Package 'tradestatistics'

August 23, 2024

Type Package

Title Open Trade Statistics API Wrapper and Utility Program

Version 5.0.0

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

License Apache License (>= 2)

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

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

Depends R (>= 2.10)

Imports crul, data.table, digest, jsonlite, memoise, utils

Suggests covr, knitr, rmarkdown, testthat (>= 2.1.0), tibble, vcr

VignetteBuilder knitr

Encoding UTF-8

LazyData TRUE

RoxygenNote 7.3.1

NeedsCompilation no

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  Joshua Kunst [ctb] (contributed to different parts of the pre-release
   code),
  Alexey Kravchenko [ctb] (reviewed 2021 version of the API),
  Emma Mendelsohn [ctb] (updated the functions to take available years
   from the API instead of hardcoded values),
  Daniela de los Santos [ctb] (proposed improvements to default
   parameters),
  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 a previous package that evolved into the
   current package for rOpenSci, see

Contents

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ots_commodities   *OTS Commodities*

Description

Official commodity names from the Harmonized System rev 2012 (HS12, six digits detail).

Usage

```
ots_commodities
```

Format

A data frame with 5,302 observations on the following 4 variables

commodity_code HS six digits commodity code (e.g. 010110)

commodity_code_short HS four digits commodity code (e.g. 0101)

commodity_fullname_english HS six digits commodity name (e.g. 'Horses, asses, mules and
    hinnies; live, pure-bred breeding animals')

section_code HS section code (e.g. '01')

Source

Open Trade Statistics

`ots_commodities_short`   *OTS Commodities Short*

Description

Official commodity names from the Harmonized System rev 2012 (HS12, four digits detail).

Usage

```
ots_commodities_short
```

Format

A data frame with 1,225 observations on the following 2 variables

commodity_code HS four digits commodity code (e.g. 0101)

commodity_fullname_english HS four digits commodity names (e.g. 'Horses, asses, mules and hinnies; live')

Source

Open Trade Statistics

`ots_commodity_code`   *String matching of official commodity/section names and Harmonized System (HS) codes according to the United Nations nomenclature*

Description

Takes a text string and searches within the package data for all matching commodity codes in the context of valid API commodity codes.

Usage

```
ots_commodity_code(commodity = NULL, section = NULL)
```

Arguments

commodity   A text string such as "Animals", "COPPER" or "fruits".

section   A text string such as "meat", "FISH" or "Dairy".

Value

A tibble with all possible matches (no uppercase distinction) showing the commodity name and commodity code

Examples

```
ots_commodity_code(commodity = "ANIMALS ")
ots_commodity_code(section = "  fish")
ots_commodity_code(commodity = "Milk", section = "Dairy")
```

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ots_countries   *OTS Countries*

Description

Official country names, ISO-3 codes, continent and EU membership.

Usage

```
ots_countries
```

Format

A data frame with 275 observations on the following 5 variables

country_iso ISO-3 code of the country (e.g. "deu" means Germany)

country_name_english Country name (e.g. Germany)

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

continent_name_english Continent where the country belongs to (e.g., Europe)

continent_id Numeric id of the continent where the country belongs to (e.g., 5)

Source

Open Trade Statistics

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ots_countries_colors   *OTS Countries Colors*

Description

Unofficial colors to ease visualization for countries.

Usage

    ots_countries_colors

Format

A data frame with 275 rows and 3 variables

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

continent_id Numeric id of the continent

country_color Country hex color (e.g. '#D05555')

Source

Open Trade Statistics

---

ots_country_code   *String matching of official country names and ISO-3 codes according to the United Nations nomenclature*

Description

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 a 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

Accesses `api.tradestatistics.io` and performs different API calls to transform and return tidy
data.

