

# Package ‘bbk’

December 2, 2024

**Title** Client for the Deutsche Bundesbank and European Central Bank APIs

**Version** 0.5.0

**Description** Download data and metadata from the 'Bundesbank SDMX Web Service API' found at <https://www.bundesbank.de/en/statistics/time-series-databases/help-for-sdmx-web-service/web-service-interface-data> and the 'ECB Data Portal API' found at <https://data.ecb.europa.eu/help/api/overview>.

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**URL** <https://m-muecke.github.io/bbk/>, <https://github.com/m-muecke/bbk>

**BugReports** <https://github.com/m-muecke/bbk/issues>

**Depends** R (>= 4.1.0)

**Imports** curl, httr2 (>= 1.0.0), stats, utils, xml2

**Suggests** ggplot2, scales, testthat (>= 3.0.0), tibble, tidyr,

**Config/testthat/edition** 3

**Encoding** UTF-8

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**NeedsCompilation** no

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bbk_data	<i>Returns Bundesbank data for a given flow and key</i>
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**Description**

Returns Bundesbank data for a given flow and key

**Usage**

```
bbk_data(
  flow,
  key = NULL,
  start_period = NULL,
  end_period = NULL,
  first_n = NULL,
  last_n = NULL
)
```

**Arguments**

flow	character(1) flow to query, 5-8 characters. See <a href="#">bbk_metadata()</a> for available dataflows.
key	character(1) key to query.
start_period	character(1) start date of the data. Supported formats: <ul style="list-style-type: none"> <li>• YYYY for annual data (e.g., "2019")</li> <li>• YYYY-S[1-2] for semi-annual data (e.g., "2019-S1")</li> <li>• YYYY-Q[1-4] for quarterly data (e.g., "2019-Q1")</li> <li>• YYYY-MM for monthly data (e.g., "2019-01")</li> <li>• YYYY-W[01-53] for weekly data (e.g., "2019-W01")</li> <li>• YYYY-MM-DD for daily and business data (e.g., "2019-01-01") If NULL, no start date restriction is applied (data retrieved from the earliest available date). Default NULL.</li> </ul>
end_period	character(1) end date of the data, in the same format as start_period. If NULL, no end date restriction is applied (data retrieved up to the most recent available date). Default NULL.
first_n	numeric(1) number of observations to retrieve from the start of the series. If NULL, no restriction is applied. Default NULL.
last_n	numeric(1) number of observations to retrieve from the end of the series. If NULL, no restriction is applied. Default NULL.

**Value**

A `data.frame()` with the requested data.

## Source

<https://www.bundesbank.de/en/statistics/time-series-databases/help-for-sdmx-web-service/web-service-interface-data>

## See Also

Other data: [bbk\\_series\(\)](#), [ecb\\_data\(\)](#)

## Examples

```
# fetch all data for a given flow and key
bbk_data("BBSIS", "D.I.ZAR.ZI.EUR.S1311.B.A604.R10XX.R.A.A._Z._Z.A")
# fetch data for multiple keys
bbk_data("BBK01", c("TTA032", "TTA010"))
# specified period (start date-end date) for daily data
bbk_data(
  "BBSIS", "D.I.ZAR.ZI.EUR.S1311.B.A604.R10XX.R.A.A._Z._Z.A",
  start_period = "2020-01-01",
  end_period = "2020-08-01"
)
# or only specify the start date
bbk_data(
  "BBSIS", "D.I.ZAR.ZI.EUR.S1311.B.A604.R10XX.R.A.A._Z._Z.A",
  start_period = "2024-04-01"
)
```

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bbk\_metadata

*Returns the available Bundesbank metadata*

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## Description

Retrieval of the metadata stored in the Bundesbank's time series database. Access via the SDMX Web Service API of the Bundesbank.

## Usage

```
bbk_metadata(type, id = NULL, lang = c("en", "de"))
```

## Arguments

type	character(1) the type of metadata to query. One of: "datastructure", "dataflow", "codelist", or "concept".
id	character(1) id to query. Default NULL.
lang	character(1) language to query, either "en" or "de". Default "en".

**Value**

A `data.frame()` with the queried metadata. The columns are:

<code>id</code>	The id of the metadata
<code>name</code>	The name of the metadata

**Source**

<https://www.bundesbank.de/en/statistics/time-series-databases/help-for-sdmx-web-service/web-service-interface-metadata>

**See Also**

Other metadata: [ecb\\_metadata\(\)](#)

**Examples**

```
bbk_metadata("datastructure")
bbk_metadata("dataflow", "BBSIS")
bbk_metadata("odelist", "CL_BBK_ACIP_ASSET_LIABILITY")
bbk_metadata("concept", "CS_BBK_BSPL")
```

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<code>bbk_series</code>	<i>Returns the Bundesbank time serie that is found with the specified time series key</i>
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**Description**

Returns the Bundesbank time serie that is found with the specified time series key

**Usage**

```
bbk_series(key)
```

**Arguments**

<code>key</code>	character(1) key to query.
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**Value**

A `data.frame()` with the requested data.

