

Package ‘tradestatistics’

September 19, 2019

Type Package

Title Open Trade Statistics API Wrapper and Utility Program

Version 0.2.5

URL <https://docs.ropensci.org/tradestatistics/>

BugReports <https://github.com/ropensci/tradestatistics/issues>

Description Access 'Open Trade Statistics' API from R to download international trade data.

License GPL-3

LazyData TRUE

Depends R (>= 3.5.0)

Imports rlang, magrittr, dplyr, stringr, crul, purrr, jsonlite

RoxygenNote 6.1.1

Suggests knitr, rmarkdown, testthat, styler, pkgdown, vcr

VignetteBuilder knitr

Encoding UTF-8

NeedsCompilation no

Author Mauricio Vargas [aut, cre, cph]

(<<https://orcid.org/0000-0003-1017-7574>>),

Joshua Kunst [ctb] (contributed to different parts of the pre-release code),

Emily Riederer [rev] (reviewed the package for rOpenSci, see <https://github.com/ropensci/onboarding/issues/274>),

Mark Padgham [rev] (reviewed the package for rOpenSci, see <https://github.com/ropensci/onboarding/issues/274>),

Amanda Dobbyn [rev] (reviewed an archived package that evolved into the current package for rOpenSci, see

<https://github.com/ropensci/onboarding/issues/217>),

Jorge Cimentada [rev] (reviewed an archived package that evolved into the current package for rOpenSci, see

<https://github.com/ropensci/onboarding/issues/217>),

UN Comtrade [dct],

The World Bank [dct],

Center for International Development at Harvard University [dte],
The Observatory of Economic Complexity [dte]

Maintainer Mauricio Vargas <mvargas@dcc.uchile.cl>

Repository CRAN

Date/Publication 2019-09-19 08:40:02 UTC

R topics documented:

ots_communities	2
ots_countries	3
ots_country_code	3
ots_create_tidy_data	4
ots_inflation	5
ots_inflation_adjustment	6
ots_products	6
ots_product_code	7
ots_product_shortnames	8
ots_tables	8
Index	9

ots_communities	<i>A table of communities codes, names and colours associated to products</i>
-----------------	---

Description

Provides communities from The Atlas of Economic Complexity (Harvard), and those can be useful for grouping into broader categories than those the official HS groups.

Usage

```
ots_communities
```

Format

A data frame with 1222 observations on the following 4 variables.

```
product_code Code of every product (e.g. 0101)
community_code Community code (e.g. 01)
community_name Community name (e.g. Animal Products)
community_color Colour hex code (e.g. #74c0e2)
```

Examples

```
ots_communities
```

ots_countries	<i>A table of official country names, ISO-3 codes and other metadata</i>
---------------	--

Description

Provides official codes taken from the United Nations official sources. This data is used by the functions provided within this package to validate user parameters and add both product and country text columns to the data, therefore reducing the number of API calls and the time to generate the requested data.

Usage

```
ots_countries
```

Format

A data frame with 249 observations on the following 6 variables.

country_iso ISO code of the country (e.g. "chl" means Chile)

country_name_english Country name (e.g. Germany)

country_fullname_english Country name with indications (e.g. Germany (former Federal Republic of Germany until 1990))

continent_id Numeric id of the continent where the country belongs to

continent Continent where the country belongs to

eu28_member Dummy variable such that 1 means "belongs to EU-28 group" and 0 otherwise \

Examples

```
ots_countries
```

ots_country_code	<i>String matching of official country names and ISO-3 codes according to the United Nations nomenclature</i>
------------------	---

Description

This function takes a text string and searches within the package data for a country code in the context of valid API country codes.

Usage

```
ots_country_code(countryname = NULL)
```

Arguments

countryname A text string such as "Chile", "CHILE" or "CHL".

Value

A single character if there is an exact match (e.g. `ots_country_code("Chile")`) or a tibble in case of multiple matches (e.g. `ots_country_code("Germany")`)

Examples

```
ots_country_code("Chile ")
ots_country_code("america")
ots_country_code("UNITED STATES")
ots_country_code(" united_")
```

`ots_create_tidy_data` *Downloads and processes the data from the API to return a human-readable tibble*

Description

This function accesses `api.tradestatistics.io` and performs different API calls to transform and return tidy data.

Usage

```
ots_create_tidy_data(years = NULL, reporters = NULL, partners = NULL,
  products = "all", table = "yrpc", max_attempts = 5,
  include_shortnames = FALSE, include_communities = FALSE,
  use_localhost = FALSE)
```

Arguments

<code>years</code>	Year contained within the years specified in <code>api.tradestatistics.io/year_range</code> (e.g. <code>c(1980, 1985)</code> , <code>c(1980:1981)</code> or <code>1980</code>). Default set to <code>NULL</code> .
<code>reporters</code>	ISO code for reporter country (e.g. <code>"chl"</code> , Chile or <code>c("chl", "Peru")</code>). Default set to <code>NULL</code> .
<code>partners</code>	ISO code for partner country (e.g. <code>"chl"</code> , Chile or <code>c("chl", "Peru")</code>). Default set to <code>NULL</code> .
<code>products</code>	HS codes (e.g. <code>"0101"</code> , <code>"01"</code> or search matches for <code>"apple"</code>) to filter products. Default set to <code>"all"</code> .
<code>table</code>	Character string to select the table to obtain the data. Default set to <code>yrpc</code> (Year - Reporter - Partner - Product Code). Run <code>ots_tables</code> in case of doubt.
<code>max_attempts</code>	How many times to try to download data in case the API or the internet connection fails when obtaining data. Default set to 5.
<code>include_shortnames</code>	Whether to include or not to include unofficial shortened product names. Default set to <code>FALSE</code> .
<code>include_communities</code>	Whether to include or not to include product communities. Default set to <code>FALSE</code> .
<code>use_localhost</code>	Logical to determine if the base URL shall be localhost instead of <code>api.tradestatistics.io</code> . Default set to <code>FALSE</code> .

