Package 'oec'

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Type Package

Title Use the Observatory of Economic Complexity's API in R

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URL http://atlas.media.mit.edu/en/, https://github.com/pachamaltese/oec/

Description Use The Observatory of Economic Complexity's API in R to download international trade data in csv and create and D3Plus visualizations.

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LazyData TRUE

Depends curl,
data.table,
jsonlite,
plyr,
servr

RoxygenNote 5.0.1

R topics documented:

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oec-package *The Observatory of Economic Complexity*

Description

Use The Observatory of Economic Complexity's API from R console to obtain international trade data to create spreadsheets (csv format) and D3Plus visualizations.

Details

The functions provided within this package are:

`install_d3plus` Installs D3 and D3Plus.

`demos` Copies the demo file.

`getdata` Downloads and processes the data from the API for a certain year.

`getdata_interval` Experimental function.

`network` Creates a network for a given year.

`network_comparison` Experimental function.

`treemap` Creates a treemap for a given year.

`treemap_interval` Experimental function.

The datasets provided within this package are:

`countries_list` A list of all the countries in the world and its respective country code.

`hs92_2char` HS92 groups. This file is used to create spreadsheets and visualizations with trade data.

`hs92_6char` HS92 products (6 characters codes). This file is used to create spreadsheets and visualizations with trade data.

`hs92_8char` HS92 products (8 characters codes). This file is used to create spreadsheets and visualizations with trade data.

`hs92_colors` HS92 colors. This file is used to create spreadsheets and visualizations based on trade data.

`sitc_rev2_2char` SITC (rev. 2) groups. This file is used to create spreadsheets and visualizations with trade data.

`sitc_rev2_4char` SITC (rev. 2) products (4 characters codes). This file is used to create spreadsheets and visualizations with trade data.

`sitc_rev2_colors` SITC (rev. 2) colors. This file is used to create spreadsheets and visualizations with trade data.

countries_list *A list of all the countries*

Description

A list of all the countries in the world and its country code. You need the country code (e.g. chl) to obtain data of a country (e.g Chile)

Usage

```
countries_list
```

Format

A data frame with 262 observations on the following 2 variables.

`country` the full names of the countries

`country_code` the ids of the countries

Examples

```
countries_list
```

demos *Copies the demo file*

Description

Copies the demo file

Usage

```
demos()
```

Value

Copies a file named `demo_examples.R` to the working directory.

Examples

```
# demos()
```

getdata *Downloads and processes the data from the API*

Description

Downloads and processes the data from the API

Usage

```
getdata(origin, destination, year, classification)
```

Arguments

origin	Country code of origin (e.g. "chl" for Chile)
destination	Country code of destination (e.g. "chn" for China)
year	The OEC's API ranges from 1962 to 2014
classification	Trade classification that can be "6" (HS92 6 characters) or "8" (HS92 8 characters) for the year 1995 and going or "4" (SITC rev.2 4 characters) for the year 1962 and ongoing. The default is set to "6".

Examples

```
# Run countries_list() to display the full list of countries
# Chile is "chl" and China is "chn"

# Download trade data from OEC's API (HS92 6 characters product list)
# for Chile and China in the year 2014
# getdata("chl", "chn", 2014)
# is the same as
# getdata("chl", "chn", 2014, 6)

# Download trade data from OEC's API (HS92 8 characters product list)
# for Chile and China in the year 2014
# getdata("chl", "chn", 2014, 8)

# Download trade data from OEC's API (SITC rev.2 4 characters product list)
# for Chile and China in the year 2014
# getdata("chl", "chn", 2014, 4)
```

getdata_interval *Downloads and processes the data from the API*

Description

Downloads and processes the data from the API

Usage

```
getdata_interval(origin, destination, initial_year, final_year, classification,
  interval)
```

Arguments

origin	Country code of origin (e.g. "chl" for Chile)
destination	Country code of destination (e.g. "chn" for China)
initial_year	The OEC's API ranges from 1962 to 2014. This needs to be lower than 'final_year'
final_year	The OEC's API ranges from 1962 to 2014. This needs to be greater than 'initial_year'
classification	Trade classification that can be "6" (HS92 6 characters) or "8" (HS92 8 characters) for the year 1995 and going or "4" (SITC rev.2 4 characters) for the year 1962 and ongoing. The default is set to "6".
interval	is an optional parameter to define the distance between years (by default set to 1)