**Source**

<https://www.bundesbank.de/en/statistics/time-series-databases/help-for-sdmx-web-service/web-service-interface-data>

**See Also**

[bbk\\_data\(\)](#) for an endpoint with more options.

Other data: [bbk\\_data\(\)](#), [ecb\\_data\(\)](#)

**Examples**

```
bbk_series("BBEX3.M.DKK.EUR.BB.AC.A01")
bbk_series("BBAF3.Q.F41.S121.DE.S1.W0.LE.N._X.B")
bbk_series("BBBK11.D.TTA000")
```

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ecb_data	<i>Returns ECB data for a given flow and key</i>
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**Description**

Returns ECB data for a given flow and key

**Usage**

```
ecb_data(
  flow,
  key = NULL,
  start_period = NULL,
  end_period = NULL,
  first_n = NULL,
  last_n = NULL
)
```

**Arguments**

flow	character(1) flow to query.
key	character(1) key to query.
start_period	character(1) start date of the data. Supported formats: <ul style="list-style-type: none"> <li>• YYYY for annual data (e.g., "2019")</li> <li>• YYYY-S[1-2] for semi-annual data (e.g., "2019-S1")</li> <li>• YYYY-Q[1-4] for quarterly data (e.g., "2019-Q1")</li> <li>• YYYY-MM for monthly data (e.g., "2019-01")</li> <li>• YYYY-W[01-53] for weekly data (e.g., "2019-W01")</li> <li>• YYYY-MM-DD for daily and business data (e.g., "2019-01-01") If NULL, no start date restriction is applied (data retrieved from the earliest available date). Default NULL.</li> </ul>
end_period	character(1) end date of the data, in the same format as start_period. If NULL, no end date restriction is applied (data retrieved up to the most recent available date). Default NULL.

<code>first_n</code>	numeric(1) number of observations to retrieve from the start of the series. If NULL, no restriction is applied. Default NULL.
<code>last_n</code>	numeric(1) number of observations to retrieve from the end of the series. If NULL, no restriction is applied. Default NULL.

**Source**

<https://data.ecb.europa.eu/help/api/data>

**See Also**

Other data: [bbk\\_data\(\)](#), [bbk\\_series\(\)](#)

**Examples**

```
# fetch US dollar/Euro exchange rate
ecb_data("EXR", "D.USD.EUR.SP00.A")
# fetch data for multiple keys
ecb_data("EXR", c("D.USD", "JPY.EUR.SP00.A"))
```

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<code>ecb_euro_rates</code>	<i>Euro foreign exchange reference rates</i>
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**Description**

Fetch the latest or historical Euro foreign exchange reference rates from the European Central Bank.

**Usage**

```
ecb_euro_rates(x = c("latest", "history"))
```

**Arguments**

`x` character(1) one of "latest" or "history". Default "latest".

**Details**

Note you can achieve the same by calling the [ecb\\_data\(\)](#) function with the right parameters for each currency.

The reference rates are usually updated at around 16:00 CET every working day, except on **TARGET closing days**.

They are based on the daily concertation procedure between central banks across Europe, which normally takes place around 14:10 CET. The reference rates are published for information purposes only. Using the rates for transaction purposes is strongly discouraged.

**Value**

A `data.frame()` with the reference rates.

**Source**

[https://www.ecb.europa.eu/stats/policy\\_and\\_exchange\\_rates/euro\\_reference\\_exchange\\_rates/html/index.en.html](https://www.ecb.europa.eu/stats/policy_and_exchange_rates/euro_reference_exchange_rates/html/index.en.html)

**Examples**

```
ecb_euro_rates()
```

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ecb_metadata	<i>Returns the available ECB metadata</i>
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**Description**

Retrieval of the metadata stored in the ECB's time series database. Access via the SDMX Web Service API of the ECB

**Usage**

```
ecb_metadata(type, agency = NULL, id = NULL)
```

**Arguments**

type	character(1) the type of metadata to query. One of: "datastructure", "dataflow", "codelist", or "concept".
agency	character(1) id of the agency to query. Default NULL.
id	character(1) id of the resource to query. Default NULL.

**Value**

A `data.frame()` with the queried metadata. The columns are:

agency	The agency of the metadata
id	The id of the metadata
name	The name of the metadata

**Source**

<https://data.ecb.europa.eu/help/api/metadata>

**See Also**

Other metadata: [bbk\\_metadata\(\)](#)

**Examples**

```
ecb_metadata("datastructure")
ecb_metadata("datastructure", "ECB")
ecb_metadata("datastructure", "ECB", "ECB_EXR1")
ecb_metadata("datastructure", id = "ECB_EXR1")
```



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