Value

A tibble that describes bilateral trade metrics (imports, exports, trade balance and relevant metrics such as exports growth w/r to last year) between a reporter and partner country.

Examples

```
## Not run:
# The next example can take more than 5 seconds to compute,
# so these are just shown without evaluation according to CRAN rules

# Run `ots_countries` to display the full table of countries
# Run `ots_products` to display the full table of products

# What does Chile export to China? (1980)
ots_create_tidy_data(years = 1980, reporters = "chl", partners = "chn")

# What can we say about Horses export in Chile and the World? (1980)
ots_create_tidy_data(years = 1980, products = "0101", table = "yc")
ots_create_tidy_data(years = 1980, reporters = "chl", products = "0101", table = "yrc")

# What can we say about the different types of apples exported by Chile? (1980)
ots_create_tidy_data(years = 1980, reporters = "chl", products = "apple", table = "yrc")

## End(Not run)
```

 ots_inflation

A table with world weighed mean inflation since 1962

Description

Provides year to year inflations value to be applied as a conversion rate to express dollars of year Y1 as dollars of year Y2. This dataset is provided to be used with `ots_inflation_adjustment` that converts units forwards and backwards in time.

Usage

```
data("ots_inflation")
```

Format

A data frame with 56 observations on the following 3 variables.

from Integer values in the range 1962-2017

to Integer values in the range 1963-2018

conversion_factor Numeric value expressed as one plus 1-year inflation

Examples

```
ots_inflation
```

 ots_inflation_adjustment

Expresses tidy data from the API in dollars of a reference year

Description

This function uses inflation records from The World Bank to convert trade records and express them in dollars of the same year.

Usage

```
ots_inflation_adjustment(trade_data = NULL, reference_year = NULL)
```

Arguments

`trade_data` A tibble obtained by using `ots_create_tidy_data`. Default set to NULL.

`reference_year` Year contained within the years specified in `api.tradestatistics.io/year_range` (e.g. 2010). Default set to NULL.

Examples

```
## Not run:
# The next example can take more than 5 seconds to compute,
# so this is shown without evaluation according to CRAN rules

# Convert dollars of 1980 to dollars of 2010
d <- ots_create_tidy_data(years = 1980, reporters = "chl", partners = "chn")
ots_inflation_adjustment(trade_data = d, reference_year = 2010)

## End(Not run)
```

 ots_products

A table of official product names, Harmonized System (HS) codes and corresponding groups

Description

Provides official codes taken from the United Nations official sources. This data is provided as a reference as it's not used by the functions provided within this package, but it can be useful to subset the data obtained from the API.

Usage

```
ots_products
```

Format

A data frame with 1320 observations on the following 4 variables.

product_code Code of every product (e.g. 0101)
 product_fullname_english HS product names (e.g. 'Horses, asses, mules and hinnies; live')
 group_code HS group code (e.g. 01)
 group_name HS group name (e.g. 'Animals; live')

Examples

```
ots_products
```

ots_product_code	<i>String matching of official product names and Harmonized System (HS) codes according to the United Nations nomenclature</i>
------------------	--

Description

This function takes a text string and searches within the package data for all matching product codes in the context of valid API product codes.

Usage

```
ots_product_code(productname = NULL, productgroup = NULL)
```

Arguments

productname A text string such as "Animals", "COPPER" or "fruits".
 productgroup A text string such as "meat", "FISH" or "Dairy".

Value

A tibble with all possible matches (no uppercase distinction) showing the product name, product code and corresponding trade classification (e.g. HS92 or SITC)

Examples

```
ots_product_code(productname = "ANIMALS ")
ots_product_code(productgroup = " fish")
ots_product_code(productname = "Milk", productgroup = "Dairy")
ots_product_code()
```

ots_product_shortnames

A table of unofficial shortened product names

Description

Provides shortened product names obtained from The Observatory of Economic Complexity. This data corresponds to a modified version of unofficial short names created for 4 digits HS codes.

Usage

ots_products

Format

A data frame with 1222 observations on the following 4 variables.

product_code Code of every product (e.g. 0101)

product_shortcode_english Unofficial product names (e.g. Horses)

Examples

ots_products

ots_tables

Available tables in the API

Description

A table describing existing API tables with both description and source. This data is used by the functions provided within this package to validate user parameters.

Usage

ots_tables

Format

A data frame with 16 observations on the following 3 variables.

table Table name

description Description of table contents

source Source for the data (OTS tables are processed after UN Comtrade raw data)

Examples

ots_tables

Index

*Topic **datasets**

- ots_communities, [2](#)
- ots_countries, [3](#)
- ots_inflation, [5](#)
- ots_product_shortnames, [8](#)
- ots_products, [6](#)
- ots_tables, [8](#)

*Topic **functions**

- ots_country_code, [3](#)
- ots_create_tidy_data, [4](#)
- ots_inflation_adjustment, [6](#)
- ots_product_code, [7](#)

- ots_communities, [2](#)
- ots_countries, [3](#)
- ots_country_code, [3](#)
- ots_create_tidy_data, [4](#)
- ots_inflation, [5](#)
- ots_inflation_adjustment, [6](#)
- ots_product_code, [7](#)
- ots_product_shortnames, [8](#)
- ots_products, [6](#)
- ots_tables, [8](#)