Package 'pcse'

October 14, 2022

Title Panel-Corrected Standard Error Estimation in R

Version 1.9.1.1

Date 2018-06-07

Author Delia Bailey <delia.bailey@gmail.com> and Jonathan N. Katz

<jkatz@caltech.edu>

Maintainer Delia Bailey <delia.bailey@gmail.com>

Description A function to estimate
panel-corrected standard errors. Data may contain balanced or
unbalanced panels.

License GPL (>= 3)

Repository CRAN

Date/Publication 2018-06-07 19:16:10 UTC

NeedsCompilation no

R topics documented:

---

pcse-package   *Panel-Corrected Standard Error Estimation in R*

Description

A function to estimate panel-corrected standard errors. Data may contain balanced or unbalanced panels.

Details

The DESCRIPTION file:

Package:	pcse
Title:	Panel-Corrected Standard Error Estimation in R
Version:	1.9.1.1
Date:	2018-06-07
Author:	Delia Bailey <delia.bailey@gmail.com> and Jonathan N. Katz <jkatz@caltech.edu>
Maintainer:	Delia Bailey <delia.bailey@gmail.com>
Description:	A function to estimate panel-corrected standard errors. Data may contain balanced or unbalanced panels
License:	GPL (>= 3)
Packaged:	2018-04-03 13:42:19 UTC; hornik
Repository:	CRAN
Date/Publication:	2018-04-03 13:52:56 UTC
NeedsCompilation:	no

Index of help topics:

```
agl                 agl
aglUn               aglUn
pcse                Panel-Corrected Standard Error Estimation in R
pcse-package        Panel-Corrected Standard Error Estimation in R
summary.pcse        Summary Method for Package pcse
vcovPC              Extract Panel-Corrected Variance Covariance
                    Matrix
```

Further information is available in the following vignettes:

pcse   Implementing Panel-Corrected Standard Errors in R: The pcse Package (source, pdf)

Author(s)

Delia Bailey <delia.bailey@gmail.com> and Jonathan N. Katz <jkatz@caltech.edu>

Maintainer: Delia Bailey <delia.bailey@gmail.com>

References

Alvarez, R. Michael, Geoffrey Garrett and Peter Lange. (1991) Government Partisanship, Labor Organization, and Macroeconomic Performance. *American Political Science Review* 85:539-56.

Beck, Nathaniel, Jonathan N. Katz, R. Michael Alvarez, Geoffrey Garrett and Peter Lange. (1993) Government Partisanship, Labor Organization, and Macroeconomic Performance: A Corrigendum. *American Political Science Review* 87:945-948.

Beck, Nathaniel and Jonathan N. Katz. (1995) What to do (and not to do) with Time-Series Cross-Section Data. *American Political Science Review* 89:634-647.

Bailey, Delia and Jonathan N. Katz. (2011) Implementing Panel-Corrected Standard Errors in R: The pcse Package. *Journal of Statistical Software, Code Snippets* 42(1):1–11. http://www.jstatsoft.org/v42/c01/

Examples

```
## see demo file.
```

---

agl	*agl*

Description

Cross-National panel data on the OECD countries containing information about economic performance, government partisanship and labor organization.

Usage

```
data(agl)
```

Format

A data frame with 240 observations on the following 10 variables.

year a numeric vector

country a character vector

growth the OECD growth rate

lagg1 An instrument for lagged growth rates constructed with an auxilary regression.

opengdp weighted OECD demand

openex weighted OECD export

openimp weighted OECD import

leftc "Left" cabinet composition

central labor organization index

inter interaction between leftc and central

Source

Alvarez, R. Michael, Geoffrey Garrett and Peter Lange. (1991) Government Partisanship, Labor Organization, and Macroeconomic Performance. *American Political Science Review* 85:539-56.

References

Beck, Nathaniel, Jonathan N. Katz, R. Michael Alvarez, Geoffrey Garrett and Peter Lange. (1993) Government Partisanship, Labor Organization, and Macroeconomic Performance: A Corrigendum. *American Political Science Review* 87:945-948.

Examples

```
data(agl)
summary(agl)
```

---

aglUn   *aglUn*

Description

Cross-National panel data on the OECD countries containing information about economic performance, government partisanship and labor organization.