Usage

```
ots_create_tidy_data(
  years = 2020,
  reporters = "all",
  partners = "all",
  commodities = "all",
  sections = "all",
  table = "yr",
  max_attempts = 5,
  use_cache = FALSE,
  file = NULL
)
```

Arguments

years	Year contained within the years specified in api.tradestatistics.io/year_range (e.g. `c(2002,2004)`, `c(2002:2004)` or `2002`). Default set to 2019.
reporters	ISO code for reporter country (e.g. `"chl"`, `"Chile"` or `c("chl", "Peru")`). Default set to `"all"`.
partners	ISO code for partner country (e.g. `"chl"`, `"Chile"` or `c("chl", "Peru")`). Default set to `"all"`.
commodities	HS commodity codes (e.g. `"0101"`, `"01"` or search matches for `"apple"`) to filter commodities. Default set to `"all"`.
sections	HS section codes (e.g. `"01"`). Default set to `"all"`.
table	Character string to select the table to obtain the data. Default set to yr (Year - Reporter). Run `ots_tables` in case of doubt.
max_attempts	How many times to try to download data in case the API or the internet connection fails when obtaining data. Default set to 5.
use_cache	Logical to save and load from cache. If `TRUE`, the results will be cached in memory if `file` is `NULL` or on disk if 'file' is not `NULL`. Default set to `FALSE`.
file	Optional character with the full file path to save the data. Default set to `NULL`.

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 examples 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_commodities` to display the full table of commodities

# What does Chile export to China? (2002)
ots_create_tidy_data(years = 2002, reporters = "chl", partners = "chn")

# What can we say about Horses export in Chile and the World? (2002)
ots_create_tidy_data(years = 2002, commodities = "010110", table = "yc")
ots_create_tidy_data(years = 2002, reporters = "chl", commodities = "010110", table = "yrc")

# What can we say about the different types of apples exported by Chile? (2002)
ots_create_tidy_data(years = 2002, reporters = "chl", commodities = "apple", table = "yrc")

## End(Not run)
```

  `ots_gdp_deflator`   *GDP Deflator*

Description

Year to year GDP deflator some of the countries in the OTS database. For countries not available in the World Bank database, rows labelled as "wld" are provided, which were computed as the weighted median for each year using the GDP of listed countries for each year expressed as constant dollars of the year 2010.

Usage

```
ots_gdp_deflator
```

Format

A data frame with 8,010 observations on the following 4 variables

`year_from` Integer values in the range 1980-2020

`year_to` Integer values in the range 1981-2021

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

`gdp_deflator` Numeric value expressed as one plus 1-year deflator

Source

Open Trade Statistics

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ots_gdp_deflator_adjustment

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

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Description

Uses GDP deflator records from The World Bank to convert trade records and express them in dollars of the same year. The records are internally subsetted to World's values, because country specific levels would largely re-scale observations for reporters that reflect unstable macroeconomic policies.

Usage

```
ots_gdp_deflator_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 2010 to dollars of 2000
d <- ots_create_tidy_data(years = 2010, reporters = "chl", partners = "chn")
ots_gdp_deflator_adjustment(trade_data = d, reference_year = 2000)

## End(Not run)
```

---

ots_sections   *OTS Sections*

Description

Official section names from the Harmonized System rev 2012 (HS12).

Usage

```
ots_sections
```

Format

A data frame with 22 rows and 2 variables

`section_code` HS section code (e.g. '01')

`section_fullname_english` HS section name (e.g. 'Live animals and animal products')

Source

Adapted from UN COMTRADE

`ots_sections_colors`   *OTS Sections Colors*

Description

Unofficial colors to ease visualization for the sections in the Harmonized System rev 2012 (HS12).

Usage

```
ots_sections_colors
```

Format

A data frame with 22 rows and 2 variables

`section_code` HS section code (e.g. '01')

`section_color` HS section color (e.g. '#74c0e2')

Source

Open Trade Statistics

`ots_tables`   *OTS Tables*

Description

Existing API tables with both description and source.

Usage

```
ots_tables
```

Format

A data frame with 12 rows and 3 variables

table Table name

description Description of table contents

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

Source

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