Package 'PairwiseD'

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Type Package

Title Pairing Up Units and Vectors in Panel Data Setting

Version 0.9.62

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Description Pairing observations according to a chosen formula and facilitates bilateral analysis of the panel data. Paring is possible for observations, as well as for vectors of observations ordered with respect to time.

Depends xlsx, openxlsx, utils

License GPL-2

Encoding UTF-8

LazyData true

RoxygenNote 6.0.1

NeedsCompilation no

Repository CRAN

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R topics documented:

| GDPgrowth | *Panel of GDP growth rates of 26 EU countries* |

Description

Panel data of GDP growth rates of 26 European Union countries from 1999 to 2011. Countries included are: Austria, Belgium, Bulgaria, Cyprus, The Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Netherlands, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, The United Kingdom. Number of sections is 26 and number of years is 13, which brings total number of observations to 338 observations.

Format

A tab file in the form indicated for input file (Table1 in manual).

Source

Penn World Table 9.0 DOI: 10.15141/S5J01T URL: http://www.rug.nl/ggdc/productivity/pwt/ Feenstra, Robert C., Robert Inklaar and Marcel P. Timmer (2015), "The Next Generation of the Penn World Table" American Economic Review, 105(10), 3150-3182

| pairwised | *pairing up observations of variables* |

Description

Function for pairing up observations in panel data setting according to built in or user specified formula.h

Usage

```
pairwised( data, measure = c("sum", "sumabs", "absdiff", "diffabs", "prod",
           "prodabs", "absprod", "abslogdiff", "abslogsum", "logdiffabs",
           "logsumabs", "if1", "if2", "custom"), exp.multiplier = 0,
           multiplier = 1, no.messages = FALSE,
           save.as = NULL, sep=";", dec="," )
```

Arguments

data   a data.frame, list or path to the input file in csv, xlsx or xls format.

measure   operation that should be applied to every pair of observations. Built in options
            contains (x denotes first observation and y denotes the second observation):

            - "sum": x+y,
            - "sumabs": |x|+|y|,

- "absdiff": |x-y|,
- "diffabs": |x|+|y|,
- "prod": x*y,
- "prodabs": |x|*|y|,
- "absprod": |x*y|,
- "abslogdiff": |ln(xC7y)|,
- "abslogsum": |ln(x*y)|,
- "logdiffabs": ln(|x|C7|y|),
- "logsumabs": ln(|x|*|y|),
- "if1": (x+y=1)->1 and (x+y<>1)->0,
- "if2": (x+y=2)->1 and (x+y<>2)->0.
- Moreover, option "custom" allows the user to specify any function of x and y.

exp.multiplier	default value set to 0. Changes the decimal mark in all the observations in the input file. Useful in cases when, for example, natural logarithm must be taken from a number that is very close to 0.
multiplier	default value set 1. Multiplies all the observations in the input file.
no.messages	efault value is FALSE. If FALSE, the package will show messages: about finishing the calculations, destination file, potential error and wrong format of the input file.
save.as	in this argument, user can specify: path for the destination folder, name of the file and desired format. Argument is given in the following form: "path/name.format". For example: "C:/Myfiles/Rfiles/pairwised_data.csv". If the argument is not specified default is set as "current R directory/name_of_the_input_file_paiwise_result.format_of_input_file". User can specify csv, xls and xlsx as the output format. If user does not specify the file format, the format will be the same as of the input format or xlsx in the case of data.frame/list input. If argument is equal to "none", output file is not generated.
sep	symbol to be used for values separator in the input csv file (works only if input file is set to be a csv file). Default value is ";"
dec	symbol to be used for decimal separator in the input file. Default value is ","

Value

function returns its result as data.frame object.

Examples

```
pairwised(data=GDPgrowth, multiplier = 1, exp.multiplier = 0, no.messages = TRUE,
        measure = c("sum","sumabs","logdiffabs","if1","abs(abs(x^3)-abs(y^3))"),
        save.as = "GDPgrowthRESULTS.csv")
```

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pairwised2	*pairing up observations of variables*

Description

Function for creating measures form time ordered vectors of observations in panel data setting according to built in or user specified formula.D

Usage

```
pairwised2(data, measure = c("cor", "cov", "absmeandiff", "diffabs", "absvardiff",
              "abssddiff",  "absvarcoefdiff", "custom"),  period.length="FULL",
              exp.multiplier = 0, multiplier = 1, no.messages = FALSE,
              save.as = NULL,
              sep=";", dec=",", overlap=TRUE )
```

Arguments

data	a data.frame, list or path to the input file in csv, xlsx or xls format.
measure	operation that should be applied to every pair of time ordered vectors of observations. Built in options contains (z denotes first observation vector and g denotes the second observation):

- "cor": $cor(z,g)$,
- "cov": $cov(z,g)$,
- "absmeandiff": $|mean(z)-mean(g)|$,
- "absvardiff": $|var(z)-var(g)|$,
- "abssddiff": $|sd(z)-sd(g)|$,
- "absvarcoefdiff": $|sd(z)/mean(z)-sd(g)/mean(g)|$
- Moreover, option "custom" allows the user to specify any function of z and g.

period.length	Here, user can specify the length of the of the time ordered vectors for which the measures are calculated. Default value is the full length of the sample period (period.length="FULL").
exp.multiplier	default value set to 0. Changes the decimal mark in all the observations in the input file. Useful in cases when, for example, natural logarithm must be taken from a number that is very close to 0.
multiplier	default value set 1. Multiplies all the observations in the input file.
no.messages	default value is FALSE. If FALSE, the package will show messages: about finishing the calculations, destination file, potential error and wrong format of the input file.
save.as	in this argument, user can specify: path for the destination folder, name of the file and desired format. Argument is given in the following form: "path/name.format". For example: "C:/Myfiles/Rfiles/pairwised_data.csv". If the argument is not specified default is set as "current R directory/name_of_the_input_file_paiwise_result.format_of_input_fi

User can specify csv, xls and xlsx as the output format. If user does not specify the file format, the format will be the same as of the input format or xlsx in the case of data.frame/list input. If argument is equal to "none", output file is not generated.

sep   symbol to be used for values separator in the input csv file (used if input file is set to be a csv file only). Default value is ";"

dec   symbol to be used for decimal separator in the input file. Default value is ","

overlap   default is set at TRUE. If TRUE then values of the measures are calculated for overlapping moving windows trough time(ex. 1991-2005, 1992-2006,1993-2007,...etc.).FALSE can be set only if period.length is lower than FULL.In this instance function will be calculating measures only for non-overlaping windows (1991-1995,1996-2000,2001-2006,...etc.), which length is indicated in the parameter period.length.

Value

function returns its result as data.frame object.

Examples

```
pairwised2(data = GDPgrowth, measure = c("cor","cov","abssddiff","var(z)+var(g)-cov(z,g)"),
          period.length = 9,  exp.multiplier = 0, multiplier = 1, no.messages = FALSE,
          save.as = "GDPgrowthRESULTS.csv")
```

RGDPpc   *Panel of real GDP per capita for 154 countries*

Description

Panel data of real GDP per capita for 154 countries from 1971 to 2014. Number of sections is 154 and number of years is 44, which brings total number of observations to 6776 observations.

Format

A tab file in the form indicated for input file (Table 1 in manual).

Source

Penn World Table 9.0 DOI: 10.15141/S5J01T URL: http://www.rug.nl/ggdc/productivity/pwt/ Feenstra, Robert C., Robert Inklaar and Marcel P. Timmer (2015), "The Next Generation of the Penn World Table" American Economic Review, 105(10), 3150-3182

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