Examples

```
# Run countries_list() to display the full list of countries
# Chile is "chl" and China is "chn"

# Download trade data from OEC's API (HS92 6 characters product list)
# for Chile and China in the years 2010 to 2014
# getdata_interval("chl", "chn", 2011, 2014)
# is the same as
# getdata_interval("chl", "chn", 2011, 2014, 6, 1)

# Download trade data from OEC's API (HS92 6 characters product list)
# for Chile and China in the years 2010, 2012 and 2014
# getdata_interval("chl", "chn", 2011, 2014, 6, 2)

# Download trade data from OEC's API (HS92 8 characters product list)
# for Chile and China in the years 2010, 2012 and 2014
# getdata_interval("chl", "chn", 2011, 2014, 8, 2)

# Download trade data from OEC's API (SITC rev.2 4 characters product list)
# for Chile and China in the years 2010, 2012 and 2014
# getdata_interval("chl", "chn", 2011, 2014, 4, 2)
```

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hs92_2char *HS92 groups*

Description

HS92 groups. This file is used to create the visualizations.

Usage

```
hs92_2char
```

Format

A data frame with 22 observations on the following 2 variables.

`group` Contains the H292 groups (e.g. animal products, vegetable products, etc)

`hs92_group` Contains the associated codes of every group (e.g. animal products is 01)

Examples

```
# see the group codes for HS92 (6 and 8 characters)
# hs92_8char
```

`hs92_6char` *HS92 products (6 characters)*

Description

HS92 products (6 characters). This file is used to create the visualizations.

Usage

```
hs92_6char
```

Format

A data frame with 1242 observations on the following 4 variables.

`product` Contains the H292 products' names (e.g. horses, bovine, pigs, etc)

`group` Contains the H292 groups (e.g. animal products, vegetable products, etc)

`hs92_id` Contains the associated codes of every product (e.g. horses is 010101)

`hs92_group` Contains the associated codes of every group (e.g. animal products is 01)

Examples

```
# see the group codes and product codes for HS92 (6 characters)
# hs92_8char
```

`hs92_8char` *HS92 products (8 characters)*

Description

HS92 products (8 characters). This file is used to create the visualizations.

Usage

```
hs92_8char
```

Format

A data frame with 5040 observations on the following 4 variables.

`product` Contains the H292 products' names (e.g. horses, bovine, pigs, etc)

`group` Contains the H292 groups (e.g. animal products, vegetable products, etc)

`hs92_id` Contains the associated codes of every product (e.g. horses is 010101)

`hs92_group` Contains the associated codes of every group (e.g. animal products is 01)

Examples

```
# see the group codes and product codes for HS92 (8 characters)
# hs92_8char
```

hs92_colors *HS92 colors*

Description

HS92 colors. This file is used to create the visualizations.

Usage

```
hs_colors
```

Format

A data frame with 21 observations on the following 2 variables.

`group` Contains the H292 groups (e.g. animal products, vegetable products, etc)

`color` Contains the associated colors of every group (e.g. mineral products is #330000)

Examples

```
# see the group codes and group colors for HS92
# hs92_colors
```

install_d3plus *Installs D3 and D3Plus*

Description

Installs D3 and D3Plus

Usage

```
install_d3plus()
```

Value

Copies a folder named `d3plus` to the working directory and it contains the `js` files and icons to make the visualizations

Examples

```
# install_d3plus()
```

network — *Creates a network of exports for a given year*

Description

Creates a network of exports for a given year

Usage

```
network(origin, destination, year, classification)
```

Arguments

origin	is the country code of origin (e.g. "chl" for Chile)
destination	is the country code of origin (e.g. "chn" for China)
year	is the year and the OEC's API ranges from 1962 to 2014
classification	refers to the trade classification that can be "6" (HS92 6 characters) or "8" (HS92 8 characters) for the year 1995 and going or "4" (SITC rev.2 4 characters) for the year 1962 and ongoing

Value

Creates an HTML file with a network visualization for a given year.

Examples

```
# Visualize trade data from OEC's API (HS92 6 characters product list)
# for exports from Chile to China in the year 2014
# network("chl", "chn", 2014, 6)
# is the same as
# network("chl", "chn", 2014)
```

network_comparison — *Creates a network of exports to see if new exported products have acquired a comparative advantage within a period of year*

Description

Creates a network of exports to see if new exported products have acquired a comparative advantage within a period of year

Usage

```
network_comparison(origin, destination, initial_year, final_year,
  classification)
```

Arguments

origin	is the country code of origin (e.g. "chl" for Chile)
destination	is the country code of origin (e.g. "chn" for China)
initial_year	is the initial year and the OEC's API ranges from 1962 to 2014
final_year	is the final year and the OEC's API ranges from 1962 to 2014
classification	refers to the trade classification that can be "6" (HS92 6 characters) or "8" (HS92 8 characters) for the year 1995 and going or "4" (SITC rev.2 4 characters) for the year 1962 and ongoing

Value

Creates an HTML file with a network visualization that compares two given years to see if more exported products have acquired a Revealed Comparative Advantage (RCA > 1) within the period.

