Package ‘pcse’

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Title Panel-Corrected Standard Error Estimation in R

Version 1.9.1.1

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

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NeedsCompilation no

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`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
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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)

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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.

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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)

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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.
```

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