Package 'oxcgrt'

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Type Package

Title An Interface to the Oxford COVID-19 Government Response Tracker API

Version 0.1.0

Description The Oxford COVID-19 Government Response Tracker (OxCGRT) tracks and compares worldwide government responses to the COVID-19 pandemic rigorously and consistently. OxCGRT makes available systematic information in a consistent way, aiding those who require information have access to it efficiently for their purposes. This package facilitates access to the OxCGRT data via its API <https://covidtracker.bsg.ox.ac.uk/> and includes functions to calculate the various OxCGRT indices in R.

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URL https://como-ph.github.io/oxcgrt/, https://github.com/como-ph/oxcgrt

BugReports https://github.com/como-ph/oxcgrt/issues

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Author Ernest Guevarra [aut, cre] (<https://orcid.org/0000-0002-4887-4415>)

Maintainer Ernest Guevarra <ernest@guevarra.io>

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R topics documented:

`calculate_index` *Calculate an OxCGRT index or indices*

Description

Calculate an OxCGRT index or indices

Usage

```
calculate_index(df, codes, tolerance)

calculate_gov_response(df)

calculate_containment_health(df)

calculate_stringency(df)

calculate_economic_support(df)

calculate_indices(df)
```

Arguments

`df`	A data.frame produced by a call to `calculate_subindices()`.
`codes`	A vector of policy type codes to use for the index calculation.
`tolerance`	An integer specifying the number of missing values above which index will not be calculated and reported.

Value

A numeric value for mean subindex scores of specified policy types. For `calculate_indices()`, a tibble calculated OxCGRT indices

Author(s)

Ernest Guevarra

Examples

```
## Get policy actions data for Afghanistan on 1 September 2020
x <- get_data(json = get_json_actions(ccode = "AFG",
                                      from = NULL,
                                      to = "2020-09-01"))

## Calculate OxCGRT subindices
y <- calculate_subindices(df = x$policyActions)

## Calculate OxCGRT index
calculate_index(df = y,
                codes = c(paste("C", 1:8, sep = ""),
                          paste("E", 1:2, sep = ""),
                          paste("H", 1:3, sep = ""), "H6"),
                tolerance = 1)

## Calculate OxCGRT government response index
calculate_gov_response(df = y)

## Calculate OxCGRT containment and health index
calculate_containment_health(df = y)

## Calculate OxCGRT stringency index
calculate_stringency(df = y)

## Calculate OxCGRT economic support index
calculate_economic_support(df = y)

## Calculate all OxCGRT indices
calculate_indices(df = y)
```

`calculate_subindex` *Calculate OxCGRT sub-index score for a single indicator*

Description

Calculate OxCGRT sub-index score for a single indicator

Calculate OxCGRT sub-index scores for all indicators

Usage

```
calculate_subindex(indicator_code, value, flag_value)

calculate_subindices(
  df,
  indicator_code = "policy_type_code",
  value = "policyvalue_actual",
  flag_value = "flagged",
```

```
  add = TRUE
)
```

Arguments

indicator_code	A character value specifying the name of the variable in df containing the policy type codes. By default, this is set to policy_type_code which is the variable name used by the **OxCGRT API**.
value	A character value specifying the name of the column in df containing the values in ordinal scale assigned to each policy type. By default, this is set to policyvalue_actual which is the variable name used by the **OxCGRT API**.
flag_value	A character value specifying the name of the column in df containing the flag values for each policy type. By default, this is set to flagged which is the variable name used by the **OxCGRT API**.
df	A data.frame containing per indicator values required for calculating sub-index scores. This data.frame will be structured similarly as the policy actions data.frame produced by a call to get_data_actions().
add	Logical. Should sub-indices for each indicator be added to df? Default is TRUE.

Value

A numeric value between 0 to 100.

If add is TRUE (default), returns a tibble composed of the input data.frame x with an added column named score for the calculated sub-indices. If add is FALSE, returns a tibble of 4 columns with the first column for the policy codes named policy_type_codes, the second column for the policy values named policy_value, the third column for the flag values named flag_value and the fourth column named score for the calculated sub-indices.

