Package ‘tradestatistics’

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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
ots_commodities

A table of official commodity names from the Harmonized System rev 2007 (HS07, also known as H3)

Description

Provides official commodity, group and section codes and names taken from the United Nations official sources. This data is used by the functions provided within this package to complement the data obtained from the API.

Usage

ots_commodities

Format

A data frame with 5151 observations on the following 6 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')
ots_commodity_code

<table>
<thead>
<tr>
<th>group_code</th>
<th>Group code (e.g. 01)</th>
</tr>
</thead>
<tbody>
<tr>
<td>group_fullname_english</td>
<td>Group name (e.g. 'Animals; live')</td>
</tr>
<tr>
<td>section_code</td>
<td>Section code (e.g. 01)</td>
</tr>
<tr>
<td>section_fullname_english</td>
<td>Section name (e.g. 'Live animals and animal products')</td>
</tr>
</tbody>
</table>

Examples

ots_commodities

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| ots_commodity_code | String matching of official commodity/group 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

```r
ots_commodity_code(commodity = NULL, group = NULL)
```

Arguments

- **commodity**: A text string such as "Animals", "COPPER" or "fruits".
- **group**: 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

```r
ots_commodity_code(commodity = "ANIMALS ")
ots_commodity_code(group = " fish")
ots_commodity_code(commodity = "Milk", group = "Dairy")
```
## ots_countries

A table of official country names, ISO-3 codes and other metadata

### 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

```r
ots_countries
```

### Format

A data frame with 254 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

```r
ots_countries
```

## 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

```r
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

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

Description

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

Usage

```r
  ots_create_tidy_data(
    years = 2019,
    reporters = "all",
    partners = "all",
    commodities = "all",
    table = "yr",
    max_attempts = 5,
    use_cache = FALSE,
    file = NULL,
    use_localhost = FALSE
  )
```

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".
- **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.

use_localhost Logical to determine if the base URL shall be localhost instead of api.tradestatistics.io. Default set to FALSE.

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

```r
## 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")

# 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_inflation A table with world weighted mean inflation since 2000

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

```r
data("ots_inflation")
```
**ots_inflation_adjustment**

**Format**

A data frame with 20 observations on the following 3 variables.

- **from** Integer values in the range 2000-2019
- **to** Integer values in the range 2001-2020
- **conversion_factor** Numeric value expressed as one plus 1-year inflation

**Examples**

```r
ots_inflation
```

---

**ots_inflation_adjustment**

_Expresses tidy data from the API in dollars of a reference year_

**Description**

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

**Usage**

```r
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**

```r
## 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_inflation_adjustment(trade_data = d, reference_year = 2000)

## End(Not run)
```
ots_sections_colors  
*A table of official section names from the Harmonized System rev 2007 (HS07, also known as H3) and unofficial colors to ease visualization*

**Description**

Provides official section names taken from the United Nations official sources but the colors are absolutely unofficial and based of what I consider a good palette for 22 sections (21 + 1 for unspecified products). This data is not used by the functions provided within this package and is provided as reference.

**Usage**

ots_sections_colors

**Format**

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

- section_fullname_english  
  Section name (e.g. 'Live animals and animal products')

- section_color  
  Section hex color (e.g. "#74c0e2")

**Examples**

ots_sections_colors

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 12 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**

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