Package ‘tidyqwi’

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Title A Convenient API for Accessing United States Census Bureau's Quarterly Workforce Indicator

Version 0.1.2

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Description The purpose of this package is to access the United States Census Bureau's Quarterly Workforce Indicator data. Additionally, the data will be retrieved in a tidy format for further manipulation with full variable descriptions added if desired. Information about the United States Census Bureau's Quarterly Workforce Indicator is available at <https://www.census.gov/data/developers/data-sets/qwi.html>.

Depends R (>= 3.2), future (>= 1.6.2)

Imports dplyr, httr, jsonlite, magrittr, xml2, stringr, purrr, stats, tidyr, labelled, furrr

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BugReports https://github.com/medewitt/tidyqwi/issues

Encoding UTF-8

LazyData true

RoxygenNote 7.1.0

Suggests testthat, covr, knitr, rmarkdown

VignetteBuilder knitr

NeedsCompilation no

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Repository CRAN

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add_qwi_labels

Description

This function add labels to a `qwi` object

Usage

```r
add_qwi_labels(df)
```

Arguments

- `df` an object with a class of `qwi`

Value

a data.frame with formatted column names and types

Examples

```r
library(tidyqwi)

# Add labels
labelled_nc <- add_qwi_labels(nc_qwi)

# Check the label for the data
attr(labelled_nc[["Emp"]], "label")
```
check_census_api_call  

A helper function to help parse API calls from the census

Description

The function verifies that API call was successful. If the call was not successful, this function passes the message received from the US Census API for further troubleshooting.

Usage

check_census_api_call(call)

Arguments

   call  
       a returned call from the US Census API

Value

   a string vector with the message from the US Census API

Examples

library(tidyqwi)
library(httr)
# A single call to the API without an API Key
url <- "api.census.gov/data/timeseries/qwi/sa?get=Emp&for=county:198&key=NOKEY"
single_call <- httr::GET(url)

# Because a non valid API key was specified an message will be returned
check_census_api_call(single_call)

converted_fips  

A function to check if a valid state number or fips is passed

Description

The function verifies if a valid FIPS code was passed and converts it to a unified standard for internal use.

Usage

converted_fips(fips)
Arguments

fips the state abbreviation or fips code vector

Value

States Abbreviations or FIPs as FIP character strings
a vector with the State FIPS code

Examples

library(tidyqwi)

converted_fips(37)
converted_fips("37")
converted_fips("NC")
converted_fips("nc")

get_qwi

Retrieve the Quarterly Workforce Indicator Data

Description

The purpose of this function is to retrieve firm information from the US Census’ Quarterly Workforce Indicator API. These data can be retrieved by specifying the states, the quarters, the years, and additional detail. This function can accept multiple states, years and quarters. This makes the data retrieval easier and stay inside of the US Census’ limits on the API.

Usage

get_qwi(
  years,
  variables = NULL,
  quarters = c(1, 2, 3, 4),
  industry_level = 2,
  states,
  endpoint = "sa",
  all_groups = TRUE,
  owner_code = TRUE,
  geography = "cbsa",
  seasonadj = "U",
  apikey = NULL,
  processing = "sequential"
)
Arguments

years                  years to fetch (e.g. 2010, or c(2010, 2011))
variables             the variables you wish to fetch. Default is all.
quarters              The quarters to fetch (e.g. c(1,2,3,4)) Default is all
industry_level        Industries to fetch. Default is all level 2
states                state fips code to fetch
endpoint              US Census endpoint designation. One of "sa" for Sex * Age, "se" for Sex by Education and "rh" for Race/Ethnicity
all_groups            default to true
owner_code            firm owner code
geography             the US Census geography granularity (one of cbsa or county)
seasonadj             seasonal adjustment factor (one of "U" or "S")
apikey                your US Census API Key
processing            the processing strategy (default = "sequential")

Value

the desired data from the US Census’s Quarterly Workforce API as a tibble

Examples

## Not run:
library(tidyqwi)

# One state, one year
nc_qwi <- get_qwi(years = "2010",
                   states = "11",
                   geography = "county",
                   apikey = census_key,
                   endpoint = "rh",
                   variables = c("sEmp", "Emp"),
                   all_groups = FALSE,
                   industry_level = "2",
                   processing = "sequential")

# Multiple states. multiple years
qwi_multi_year <- get_qwi(years = c("2010", "2011", "2012"),
                          states = c("NC", "SC"),
                          geography = "county",
                          apikey = census_key,
                          endpoint = "rh",
                          variables = c("sEmp", "Emp"),
                          all_groups = FALSE,
                          industry_level = "2",
                          processing = "sequential")

## End(Not run)
industry_labels  

**Industry Labels**

**Description**

These data are the industry labels specified by the United States Census Bureau

**Usage**

industry_labels

**Format**

a dataframe with 433 rows and 3 columns:

- **industry**  Industry Numeric Code
- **label**   Description of Industry Level
- **ind_level**  Industry Level ...

**Source**

https://lehd.ces.census.gov/data/schema/latest/label_industry.csv

---

nc_qwi  

**Example Data Set**

**Description**

These data represent an example returned query for NC for 2010

**Usage**

nc_qwi

**Format**

a dataframe with 3244 rows and 44 columns:
owner_codes

<table>
<thead>
<tr>
<th>owner_codes</th>
<th>Owner Codes</th>
</tr>
</thead>
</table>

**Description**

Owner Codes

**Usage**

owner_codes

**Format**

A dataframe with 3 rows and 2 columns:

- **ownercode** ownercode
- **label** label ...

**Source**

https://lehd.ces.census.gov/data/schema/latest/label_ownercode.csv

---

parse_qwi_message

<table>
<thead>
<tr>
<th>parse_qwi_message</th>
<th>parse_qwi</th>
</tr>
</thead>
</table>

**Description**

An internally used function to parse the returned API call.

**Usage**

parse_qwi_message(x)

**Arguments**

- **x** a returned call response from the US Census QWI API
**qwi_var_names**

**QWI Variable Names**

**Description**
These data represent the different variable types available from the QWI API.

**Usage**

```r
cqi_var_names
```

**Format**
a dataframe with 83 rows and 9 columns:

- **name**: state name
- **label**: state fips code
- **concept**: state abbreviation
- **required**: requirements
- **attributes**: details of attributes
- **limit**: limit
- **predicate type**: predicate type
- **group**: group level
- **values**: values ...

**Source**

[https://api.census.gov/data/timeseries/qwi/se/variables.html](https://api.census.gov/data/timeseries/qwi/se/variables.html)

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**show_condition**

**Description**

**show_condition**

**Usage**

```r
show_condition(code)
```

**Arguments**

- **code**: the code whose message you wish to interpret
Description

State Data (FIPS, Abbreviations, etc)

Usage

state_info

Format

A dataframe with 51 rows and 3 columns:

- **name**  state name
- **state_fips**  state fips code
- **state_abbreviation**  state abbreviation ...

Source

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