# Package 'ecb'

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**Type** Package

**Title** Programmatic Access to the European Central Bank's Statistical Data Warehouse

**Version** 0.4.0

**Date** 2021-04-01

**Description** Provides an interface to the European Central Bank's Statistical Data Warehouse API, allowing for programmatic retrieval of a vast quantity of statistical data.

**License** CC0

**URL** https://sdw.ecb.europa.eu/

**Suggests** knitr, rmarkdown, dplyr, lubridate, ggplot2, testthat, zoo

**Imports** curl, rsdmx, xml2, httr

**VignetteBuilder** knitr

**RoxygenNote** 7.1.1

**NeedsCompilation** no

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**Repository** CRAN

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## R topics documented:

## convert_dates *Format date variable retrieved from the SDW into a proper date variable*

### Description

Format date variable retrieved from the SDW into a proper date variable

### Usage

```
convert_dates(x)
```

### Arguments

| | |
|---|---|
| x | A vector of dates |

### Value

A date-formatted vector

### Examples

```
hicp <- get_data("ICP.M.U2.N.000000.4.ANR")
hicp$obstime <- convert_dates(hicp$obstime)
str(hicp)
```

## get_data *Retrieve data from the ECB Statistical Data Warehouse API*

### Description

Retrieve data from the ECB Statistical Data Warehouse API

### Usage

```
get_data(key, filter = NULL, ...)
```

### Arguments

| | |
|---|---|
| key | A character string identifying the series to be retrieved |
| filter | A named list with additional filters (see details) |
| ... | Arguments passed to GET (e.g. timeout(10) to add maximum request time) |

## Details

The `filter` option of `get_data()` takes a named list of key-value pairs. If left blank, it returns all data for the current version.

Available filter parameters:

- `startPeriod` & `endPeriod`
  - `YYYY` for annual data (e.g.: 2013)
  - `YYYY-S[1-2]` for semi-annual data (e.g.: 2013-S1)
  - `YYYY-Q[1-4]` for quarterly data (e.g.: 2013-Q1)
  - `YYYY-MM` for monthly data (e.g.: 2013-01)
  - `YYYY-W[01-53]` for weekly data (e.g.: 2013-W01)
  - `YYYY-MM-DD` for daily data (e.g.: 2013-01-01)
- `updatedAfter`
  - A timestamp to retrieve the latest version of changed values in the database since a certain point in time
  - Example: `filter = list(updatedAfter = 2009-05-15T14:15:00+01:00)`
- `firstNObservations` & `lastNObservations`
  - Example: `filter = list(firstNObservations = 12)` retrieves the first 12 observations of all specified series
- `detail`
  - Possible options: `full/dataonly/serieskeysonly/nodata`
  - `dataonly` is the default
  - Use `serieskeysonly` or `nodata` to list series that match a certain query, without returning the actual data
  - An alternative to using `serieskeys/nodata` is the convenience function `get_dimensions()`, which returns a list of dataframes with dimensions and explanations (see extended example below).
  - `full` returns both the series values and all metadata. This entails retrieving much more data than with the 'dataonly' option.
- `includeHistory` (not currently implemented)
  - `false` (default) returns only version currently in production
  - `true` returns version currently in production, as well as all previous versions

See the SDW API for more details.

## Value

A data frame

## Examples

```
# Get monthly data on annualized euro area headline HICP
hicp <- get_data("ICP.M.U2.N.000000.4.ANR")
head(hicp)
```

## get_dataflows *Retrieve data frame of all datasets in the ECB Statistical Data Warehouse*

### Description

Retrieve data frame of all datasets in the ECB Statistical Data Warehouse

### Usage

```
get_dataflows(...)
```

### Arguments

| | |
|---|---|
| ... | Arguments passed to GET (e.g. timeout(10) to add maximum request time) |

### Value

A dataframe

### Examples

```
df <- get_dataflows()
head(df)
```

## get_description *Get full, human-readable description of a series*

### Description

Get full, human-readable description of a series

### Usage

```
get_description(key)
```

### Arguments

| | |
|---|---|
| key | A character string identifying the series to be retrieved |

### Value

A character vector

### Examples

```
get_description("ICP.M.DE.N.000000+XEF000.4.ANR")
```

`get_dimensions` *Retrieve dimensions of series in the ECB's SDW*

## Description

Retrieve dimensions of series in the ECB's SDW

## Usage

```
get_dimensions(key, ...)
```

## Arguments

| | |
|---|---|
| `key` | A character string identifying the series to be retrieved |
| `...` | Arguments passed to GET (e.g. timeout(10) to add maximum request time) |

## Value

A list of data frames, one for each series retrieved

## Examples

```
hicp_dims <- get_dimensions("ICP.M.U2.N.000000.4.ANR")
hicp_dims[[1]]
```

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