Usage

```
data(aglUn)
```

Format

A data frame with 230 observations on the following 10 variables.

year a numeric vector

country a character vector

growth the OECD growth rate

lagg1 An instrument for lagged growth rates constructed with an auxilary regression.

opengdp weighted OECD demand

openex weighted OECD export

openimp weighted OECD import

leftc "Left" cabinet composition

central labor organization index

inter interaction between leftc and central

Details

This data frame differs from 'agl' only by the random omission of 10 rows of data. This is to created an unbalanced data version.

Source

Alvarez, R. Michael, Geoffrey Garrett and Peter Lange. (1991) Government Partisanship, Labor Organization, and Macroeconomic Performance. *American Political Science Review* 85:539-56.

References

Beck, Nathaniel, Jonathan N. Katz, R. Michael Alvarez, Geoffrey Garrett and Peter Lange. (1993) Government Partisanship, Labor Organization, and Macroeconomic Performance: A Corrigendum. *American Political Science Review* 87:945-948.

Examples

```
data(aglUn)
summary(aglUn)
```

---

pcse	*Panel-Corrected Standard Error Estimation in R*

Description

A function to estimate panel-corrected standard errors. Data may contain balanced or unbalanced panels.

Usage

```
pcse(object, groupN, groupT, pairwise=FALSE)
```

Arguments

object   A lm object containing the initial run of OLS.

groupN   A vector containing the cross-sectional group identifier for each observation.

groupT   A vector containing the time identifier for each observation.

pairwise   An optional logical flag indicating whether the X's used to estimate the "middle" matrix should be chosen in a pairwise fashion or casewise fashion. If pairwise, the correlation between observations i and j is based on the time periods common to i and j. If casewise, the correlation between observations i and j is based on the largest rectangular subset of the data, i.e., $T_i = T_j = T^*$ for all i and j if casewise is selected.

Examples

```
## see demo file.
```

---

summary.pcse   *Summary Method for Package pcse*

Description

The package pcse contains a function to estimate panel-corrected standard errors. Data may contain balanced or unbalanced panels. This function summarizes the estimated results.

Usage

```
## S3 method for class 'pcse'
summary(object, ...)
```

Arguments

object   An object of class "pcse."

...   Arguments passed to other functions.

Author(s)

Delia Bailey <delia.bailey@gmail.com> and Jonathan N. Katz <jkatz@caltech.edu> Maintainer: Delia Bailey <delia.bailey@gmail.com>

References

Bailey, Delia and Jonathan N. Katz. (2011) Implementing Panel-Corrected Standard Errors in R: The pcse Package. *Journal of Statistical Software, Code Snippets* 42(1):1–11. http://www.jstatsoft.org/v42/c01/

Examples

```
## see demo file.
```

---

vcovPC   *Extract Panel-Corrected Variance Covariance Matrix*

Description

The package pcse contains a function to estimate panel-corrected standard errors. Data may contain balanced or unbalanced panels. This function extracts the resulting variance covariance matrix.

Usage

```
vcovPC(x, ...)

## Default S3 method:
vcovPC(x, groupN, groupT, pairwise=FALSE, ...)
```

Arguments

x	A lm object containing the initial run of OLS.
groupN	A vector containing the cross-sectional group identifier for each observation.
groupT	A vector containing the time identifier for each observation.
pairwise	An optional logical flag indicating whether the X's used to estimate the "middle" matrix should be chosen in a pairwise fashion or casewise fashion. If pairwise, the correlation between observations i and j is based on the time periods common to i and j. If casewise, the correlation between observations i and j is based on the largest rectangular subset of the data, i.e., $T_i = T_j = T^*$ for all i and j if casewise is selected.
...	Further arguments passed to methods.

Author(s)

Delia Bailey <delia.bailey@gmail.com> and Jonathan N. Katz <jkatz@caltech.edu> Maintainer: Delia Bailey <delia.bailey@gmail.com>

References

Bailey, Delia and Jonathan N. Katz. (2011) Implementing Panel-Corrected Standard Errors in R: The pcse Package. *Journal of Statistical Software, Code Snippets* 42(1):1–11. http://www.jstatsoft.org/v42/c01/

Examples

```
## see demo file.
```

Index