Examples

```
# Visualize trade data from OEC's API (HS92 6 characters product list)
# for exports from Chile to China in the year 2014
# network_comparison("chl", "chn", 2010, 2014, 6)
# is the same as
# network_comparison("chl", "chn", 2010, 2014)
```

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sitc_rev2_2char *SITC (rev. 2) groups*

Description

SITC (rev. 2) groups. This file is used to create the visualizations.

Usage

```
hs92_2char
```

Format

A data frame with 36 observations on the following 2 variables.

group Contains the SITC (rev.2) groups (e.g. machinery, electronics, etc)

sitc_rev2_group Contains the associated codes of every group (e.g. machinery is 10)

Examples

```
# see the group codes for SITC rev.2
# sitc_rev2_2char
```

sitc_rev2_4char *SITC (rev.2) products (4 characters)*

Description

SITC (rev. 2) products (4 characters). This file is used to create the visualizations.

Usage

```
sitc_rev2_4char
```

Format

A data frame with 988 observations on the following 5 variables.

`product` Contains the SITC rev.2 products' names (e.g. initiating devices, polymerization ion exchangers, etc)

`group` Contains the SITC rev.2 groups (e.g. machinery, electronics products, etc)

`sitc_rev2_prod` Contains the associated codes of every product (e.g. initiating devices is 5722)

`sitc_rev2_group` Contains the associated codes of every group (e.g. machinery is 10)

`sitc_rev2_id` Contains the associated extended codes of every group (e.g. machinery is 105722 that is sitc group + sitc id)

Examples

```
# see the group codes and product codes for SITC rev.2
# sitc_rev2_4char
```

sitc_rev2_colors *SITC (rev. 2) colors*

Description

SITC (rev. 2) colors. This file is used to create the visualizations.

Usage

```
hs_colors
```

Format

A data frame with 36 observations on the following 2 variables.

`group` Contains the SITC (rev.2) groups (e.g. machinery, electronics, etc)

`color` Contains the associated colors of every group (e.g. machinery is #17bcef)

Examples

```
# see the group codes and group colors for SITC rev.2
# sitc_rev2_colors
```

treemap *Creates a treemap for a given year*

Description

Creates a treemap for a given year

Usage

```
treemap(origin, destination, variable, year, classification, depth)
```

Arguments

origin	is the country code of origin (e.g. "chl" for Chile)
destination	is the country code of origin (e.g. "chn" for China)
variable	is the variable to visualize and it can be "imports", "exports" or "exchange" (trade exchange)
year	is the year and the OEC's API ranges from 1962 to 2014
classification	refers to the trade classification that can be "6" (HS92 6 characters) or "8" (HS92 8 characters) for the year 1995 and going or "4" (SITC rev.2 4 characters) for the year 1962 and ongoing
depth	is an optional parameter that can take values "0" (group's detail) or "1" (product's detail)

Value

Creates an HTML file with a treemap visualization for a given year.

Examples

```
# Visualize trade data from OEC's API (HS92 6 characters product list)
# for Chile and China in the year 2014
# treemap("chl", "chn", "exports", 2014, 6)
# is the same as
# treemap("chl", "chn", "exports", 2014)
```

treemap_interval *Creates a treemap for a given given period of years*

Description

Creates a treemap for a given given period of years

Usage

```
treemap_interval(origin, destination, variable, initial_year, final_year,
  interval, classification, depth)
```

Arguments

origin	is the country code of origin (e.g. "chl" for Chile)
destination	is the country code of origin (e.g. "chn" for China)
variable	is the variable to visualize and it can be "imports", "exports" or "exchange" (trade exchange)
initial_year	is the initial year and the OEC's API ranges from 1962 to 2014
final_year	is the final year and the OEC's API ranges from 1962 to 2014
interval	is an optional parameter to define the distance between years (by default set to 1)
classification	refers to the trade classification that can be "6" (HS92 6 characters) or "8" (HS92 8 characters) for the year 1995 and going or "4" (SITC rev.2 4 characters) for the year 1962 and ongoing
depth	is an optional parameter that can take values "0" (group's detail) or "1" (product's detail), by defaults its set to 1

Value

Creates an HTML file with a treemap visualization for a given period of years.

Examples

```
# Visualize trade data from OEC's API (HS92 6 characters product list)
# for Chile and China in the years 2011 to 2014
# treemap_interval("chl", "chn", "exports", 2011, 2014, 1, 6 ,1)
# is the same as
# treemap_interval("chl", "chn", "exports", 2011, 2014)
```

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