Package 'tradestatistics'

June 30, 2023

Type Package

Title Open Trade Statistics API Wrapper and Utility Program

Version 4.5.0

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 7.2.3

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), 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

https://github.com/ropensci/onboarding/issues/217),
Jorge Cimentada [rev] (reviewed a previous package that evolved into the current package for rOpenSci, see https://github.com/ropensci/onboarding/issues/217),
UN Comtrade [dtc],
The World Bank [dtc]

Maintainer Mauricio Vargas <mavargas11@uc.cl>

Repository CRAN

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R topics documented:

`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 5,304 observations on the following 4 variables

- `commodity_code`Code of every commodity (e.g. 010110)
- `commodity_fullname_english`HS commodity names (e.g. 'Horses, asses, mules and hinnies; live, pure-bred breeding animals')
- `section_code`Section code (e.g. 01)
- `section_fullname_english` Section name (e.g. 'Live animals and animal products')

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`Code of every commodity (e.g. 010110)
- `commodity_fullname_english`HS commodity names (e.g. 'Horses, asses, mules and hinnies; live, pure-bred breeding animals')
- `section_code`Section code (e.g. 01)
- `section_fullname_english` Section name (e.g. 'Live animals and animal products')

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")
```

---

ots_countries *OTS Countries*

Description

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

Usage

```
ots_countries
```

Format

A data frame with 264 observations on the following 5 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_name_english`Continent where the country belongs to

Source

Open Trade Statistics

ots_countries_colors *OTS Countries Colors*

Description

Unofficial colors to ease visualization for countries.

Usage

```
ots_countries_colors
```

Format

A data frame with 276 rows and 3 variables

- `continent_id`Numeric id of the continent where the country belongs to
- `country_iso`ISO code of the country (e.g. "chl" means Chile)
- `country_color`Section 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 = 2019,
  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_distances` *OTS Distances*

Description

Distance between countries, alongside colonial relation, common language, and continuity.

Usage

```
ots_distances
```

Format

A data frame with 22,791 rows and 8 variables

- `country1`First ISO-3 code in the dyad (alphabetical order)
- `country2`Second ISO-3 code in the dyad (alphabetical order)
- `dist`Distance between most populated cities (in kilometers)
- `distcap`Distance between capitals (in kilometers)
- `colony`Variable coded as 1 when the two countries are or were in a colonial relation
- `comlang_ethno`Variable coded as 1 when the two countries have at least 9% of their population speaking the same language
- `comlang_off`Variable coded as 1 when the two countries share the same official language
- `contig`Variable coded as 1 when the two countries are next to each other and 0 otherwise

Source

Adapted from CEPII

`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 7,238 observations on the following 4 variables

- `country_iso`ISO code of the country (e.g. "chl" means Chile)
- `from`Integer values in the range 1980-2018
- `to`Integer values in the range 1981-2019
- `gdp_deflator`Numeric value expressed as one plus 1-year deflator

Source

Open Trade Statistics

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

---

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_codeSection code (e.g. '01')
- section_fullname_englishSection hex color (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_codeSection code (e.g. '01')
- section_colorSection hex 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 16 rows and 3 variables

- tableTable name
- descriptionDescription of table contents
- sourceSource for the data (OTS tables are processed after UN Comtrade raw data)

Source

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