  # vector of strings with the names of categorical variables to include as fixed effects.
  moderator_marg = TRUE,  # logical indicating if the lower-order term of the moderator should be included.
  cluster = NULL,  # string with the name of the cluster variable.
  method = "double selection"  # string indicating which method to use. The default is "double selection" selects variables based on the outcome and treatment/interaction variables and "single selection" only selects on the outcome.
)
```

**Arguments**

- **data**: data.frame to find the relevant variables.
- **treat**: string with the name of the treatment variable.
- **moderator**: string with the name of the moderating variable.
- **outcome**: string with the name of the outcome variable.
- **control_vars**: vector of strings with the names of the control variables to include.
- **panel_vars**: vector of strings with the names of categorical variables to include as fixed effects.
- **moderator_marg**: logical indicating if the lower-order term of the moderator should be included.
- **cluster**: string with the name of the cluster variable.
- **method**: string indicating which method to use. The default is "double selection" selects variables based on the outcome and treatment/interaction variables and "single selection" only selects on the outcome.

**Details**

The `post_ds_interaction` implements the post-double selection estimator of Belloni et al (2014) as applied to interactions, which was proposed by Blackwell and Olson (2019). Variables passed to `panel_vars` are considered factors for fixed effects and whose "base effects" are removed by demeaning all variables by those factors. Interactions between the moderator and all variables (including the factors generated by `panel_vars`) are generated and passed to the post-double selection procedure. Base terms for the treatment, moderator, and control variables are forced to be included in the final post-double selection OLS. The `cluster` argument adjusts the lasso...
Value

Returns an object of the class `lm` with an additional `cluster.vcov` object containing the cluster-robust variance matrix estimate when `cluster` is provided.

References


Examples

data(remit)

controls <- c("l1gdp", "l1pop", "l1nbr5", "l12gr", "l1migr", "elec3")

post_ds_out <- post_ds_interaction(
  data = remit, treat = "remit",
  moderator = "dict", outcome = "Protest",
  control_vars = controls,
  cluster = "caseid"
)

---

primary

Data on the direct primary in US congressional elections

Description

A data set on the presence of the direct primary in U.S. congressional elections and the vote shares for the Democratic, Republican, and third parties. Based on ICPSR Study 6985

Usage

primary

Format

A data frame with 1164 observations and the following 7 variables:

- **state** name of the state
- **year** year of the congressional election
- **dem_share** percentage of the total vote cast for the Democratic candidate, 0-100
- **rep_share** percentage of the total vote cast for the Republican candidate, 0-100
other_share  percentage of the total vote cast for other parties, 0-100
primary  binary variable indicating if the state had the direct primary (=1) or not (=0)
south  binary variable indicating if the state is in the South (=1) or not (=0)

Source
https://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/6895

References

Description
A data set to replicate the findings of Escribá-Folch, Meseguer, and Wright (2018). Data and data descriptions are from that paper’s replication data, available at doi:10.7910/DVN/TVZQG6

Usage
remit

Format
A data frame with 2429 observations and 14 variables:
Protest  standardized measure of latent protest from Chenoweth et al. (2014)
remit  natural log of the 2-year lagged moving average of total remittances received in constant US dollars
dict  binary indicator of autocracy or democracy from Geddes, Wright, and Frantz (2014)
l1gdp  natural log of one-period lagged gdp per capita
l1pop  natural log of one-period lag of population
l1nbr5  lagged mean latent level of protest in countries with capital cities within 4000km of the target country’s capital
l12gr  two-year lagged moving average of GDP per capita growth (in percent)
l1migr  natural log of lagged net migration in millions
elec3  indicator for multiparty election in that year, year prior, or year after
cowcode  country code from correlates of war dataset
period  six ordinal time periods
caseid  numerical code for autocratic regime case name
year  year
Source

doi:10.7910/DVN/TVZQG6

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