Author(s)

Ernest Guevarra based on calculation methods by *Hale, Thomas, Noam Angrist, Emily Cameron-Blake, Laura Hallas, Beatriz Kira, Saptarshi Majumdar, Anna Petherick, Toby Phillips, Helen Tatlow, Samuel Webster (2020). Oxford COVID-19 Government Response Tracker, Blavatnik School of Government.*

Ernest Guevarra

Examples

```
calculate_subindex(indicator_code = indicatorData$indicator[1],
                   value = indicatorData$value[1],
                   flag_value = indicatorData$flag_value[1])

x <- get_data(json = get_json_actions(ccode = "AFG",
                                      from = NULL,
                                      to = "2020-09-01"))
calculate_subindices(df = x$policyActions)
```

codebook *Codebook for the Oxford COVID-19 Government Response Tracker*

Description

Codebook for the Oxford COVID-19 Government Response Tracker

Usage

```
codebook
```

Format

A tibble with 28 rows and 6 columns:

Variable	Description
ID	Policy indicator identifier
Name	Name of policy indicator
Description	Description of policy indicator
Measurement	Measurement of policy indicator
Coding	Coding of measurement
Policy Group	Name of group policy indicator

Source

https://github.com/OxCGRT/covid-policy-tracker/blob/master/documentation/codebook.md

get_data *Get policy actions and stringency data from JSON*

Description

Get policy actions and stringency data from JSON

Usage

```
get_data(json)
```

Arguments

json	A JSON string, URL or file created using `get_json_time()` or `get_json_actions()`.

Value

A tibble of time series stringency index data if `json` is a time **series endpoint** or a named list of two tibbles (the first tibble is named `policyActions` and the second tibble is named `stringencyData`) if `json` is a **policy actions endpoint**.

Examples

```
## Get time series JSON endpoint
x <- get_json_time(from = "2020-10-29", to = "2020-10-31")

## Get time series stringency index data
get_data(x)

## Get policy actions JSON endpoint
x <- get_json_actions(ccode = "AFG", from = NULL, to = "2020-07-16")

## Get data on policy actions and stringency index
get_data(x)
```

`get_data_action` *Get policy actions data from JSON*

Description

Get policy actions data from JSON

Usage

```
get_data_action(json)

get_data_actions(json)
```

Arguments

`json`	A JSON string, URL or file created using `get_json_actions()` or a vector of JSON strings or URLs.

Value

A tibble of policy actions with their respective policy values for specified country/countries and specified date/dates.

Examples

```
## Get relevant JSON for Afghanistan on 16 July 2020
x <- get_json_actions(ccode = "AFG", from = NULL, to = "2020-07-16")

## Get data on policy actions
get_data_action(x)

## Get relevant JSON for Afghanistan and Philippines for whole month of
## October
x <- get_json_actions(ccode = c("AFG", "PH"),
                      from = "2020-10-29",
                      to = "2020-10-31")

## Get data on policy actions
get_data_actions(x)
```

`get_data_time` *Get time series stringency index data from JSON*

Description

Get time series stringency index data from JSON

Usage

```
get_data_time(json)
```

Arguments

`json`	A JSON string, URL or file created using `get_json_time()`

Value

A tibble of time series stringency index data

Examples

```
x <- get_json_time(from = "2020-07-18", to = "2020-07-20")

get_data_time(x)
```

get_json_time *Get JSON for OxCGRT data*

Description

Get JSON for OxCGRT data

Usage

```
get_json_time(from = "2020-01-02", to = Sys.Date())

get_json_actions(ccode, from = "2020-01-02", to = Sys.Date())
```

Arguments

from	Start date for stringency index data to be collected. This can go as far back as **2020-01-02** (Default). Format YYYY-MM-DD. Accepts either character string or date class.
to	End data for stringency index data to be collected. This defaults to current date. Format YYYY-MM-DD. Accepts either character string or date class.
ccode	**ISO 3166-1 alpha-2** country code, **alpha-3** country code, or full **country name** string or vector of strings (mix of alpha-2 code or alpha-3 code or country names is valid).

Value

A character object for specified JSON time series endpoint, or a character string or a character vector for specified JSON policy actions endpoint or endpoints.

Author(s)

Ernest Guevarra

Examples

```
## Get JSON for Afghanistan at 7 days previous to current date
get_json_actions(ccode = "AFG",
                 from = NULL,
                 to = as.character(Sys.Date() - 7))

## Get JSON for Afghanistan and Philippines from 1 October to 31 October 2020
get_json_actions(ccode = c("Afghanistan", "PH"),
                 from = "2020-10-01", to = "2020-10-31")

## Get JSON time series endpoint for all data available from OxCGRT
get_json_time()
```

`indicatorData` *Example indicator data for sub-index calculations*

Description

Example indicator data for sub-index calculations

Usage

```
indicatorData
```

Format

A tibble with 14 rows and 6 columns

Variable	Description
`indicator`	Policy indicator code
`value`	Policy indicator value
`flag_value`	Policy indicator flag value
`max_value`	Maximum value for policy indicator
`flag`	Does the policy indicator have a flag value? 1 = Yes; 0 = No
`score`	Policy indicator score from 0 - 100

Source

https://github.com/OxCGRT/covid-policy-tracker/blob/master/documentation/index_methodology.md

Index